A STUDY ON CAPITAL STRUCTURE MANAGEMENT
(With Special Reference to the Listed Multinational Manufacturing Companies in Nepal)

By:
RANJANA SHRESTHA
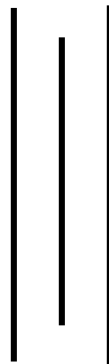**Shanker Dev Campus**
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RECOMMENDATION

This is to certify that the Thesis

Submitted by:
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(With Special Reference to the Listed Multinational Manufacturing Companies in Nepal)

has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

……..………..……………..………   …………………......……………….   …………..……………..………
Suman Kamal Parajuli   **Prof. Bisheshwor Man Shrestha**   **Prof. Dr. Kamal Deep Dhakal**

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VIVA-VOCE SHEET

We have conducted the viva –voce of the thesis presented

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A STUDY ON CAPITAL STRUCTURE MANAGEMENT
(With Special Reference to the Listed Multinational Manufacturing Companies in Nepal)

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for

Master Degree of Business Studies (MBS)

<u>Viva-Voce Committee</u>

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TRIBHUVAN UNIVERSITY

Faculty of Management

Shanker Dev Campus

DECLARATION

I hereby declare that the work reported in this thesis entitled "**A Study on Capital Structure Management (With Special Reference to the Listed Multinational Manufacturing Companies in Nepal)**" submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master Degree in Business Studies (MBS) under the supervision of **Suman Kamal Parajuli** and **Laxman Raj Kandel** of Shanker Dev Campus.

………..…………………….

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ABBREVIATIONS

B.S.	:	Bikram Sambat
BNL	:	Bottlers Nepal Limited
C.V.	:	Co-efficient of Variation
i.e.	:	That is
Ltd	:	Limited
NEPSE	:	Nepal Stock Exchange
Pvt.	:	Private
SD	:	Standard Deviation
T.U.	:	Tribhuvan University
UNL	:	Unilever Nepal Limited

CHAPTER - I
INTRODUCTION

1.1 Background of the Study

Only establishment of the industry is not sufficient but successful operation is also necessary. Establishment and operation of the industries need finance. The success and failure of the business industries of manufacturing industries mainly depends upon the ability of top-level management to make crucial financial decision. Capital structure decision is one of the most complex areas of financial decision making due to its interrelationship with other financial decision variables. In order to achieve the firm's goal of owner's wealth maximization, the financial manager must be able to assess the firm's capital structure and understand its relationships to risk, return and value.

Development of industrial sector among other sector is equally essential for the rapid economic development of the country. After the political change in Nepal at 1990 A.D the government has followed the economic liberalization policy. Government has been following privatization and economic globalization for the industrialization. But for the industrial growth in the country, only the favorable government policy does not suffice. Professional, entrepreneurs, professionalism in management, management accountability towards investors developed capital and money market etc are the main condition leads the enterprises to have the decision for the investors wealth maximization, the management must evaluate all the decision in term of its impact on the value of the company. And among the various financial decisions, the decisions regarding debt equity mix being a matter of determining the value of the company must be evaluated in term of its impact in the value of firm.

Economic development of the country is a pillar for the development of a nation in the present age of globalization. Industrialization is the way of raising productivity and creating employment. Unfortunately, the growth of industries in Nepal has been slow process. The Rana oligarchy, which ruled Nepal for 104 years (1846-1950), isolated the country from the winds of industrial revolution going on in Europe. It did not encourage the growth of modern industries based on new technology. Economic development was never a goal of the Rana rule.

In the recent days, industrialization is essential for the economic development of any country. Without the improvement of industrial sector, it is not possible to uplift and enhance the growth of people. Thus industrialization helps to uplift the economic standard of the people by creating the more employment, earning foreign currency through import substitution and export promotion. Hence, developing country like Nepal is emphasizing industrialization. The manufacturing sector is very small and facing various problems. Though many of such problems are due to our geographical land locked, condition lack of physical, human, and financial resources, which are the constraints to the entrance in the industrialized form. Instead of such problem, government always is encouraging the industrial sector. Government of Nepal has relaxed legal producer, adopted one window policy to facilitate the industrial investment and many more steps are taken for the enlistment of investment sector.

1.2 Meaning of Manufacturing Industries

Industry can be defined as "Productive enterprises specially manufacturing or certain service enterprises such as transport and communication which require relatively large amount of capital and labor. The term is often used in a collective sense referring for example to the productive activities of the entire country or other area. It is also identifying a special industry. The Phrase "Commerce and

industry being used if reference is made both to industry as defined above and to buying and selling" (Zurcher, 1983: 325).

Industrialization is one of the most important tools of the less developed countries, by which the tempo of economic development can be speeded up. Industrialization is a process of economic development in which a growing part of the national resources mobilized to develop a technically up-to-date diversified, domestic economic structure characterized by dynamic manufacturing consumer goods and capable of assuring a high rate of growth for the economy as a whole and achieving economic and social process. For underdeveloped countries, industrialization has been a magic word of the mid twentieth century, which opens a new Horizon in the process of economic development. So perhaps political thinkers said, "Real progress must ultimately depend on Industrialization" (Roa and Lintznberger, 1970:777-782). Today it is being recognized that industrialization is the answer to the problem of agro-based underdeveloped countries. In modern age of technology, only the agriculture sector cannot speed up a nation's economic progress. Even the agricultural development cannot proceed further without a corresponding rate of industrialization because it is industry, which provides all the scientific tools to agricultural sector. Realizing the fact our late king Mahendra Shah stressed that it is the key to progress and there can be no development of society without industrialization. Industrial developed helps to fulfill the large gap between developed and undeveloped countries. Industrialization offers substantial dynamic benefits to a developing economy and also removes the problem of disguised employment exist in agricultural sector for a rapidly increasing labor force. Again, in underdeveloped country like Nepal, as the process of industrialization can run faster and faster, the private entrepreneurs and new innovators will increase in the economy which will help as an effective means of stimulating indigenous scattered property to give fruitful result.

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In underdeveloped country like Nepal, there have been various problem of economic development such as compulsion of exporting raw materials and import of foreign product. Liberalization from such problems can be attained from industrialization, which will push up economy towards prosperity. Again, increased industry decreases population dependent on agricultural sector, and gradually it creates a base of industrial infrastructure for economic development. So, industrialization has a significant role in the economic development of both developed and developing countries. "Clamors for industrialization is notable in all countries of the region when the intellectually elite say their countries underdeveloped they mean in the first instant, that they have too little industry" (William, 1990: 13-22).

It is clear from the fact that some Asiatic regions, Japan, Russia and America, Canada have been flourishing their economy only because of their industrial development. Japanese experience in industry also shows that industry can occupy in important place in a modern economy. Perhaps China ease governments have been introduced "A big leap" in their economy and she has chosen to play important role in our countries industrialization.

Manufacturing sector refers to all the business activities involved in fabricating assembling the component into finished products on a fairly large scale, or the activities of making things by industrial process. It is the key sectors of all types of economy. But the contribution of manufacturing sector in gross domestic product has been decreasing from the recent past in the world. The same is true for Nepal too. In Nepal industrial development and commercial activity in the country as result in 1936 Biratnagar Jute Mill was seen as the first modern industry of Nepal. The manufacturing sector in Nepal is very small and its contribution to GDP is only 9%. It is declining in recent years.

Nepalese manufacturing companies are not performing well. Many large, companies have been closed and some are about to close. Almost companies are able to earn profit but the margin of the profit is low. Thus due to the several reasons Nepalese manufacturing sector has not been succeed to earn profit. Financial manager of manufacturing companies of Nepal must consider the capital structure.

1.3 Focus of the Study

The word "Capital Structure" refers to the combination of long-term sources of fund such as debentures, long-term debt, preference share capital and equity share capital including reserves and surplus (i.e. retained earning). Capital structure represents the relationship among different kind of long-term sources of capital and their amount. Normally, a firm raises long-term capital through the issue of common shares and sometimes it is accompanied by preference shares capital. The share capital is often supplemented by debt securities and other long term borrowed capital. In some cases, the firm accepts deposits. In a going concern retained earning or surpluses too form a part of capital structure.

Except for the common shares, different kinds of external financing i. e. preference shares as well as the borrowed capital carry fixed return to the investor.

```
                        Capital Structure
                               |
                               v
                        Long Term Sources
                               |
          +--------------------+--------------------+
          v                    v                    v
    Long Term Debt      Preferred Capital      Equity Capital
```
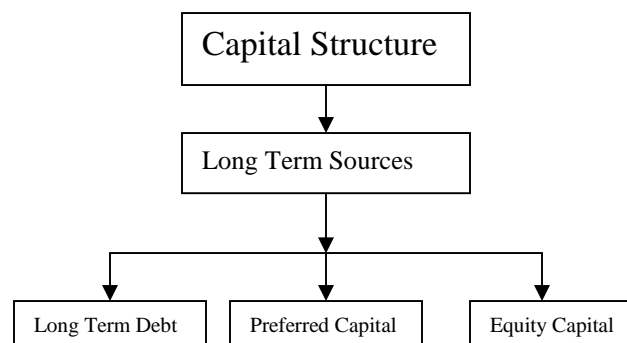
A firm fulfills its financial needs using different sources of financing. These sources of financing may be short term and long term. Short-term sources of

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financing mature within one year or less where as fund raised from long-term sources of financing can be used for several years. When a firm expands its business or activity, it needs capital. The term capital denotes the long term fund of the firm. Excluding current liabilities, all the items on the liabilities side of the firm's balance sheet are the sources of capital.

The total capital can be divided into two components i.e. debt capital and equity capital. Equity capital provides the ownership of the firm to the shareholder whereas debt capital includes all the long term borrowing incurred by the firm. Debentures, bonds, long-term debts etc are the major sources of debt or borrowed capital. A firm employs substantial amount of debt capital because of tax deductibility of interest payment, flexibility and lower effective cost. However excess amount of debt exposes high risk.

Thus the term capital structure refers to the proportion of debt and equity capital, which has an important place in the theory of financial management. The financial decision of the firms relates to the choice of proportion of debt and equity to finance the investment required of which the proper balance is necessary to ensure a trade off between risk and return to the shareholder.

1.3.1 Brief Overview of Selected Manufacturing Companies

1.3.1.1 Unilever Nepal Limited

Unilever Nepal Limited (NLL) was formed as a subsidiary company of Hindustan Lever Limited, India. The factory is situated at Basamadi V. D. C. of Makawanpur district, which is about six kilometers far from Hetauda municipality, and its Corporate Office is situated at Heritage plaza II, Kamaladi, Kathmandu. Unilever Lever Ltd was established in 1994 as a joint venture company between Hindustan Lever Limited, India and Nepali Promoters under the Company Act 2021. The main objectives of the company is to manufacture soaps, detergent, cosmetics,

toiletries, oleaginous, detergent, and other chemical products and marketed them in and outside the country under the brand name of the products of Hindustan Lever Limited. The register of this company is NIDC capital market limited which is situated as the Kamaladi, Kathmandu. The purpose of Unilever Lever is to meet the everyday needs of people everywhere to anticipate the aspiration of their consumers and customers are to respond creativity and competitively with branded products and services, which raise the quality of life.

1.3.1.2 Bottlers Nepal Limited

Bottlers Nepal Limited was established as a private; limited company under the company Act 1964 in 1973 A. D. It was converted into public limited company in 1984. It is one of the manufacturing and processing companies, which are manufacturing soft drinks, under the brand name Coca-Cola Company. The company also makes the sales of the soft drinks under the registered trade name of Coca Cola company that is managed by Singapore based F & N Coca Cola Pvt. Limited Company. Its registered office is located at Balaju, Kathmandu. The company has established a subsidiary Company, Bottlers Nepal (Terai) limited in Chitwan District. The main objective of the company is to produce and to market soft drinks under the brand name of Coke, Fanta and Sprite etc in the country. Raw materials for the production are imported from France and Atlanta. Flavor of the coke is prepared by the company secretly and is sold without disclosure. These are brought from countries like Singapore, India and Germany. Company has production capacity of 430 bottles per minute.

1.4 Statement of the Problem

To operate the business activities generally every companies has its own policy in determining capital structure. Capital structure concept is not taken seriously by the Nepalese Companies. Therefore, optimal capital structure does not exist at all. Among the listed companies in the stock exchange very few are using the debt

capital and contrary to this some of the companies are ruined by the excess burden of the cost of debt capital. Some of the business use only equity capital, some use only debt capital and some combine both equity and debt capital. Therefore determination of capital structure largely depends upon the company policy and cost of capital. Most of the companies make low cost of capital structure. In the initial period of any company they want to use only equity capital and do not want to include debt in their capital due to their high interest charge. To solve such problem the management of the company should beware of importance of capital structure management. The purpose of this small study is to analyze, examine and make aware of the importance of the capital structures management of the firm.

UNL and BNL are using short-term debt, long-term debt along with the equity capital. But the combination is not satisfactory to generate the appropriate profit. The development of the manufacturing industry can be possible by making their capital structure balanced. Most of the Nepalese manufacturing companies have not the specific polices regarding the balanced capital structure. They generally make low cost capital structure. These companies also use the long-term debt.

Some of the main research questions are:

⟩ What are the major factors affecting the management of capital structure in selected manufacturing companies?

⟩ Does unplanned capital structure of manufacturing companies have sound financial position?

⟩ Does conflicting role of capital structure affect in the development of manufacturing companies?

⟩ How does the proportion of debt or equity capital affect in selected manufacturing companies?

⟩ How does leverage affects the capital structure in selected manufacture Companies?

) What are the relationship among financial ratios, leverage as well as Du-Point System analysis of selected manufacturing companies?

1.5 Objectives of the Study

The main objective of this study is to analyze, evaluate and interpret their capital structure employed by the selected organizations. The specific objectives of the study are pointed out as under:

) To examine the capital structure of selected companies.

) To analyze cost of capital and return on capital in relation to the capital employed.

) To decide the proportion of equity capital and debt capital to make the capital structure balanced and maximize the shareholder' wealth of the selected companies.

) To give suggestion & recommend based on the findings to respective banks & other for improvement.

1.6 Significant of the Study

The manufacturing sector of Nepal is expanding day by day. In the recent days the nation is facing with lots of hurdles. In this situation the manufacturing sector is also running slowly. In this situation, this study will be helpful to the companies to overview their capital structure management and to formulate future strategies to do much better in their horizon. This study will also help to inform the decision makers about the importance of capital structure management for the further success. Further, the concerned scholars, academicians, investors, professionals may also be benefit from this study.

The reason of the need of the study can be summarized by the following points:

) The study provides the knowledge about capability of the Nepalese manufacturing companies and their financial sources.

- The study provides the knowledge of dynamics of the capital structure.
- The study gives the idea of the balanced capital structure and the capital structure of the manufacturing companies comparatively.
- The study is essential for determining the proportions of the equity capital and the debt capital in the capital structure of the manufacturing companies.
- It also provides literature of the researcher, who wants to perform further research in this field.

1.7 Limitation of the Study

This research is from 2002 to 2009 & it is conducted under the following limitation:

- This research is focused on the analysis of the two manufacturing companies of Nepal only.
- Due to the lack of time and financial resources, only two companies are selected as sample of the study.
- This study is based mainly on the secondary data which are collected from books, reports of the relevant companies, NEPSE and security board. So the secondary data are not accurate as the primary data.
- The consistency of the result is strictly based on the information provided to us.
- The personal visits to the companies are more difficult and due to this, the study may be incomplete.
- The study has not used all the financial and statistical tools due to the various constraints. This may cause not to cover the total study and analysis.

1.8 Organization of the Study

The study is organized into five chapters in the following ways:

Chapter- I: Introduction

The first chapter deals with background, meaning of manufacturing industries, historical development of Industry in Nepal, a brief overview of selected manufacturing companies listed in NEPSE, statement of problem, objectives of the study, significance of the study, limitation of the study and organization of the study.

Chapter- II: Review of Literature

The second chapter deals with the conceptual framework like concept, review of relevant research studies and other related subject matter.

Chapter- III: Research Methodology

The third chapter contains research methodology, employed in the study. It includes the introduction, research design, nature and sources of data, tool of analysis and definition of key terms.

Chapter- IV: Data Presentation and Analysis

The fourth chapter contains presentation and analysis of data. In this chapter data are collected through balance sheet, profit and loss account and are presented in tables. Analysis and interpretation of data have been performed thereafter.

Chapter- V: Summary, Conclusion and Recommendations

The fifth and last chapter includes summary and conclusion of the study. After that all necessary recommendation are presented.

At the last part of the study, a bibliography has been included. All necessary appendices are also included in the bibliography.

CHAPTER - II
REVIEW OF LITERATURE

In this chapter, it covers the review of literature. Review of literature means reviewing research studies of other relevant proposition in the related area of the study so that all the past studies, their conclusion and deficiencies may be known and further search can be conducted.

It will be known about the capital structure management as a brief to find out previous condition of the manufacturing company, which gives the proper equipments to forecast the future of the manufacturing companies. So, the review of literature is the most necessary chapter.

For the study of capital structure management of manufacturing companies of Unilever Nepal Limited and Bottlers Nepal Limited previous investigation from mater's students have been consulted. Review of literature can be studied by dividing it in the following ways:

⟩ Conceptual Framework
⟩ Review of Related Studies

2.1 Conceptual Framework

In this section various books written by different writers as well as reviewed. This makes clear about the conceptual foundation of this study. It provides the chance of examining views of different writers and scholars so that the new idea can be generated.

2.1.1 Concept of Capital Structure

The term "Capital Structure" is the combination of long term debt and equity; it is a part of financial structure i.e. comprised to the total combination of preferred

stock, common stock, long-term debt and current liabilities. If the current liabilities are removed from it, we get capital structure" (Mathur, 1979: 239).

"Capital Structure is made up of debt and equity securities which comprise a firm's finance of its assets. It is the permanent financing of a firm, represented by long term debt plus preferred stock plus net worth''. A distinction is usually made between financial structure and capital structure. Financial structure refers to all sources i.e. (both short term and long term) that are used to finance the entire assets of a firm where as capital structure is taken as the capitalization part of firm's total financing which include only the long term sources such as long term debt and equity. Thus the capital structure is a part of financial structure. The composition of capital structure could differ from company to company, which is directly guided and controlled by the management of the company. However a reasonable satisfactory capital structure can be determined considering relevant factors and analyzing the impact of alternative financing proposals on the earning per share (Bearly, Stewart and Myers, 1985:397).

One of the financial manager's principal goals is to maximize the value of firm. For this purpose the firm should select a financial mix (Financial Leverage), which will help in achieving the objectives of financial management with a view to maximize the value of share. In other to achieve this business goal, firm should select an appropriate capital structure. Given the objectives of the firm to maximize the value of equity share, the firm should select a financial mix, which helps in achieving the objectives of financial management.

"Capital structure is the permanent financing of the firm represented preliminary by long term debt, preferred stock and common stock but excluding all the short term credit"(Western and Brigham, 1978:555).

2.1.2 Optimum Capital Structure

Capital structure means the proportion of security issued by the firm. Optimal Capital structure consists of reasonable proportion of debt and equity, which can help to maximize the value of the firm and ultimately maximizes the shareholders wealth.

"An optimal capital structure would be obtained at the combination of debt and equity that maximizes the total value of the firm or minimizes the weighted average cost of capital" (Pandey, 1992: 47).

"Optimal Capital Structure can be defined as that mix of debt and equity which will maximize the market value of a company. If such an optimum does exist, is two fold. If maximize the value of the company and hence the wealth of its owners it minimizes the company's cost of capital which is in turn increase its ability to new wealth creating investment" (Soloman, 1993: 93).

The Capital structure patterns can be simple or complex. A simple capital consists of equity and preference share but the complex structure consists of multi-securities as equity shares, preference share, bonds, debenture etc. It can be dealt with three different level of complexity i.e.

ʃ Static View

ʃ The Comparative Static View

ʃ Dynamic view

The concept of static view reveals that according to the relevant information about the firm's asset structure, the quality of expected earnings and capital market condition, management should obtain the mix of financial claims that maximize the cost of capital. Hence capital structure is viewed as the active policy variable.

The concept of comparative static view gives different values of cost of capital and capital structure, as some of the underlying parameter change. Thus changes in the existing assets structure, the quality of expected earnings and the capital market conditions generate new equilibrium solution between the financing mix and the cost of fund.

The Dynamic view gives the optimal value within the constraints at the time and place where the decisions were made.

Thus the capital structure management means the appropriate mix of long-term capital and short-term capital, which gives the company sufficient profit. Optimal capital structures have certain risk and appropriate return. This is done by good management. In this study, one gets certain question, which is "How much debt is appropriate varies company to company as well as firm to firm. In this reference, Prasanna Chandra has given the following suggestion in tanning the capital structure for establishing new company.

) The debt-equity ratio does note exceeds 2:1.

) For large capital intensive projects a higher debt-equity ratio of 4:1 or even 6:1 may be allowed. (Debt for this purpose is defined long term debt plus preference capital, which is redeemable after 12 years).

) The ratio of preference capital to equity does not exceed 1:3

) Promoters hold at least 25% of the equity capital.

2.1.3 Factors Affecting Capital Structure

After the overview of the capital structure management, we can point out the following factors, which affect the capital structure of any organization. Following factors should be taken into consideration while designing the optimal capital structure.

1. Stability of Sales and Growth Rate

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

2. Cost of Capital

As discussed above optimal capital structure should be less costly. Therefore company should use the sources having lower cost. Component cost of capital comprises using costs and issuing costs (floatation costs). Hence, floatation cost of securities should also be considered while raising funds. The cost of floating a debt is generally less than the cost of floating equity and hence it may persuade the management to raise debt financing.

3. Asset Structure

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

4. Management Attitudes

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

5. Lender Attitudes

Lender attitudes frequently influence capital structure decisions. Lenders emphasize that excessive debt reduces the credit standing of the borrower and the

credit rating of the securities previously issued. The corporation discusses its financial structure with lenders and gives much weight to their advice. If management wants to use leverage beyond norms for the industry, lenders may be unwillingly to accept such debt increases.

6. Operating Leverage

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

7. Taxes

Interests are deductible expenses, and deductions are most valuable to firms with high tax rates. Hence, the higher a firm's corporate tax rate, the greater the advantage of debt.

8. Profitability

Firms with high rate of return on investment use relatively little debt, because company's high rate of return to do most of their financing with retained earnings. For example, Intel, Microsoft and Coca-Cola simply do not sale of stock may become more appealing.

9. Interest Rates

At certain point of time, when the general level of interest rates is low, the use of debt financing might be more attractive; when interest rates are high, the sale of stock may become more appealing.

10. Control

The effect of debt versus stock on a management's control position can influence capital structure. If management currently has voting control, but is not in a position to buy any more new stock, it may choose debt for new financing. 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 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.

11. Flexibility

Capital structure of a firm should be flexible i.e., it should be such that it is capable conditions. It should be possible to raise additional funds without much of difficulty and delay whenever it is needed. A firm should be arrange its capital structure in such a manner that it can substitute one form of financing by another.

12. Nature and Size of the Firm

Nature and size of a firm also influences its capital structure. A public utility concern has a different capital structure as compared to other manufacturing concerns. Public utility concerns may employ more of debt because of stability and regularity of their earnings. On the other hand a concern which can not provide stable earnings due to the nature of the business will have to reply main upon owned capital as it is very difficulty for them to raise long term loans at a reasonable rate of interest.

2.1.4 The Capital Structure Decision

Capital is a scarce resources and much more essential to maintain smooth operation of any firm. The available capital and financial resources should be utilized so efficiently that it could generate maximum return.

Capital structure is considered as that mix of debt and equity and to operate in long run prospect. A firm must concentrate in its proportion. A firm can raise required fund by issuing various types of financial instrument. Investors and creditors being the key suppliers of capital, they hold greater degree of risk and hence have claims over firm's assets and cash flow.

Capital structure decision can be identified into existing capital structure, desired debt equity mix and payout policy out of which existing capital structure and desired debt equity mix will directly effects on risk and return in the firm and also effects on cost of capital. Capital structure decision ultimately increases the value of the firm if the decision on the management of the capital is maintained properly and gives result to the optimum capital structure.

Figure 2.1

Capital Budgeting Decision

```
┌──────────────────┐            →  Replacement
│ Capital Budgeting│            →  Modernization
│     Decision     │────────→   →  Expansion
└──────────────────┘            →  Diversification
        │
        ▼
┌──────────────────┐            →  Internal funds
│  Need to Raise   │────────→   →  Debt
│      Fund        │            →  External Equity
└──────────────────┘
        │
        ▼
┌──────────────────┐
│ Capital Structure│
│     Decision     │
└──────────────────┘
        │
   ┌────┼──────────────────────────────┐
   ▼    ▼                              ▼
┌──────────────┐  ┌──────────────┐  ┌──────────────────┐
│Existing Capital│ │ Desired Debt │  │ Retention Policy │
│   Structure   │  │ Equity mix   │  │                  │
└──────────────┘  └──────────────┘  └──────────────────┘
       │                 │
       ▼                 ▼
┌──────────────┐              ┌──────────────┐
│ Effect on EPS│              │ Effect on Risk│
└──────────────┘              └──────────────┘
              │
              ▼
      ┌──────────────────┐
      │Effect on Cost of │
      │    Capital       │──────→  Optimal Capital Structure
      └──────────────────┘
              │
              ▼
      ┌──────────────────┐
      │ Value of the firm│
      └──────────────────┘
```
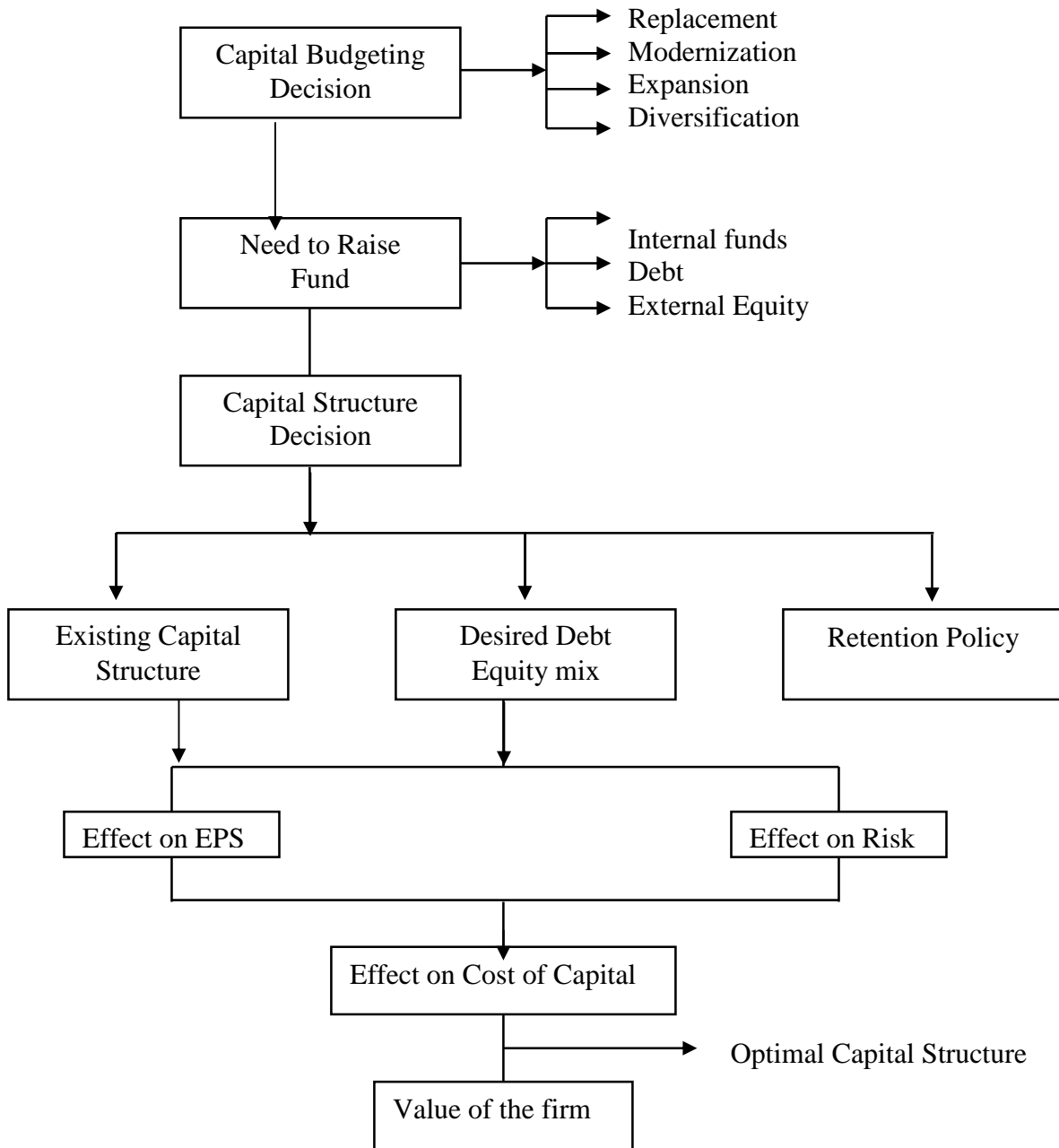
(Sources: Pandey, 1992: 204)

In the above chart, the main objective of the firm is to maximize the value of the firm with limited optimum capital structure. For capital budgeting decision funds

need for the replacement of the capital, modernization of the capital, expansion of the capital and diversification of the capital. Once the capital decision is made the firm needs to raise funds either from the internal funds, debts or from external equity from which capital structure decision is made.

Either fund is raised by debt or equity financing risk is associated in proportion of its uncertainty is being paid off. The required rate of return expected by investors according to their risk is cost of capital. Therefore a firm should try to obtain necessary fund at lower cost. This cost of capital is fully dependent upon the proportion of debt and equity i.e. financial leverage, which is actually the capital structure used by the firm.

The capital structure decision affects the overall cost of capital, total value of the firm and earning per share. Therefore it should be well planned. It aims to maximize value of firm and earning per share by minimizing cost of capital without effecting operating earning of the firm.

"An optimum capital structure would be obtained at the combination of debt and equity that maximizes the value of the firm or minimizes the weighted average cost of capital" (Pandey, 1992: 47).

There are four dimensional lists when thinking about the capital structure decision

1) Taxes

If the company is the tax paying and increase in leverage reduces the income tax paid by the company and increase the tax paid by the investor. If the company has large accumulated loss, as increase in leverage cannot reduce corporate tax but does increase personal taxes.

2) Bankruptcy Cost

With presence of bankruptcy cost, financial distress is costly other things equal, distress is more likely for the firms generally issue less debt.

3) Assets Type

The cost of distress is likely to be greater for firms whose value depends on growth opportunity of intangible assets. These firms are more likely to go for profitable opportunities and default occurs, their asset may erode rapidly. Hence, firms whose assets are weighted forward intangible assets should borrow significantly less on average their firms holding assets you can kick.

4) Financial Slack

In the long operating decision than on financing therefore, you want to make sure your firm was in sufficient financial slacks, so that financing is quickly accessible when good investment opportunities arises. Financial slack is most valuable firm that has able positive NPV growth opportunity. That is another reason why growth companies usually aspire to conservative capital structure.

2.1.5 Capital Structure Theory

The theory of capital structure is closely related to the firm's cost of capital. Many debates over whether an optimal capital structure exists are found in the financial literature. Argument between those who believe there is an optimal capital structure for each firm and among those who believe in the absence of such optimal capital structure began in late 1950's and there is yet no resolution of the conflict. Modigliani and Miller logically admitted that the value of the firm or the cost of capital is independent of capital structure decision of the firm. On the other hand, according to the traditionalist's view, the value of the firm or the cost of capital is affected by the capital structure change. So, in order to understand how firms should adhere the target capital structure decision, it is important to have some idea of major elements of capital structure theory.

The history presents several theories on capital structure management. In order to analyze the capital structure of any company four theories are considered. These theories are:

- Net income (NI) approach.
- Net operating income (NOI) approach.
- Traditional approach; and
- Modigliani-Miller (M-M) theory
- Without tax
- With tax

Common Assumptions of Capital Structure Theory:

- There are only two sources of funds used by a firm: Perpetual risk less debt and ordinary shares.
- There are no corporate taxes or personal income taxes and no bankruptcy costs. This assumption is removed later.
- The dividend-payout ratio is 100% .That is, the total earning are paid out as dividend to the shareholders and there are no retained earnings.
- The firm's total assets are given and do not change. The investment decisions are, in other words, assumed to be constant.
- The firm's total financing remains constant. The firm can change its degree of leverage (capital structure either by selling shares and use the proceeds to retire debentures of by raising more debt and reduce the equity capital.
- The operating profits (EBIT) are not expected to grow.
- All investors are assumed to have the same subjective probability distribution of the future expected EBIT for a given firm.
- The firm's business risk is constant over time and is assumed to be independent of its capital structure and financial risk.
- Perpetual life of the firm.

In the theoretical analysis of capital structure one shall use the following symbol

  B= Total market value of debt.

  S= Total market value of stock.

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

  K_e= Equity capitalization rate.

  K_d= Cost of debt/Yield on the debt.

  K_o=Overall capitalization rate.

  I= Total amount of annual interest.

  EBIT= Earning before interest & taxes.

a. K_d= I/B   (where K_d is the yield on the company's debt, assuming this debt to be perpetual, I=Interest & B=debt.

b. Cost of Equity= $\dfrac{EBIT - I}{S}$ or $\dfrac{NOI - I}{S}$

The earning/price ration is the required rate of return for the investors in the firm whose earning are no expected to grow and whose divided payout ration is 100 percent.

c. Overall cost of capital i.e. K_o= NOI/V (Where V=B+S, overall capitalization rate is defined as the weighted average cost of capital)

  or, K_o= K_d (B/V)+ K_e (S/V)

d. Value of the firm i.e. V=B+S

2.1.5.1 Net Income (Ni) Approach

Net Income Approaches focuses the increase in total valuation of the firm through the reduction in the cost of capital leading to an increase in the cost of capital

leading to an increase in the degree of leverage. It is also known as dependent hypothesis of capital structure. The essence of this approach is that the firm can reduce 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 investors. Consequently, the interest rate on debt (K_d) and the equity capitalization rate (K_e) remains constant to debt" (Pandey, 1992: 47).

The emphasis is on EBIT is measure how the degree of leverage brings change in valuation of the firm. Assuming a constant equity capitalization rate, the increase in cheaper debt funds lowers the weighted average cost of capital and there by rising the value of the firm and the increasing in debt may not increasingly risky.

The crucial assumption of NI approach are:

∫ The use of debt does not change the perception of investors, as a result, the equity-capitalization rate, K_e and the debt-capitalization rate; K_d remains constant with change in leverages.

∫ The debt capitalization rate is less that the equity capitalization rate (i. e. $K_d < K_e$).

∫ The corporate income taxes do not exist.

∫ As the firm increasing its leverage by increasing its level of debt relative to equity, the overall cost of capital declines. The important of this levered overall cost of capital is that it increases the value of the firm.

Overall cost of capital can be expressed by following formula.

Overall cost of capital (K_o) = $\dfrac{\text{Net Operating Income}}{\text{Total value of the firm}}$

or, $\dfrac{\text{EBIT}}{\text{V}}$

Another formula for 'K_o' is: $K_o = K_e - (K_e - K_d)B/V$

As per assumptions of NI approach, K_e and K_d are constant and K_d is less than K_e. Therefore, K_o will decrease as B/V increases. Also, 'K_e'=K_o when B/V=0.

This approach is graphically shown in the following figure:
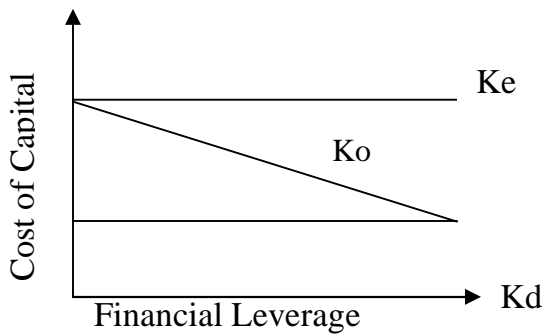
Figure 2.2   **Figure 2.3**

NI approach (Cost)   **NI approach (Value)**
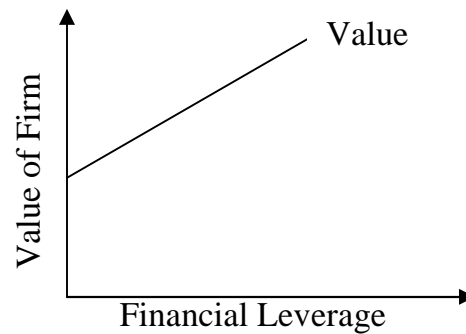
(100% Equity D/E ratio 100% Debt)   (100% Equity D/E ratio 100% Debt)

From the above figure, it is clear that the cost of debt 'Kd' and cost of equity 'Ke" are constant but the overall cost of capital "Ko" is declining. So, under the NI approach the cost of capital will decline and value of the firm will increase with leverage. The optimal structure would occur at the point where the value of the firm is maximized and overall cost of capital is minimum. That will have the maximum value at the lowest cost of capital since it is all debt financed or has as much as debt as possible. If the firm is unlevered the overall cost of capital will be just equal to the equity capitalization rate. (i.e. $K_o=K_e$).

Table 2.1

Overall Capitalization Rate by Net Income (Ni) Approach

'O'	Net Operating Income	…………………
'F'	Total Interest ($K_d.B$)	………………….
'E'	Earning Available to common shareholder(O-F)	…………………
'Ke'	Equity capitalization rate	………………….
'S'	Total market value of equity(E/K_e)	…………………
'B'	Total market value of debt	………………….
'V'	Total value of firm(S+B)	…………………
'K_o'	Overall capitalization rate (O/V)	………………….

The calculation is simplified by using above calculation model.

2.1.5.2. Net Operating Income (NOI) Approach

The second behavioral approach to capital structure is the Net Operating Income Approach, which is slightly different from the NI approach. It is an independent hypothesis of capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm and market price of share, as the overall cost of capital is independent of the degree of leverage" (Khan and Jain, 1990:495). The NOI approach assumes that the equity holders feel higher degree of financial risk and demand higher rate of return for higher debt to equity ratio. Further more, this approach says that the cost of equity increases with the level of debt, and the higher cost of equity offsets the benefit of cheaper debt financing consequently no effect at all on K_o, in other word overall capitalization rate 'K_o' as well as the cost of debt 'K_d' remain constant regardless of the degree of leverage.

The assumption here is that the overall capitalization rate of the firm is constant for all degrees of leverages.

The critical assumptions of NOI Approach are: (Pandey, 1992: 47).

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 Ko, to capitalize the net operating income. Ko, depends upon the business risk. If the business risk is assumed to remain unchanged, Ke is constant.

3. The use of less costly debt fund increases the risk to the shareholders; this causes the equity capitalization rate to increases. Thus, the advantage of debt is offset exactly by the increase in the equity capitalization rate, Ke.

4. The debt capitalization rate, Kd, is a constant.

5. The corporate income taxes do not exist.

"Under NOI approach the capital structure selected is a more details since the value of the firm is dependent of the firm's capital structure. If the firm increases its use of financial leverage by employing more debt this is directly offset by an increase in the cost of capital.

It can be expressed by the following figures:

Figure 2.4

NOI approach (Cost)

Ko

Kd

Debt - Equity Ratio

Figure 2.5

NOI approach (Value)

Value

Debt - Equity Ratio
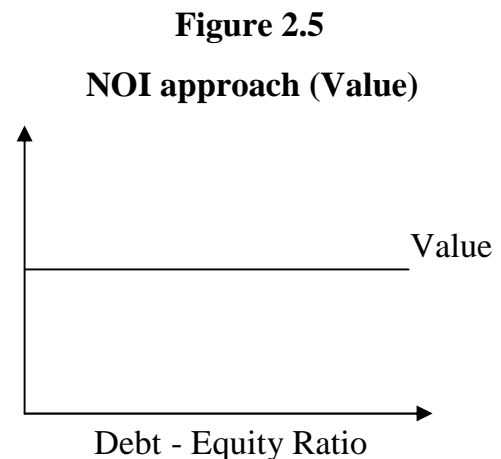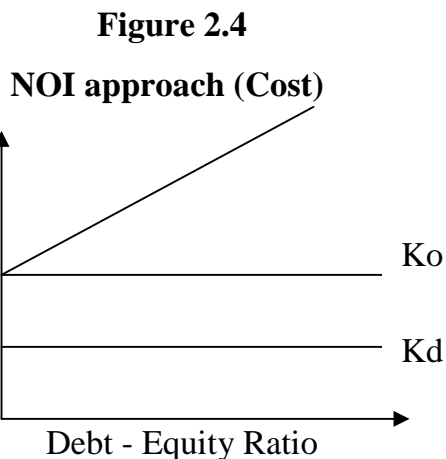
The above figures show that 'K_o' and 'K_d' are constant and 'K_e' increases with leverage. As 'K_o' is constant, leverage is optimal. "At the extreme degree of

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financial leverage hidden cost becomes very high hence, the firms cost of capital and its market value are not influenced by the use of additional cheap debt fund" (Gitman and Pinches, 1982:791).

This can be expressed as:

$K_e = K_o + (K_o - K_d)D/S$

Thus this approach suggested that there is not any optimum capital structure. As the overall cost of the capital is the same at all capital structure, every capital structure is optimal.

Table 2.2

Market Value of Stock by Net Operating Income (Noi) Approach

'O'	Net Operating Income	…………………
'Ko'	Overall capitalization rate	…………………
'V'	Total Value of the firm (O/Ko)	…………………
'B'	Market value of debt	…………………
'S'	Market value of stock (V-B)	………………….

The calculation is simplified by using above calculation model.

2.1.5.3 Traditional Approach

The Traditional approach is also known as an intermediate approach compromise between the NI approach and NOI approach. This approach says that the value of the firm can be increased or the judicious mix of debt and equity capital can reduce the cost of capital. In additions the cost of capital, decrease within the reasonable limit of debt and then increase with leverage. Thus an optimal capital structure exists when the cost of capital is minimum, or the value of the firm is maximum.

"The more sophisticated version of the net income approach is contained in the traditional view. According to this approach, the value of the firm can be increased or the cost of capital can be reduced by a judicious mix of debt & equity capital" (Pandey, 1992: 47).

In this approach the cost of capital decreases within the reasonable limit of debt and then increase with in the leverage.

The crucial assumptions of the traditional approach are:

⟩ The cost of debt (K_d) remains more or less constant up to a certain degree of leverage but rises thereafter at an increasing rate.

⟩ The cost of equity (K_e) remains more or less constant or less only gradually up to a certain degree of leverage and rises sharply there after.

⟩ The average cost of capital (K_o) as a consequence of above behaviour or 'K_e' and 'K_d' (i) decreases up to a certain point (ii) remains more or less unchanged for moderate increases in leverage thereafter and rise beyond a certain point.

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

Stage-1:-Increasing Value

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

Under the assumption that 'K$_e$' remains constant with in the acceptable limit of debt, the value of the firms will be:

$$V = S+B$$

$$= \frac{Q-K_d \cdot B}{K_e} + \frac{K_d \cdot B}{K_d}$$

$$= \frac{Q-K_d \cdot B}{K_e} + B$$

$$= \frac{Q}{K_e} + \frac{(K_e - K_d)B}{K_e}$$

Thus, so long as 'K$_e$' and 'K$_d$' are constant the value of the firm 'V' increases at a constant rate.

Stage-2:-Optimum Value

In this stage, once the firm has reached a certain degree of leverage, increases in it have a negligible effect on the value of the firm. This is so because the increase in the cost of equity offsets the advantages of low cost of debt within that range or specific points, the value of the firm will be maximized or the cost of capital will be minimum.

Stage-3:-Declining Value

In this stage, after the acceptable degree of leverage, the market value of the firm decreases with leverage or the overall cost of capital increases with leverage. This happens because the cost of debt and equity will tend to rise as a result of increasing the degree of financial risk that will make to increase in the overall cost of capital by more than to offset the advantage of low cost debt. Thus, in the third stage, the market value of the firm will show depressing tendency.

The overall effect of these three stages is to suggest that the cost of capital is a function of leverage. First it declines with leverage and after reaching a minimum point or range it status rising. This minimum point defines the optimum capital structure. This fact is graphically shown in the figure.

This fact is illustrated in the following figures:

Figure 2.6

Declining Value (Cost)
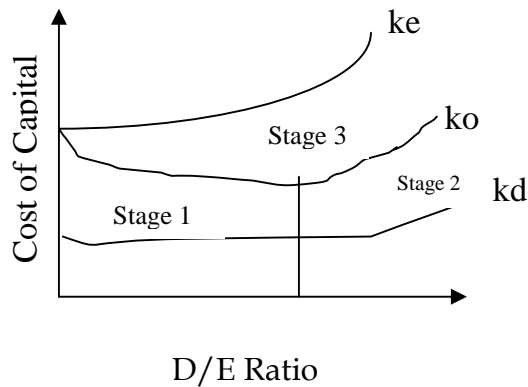
Figure 2.7

Declining Value (Value)
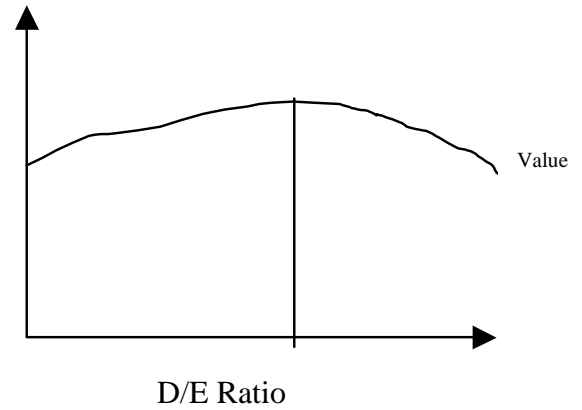
According to this approach, there exists a particular capital structure that is better than any other for the firm. In the above figures, the debt equity ratio at the point 'p' results the overall cost of capital, which consequently maximizes the value of the firm. Therefore, the debt equity ration is relevant and optimal capital structure exists for the firm.

Thus the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure. At that optimal structure, the marginal real cost of debt (explicit and implicit) is the same as the marginal real cost of equity in equilibrium. For degrees of leverage, before that point, the marginal real cost of debt exceeds that of equity.

Table 2.3

Overall Capitalization by Traditional Approach

'O'	Net Operating Income	…………………..
'F'	Total Interest (Ki B)	…………………..
'E'	Earning Available to common share-holder(O-F)	…………………..
'K_e'	Equity Capitalization rate	…………………..
'S'	Total Market value of equity (E/K_e)	…………………
'B'	Total market value of debt	…………………
'V'	Total Value of firm (S+B)	…………………
'K_o'	Overall capitalization rate (O/K_o)	…………………

The calculation is simplified by using above calculation model.

2.1.5.4 Modigliani-Miller (M-M) Theory

a) M-M theory (In the world without taxes)

Modigliani and Miller (M-M) support the relation between leverage and cost of capital that explained by NOI approach. They argue that in the absence of taxes, total market value and cost of capital of the firm remains invariant to the capital structure change. They make a formidable attack on the traditional position by offering behavioral justification for having the cost of the capital (ko) remains constant through out all degree of leverage. M-M contained that the 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 for its risk class. The M-m cost of capital hypothesis can be best expressed in term of their propositions I and II. However the following assumptions regarding the behavior of the investors and capital market, the action of the firm and the tax environment are crucial for the validity of the M-M hypotheses.

The crucial assumptions of MM preposition are:

⟩ Perfect Capital Market: Information is costless and readily available to all investors. There are no transaction costs, and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.

⟩ The average expected future operating earnings of a firm are represented by subjective random variables. It is assumed that the expected values of the probability distribution of all investors are the same. The M-M illustration implies that the expected values of the probability distributions of expected operating earnings for all the future periods are the same as present operating earnings.

⟩ Firms can be categorized into "equivalent return" classes. All firms within a class have the same degree of business risk. As we shall see later this assumption is not essential for their proof.

⟩ The absence of corporate income taxes is assumed. M-M removes their assumption later.

Proposition I

The M-M Proposition: I state that the market value of a firm is independent of its capital structure. It is because the value of the firm is determined by capitalizing the net operating income (NOI or EBIT) at a rate appropriate for the firms risk class. Accordingly, the value of the firm is obtained by:

$$V = \frac{NOI}{K_0}$$

Where,

V= Value of the firm

NOI= Net operating income

K_o= Risk adjusted capitalization rate.

The M-M proposition-I also implies that the weighted average cost of the capital (K_o) to any firm (i.e. levered or unlevered) is completely independent of its capital structure and equal cost of equity (K_e) to an unlevered firm in the same risk class. Thus there is no relationship between the value of a firm and the way its capital structure is made up, not there is any relationship between the average cost of capital and the capital structure. It is identical to the NOI approach.

Proposition II

This theory states that the cost of equity rises proportionately with the increase in the leverage in order to compensate in the form of premium for bearing additional risk arising from the increase in leverage. It assumes that only the equity holders adjust the capitalization rate for the degree of financial leverage risk. It means that K_e increases as debt-equity ratio increases. The K_d doesn't respond to changes in debt-equity ratio and it remains constant. It is expressed as follows:

$$K_e = K_o + (K_o - K_d)\ D/E$$

Where,

K_e= Cost of equity

K_o= Average cost of capital.

K_d= Cost of debt or interest rate.

D/E= Debt Equity ratio

The validity of proposition-II depends upon the assumptions that K_d will not increase for any degree of leverage but in practice K_d increases with leverage beyond a certain acceptable level. However, M-M mention that even if K_d is function of leverage, K_o will remain constant, as K_e will increase at a decreasing rate of compensate. Thus taking both the propositions I and II together, the M-M theory in the absence of taxes contents the overall cost of capital as well as the value of the firms are independent of capital structure. The theory in a tax free

world is identical to the NOI approach. In other words, the value of levered firm V_L is equal to the value of an unlevered firm V_U in the same risk class i.e. $V_L = V_U$.

b) M-M Theory (In the World with Taxes)

Under MM theory, the value of a firm is independent of its debt policy is based on the critical assumption that the corporate income taxed do not exists. But in reality, the corporate income taxes exist. But in reality, the corporate income taxes exist, and interest paid to debt holders is treated as a deductible expenses. This makes debt financing advantageous. "In their 1963 article, M-M shows that the value of the firm will increase with debt due to the deductibility of interest charges for tax computation and the value of the levered firm will be higher than of the unlevered firm'. Thus, the value of a levered firm is equal to the value of unlevered firm plus the present value of interest tax-shield as shown below.

Value of a levered firm = Value of an unlevered firm + PV of interest tax shield. Symbolically,

$$VL = Vul + PV \text{ of interest tax shield}$$

The value of unlevered firm when corporate taxes exist is,

$$Vul = \frac{NOI(1-T)}{Kou} = \frac{NOI}{Keu}$$

Where,

NI = Net income after tax

Keu= The Equity Capitalization rate of an unlevered firm.

Kel= The Equity Capitalization rate of an levered firm.

Kou=The overall capitalization rate of unlevered firm.

Kol = The overall capitalization rate of levered firm.

Vul= Value of unlevered firm.

Vl= Value of levered firm.

T= Corporate Tax Rate

Also, when a firm is unlevered, Kou = Kev. Thus,

$$VI = \frac{NI}{Kev} + Dt$$

The above equation implies that, when corporate tax exists, the value of levered firm will increase continuously with debt. Thus, theoretically the value of the firm will be maximum, when it employs 100% debt.

This can be shown as follows:

Figure 2.8	**Figure 2.9**
M-M Theory (Value)	**M-M Theory (Cost)**
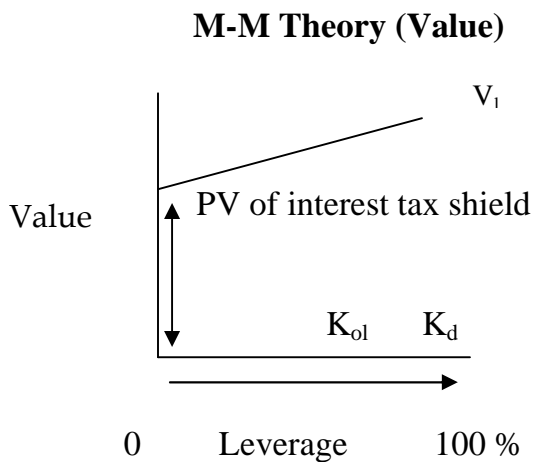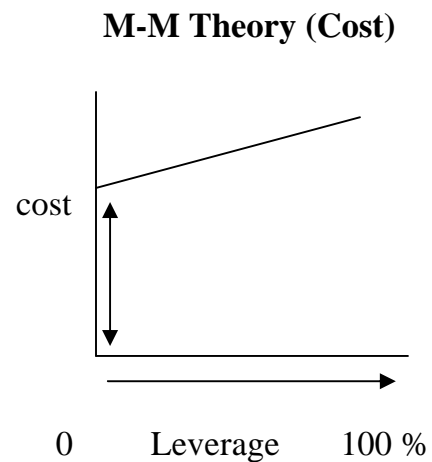
$$K_{eu} = K_{ou}$$

Because of the tax deductibility of interest charges, a firm can increase its value or lower overall cost of capital by using cheaper debt funds. Thus, the optimal capital structure is attained when employs 100 percent debt. But in practice firm doesn't employ large amount of debt, nor are the lenders ready to lend beyond the certain limit. Why companies do not employ extreme level of debt or the lenders are

ready to lend beyond the certain limit. Why companies do not employ extreme level of debt in practice? The reason behind it is that, the borrowing may involve extra costs (in addition to fixed interest cost) like cost of financial distress, which may offset the advantage of using debt. Another reason may be the personal taxes involved for lenders.

2.1.6 Cost of Capital

Cost of capital is rate of return on the investment to be earned in order to satisfy the investor (Child, 1976: 315). Cost of capital may be defined as cost to the firm of obtaining funds or equivalently as the average rate of return that an investor or a firm would except for supply capital. This would be the minimum rate of return that a project must yield to keep the value of the firm intact (Shirvastava, 1985: 288). Cost of capital as the minimum acceptable rate or the required rate of return is a compensation for time and risk in the use of capital by the project.

The cost of each component of the capital structure also said to be cost of capital. Capital components, which are shown in the left hand side of the balance sheet, include various types of debt, preferred stock, retained earnings, and common stock. Every firm has to repay its borrowed funds with interest after certain period of time. Interest which it has to pay is called cost of capital. Cost of preference share is calculated as cost of debt because it is debt natured capital. The cost of equity capital is define as the minimum return of reties that a firm must earn on the equity financed portion of its investment in order to leave unchanged the market price of its stock (Van Horne, 1999: 335). Cost of retained earning is the opportunity cost to the shareholders because when the firm decides to retained the current earnings in the firm than shareholders give up their cash dividends. Thus, in the absence of flotation cost, the cost of retained earning and the cost of common stock is same. The cost of new common equity is the rate of return which is required by the stockholder. Due to flotation cost, the cost of average or

composite cost of capital is the weighted average of the cost of various sources of capital weight in the proportion of each of the sources in the capital structure.

2.1.6.1 Factor Determining Cost of Capital

Different factor affect the cost of capital of an enterprise: General economic conditions, market conditions, enterprise's operating and financing decisions and the amount of financing determine the cost of capital of enterprise. General and economic conditions are external environment factors that determine cost of capital. These external factors are out of the control of management (Baral, 1996: 220). Enterprise's operating financing decisions and the amount of financing are internal environment factors. These factors depend upon the management decision of an enterprise.

2.2 Review of Related Studies

2.2.1 Review of International Studies

Mesquita & Lara (2006), in their article *"Capital Structure and Profitability: The Brazilian Case",* have shown a great dispersion among the several capital sources used by the Brazilian companies, exception to the equity, the main component, and the one that presents smaller variability. As to the relationship between return rates and debt, the results indicate inverse relationship for the long run financing, and direct relationship for short-run financing and equity.

The facts of the most lucrative companies are the ones with lowest debt are in consonance with other empiric evidences. However the low debt level, when compared to the debt level of more developed economies, such as United States, Japan, Germany and United Kingdom, indicates that the Brazilian companies are using debt in a extremely conservative way. Perhaps the high interest rates practiced at the Brazilian market, the instability of the exchange rate politics and remaining atmosphere of uncertainty of the local economy which conveys

operational and financial risks that hinder the managerial planning and inhibit the adoption of more sophisticated debt politics can explain that fact.

Raheman, Zulfiqar and Mustafa (2007), in their article, *"Capital Structure and Profitability: Case of Islamabad Stock Exchange",* have stated that firstly there is negative relationship between the long term debt and profitability verifying first hypothesis, which means that firms with having more long term debt are less profitable. This can be attributed to the interest cost bear by the company for a long term debt financing, which increase the fixed costs of the product and resultantly decrease the profitability. Secondly numeric verifications and statistical analysis shows negative relationship between net operating profitability and debt ratio.

Thirdly the relationship of profitability with percentage of equity in the total financing has direct relationship meaning thereby more equity leads to more profits. Fourthly size with profitability numerical calculations have accepted that with the increase in size of the firm the profitability increases. The study has taken the N-log of sales as proxy for growth in size and the increase in sales result in more profits.

Driffield & Pal (2008), in their article, *"Evolution of Capital Structure in East Asia: Corporate Inertia or Endeavors?"* have stated that many firms in the worst affected countries indulged in some reckless capital structure behavior. There is evidence that firms in the worst affected countries not only have higher leverages (being the result of high debt even in a situation of deteriorating assets), but also tend to have lower speed of adjustment than their counterparts in the least affected countries. This general ranking is robust to various alternative specifications and sample selections.

The case of Malaysia is particularly interesting in this context: while by virtue of its rigorous institutional and legal environment and also access to market based finance, the country was successful to restrict leverages to a generally lower level, it was not so successful to ensure speedy adjustment of capital structure and was among the worst affected countries hit by the crisis. This analysis also identifies some important adjustment mechanisms: (a) adjustment speeds are greater for larger firms and firms in the top leverage quartile who tend to have access to cheaper credit, as reflected in a comparison of effective interest rates. (b) Firms with more cash flow tend to have faster speed of adjustment. (c) Firms with only long-term debt however have lower speed of adjustment. (d) Firms in countries with tighter regulations and access to equity finance tend to have lower leverage and higher speed of adjustment (with the exception of Malaysia). (e) In general financially distressed firms in most countries tend to have higher speed of adjustment, revealing cases of sudden adjustment; the latter is especially evident in the post-crisis period, highlighting the fact that lessons have been learnt after the crisis.

Abor (2008), in his article, *"Determinants of the Capital Structure of the Ghanaian Firms",* has examined the determinants of capital structure decisions of publicly quoted firms, large unquoted firms and SMEs in Ghana. Publicly quoted and large unquoted firms were found to have higher debt ratios than SMEs. Overall, listed and unquoted firms exhibit different financing behavior from that of SMEs. Short term debt constitutes a relatively high proportion of total debt of Ghanaian firms.

Listed firms are better positioned to raise equity finance from the stock market, and large unquoted firms are also able to access equity finance from institutional investors usually through private placements. Firm size was found to have a positive relationship to short-term debt ratio of SMEs and debt ratios of quoted

firms, but negative with respect to long-term debt ratio in the case of unquoted firms. The results of this study seem to support the pecking order hypothesis, given that both long-term and short-term debts have inverse associations with profitability in all the sample groups. Firm growth was found to have a positive association with long-term debt for the unquoted firms' sample and short-term debt ratio for SMEs. Limited liability companies are more likely to obtain long-term debt finance relative to sole-proprietorship businesses.

The issue of capital structure is an important strategic financing decision that firms have to make. Clearly, the pecking order theory appears to dominate the Ghanaian capital structure story. It is therefore important for policy to be directed at improving the information environment.

Frank and Goyal (2008), in their article, *"Profits and Capital Structure",* have stated that the empirical relationship between profits and corporate use of debt finance has been widely misinterpreted. More profitable firms tend to issue more debt and they tend to repurchase equity. Firm size matters. Larger firms tend to be more active in the debt markets while smaller firms tend to be more active in the equity markets.

However, there is a particular group of firms that has had a big influence on the common rejection of the trade-off theory. Large, low-profit firms typically have high debt levels and they often increase their debt by quite a bit despite their low profit status. Further, these firms experience an even larger increase in the market value of their equity. Apparently, the market is expecting significant future profits from these firms despite low current profits. Thus, if the market is correct on average, the debt issuance by these firms may not be so surprising.

Overall, the empirical evidence on issuance seems rather easy to understand from the perspective of the static trade-off theory. Firms with more profits are less likely to issue equity, and more likely to repurchase equity. Firms with more profits do tend to issue debt. Market conditions also seem to have a fairly natural effect on issuance. The effect of bad market conditions is particularly strong on small and low-profit firms. Larger firms and more profitable firms are less strongly affected.

Mahmood and Zakaria (2009), in their article, *"Profitability and Capital Structure of the Property and Construction Sectors in Malaysia",* have assessed the profitability and capital structure among property developers and contractors in Malaysia. The study uses a sample of 25 property companies and 20 construction companies for a period of eight years from 2000 through 2008.

The study provides insight into the performance of property developers and contractor's profitability and factors impacting capital structure decisions of these firms to the Malaysia economy. Thus, the key contributions of the study were to explore and expand on existing literature from a Malaysian perspective. The study presented that the developers in Malaysia are larger and more profitable compared to contractors' counterparts. This is because their capital gearing and debt equity ratio are less than those of contractors. Further, contractors are heavily burden with debt and the need to service this debt is very high and thus, this led to low pre-tax profit margin as well as profit margin. The results from the regression analysis indicate that capital gearing is negatively related with net profit margin and price earning ratio for both property and construction sectors. The simple argument for the result is that the high gearing firms have to service their large amount of debt which in turn will reduce their profit margin and PE ratio, regardless of sector size.

Hutchison and Cox (2010), in their article, *"The Causal Relationship Between Bank Capital and Profitability",* have demonstrated that for banks in the U.S. there is a positive relationship between financial leverage and the return on equity for both the 1996-2002 and the 2003-2009 periods. Furthermore, the proportionality of financial leverage to return on equity appears to have been more or less maintained between the later more regulated time period as opposed to the earlier freer period.

Moreover, when viewing the return on assets relationship a similar pattern as the return on equity to capital relationship is observed. That is, ROA is inversely related to financial leverage. Again, there seems to be a dearth of evidence to sustain the notion that the 1996-2002 period is different than the 2003-2009 period. Bank performance has been robust to the regulatory environment that they have faced.

2.2.2 Review of Related Thesis

Subedi (2004), in his study, *"Capital Structure and Cost of Capital",* has the main objective of analyzing the capital structure and cost of capital of the selected companies. The other specific objectives of the study are;

   a. To study the profitability position.
   b. To assess the debt servicing capacity.

The major findings of the study are;

   a. The return on equity is constantly decreasing for all companies throughout the years; the cost of capital has not followed the capital structure theories.
   b. The banks followed moderate capital structure whereas the insurance companies practiced conservative capital structure.
   c. The profitability position of the banks were comparatively higher than that of insurance companies.

Basnet (2005), in his study, *"Capital Structure and the Cost of Capital of Nepalese Listed Companies",* has the main objective to examine the capital structure and the cost of capital of the sampled companies. The other specific objectives were as follows:

a. To test the relationship between the cost of capital and capital structure.

b. To examine the relationship between the cost of equity and capital structure of selected listed companies.

The major findings of the study are;

a. The regression coefficient of leverage against cost of capital was negative on manufacturing and trading sector and positive on banking and finance sector.

b. In addition, the t-value showed the beta coefficient was not statistically significant in both sectors.

c. There were not strong enough to establish relationship between cost of capital and capital structure and with other exploratory variables.

Kansakar (2007), in his study, *"Capital Structure of Joint Venture Banks of Nepal",* has the main objective to analyze, examine and interpret the capital structure of selected three Joint Venture Banks. The specific objectives of the study are;

a. To examine the solvency position of joint venture banks under study

b. To evaluate the effect of capital structure on profitability of Joint venture banks under study

c. To analyze the capital structure of sample banks

d. To analyze the comparative capital structure of selected JVBs

The major findings of the study are;

a. All JVBs has used high percentage of total debt in raising the assets and finance its activities. There is the highest ratio of the outsiders' claim in total

assets than that of the owner's claim. The implication of higher outsiders' fund is computed as debt ratio analysis. In an average the highest debt ratio belongs to Standard Chartered Bank of 93.29% which means that it is exposed to the greatest financial risk.

b. All the JVBs under study show the highest portion of debt in their capital structure. So they constantly face the burden of huge interest payments. The analysis shows that Standard Chartered Bank has the highest interest coverage ratio of 3.04 times on an average which indicates that it has been successful in generating sufficient income though the utilization of leverage. The lowest belongs to Himalayan bank of 1.71 times.

c. The ROA computed for the selected banks depicts the exact utilization of assets made by them. In comparison to all the other banks, Standard Chartered bank has the highest ROA which means that it is successful in the utilization of assets to generate more efficiency.

d. The results obtained through ROE calculation of all the selected JVBs shows the positive reflection of their efficiency of providing satisfactory returns to their shareholders. Standard Chartered bank has the highest ROE of 36.76% which means its capacity to utilize the shareholder's equity in an efficient way. All other remaining bank also shows the satisfactory result though the lowest ROE belongs to Himalayan Bank.

Simkhada (2009), in his study, *"Capital Structure of Nepalese Enterprises",* has the main objective of the study is to analyze the behavior of the capital structure of the selected manufacturing companies of Nepal. The other specific objectives of the study are;

a. To find out the capital structure of the sample companies.

b. To measure the relationship between debt and equity capital.

c. To examine the relationship of leverage with different financial ratios.

The major findings of the study are;

a. Average debt to total assets ratio of UNL is 51.33%, NLOL is 66.33% and DNPL is 74%. 74% ratio of DNPL indicated that 74% of the assets have been acquired by creditor' fund and the contribution of shareholder's was only 26%.

b. 70% long term to total debt is preferable but both NLOL and DNPL have almost 37% average ratio shows unsatisfactory condition. Since NLOL has not employed long term debt for few years and UNL has not used it in whole sampled years, they are unlevered firms.

c. DNPL has greatest interest-coverage ratio, which is 2.46 times. In the last three years of time, there is not interest charged by NLOL because they have not employed long-term debt. UNL has also zero interest charged, as it is also unlevered firm. But DNPL has good debt service capacity in spite of high burden of interest.

d. The ROSE indicated that NLOL has least ratio, i.e. 13.33% , and the ROSE in UNL is highest, i.e. 29.83%. The shareholders of DNPL have the higher risk although earning of DNPL's shareholders is lower, i.e. 26.33%.

Bhattatai (2010), entitled, *"Impact of Capital Structure on Profitability of the Commercial Banks",* has the main objective of the study is to analyze, examine and interpret the impact of capital structure on profitability of selected banks of Nepal. To achieve such objectives, the following objectives have been formulated.

a. To analyze the capital structure of banks.

b. To examine the solvency position of banks under study.

c. To evaluate the effect of capital structure on profitability of banks.

d. To compute the return on equity and return on assets of the selected banks.

The major findings of the study are;

⟩ The equity capital financing of both the banks are greater than the long term debt financing, as a result the debt equity ratio of NSBL is 0.84 times and of EBL is 0.27 times in average.

⟩ The usage of long term debt in term of total debt is higher in NSBL than in EBL. Consequently the average long term debt to total debt of NSBL is 6.87% and that of EBL is 1.84%.

⟩ The EBIT of EBL is stronger than that of NSBL in meeting the interest liability. The interest coverage ratio of EBL is 41.80% and that of NSBL is 33.47% in average.

⟩ The trend analysis shows that the D/E ratio will be 0.97 times in NSBL and 0.06 times in EBL, and the NPAT will be Rs. 652.80 million in NSBL and Rs. 1166.85 million in EBL by the end of the fiscal year 2013/14.

2.3 Research Gap

All the above studies are concerned with the research title "Capital Structure". Some researchers have selected various companies for the research and some have concentrated in only one institution. But this study includes only two manufacturing industries to cover the analytical part and fulfill the objectives of the study. This thesis work has covered the period of study seven years.

It has used all possible financial statistical tools to cover the objectives of this study. It has analyzed the DU-Pont system of analysis. With the help of the DU-Pont system, the result of the return on equity can be justified by explanation of covers behind thesis. It has also analyzed regression analysis which is a statistical method for investing relations ship between the variables by the establishment of an approximate functional between them. In this study, by the use of regression analysis, the strength of relation ship between two variables (e.g. long term debt on shareholders equity, total debt on long term debt, EBIT on interest and net profit on sales) have determined.

CHAPTER - III
RESEARCH METHODOLOGY

"Research Methodology" is composed of two words "Research" and "Methodology". "Research" is a systematic method of finding out solution to a problem where as "Methodology" is the research method used to test the hypothesis. Thus "Research Methodology is the way to solve systematically about the research problem. It refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view" (Kothari, 1989:19).

It is significant to have appropriate choice of research methodology that helps to make this research study meaningful and more scientific. Therefore, appropriate methodology has been followed to meet the purpose objectives of the study. So, the methodologies of this research include the research design, the population and sample, nature and source of data, data collection procedure and presentation for data and method of analysis.

3.1 Research Design

Research Design is the plan structure and strategy of investigation conceived so as to obtain the answers to research questions and to control variance" (Kerlinger, 1984:92). It provides a way to reach to research objectives. The research design refers to the entire process of planning and carrying out research study. For this study the required data have been collected from various resources covering a periods of 7 years for the two selected manufacturing companies from the Stock Exchange Ltd And Nepal Security Board. It analyses the debt and equity positions in capital investments of related companies. In order to achieve the predetermined objectives of the study, secondary data have been used. In some cases, opinion survey methods are also used. This study tries to make comparison and establish

relationship between two or more variables. So the research design of this study is based on descriptive and analytical study.

Analytical and descriptive approached have been adopted to examine the affect of dividend, earning, retained earning and one year lagged dividend per share on stock prices of selected companies

3.2. Nature and Sources of Data

This required data for the study are collected from the secondary resources and this study is mainly based on "secondary data". Thus secondary data are extensively used in this study. Secondary data are directly obtained from the Nepal Stock Exchange Ltd, selected manufacturing companies. Accuracy of data is dependent on the organization, which provides most of the data required for the study. The website of Nepal Stock Exchange Ltd. (NEPSE) http:/www.nepalstock.com and its annual report are the major sources of secondary data.

3.3 Population and Sample

There are 263 companies listed in Nepal Stock Exchange Ltd. At the end of fiscal year 2008/2009 only 18 manufacturing companies fulfill Nepal security board criteria. Out of 18 manufacturing companies only two manufacturing companies are selected as a sample for the study. For the purpose of the study, the samples companies are as follows:-

〕 Unilever Nepal Limited
〕 Bottlers Nepal Ltd

The selections of above two companies are based on my interest area where such type of study had not been taken. The selection of manufacturing company is also based on experts of relevant field. The data is carefully studied and analyzed systematic way to meet the objectives of this study.

3.4 Analytical Tools Used

Financial tools have been used for analyzing capital structure management in Nepalese manufacturing companies. Financial tool is a measuring instrument, which can be used in financial analyses and helps to calculate the relationship between two financial variables on ratio and percentage basis. Hence the financial tools are the major instrument that can be used in financial analysis. Financial analysis includes the leverage analysis. And the leverage analysis is the fundamental basis for the study of the capital structure. Hence the financial tools for the financial analysis are necessary instruments for the study of the dynamics of the different sources of the capital in the capital structure for the decision making process to minimize cost and maximizing shareholders' wealth. Under these analyses, the following calculations are made:

- Leverage
- Ratio Analysis
- DU-point Analysis
- Cost of Capital

3.4.1 Leverage

Leverage is the most important and fundamental part in the study of capital structure. Without the study of leverage, the study of capital structure cannot be completed. The term leverage may be defined as the employment of an asset or source of founds for which the firm has to pay a fixed cost or fixed return. Consequently, the earning available to the shareholders as also the risk are affected. If earnings less the variable cost exceed the fixed cost, or earning before interest and taxed exceed the fixed return requirement, the leverage is call favorable. When they do not, the result is unfavorable leverage.

Hence in the capital structure decision-making process, the concept of leverage is the fundamental. A change in one source of capital due to the changing source of

another capital can be studied under leverage analysis. An effect of change of one of the capital source can be realized by the change in sales and profit of the company "A high degree of leverage implies that a large change in profit occurs due to a relatively small change in sales" (Hampton, 1994:157).

There are two types of leverage-"operating and financial". The leverage associated with investment (asset acquisition) activities is referred to as operating leverage, while leverage associated with financing activated is called financial leverage.

3.4.1.1 Operating Leverage

Operating leverage results from the existence of fixed operating expenses in the firm's income steam. The operating cost of the firm's is fixed cost and variables cost. "Hence the operating leverage is the potential use of fixed operating costs to magnify the effect of changes in sales on earning before interest and taxes" (Gitman, 1986: 44). Operating leverage is determined by the relationship between the firm's sales revenue and its earnings before interest and taxes. The earning before interest and taxes are also generally called operating profits.

"The measurement of the relation ship between percentage change in earning before interest and tax and the percentage change in sales is known as operating leverage" (Dangol, 2006: 115). The change in fixed operating cost affects the operating leverage significantly. When a firm is highly levered, operating profit will increase at a faster rate than increase sales and vice-versa. If the company has a large fixed cost more that its marginal contribution, it should try to cover all fixed cost. When the company reaches its break even, a small change in sales caused the large percentage change in EBIT. The fixed cost will be equal to the contribution margin in the condition of reaching break-even point. Beyond that point' if the company has high operation leverage, small change in sales brings comparatively a high change in EBIT. The financial manger of the firm should be

caution because of small decrease in sales may cause a large decline of operating profit. The fluctuating operating leverage is riskier and dangerous for the company. It harms the profitability and profit condition of the company.

3.4.1.2 Measuring the Degree of Operating Leverage (DOL)

The degree of the operating leverage at any single sales volume can be calculated from a ratio of the percentage change in operating profit and a percentage change in sales.

$$DOL = \frac{\% \text{ Change in EBIT}}{\% \text{ Change in Sales}}$$

3.4.1.3 Financial Leverage

The possibility of the financial leverage arises when a firm goes the debt capital in its capital structure. The impact of debt financing on the earning before tax of the firm is financial leverage. Financial leverage measures the responsiveness of the earning per share (EPS) to change in earning before interest and tax. The debt capital along with equity capital, then the probability of the financial leverage is also more. " The capital with fixed interest charges is called debt and the payment of interest as well as the principal on debt is and obligation of the firm that must be paid before any remaining profit after tat is available for shareholder" (Weston and Copeland, 1990: 567). Interest is the charge for the fixed debt. Dividend is always given to equity shareholders but it is not the fixed obligation. Payment of dividend depends upon the dividend policy of the firm. The debt capital position in the capital structure can be analyzed by the measurement of the degree of financial leverage. If the financial leverage is more than one, the firm is said to be using debt capital more than equity capital in the capital structure. Debt capital is tax-deductible source of capital. Hence dept is the most important and major source of capital.

When the company wants to expand its capacity, it needs more money to invest in fixed capital. The need of large investment can be fulfilled by equity and debt. When the cost of debt is less, then the company may be profitable with debt capital investment. In this way the profitability of company, by using debt capital can be measured only with the help of financial leverage.

3.4.1.4 Measuring the Degree of Financial Leverage (DEF)

The degree of financial leverage is the numerical measure of the firm's leverage. When the economic condition is good and the firm's EBIT is increasing, its EPS increase faster with more debt in the capital structure. The degree of financial leverage is defined as the percentage change in EPS due to given percentage change in EBIT.

$$DFL = \frac{\% \text{ Change in EBIT}}{\% \text{ Change in Sales}}$$

3.4.2 Ratio Analysis

Financial manager of the company has to engage in making lots of decisions. He has to analyze the financial statements to find the financial sources, strength and weaknesses of the company to make the decision and to make future strategy. Ratio analysis is that tool which is used to analyze the financial statements. A widely use tool for the financial analysis is ratio analysis. It is defined as the systemic use of ratio to interpret the financial statements so the strengths and weaknesses of a firm as well as its historical performance and current financial condition can be determined. By the use of it, the financial manager can find our weaknesses of the company and take action to erase them out by making the rational decision. Hence ratio analysis helps to inform about the present situation of the firm and the corrective action to be undertaken for elimination the problems.

The outsider investors' also use ratio analysis to know about the financial surrounding of the company for the confirmation of their risk and return. This tool

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is also used to take the decision of the new investment or expansion of the firm by raising the extra or new sources of fund. In this way the capital structure is affected. And it is tried to make the balanced capital structure according to the analytical result from the ratio analysis.

There is various type of ratio which is as follows:
- ） Liquidity Ratio
- ） Leverage Ratio
- ） Profitability Ratio
- ） Activity Ratio

3.4.2.1 Liquidity Ratio

The firm has various types of obligations. Some of them are or short-term nature. Hence, the firm may need to meet them immediately of within the short time interval. Hence, it is essential for the firm to meet its obligations when they become due. It is used to measure the firm's ability solvency of the company. It is the means to test the liquidity position of the company or firm by calculating current quick and turnover ratios.

a) Current Ratio

The current ratio is a ratio of the firm's total current assets to its total current liabilities. A high ratio shows an excessive amount of current assets and the firm is in liquidity position. A low ratio indicates that a firm may not to able to pay its obligations. In general rules current ratio 2:1 is considered as acceptable of satisfactory. The ratio can be calculated by:

$$CR = \frac{Current\ Assets}{Current\ Liabilities}$$

b) Acid Test Ratio or Quick Ratio

The quick ratio is ratio of quick assets to current liabilities. The quick assets include all the current assets except inventories. Inventory is the least liquid asset. A high ratio indicates the firm has high liquid assets. Such as cash, bank balances and receivables. Similarly a low ratio indicates the possibilities of difficulties in the prompt payment of future bills generally; quick ratio of 1:1 of a firm is considered to be sound position.

$$QR = \frac{Quick\ Assets}{Current\ Liabilities}$$

3.4.2.2 Leverage Ratio/Capital Structure Ratio

The leverage ratio is one of the best ways to study the capital structure of the firm and utilities and appropriations of the sources of capital in the structure and leverage position of the firm. It also throws light on the periodic payment of interest during the period of loan and repayment of principal on maturity. With this ratio, the solvency potion of the firm can be examined. So the firm should give first preference to the leverage ratios with comparison to another ratio analysis when the company is going to make a capital structure.

3.4.2.2.1 Long Term Debt as a percentage of Total Debt

It defines as the financial structure of the firms. It is measured by dividing the Long Term Debt (LTD) by Total Debt (TD). Long Term Debt as a percentage of Total Debt shows the proportion of long term debt on the total debt of the company. Total debt is composed of short term loans, if the total debt is increasing whereas total long term debt is decreasing which means that the company is using short term loan.

$$= \frac{Long\ Term\ Debt}{Total\ Debt}$$

3.4.2.2.2 Debt to Total Assets Ratio

The amount of debt used for financing the assets of the company is measured by the Debt to Total Asset ratio. A higher debt to total assets ratio indicates that the creditors have the greater claim on total assets then the owners have higher the ratio, the greater than firm's financial risk and vice versa. Asset equal to total liabilities this ratio is also called debt to total capital ratio.

Debt to Asset Ratio= $= \dfrac{Total\,Debt}{Total\,Asset}$

3.4.2.2.3 Shareholders Equity to Total Assets Ratio

This ratio established a relationship between shareholders equity and total assets. Shareholders equity to total asset ratio inform us about the proportion of total assets of the company financed by the ownership capital.

Shareholder Equity to Total Assets Ratio $= \dfrac{Shareholder\,Equity}{Total\,Asset}$

3.4.2.2.4 Coverage Ratio

There is the use of various types of capital in the capital structure of the firm. For this, the firm needs to pay interest on debt and dividend in preference share. These are the fixed obligation. So, the company's ability to service the claims of the investors should be examined. This can be possible by the ratio, which is called the coverage ratio. The coverage ratio measures the relationship between what is normally available from operations of the firm and the claims of the outsider (Khan and Jain, 1998:135). There are various coverage ratios but only two types of coverage ratios can be considered for this purpose.

Interest Coverage Ratio

The ratio is computed by dividing the operating profit by the interest on the long term debt.

a) Interest Coverage Ratio

Interest Coverage Ratio = $\dfrac{\text{Earning Before Interest and Tax}}{\text{Interest Charges}}$

Hence, this ratio gives the debt servicing capacity of the firm. Higher ratio is desired.

b) Dividend Coverage Ratio

Dividend coverage ratio is the numerical expression of the firm's ability to pay the preference dividend to the preference shareholders, when the source of capital is preference dividend. Higher the ratio better is the tendency of the firm to make its capital structure by including the preference share capital.

Dividend Coverage Ratio= $\dfrac{\text{Earning After Tax (EAT)}}{\text{Preference Dividend}}$

3.4.2.3 Profitability Ratio

Although the firm has the social responsibilities, it can be possible only when the firm earns the maximum profit. Hence the profit is all in all for the firm for its real existence. The company designs the capital structure which gives the maximum profit under the various circumstances set by the government. Because of the profit is needed for the payment of interest to the debt holders. It is also required for the return to shareholders as well as for the preference shareholder. The operating expenses should also be covered by the profit earned through the selling and services. The firm has also its responsibilities towards the society. Hence profit is the main objective of the firm to meet all of these requirements.

a) Gross Profit Margin

Profit can be earned through sales and hence the profitability ratios are based on the sales. So, gross profit margin in the management of gross profit to met the

indirect expenses and cost of capital. It can be calculated by dividing the gross profit by the sales.

Gross Profit Margin= $\frac{Gross\ Profit}{Sales} \times 100\%$

b) Net Profit Margin

Net profit margin can be calculated by dividing the net profit by sales. This ratio measures the propensity of the firm to meet the expected returns to the owners of the firm. Higher the ratio, higher is the firm's ability to meet the obligation of cost of manufacture, operating expenses, depreciation, interest on debt, preference dividend on preference share. Hence, it indicates the sound profitability

c) Operating Expenses Ratio

Operating expenses ratio gives the information about the operating expenses of the firm with respect to sales and can be computed by dividing the operating expenses by sales low ratio is desired.

Operating Expenses Ratio = $\frac{Operating\ Expenses}{Sales} \times 100\%$

d) Return on Asset (ROA)

The ratio expresses the capacity of the capital used in the investment in total assets to make the profit. Hence, this is the indication of the profit of the firm by the utility of the total assets financed through different kinds of sources of capital. It is derived by dividing the net profit after tax with interest by total assets.

ROA= $\frac{Net\ Profit}{Total\ asset}$

e) Earning Per Share (EPS)

Earning per share is the earning available for equity share holders for each equity share. The ratio gives the information of the profit on the behalf of the

shareholder. Higher EPS is happiest situation for the shareholders and it is the symbol of sound profitability situation of the firm. It can be calculated dividing the net available to common shareholders by number of equity shares outstanding.

$$EPS= \frac{Earning\ After\ Tax}{Number\ of\ Shares}$$

f) Dividend Per Share (DPS)

After calculating the earning available to the common shareholders, the firm decides to retain some part of the profit for the investment in potential investment opportunities. But, the remnant is distributed to the equity shareholders in the firm of dividends. So, DPS mean the dividend for the each equity shareholder in the form of return for their investment.

g) Earning and Dividend Yield

There are two ratios that can be studied as follows:

i) Earning Yield Ratio

This ratio is concerned with the earning per share and the market price per share. It indicates to what extent the EPS of the firm is with respect to the market price per share.

$$Earning\ Yield\ Ratio= = \frac{Earning\ After\ Tax}{Market\ Per\ Share}$$

ii) Dividend Yield Ratio

The ratio is the indication of the dividend per share with respect to the market price per share. This helps to make the positive signing effect for the rise in the market price per share.

$$Dividend\ Yield= \frac{Dividend\ Per\ Share}{Market\ Price\ Per\ Share}$$

h) Price Earning Ratio (P/E)

P/E ratio is the reciprocal of the earning yields ratio. It is the most important ratio to know to what extent the earning per share is contribution for the positive change in the market price per share. Higher the ratio attracts the investment in the company and it is the symbol for the company's prosperity.

$$\text{P/E Ratio} = = \frac{\text{Market Price Per Share}}{\text{Earning Per Share}}$$

3.4.2.4 Activity Ratio

The ratio is directly related with the assets utilization ratio. It is use to measure the utilization of the capacity of the assets financed through different source of capital. Debtor turnover ratio, inventory turnover ratio, average collection period, fixed asset turnover ratio, total assets turnover ratio, capital employed turnover ratio are the tools for the activity analysis of the total assets.

As the activity ratios are directly related to the utilization of the assets. It does not directly affect the capital structure decision making process.

3.4.3 DU-Pont System Analysis

The DU-Pont system analysis is developed by the financial expert of the DU-Pont company by putting together the effect of profitability, investment and the equity ratio. The approach is based on the relationship among the three basic area of the firm such as i) cost controlling area ii) assets management area, and iii) financial leverage area. The analysis is directed to address the concern of the shareholder; hence, its main focus is on the return on equity. For the first time, DU-Pont Corporation, U.S.A, used the DU-Pont system. DU-Pont system helps to find out the causes of changing ROE, ROA and profit margin.

3.4.3.1 Return on Equity (ROE)

Return of equity is analyzed in terms of the factors that directly affect the return on equity. The factor such as cost, assets utilization and leverage ratio are directly related to ROE and are the ground on which several tests are made to see how the ROE is affected by such factors.

The profit of Shareholders from their investment is calculated by return on equity. It can be used as a measuring rod of companies from the point of view of the investors. It can be calculated by using the following formula:

$$\text{ROE} = \text{Profit Margin} \times \text{Total Assets Turnover} \times \text{Equity Multiplier}$$

$$= \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Equity}}$$

3.4.3.2 Return on Asset (ROA)

The profitability as well as production power of assets in terms of generating sales is measured by the ROA. The relationship between net profit and total assets is analyzed by the ROA.

$$\text{ROA} = \frac{\text{Net Profit}}{\text{Total Asset}}$$

3.4.4 Cost of Capital

Cost of capital is one of the most important dimensions on analyzing the efficient use of capital. For this reason, overall costs of capital and equity capitalization rate of the selected manufacturing companies have been performed.

3.4.4.1 Overall Capitalization Rate

The overall capitalization rate means the cost of overall capital collected by the company from various sources. In this research, K_o is calculated as per the NI approach.

Overall cost of capital can be expressed by following formula.

Overall cost of capital (K_o) = Net Operating Income

Total value of the firm

or, EBIT/V

As per the assumptions of NI approach, K_e and K_d are constant and K_d is always less than K_e. Therefore, K_o will decrease as B/V increases. Also, $'K_e'=K_o$ when B/V=0.

3.4.4.2 Overall Equity Capitalization Rate

Equity is one of the sources of capital that has its own cost and it is called as the cost of equity. A large amount of equity means the higher charge of capitalization rate. EBT divided by MV of shares to derive the equity capitalization rate for this study purpose.

3.5 Statistical Tool

In the course of the study of the capital structure, the shareholders' equity and the debt capital are the most common variables. The relationships between them are the important subject for the analysis to determine the balanced capital structure. Hence the statistical tools are also used to analyze the capital structure for its effectiveness. The various types of statistical tools have been used for this purpose.

3.5.1 Average or Mean

It can be defined as the sum of the observations divided by the number of observations in the selected sample;

$$\text{Mean } (\overline{X}) = \frac{\text{Sum of Observations}}{\text{Number of Observation}} = \frac{\Sigma X}{N}$$

Where,

X is any variable under observation.

N is the number of observation of the variables.

3.5.2 Standard Deviation (S.D)

Standard deviation is the measuring instrument for measuring variability and uniformity of the variables or data or figures. The variability of the variables is known as dispersion. So dispersion is the scatter ness of the mass of figures in a series about an average. Standard deviation measures the absolute dispersion.

Standard Deviation$(\sigma) = \dfrac{\sqrt{\Sigma(X-\bar{X})^2}}{N}$

Where X is the variables

X is the mean variable

N is the number of variables under observation.

3.5.3 Coefficient of Variation (C.V)

Coefficient of variation is the measurement of the dispersion with respect to the average value of the variables.

C.V $= \dfrac{S.D}{\bar{X}} \times 100\%$

Where,

S.D id the Standard Deviation

$\bar{X}$ is the Mean of Average Value of Variable

CHAPTER - IV
DATA PRESENTATION AND ANALYSIS

In this chapter the effort has been analyzed. The main objectives of the study are to present data and analyze them with the help of various tools. This is also one of the most important chapters for the study. In this chapter, it presents the following calculation of different ratios and their applications in analyzing the capital structure of manufacturing companies of Nepal listed in NEPSE. The data are analysis and represent in the tabular form.

4.1 Analysis of Leverage

Leverage results from the use of fixed cost assets or funds to magnify returns of the firm's owners. Changes in leverage, results in change in level of return and associated risks whereas decreases in leverage results in decreased return and risk. Generally, there are two types of leverage.

⌡ Operating Leverage
⌡ Financial Leverage

The operating leverage is defined as the extent to which fixed costs arise from employing larger amount of capital, thus permitting the firm to operate with reduced labor and smaller variable cost.

Financial leverage refers to the firm's use of fixed-income securities such as debt and preferred stock and financial risk is the additional risk placed on the common stockholders as a result of using financial leverage.

4.1.1 Degree of Operating Leverage (DOL)

The degree of operating leverage (DOL) is defined as the percentage change in operating income (EBIT) associated with a given percentage change in sales. The

operating leverage can be measured as the degree of operating leverage (DOL) in the following table Also it calculates.

Table 4.1

Calculation of Degree of Operating Leverage (DOL)

Company	F.Y	EBIT	Change in EBIT	% Change	Sales	Change in sales	% change	DOL
UNL								
	2002/03	107.75	-	-	1541.00	-	-	-
	2003/04	69.22	-38.53	35.76	1236.10	-304.94	-19.79	-1.81
	2004/05	126.65	57.43	82.97	1244.73	8.67	0.70	118.53
	2005/06	195.57	68.92	54.42	1524.90	280.17	22.51	2.42
	2006/07	257.46	61.89	31.65	1481.56	-43.34	-2.84	-11.14
	2007/08	306.78	49.32	19.16	1469.69	-11.87	-0.80	-23.95
	2008/09	346.62	39.84	12.99	1818.53	348.84	23.75	0.55
Average								14.10
S.D								47.89
C.V (%)								339.65
BNL								
	2002/03	45.60	-	-	414.58	-	-	-
	2003/04	58.14	12.54	27.50	535.49	120.91	29.16	0.94
	2004/05	30.06	-28.08	-48.30	609.65	74.16	13.85	-3.49
	2005/06	45.01	14.95	49.73	632.11	22.46	3.68	13.51
	2006/07	44.14	-0.87	-1.93	614.74	-17.37	-2.75	0.70
	2007/08	32.29	-11.85	-26.85	621.83	7.09	1.15	23.34
	2008/09	32.68	0.39	1.21	635.24	13.38	2.15	0.56
Average								5.93
S.D								9.40
C.V (%)								158.52

Source: SEBO/NEPSE

The degree of operating leverage can be measured by the study of EBIT and sales revenue. When sales increases and cost remain same EBIT also increase. In that time leverage is constant. It effects to change in sales and EBIT. In the above table, we are calculating DOL in different manufacturing companies.

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In the above table, the calculation of DOL for UNL in the F.Y. 2003/04 is -1.81 which means 1% change in sales will change the EBIT by 1.81%. In the subsequent five years the DOL is 118.53 in F.Y.2004/05, 2.42 in F.Y. 2005/06, -11.14 in F.Y. 2006/07, -23.95 in F.Y 2007/08 & 0.55 in F.Y 2008/09 indicating that 1% change in sales will affect the change in EBIT by 118.53%, 2.42%, -11.14%, -23.95% and 0.55% respectively. S.D and C.V of UNL are 47.89 and 339.65% respectively. This value shows that ratio of UNL during the study period is highly inconsistent in nature.

In the case of BNL, the DOL for the F.Y. 2003/04 is 0.94, which indicates 1% change in sales will change the EBIT by 0.94%. In the F.Y.2004/05 the DOL has decreased to 3.49, it means the EBIT will change by 3.49% by 1% change in sales. In the subsequent fiscal years, the DOL for BNL is 13.51 in the F.Y. 2005/06 and 0.70 in the F.Y. 2006/07. The DOL is increasing in the last two years i.e. F.Y. 2007/08 and 2008/09 of research it is increasing which proves that the company may face a situation of profit when sales will increasing only with a small unit. And DOL for the F.Y 2007/08 and 2008/09 for BNL is 23.34 and 0.56 it means the EBIT will change by 23.34% and 0.56% if 1% changes in sales. S.D and C.V of BNL are 9.40 and 158.52%, which indicates that the ratio is inconsistent in nature.

The average DOL for UNL is 14.10 and for BNL are 5.93. UNL has a very high degree of operating leverage, which is also harmful for the good health of the company. When the company has high degree of operating leverage, a small change is sales makes comparatively a high change in EBIT. The DOL becomes negative due to a decrease in sales. So, the decreasing sales may damage the reputation of the company also. Due to this reason, companies should try to operate their business sufficiently above the break-even point.

4.1.2 Degree of Financial Leverage (DFL)

The degree of financial leverage is the percentage change in earning available to common shareholders (EPS) associated with a particular percentage change in EBIT. The degree of financial leverage is calculated and shown in the following table. Also it calculates:

Table 4.2

Calculation of Degree of Financial Leverage (DFL)

Co.	UNL						
FY	EPS	Change in EPS	% Change in EPS	EBIT	Change in EBIT	% change	DFL
2002/03	73.90	-	-	107.75	-	-	-
2003/04	46.28	-27.62	-37.37	69.22	-38.53	-35.76	1.05
2004/05	101.78	55.50	119.92	126.65	57.43	82.97	1.45
2005/06	152.90	51.13	50.24	195.57	68.92	54.42	0.92
2006/07	205.50	52.59	34.39	257.46	61.89	31.65	1.09
2007/08	258.80	53.17	25.87	306.78	49.32	19.16	1.35
2008/09	285.70	27.05	10.46	346.62	39.84	12.99	0.81
Average							1.11
S.D							0.22
C.V (%)							19.82
BNL							
2002/03	33.15	-		45.60	-	-	
2003/04	24.94	-8.21	-24.77	58.14	12.54	27.50	-0.90
2004/05	9.94	-15.00	-60.14	30.06	-28.08	-48.30	1.25
2005/06	19.4	9.46	95.47	45.01	14.95	49.73	1.19
2006/07	17.8	-1.57	-8.09	44.14	-0.87	-1.93	4.19
2007/08	12.8	-5.02	-28.15	32.29	-11.85	-26.85	1.05
2008/09	11.2	-1.61	-12.57	32.68	0.39	1.21	-10.14
Average							0.56
S.D							4.53
C.V (%)							808.93

Data Source: SEBO/NEPSE

In the above table, the EBIT and EPS for UNL are fluctuating which fluctuates the DFL. In the F.Y. 2003/04, the DFL is 1.05 for UNL, which means 1% change in EBIT may cause 1.05% change in EPS. It is 1.45 in F.Y. 2004/05 and 0.92 in F.Y. 2005/06, i.e.; 1% change in EBIT may affect the EPS by 1.45% in F.Y. 2004/05 and by 0.92% in F.Y. 2005/06. Although the DFL is decreased in the F.Y. 2005/06 and 2008/09 but it is increased in the F.Y. 2004/05. The DFL decreases in the F.Y 2005/06 i.e. 0.92 indicating that the EPS will affect by 0.92 if the EBIT is changed by 1%. In the F.Y. 2006/07 the DFL for UNL is 1.09 indicating that the EPS will be affected by 1.09% if the EBIT is changed by 1%. Hence DFL increases in the F.Y. 2007/08 1.35 which affects the EPS by 1.35% if the EBIT is changed by 1%. But in the last year DFL is decreased by 0.81. S.D is 0.22 and its C.V has 19.82%. This C.V clearly shows that the degree of financial leverage is inconsistent.

The DFL for BNL is also tremendously fluctuating as the EBIT and EPS are also fluctuating. For BNL, the DFL in the F.Y. 2003/04 is negative, it has dropped to (0.90) and again it increased to 1.25, 1.19, and 4.19 in F.Y. 2004/05, 2005/06 and 2006/07. But again decreased to 1.05 in the F.Y. 2007/08 and again dropped to (10.14) on F.Y. 2008/09. The fluctuating DFL is not a good sign for a manufacturing company like BNL therefore the company must scrutinize the weakness of its capital structure and eradicate such problems. S.D and C.V of BNL are 4.53 and 808.93%, which indicates that the degree of financial leverage is highly inconsistent in nature.

In the capital structure of any company, interest expenses and return on equity increases the level of financial position. According to the calculation of DFL the selected manufacturing companies do not shows any positive signal. The average DFL for UNL is 1.11 and for BNL is 0.56. None of the companies' DFL has consistency, which is not a good sign; therefore companies should concentrate on restructuring their structure of capital. S.D and C.V of BNL is also highly inconsistent in comparison to another selected manufacturing companies.

4.2 Ratio Analysis

The following ratios are computed in order to evaluate the leverage or capital structure of selected companies.

4.2.1 Long Term Debt as a percentage of Total Debt

It is measured by dividing the Long Term Debt (LTD) by Total Debt (TD). Long Term Debt as a percentage of Total Debt shows the proportion of LTD on the TD of the company. The calculation of LTD as a percentage of TD is presented in the following table:

Table 4.3

Calculation of Long Term Debt as a percentage of Total Debt

Company	F.Y	Long Term Debt	Total Debt	LTD as a % of Total Debt	Change
UNL					
	2002/03	0	354.32	0	-
	2003/04	0	223.21	0	0
	2004/05	0	426.45	0	0
	2005/06	0	543.71	0	0
	2006/07	0	882.02	0	0
	2007/08	0	742.23	0	0
	2008/09	0	750.47	0	0
Average				**0**	
BNL					
	2002/03	0	268.08	0	-
	2003/04	0	340.12	0	0
	2004/05	0	332.85	0	0
	2005/06	0	174.02	0	0
	2006/07	0	228..99	0	0
	2007/08	0	275.46	0	0
	2008/09	0	289.48	0	0
Average				**0**	**0**

Data Source: SEBO/NEPSE

From the above table, it is obvious that there is no LTD in the capital structure of UNL and BNL during the research period, which means that the TD is composed of short-term loans, which is in variable trend. The LTD as a percentage of TD ratios is in zero position as there is no any use of LTD by the company.

Normally, the short-term loans mature within one financial year and the borrower should repay the amount along with the outstanding interest within a year. The company should be in a position of repaying the borrowed amount in a short period of time, it should manage the required amount to repay the short-term loans whether the company is in profit or not. For this reason, the company should concentrate in collecting the amount, which will definitely interrupt its smooth operation and ultimately it will affect its profitability. Therefore, the companies using huge amount of short-term sources as total debt may give proper attention towards this fact.

4.2.2   Debt to Total Assets Ratio

The amount of debt used for financing the assets of the company is measured by the Debt to Total Asset ratio. A higher debt to total assets ratio indicates that the creditors have the greater claim on total assets then the owners have higher the ratio, the greater than firm's financial risk and vice versa. Asset equal to total liabilities this ratio is also called debt to total capital ratio. The debt to total asset ratio for the selected manufacturing companies is calculated and presented in the following table:

Table 4.4

Calculation of Debt to Total Assets Ratio

Company	F.Y	Total Debt	Total Assets	Total Debt/ Total Assets	Change
ULL					
	2002/03	354.32	760.42	46.60	4.69
	2003/04	223.21	571.34	39.07	-7.53
	2004/05	426.45	784.91	54.33	15.26
	2005/06	543.71	939.72	56.10	1.80
	2006/07	882.02	1098.96	80.30	24.20
	2007/08	742.23	967.95	76.70	-3.60
	2008/09	750.47	836.32	89.70	13.00
Average				63.26	
S.D				17.58	
C.V (%)				27.79	
BNL					
	2002/03	268.08	951.86	28.16	7.10
	2003/04	340.12	1036.00	32.83	4.67
	2004/05	332.85	1038.41	32.05	-0.78
	2005/06	174.02	886.55	19.60	-12.45
	2006/07	228.99	975.26	23.50	3.90
	2007/08	275.46	1048.36	26.30	2.80
	2008/09	289.48	1081.26	26.80	0.50
Average				27.03	
S.D				4.28	
C.V (%)				15.83	

Data Source: SEBO/NEPSE

The debt to total asset ratio for ULL shows the fluctuating amount of debt capital, increasing amount of total assets and the fluctuating ratios. In the first F.Y. 2002/03, the ratio shows that the 46.60% of the total asset financed by debt capital whereas in the F.Y. 2003/04 the ratio decreased to 39.07% After the F.Y. 2004/05, the ratio started to Increase till the F.Y. 2006/07. As per the ratios 54.33% of asset

financed through debt in the F.Y. 2004/05, 56.10% assets financed by debt in the F.Y. 2005/06 and 80.30% of assets were procured from the debt capital. The situation indicates that the company's assets financing procedure from debt is in increasing trend. But in the F.Y. 2007/08 of the study the ratio is increased due to a decrease in total debt capital as well as total assets. The above debt to total asset ratio calculation shows that 76.70% it shows there was a minimum asset procures from debts. The average ratio for the entire period was 63.23%, which is quite good among the selected companies. S.D and C.V of UNL are 17.58 and 27.79%. This shows the value of debt to total assets ratio is inconsistent.

From the above table we can see that the total debt of BNL is fluctuating whereas the total asset is increasing and the ratio is also fluctuating. Only a little portion of asset is financed through the debt capital. As we know from the data presented previous that BNL is not using long-term sources of capital, it is only using short-term borrowings in its total debt. Therefore, BNL may be using little amount of debt, i.e.; less than 33%, to finance the assets of the company. The debt to total asset ratio of BNL for the F.Y. 2002/03, 2003/04, 2004/05, 2005/06, 2006/07, 2007/08, 2008/09 are 28.16, 32.83, 32.05, 19.60, 23.50, 26.30 & 26.80 respectively. The average ratio is also 27.03 only. S.D and C.V of BNL are 4.28 and 15.83%. During the study period the value of S.D and C.V of BNL is slightly consistent.

From the above calculations it is unambiguous that some of the companies are heavily depending on debt to finance their assets also. Such companies should try to reduce the amount of debt financing on assets, as it would lead to the company to liquidation. It is also known that the companies are in optimum level and in compare to S.D and C.V of UNL is highly inconsistent.

4.2.3 Shareholders Equity to Total Assets Ratio

This ratio established a relationship between shareholders equity and total assets. Shareholders equity to total asset ratio inform us about the proportion of total assets of the company financed by the ownership capital. This ratio can be calculated by dividing the shareholders equity by the total assets as shown in the table below:

Table 4.5

Calculation of Shareholders Equity to Total Assets Ratio

Company	F.Y	Shareholder's Equity	Total Assets	Shareholder's Equity/ Total Assets (%)	Change
UNL					
	2002/03	342.35	760.42	45.02	-
	2003/04	348.13	571.34	60.93	15.91
	2004/05	358.43	784.91	45.67	-15.27
	2005/06	396.01	939.72	42.14	-3.52
	2006/07	216.93	1098.96	19.74	-22.40
	2007/08	224.91	967.15	23.25	3.52
	2008/09	234.79	836.32	28.07	4.82
Average				37.83	
S.D				13.63	
C.V (%)				36.03	
BNL					
	2002/03	666.81	951.86	70.05	-
	2003/04	695.93	1036.00	67.17	-2.88
	2004/05	705.59	1038.41	67.95	0.77
	2005/06	727.15	886.55	82.02	14.07
	2006/07	761.89	975.26	78.12	-3.90
	2007/08	776.57	1048.36	74.07	-4.05
	2008/09	791.47	1081.26	73.20	-0.88
Average				73.23	
S.D				5.02	
C.V (%)				6.86	

Data Source: SEBO/ NEPSE

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From the calculation of ratio between shareholders equity and total assets of UNL shows its increasing tendency with the exception of the final year of research. The shareholders equity and total assets are increasing for all the time of study. The ratio is 45.02 in the F.Y. 2002/03 indicating that 45.02% of assets are financed through equity capital and the ratio is rising till the F.Y. 2003/04. Suddenly the change in ratio is decreasing which means that the company is increasing the debt capital for financing its assets ratios are 60.93, 45.67, 42.67, & 19.74 for the fiscal years 2003/04, 2004/05, 2005/06 & 2006/07. At the F.Y 2004/05, 2005/06 & 2006/07 the ratio declined by 15.27%, 3.52%, & 22.4 %. At the final two years of the study, the ratio is increased by 23.25 & 28.07. The average ratio of shareholders equity to total asset for UNL is 37.83 that tell us that in an average the input of equity for the assets is 37.83%. S.D and C.V of UNL are 13.63 and 36.03%, which indicates during the study period that the shareholder equity to total asset ratio is slightly consistent in nature.

In the F.Y. 2002/03 of BNL, the ratio between total shareholders equity and assets is 70.05 that mean 70.05% of total assets financed by the shareholders equity. The ratio decreased by 2.88% for the F.Y. 2003/04 to 67.17 and thereafter it increased to 67.95 in the F.Y. 2004/05, 82.02 in the F.Y. 2005/06 of the research. The ratio are decreased by 78.12 in the F.Y 2006/07, 74.07 in the F.Y 2007/08 & again decreased by 73.20 in the F.Y. 2008/09. The average ratio for BNL for the complete study period is 73.23. The overall analysis and calculation indicate that the assets are financed by mix financing. S.D and C.V of BNL are 5.02 and 6.86%, the above value shows that the ratio is inconsistent in nature.

4.2.4 Interest Coverage Ratio

The coverage ratio is calculated with the help of profit and loss account of the company, by which the company can analyze its own capability for the payment of fixed charges. Coverage ratio is one of the parts of capital structure and leverage

ratio. It in concerned with the firm's capacity to pay fixed charges on fixed charge bearing sources of financing.

Interest coverage ratio is a part of coverage ratio, which is calculated and presented in the following table.

Table 4.6

Calculation of Interest Coverage Ratio

Company	F.Y	EBIT	Interest Charges	EBIT/Interest Charges (in times)	Change
UNL					
	2002/03	107.75	14.21	7.58	
	2003/04	69.22	12.61	5.49	-2.09
	2004/05	126.65	2.60	48.71	43.22
	2005/06	195.57	1.79	109.26	60.55
	2006/07	257.47	1.77	145.46	36.20
	2007/08	306.78	1.79	171.20	25.74
	2008/09	346.62	1.06	327.00	155.80
Average				**116.39**	
S.D				**104.86**	
C.V (%)				**90.09**	
BNL					
	2002/03	45.60	0.08	570.00	
	2003/04	58.14	0.66	88.09	-481.91
	2004/05	30.06	0.28	107.36	19.27
	2005/06	45.01	0.04	1125.25	1017.89
	2006/07	44.14	0.27	163.48	-961.77
	2007/08	32.29	1.33	24.25	139.20
	2008/09	32.68	1.43	22.85	-1.43
Average				**300.18**	
S.D				**379.37**	
C.V (%)				**126.38**	

Data Source: SEBO/ NEPSE

The interest coverage ratio for UNL during the study period is fluctuating. For the first two succeeding years the ratios are below the boundary line. It is 7.58 in the F.Y. 2002/03 and 5.49 in the F.Y. 2003/04. In the F.Y. 2004/05 the ratio is increased 43.22 but it is also below the boundary line. The ratio increased to 109.26, 145.46, 171.20 and 327.00 in the F.Y. 2005/06, 2006/07 2007/08 & 2008/09 respectively. From the above calculation, the company is sufficient to repay the interest charge. The average ratio is 116.39. But the ratios for the first there years are below the average ratio. The F.Y. 2008/09 is the safest year for the creditors' point of view due to higher ratio and F.Y. 2002/03 and 2003/04 is an unsafe year due to the low interest coverage ratio. S.D and C.V of UNL are 104.86 and 90.09% which indicates that the ratio is inconsistent.

From the calculation of the interest coverage ratio of BNL presented in the above table, it is clear that ratios are fluctuating highly during the study period. Sometimes it is very much below the boundary line and vice versa. The payment of interest is lesser, so the ratios are on a higher side. The ratios for the fiscal years 2002/03, 2003/04, 2004/05, 2005/06, 2006/07, 2007/08 & 2008/09 are 570.00, 88.09, 107.36, 1125.25, 163.48, 24.25 and 22.85. The company is not using the long-term debt in its capital structure at all and the amount of interest is also comparatively on lower side among the selected companies for the study. The average coverage ratio is approximately 300.18 times. The above result shows that the capital structure of the company is not fixed. The lower amount of interest means the use of lower amount of debt capital in the capital structure of the firm and use of high amount of equity capital. In such circumstance, the company should understand that the high percentage of equity capital means the high tax payment to the government. S.D and C.V of BNL 379.37 and 126.38%, which indicates that the interest coverage ratio is highly inconsistent.

4.2.5 Profit Margin

Profit is the main target for any business organization. The company can find out its profitability with the help of profit margin ratio. The profitability is directly related to the sales revenue of the company; therefore, it is clearly known that the only way of increasing profit is the increase in sales volume. The following table illustrates the profit margin ratios for the manufacturing companies selected for the research.

Table 4.7

Calculation of Profit Margin

Company	F.Y	Net Profit	Sales	Net Profit/Sales	Change
UNL					
	2002/03	68.04	1540.99	4.42	-2.56
	2003/04	42.61	1236.05	3.45	-0.97
	2004/05	93.71	1244.72	7.53	4.08
	2005/06	140.78	1524.90	9.23	1.70
	2006/07	189.20	1481.56	12.77	3.54
	2007/08	232.16	1469.69	15.8	3.03
	2008/09	263.06	1818.53	14.47	-1.33
Average				**9.67**	
S.D				**4.49**	
C.V (%)				**46.43**	
BNL					
	2002/03	35.89	414.58	8.66	-6.34
	2003/04	48.61	535.49	9.08	0.42
	2004/05	19.37	609.65	3.18	-5.90
	2005/06	37.80	632.11	5.98	2.80
	2006/07	34.74	614.74	5.65	-0.33
	2007/08	24.96	621.83	4.01	-1.64
	2008/09	21.82	635.21	3.44	-0.57
Average				**5.71**	
S.D				**2.22**	
C.V (%)				**38.88**	

Data Source: SEBO/ NEPSE

The sales volume of UNL is increasing except, the net profit is also increasing but the profit margin ratio is fluctuating. The increase in profit is not as much as of increase in sales, which is the reason of fluctuating ratio. In the F.Y. 2002/03 the profit margin ratio is 4.42 with the net profit of NRS 68.04 million and sales of NRS 1540.99 million. Similarly, the ratios for the succeeding six fiscal years are 3.45, 7.53, 9.23, 12.77, 15.80 & 14.47 respectively. The profit margin ratio is 9.67 for the company. On the light of the above data, we can conclude that the F.Y. 2007/08 is the best year from the point of view of profit margin ratio of the company, however, according to the sales and net profit the F.Y. 2008/09 is the best for the company. The fluctuating situation of the company tells us about the inefficiency on smooth running of the business, which the management of the company should try to eliminate such problem for success in the long run. S.D and C.V of UNL are 4.49 and 46.43%. This shows that the profit margin ratio is slightly consistent in nature.

The situation of the BNL is far better then the another selected company for research on this count. However, the company is increasing its sales volume, the profit is not in the increasing order. The profit increased for the first three years and it started declining although the sales revenue is inclining. The profit margin ratio for the fiscal years 2002/03, 2003/04 and 2004/05 is 8.66, 9.08, and 3.18 respectively, which indicates that the company is earning a profit of 8.66%, 9.08% and 3.18% from its sales. The profit margin decreased by 2.80% to earn 5.98% profit on the F.Y. 2005/06 from the sale of its product. The ratio dropped to 3.44 in the F.Y. 2008/09. The ratio of the company declined from the F.Y. 2004/05 and it continued till the last year of the study except in the F.Y 2008/09. The profit margin ratio for BNL is 5.71 on an average. The overall calculation shows that the net profit is fluctuating and the profit margin ratio is also decreasing whereas the sales in increasing. This indicates the company should make such policy to earn high amount of profit from the sales revenue by increasing operating efficiency.

S.D and C.V of BNL are 2.22 and 38.88%, from this value we can say that profit margin ratio is consistent in nature.

4.2.6 Earning Per Share (EPS)

EPS is the ratio by which one can understand the return available for the shareholders from their investments, because EPS measures the earnings available to shareholders on per share basis. As a commonly used ratio for the study of capital structure, it is used in the calculations, which have been done for the two manufacturing companies selected for the research. The following table shows the EPS for the selected companies for the study.

Table 4.8
Calculation of EPS

Company	F.Y	Net Profit	No of shares	EAT/ No of Shares	Change
UNL					
	2002/03	68.04	92.07	73.90	-
	2003/04	42.61	92.07	46.28	-27.62
	2004/05	93.71	92.07	101.78	55.50
	2005/06	140.78	92.07	152.91	51.13
	2006/07	189.20	92.07	205.50	52.59
	2007/08	238.16	92.07	258.67	53.17
	2008/09	263.06	92.07	285.72	27.05
Average				160.68	
S.D				85.69	
C.V (%)				53.33	
BNL					
	2002/03	35.89	194.89	33.15	-18.49
	2003/04	48.61	194.89	24.94	-8.21
	2004/05	19.37	194.89	9.94	-15.00
	2005/06	37.80	194.89	19.40	9.46
	2006/07	34.74	194.89	17.83	-1.57
	2007/08	24.96	194.89	12.81	-5.02
	2008/09	21.82	194.89	11.20	-1.61
Average				18.47	
S.D				7.71	
C.V (%)				41.74	

Data Source: SEBO/NEPSE

The condition EPS of UNL is quite satisfactory among the companies selected for the study. It has average EPS 160.68, which is pretty good indicating that the shareholders are getting 160.68% return from their investments. The EPS for the F.Y.2002/03 is 73.90; in the F.Y. 2002/03 indicating only NRS 73.90 is available for shareholders as earning per share, which is less than the average EPS NRS 160.68. Due to this reason, the shareholders got a low return in that year and they may change their mind to divest from the company, as this situation exists for a long period. Therefore the company should try to give more return to shareholders by increasing its capacity to maximize profit. The EPS decreased by 27.62% to 46.28 during the F.Y. 2003/04. The EPS increased by 55.50% to 101.78 in the F.Y. 2004/05 and it also increased by 51.13% to 130.98 during the F.Y. 2005/06. The increasing EPS due to increasing net profit attracts shareholders to invest more money. In the financial year 2006/07, 2007/08 and 2008/09 the shareholders are getting 205.50, 258.67 & 285.72. So this indicates that is good condition for shareholders. So shareholders are getting maximum return from their investment. The study shows that the ratio of UNL is slightly consistent in nature.

The above calculation of EPS shows that the EPS of BNL is increasing during the beginning first year of the study. The EPS for the F.Y. 2002/03 is 33.15, which decreased by 8.21% to 24.94. This indicates that the shareholders of the company were receiving NRS 33.15 and NRS 24.94 in the F.Y. 2002/03 and 2003/04 respectively as a return on their investments. Unfortunately the EPS decreased by 15 in the F.Y. 2004/05 is 9.94 giving a return of NRS 9.94 per share to the shareholders. In subsequent year the EPS increased to 19.40 in the F.Y. 2005/06. The average EPS for the shareholders of the company is 18.47. Most of the EPS is below the average ratio except for first two year. For the fiscal years 2006/07, 2007/08 & 2008/09 are 17.83, 12.81 & 11.20 respectively. In the last three years EPS is declining. This shows that the company's earning capacity is decreasing

and the return to the investors is also less. S.D and C.V are 7.71 and 41.74%. The value of BNL shows that the earning per share is consistent.

The EPS is directly proportional to the net profit of the company, as the net profit increases the EPS also raises. Therefore, the companies should give a proper attention towards their operation to earn adequate amount of profit. S.D and C.V of UNL has high ratio in compare to another selected manufacturing company.

4.3 DU-Pont System of Analysis

The DU-Pont system of ratio is widely used by the financial managers to make classified assessment of firm's profit margin, total assets turnover ratio and equity multiplier. It also shows various activities by which these ratios interact to determine profitability. For the first time, DU-Pont Corporation, U.S.A, used the DU-Pont system. DU-Pont system helps to find out the causes of changing ROE, ROA and profit margin. We evaluate ROE and ROA for the selected companies of Nepal.

4.3.1 Return on Equity (ROE)

The following table shows the calculation of ROE for the selected companies for the study.

Table 4.9

Calculation of ROE

Company	F.Y	Profit Margin in %	Total Asset Turnover	Equity Multiplier	ROE %	Change
UNL						
	2002/03	4.42	2.03	2.22	19.92	-
	2003/04	3.45	2.16	1.64	12.22	-7.70
	2004/05	7.49	1.59	2.19	26.08	13.86
	2005/06	9.21	1.62	2.37	35.32	9.28
	2006/07	12.82	1.35	5.07	87.61	52.29
	2007/08	16.20	1.52	4.30	105.88	18.27
	2008/09	14.50	2.17	3.50	110.13	4.25
Average					56.74	
S.D					39.56	
C.V (%)					67.72	
BNL						
	2002/03	8.66	0.44	1.43	5.45	-
	2003/04	9.07	0.52	1.48	6.98	1.53
	2004/05	3.17	0.58	1.47	2.70	-4.28
	2005/06	6.00	0.71	1.22	5.20	2.50
	2006/07	5.70	0.63	1.28	4.60	-0.60
	2007/08	4.01	0.59	1.35	3.19	-1.41
	2008/09	3.44	0.59	1.37	2.78	-0.41
Average					4.41	
S.D					1.48	
C.V (%)					33.56	

Data Source: SEBO/NEPSE

The above calculation of ROE that UNL has the shareholders return on their investment is highest then another manufacturing company for the study. The profit margin is also in the increasing trend except for the first two years. Similarly, the assets turnover ratio is in increasing trend. The total assets turnover

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ratio also tells us about the effectively utilization of assets than other manufacturing. During the F.Y. 2002/03 the ROE is 19.92 which decreased to 12.22 in the F.Y. 2003/04. But after that ROE becomes continuously increasing in the fiscal years 2004/05, 2005/06, 2006/07, 2007/08 & 2008/09 is correspondingly 26.08, 35.32, 87.61, 105.88 & 110.13 resulting the average ROE for the company is 56.74 which is the highest ROE among the selected companies. S.D and C.V of UNL are 39.56 and 67.72%, which indicates the ROE is inconsistent in nature.

The ROE for BNL shows the fluctuating trend as calculated in the above table. The profit margin indicates that the earning available to shareholders is for the first two year and after that it decreasing of the study. The total assets turnover ratio tells us about the ineffective utilization of assets. The assets turnover ratio shows that the company is unable to use its assets efficiently as the entire ratio shows the value less than 1. The company needs to revaluate the overall strategies and capital expenditures. Equity multiplier shows that the equity capital position in relation to total assets, which indicates the asset amount more than 100% of equity capital during the entire period off the study. The ROE for BNL in the F.Y. 2002/03 is 5.45, which increased to 6.98 in the F.Y. 2003/04 and decreased to 2.70 in the F.Y. 2004/05. Then after, it increases to 5.20 in the F.Y. 2005/06. Unfortunately after that the ratio is continuously decreased to 4.60 in the F.Y. 2006/07, 3.19 in the F.Y. 2007/08 and 2.78 in the F.Y. 2008/09. The average ROE for the company is 4.41 during the seven years period. The situation of the company shows that the shareholders are not receiving their return on fixed amount at all. S.D and C.V of BNL is slightly consistent in nature.

4.3.2 Return on Asset (ROA)

The following table shows the ROA for the manufacturing companies listed in NEPSE selected for the study.

Table 4 .10

Calculation of ROA

Company	F.Y	Net Profit	Total Asset	Net Profit to Total Asset in %	Change
UNL					
	2002/03	68.04	760.42	8.95	-
	2003/04	42.61	571.34	7.46	-1.49
	2004/05	93.71	784.91	11.94	4.48
	2005/06	140.78	939.72	14.95	3.04
	2006/07	189.20	1098.96	17.22	2.24
	2007/08	238.16	967.15	24.62	7.41
	2008/09	263.06	836.32	31.45	6.83
Average				**16.66**	
S.D				**8.03**	
C.V (%)				**48.20**	
BNL					
	2002/03	35.89	951.86	3.77	-
	2003/04	48.61	1036.05	4.69	0.92
	2004/05	19.37	1038.41	1.87	-2.83
	2005/06	3708	886.55	4.26	2.40
	2006/07	34.74	975.26	3.56	-0.70
	2007/08	24.96	1048.36	2.38	-1.18
	2008/09	21.82	1081.26	2.02	-0.36
Average				**3.22**	
S.D				**1.04**	
C.V (%)				**32.30**	

Data Source: SEBO/NEPSE

The calculation of ROA for UNL is not excellent, but it is quite good then another company selected for the study. The ROA for UNL shows the increasing trend. The ROA for the F.Y. 2002/03 is 8.95, which decreased by 1.49% in the F.Y. 2003/04 to 7.46. After that it seems the assets of the company have been very efficiently used to earn maximum profit. In the fiscal years 2004/05, 2005/06,

2006/07, 2007/08 & 2008/09 the ratio increases to 11.94, 14.95, 17.22, 24.62 & 31.45 respectively. The average ROA for UNL is 16.66%, the ROA for last three fiscal years 2006/07, 2007/08 & 2008/09 has greater ratio than average ratio and lesser ratio for first four years. The continuous decrease in the ratio shows the decreasing productivity of the assets in terms of sales revenue and profit. S.D and C.V are 8.03 and 48.20%. The value of UNL shows that the returns on asset ratio are consistent in nature.

The calculation of ROA for BNL shows that the net profit and the ROA are in fluctuating trend in spite of the fact that the assets are increasing. This clearly tells us that the productivity of the assets is not satisfactory for the company. The ROA is 3.77 in the F.Y. 2002/03, which increased to 4.69 in the F.Y. 2003/04, it downed to 1.87 in the F.Y. 2004/05. The ratio started increased to 4.26 in the F.Y. 2005/06. The above figures show that the earning capacity of the assets for the company are in decreasing trend from the fiscal years 2006/07, 2007/08 and 2008/09 to 3.56, 2.38 and 2.02 which may create serious problems for the company if it is not treated in time. The average ROA is 3.22 for BNL show that, it is not satisfactory.

4.4 Cost of Capital

Cost of capital is one of the most important dimensions on analyzing the efficient use of capital. For this reason, overall costs of capital and equity capitalization rate of the selected manufacturing companies have been performed.

4.4.1 Overall cost of Capital (K_o)

The following table shows the overall cost of capital for the two manufacturing companies listed in NEPSE selected for the study.

Table 4.11
Calculation of Overall Cost of Capital (K_o)

Company	F.Y.	EBIT	Value of The Firm	Overall Cost of Capital
UNL				
	2002/03	107.75	92.07	117.04%
	2003/04	69.22	92.07	75.18%
	2004/05	126.65	92.07	137.55%
	2005/06	195.57	92.07	212.41%
	2006/07	257.46	92.07	279.64%
	2007/08	306.78	92.07	332.84%
	2008/09	346.62	92.07	376.47%
Average				**218.73%**
BNL				
	2002/03	45.60	194.89	23.40%
	2003/04	58.14	194.89	29.83%
	2004/05	30.06	194.89	15.42%
	2005/06	45.01	194.89	23.10%
	2006/07	44.14	194.89	22.65%
	2007/08	32.29	194.89	16.57%
	2008/09	32.68	194.89	16.77%
Average				**21.10%**

Data Source: SEBO/NEPSE

The above table shows the measures of overall capitalization rates of the selected manufacturing companies listed in NEPSE The above table of UNL shows that the overall capitalization rate is highest than rest of the other manufacturing companies, which indicates that the company can gain less amount of profit compared to other companies. The company should make an effort to trim down the overall capitalization rate to secure high percentage of return for collected capital. Reducing the debt capital is one of the best ways of reducing the overall capitalization rate. The overall capitalization rates of UNL are 117.04%, 75.18%, 137.55%, 212.41%, 279.64%, 332.84% and 376.47% during the period of seven years. The average rate of UNL is 218.73%.

The overall capitalization rates of BNL are 23.40%, 29.83%, 15.42%, 23.10%, 22.65%, 16.57% and 16.77%, during the study period of F.Y. 2002/03 to 2008/09 respectively. The average rate of BNL is 21.10%. The overall capitalization rates is low in comparison to UNL, which suggested that both debt and equity capital is financing.

4.4.2 Equity Capitalization Rate (Ke)

The following table shows the calculation of equity capitalization rate for the selected companies.

Table 4.12

Calculation of Equity Capitalization Rate (Ke)

Company	F.Y.	EBT	Market Value of Common Shares	Equity Capitalization Rate
ULL				
2002/03	93.54	92.07	101.60
2003/04	56.61	92.07	61.49
2004/05	124.04	92.07	134.72
2005/06	193.78	92.07	210.47
2006/07	255.70	92.07	277.72
2007/08	304.67	92.07	330.91
2008/09	345.56	92.07	375.32
Average			213.18%
BNL				
2002/03	45.52	194.89	23.36
2003/04	57.48	194.89	29.49
2004/05	29.76	194.89	15.27
2005/06	45.01	194.89	23.10
2006/07	43.88	194.89	22.52
2007/08	30.96	194.89	15.89
2008/09	31.25	194.89	16.03
Average			20.81%

Data Source: SEBO/NEPSE

The above table shows us the equity capitalization rates for the selected manufacturing companies for various years. The equity capitalization rate tells us about the cost paid to the equity in spite of using the funds. The equity capitalization rate is fluctuating as the above table is indicating. The equity capitalization of UNL is very high. The UNL rates are 101.60, 61.49, 134.72, 210.47, 277.72, 330.91 and 375.32 during the period of seven years. The above values show that there is increasing rate of equity capitalization rate except in the F.Y. 2003/04. The average rate of UNL is 213.18%. The equity-based company should pay the higher amount towards the cost of equity whereas a highly levered company has to pay comparatively lower amount towards the cost of equity.

The above table shows that the equity capitalization rate of BNL are 23.36, 29.49, 15.27, 23.10, 22.52, 15.89 and 16.03 during the period of seven years respectively. The average equity capitalization rate of BNL is 20.81%. The above values show the equity capitalization rate is fluctuating, in few years the values are above the average rate and in few years it is lower than average rate.

4.5 Major Findings of the Study

The study includes the capital structure of all the listed manufacturing companies, which is available in the Nepal stock exchange. It has already mentioned the detailed about the related subject matter. Thus, in the conclusion the major findings of the study are as follows:

S. No.	Ratios	UNL	BNL
1	DOL	14.10	5.93
2	DFL	1.11	0.56
3	LTD to Total Debt	-	-
4	Debt to Total Assets	63.26	27.03
5	Shareholders Equity to Total Assets	37.83	73.23
6	Interest Coverage	116.39	300.18
7	Profit Margin	9.67	5.71
8	Earning Per Share	160.68	18.47
9	Return On Equity	56.74	4.41
10	Return On Assets	16.66	3.22
11	Overall Capitalization Rate (Ko)	218.73	21.10
12	Equity Capitalization Rate (Ke)	213.18	20.81

From the above summary of major findings, I have calculated averages of different financial ratios, leverage as well as DU-Point System analysis.

⟩ The average of DOL for UNL & BNL are 14.10, & 5.93 UNL has high DOL, which indicates the risky ness of the company. So, the UNL should try to manage its DOL whereas BNL should try to increase its sales volume to improve the operating position of the company.

⟩ The average DFL for UNL is higher in comparison to BNL

⟩ The averages of Long Term Debt as a percentage of Total Debt for UNL & BNL have zero value, which shows the unlevered condition.

⟩ The average ratio is above 50 for the UNL this situation indicates that the debt amount is comparatively high for asset financing as per the figure of the ratio.

⟩ The BNL has too much owner's capital than the debt and UNL have the ratio below 50, which indicates that more than 50% assets are financed through outsiders' fund.

⟩ On the basis of interest coverage ratio, the average interest coverage ratio of UNL and BNL are 116.39 and 300.18 respectively Due to the use of lower amount of debt; the coverage ratio for BNL is very high. The UNL has very good coverage ratio. This clarifies that some of the companies do not have a good amount of profit; as well they are ruined by the burden of the huge amount of interest.

⟩ The profit margin of the companies does not show a satisfactory picture during the study. The profit margin for UNL is higher then BNL which indicates the good earning capacity of the company by selling its products.

⟩ Earning per share for UNL seems to be higher than that of BNL. So the investors can be attracted by the proposal of UNL.

⟩ The investors of the UNL are getting more returns from their investments. BNL have satisfactory result to the return on the equity shareholders.

⟩ The average ROA is higher for the UNL indicating the good production power of assets. Another manufacturing company has low return on assets which indicates that other companies have also not good financial condition in nature.

⟩ From the calculation of overall capitalization rate, we can see that UNL shows its highest average overall capitalization value than BNL. The data of equity capitalization is also higher in an average for UNL then the selected manufacturing company listed in NEPSE. The use of less costly debt fund increases the risk to the shareholders; this causes the equity capitalization rate to increase.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

This study is based upon the capital structure management of two selected manufacturing companies of Nepal. It covers the period of seven years from 2002 to 2009 A.D. It included the data of two manufacturing companies listed with Nepal Stock Exchange Ltd. Kathmandu, Nepal (NEPSE).

The brief introduction of this study has been already presented in the first chapter. In the second chapter the available literature about the capital structure management has been reviewed. Research methodology has explained in the third chapter. And the available data have been presented and analyzed in the fourth chapter.

This is the last chapter of this study. This chapter summarizes the whole study. The main objective of the study is to draw the major findings and conclusions and forwards the recommendation for the better capital structure management of Nepalese manufacturing companies.

This study covered two listed multinational manufacturing companies they are Unilever Nepal Limited and Bottlers Nepal. The necessary data on capital structure and related variables were collected for the period 2001 to 2007 for this purpose of the study.

The capital structure has many relevant dimensions. The financing mix is one of them. Other dimensions involve the investment decisions of the firm and the optimal use of leverage, within the constraints imposed by the internal and

external environmental conditions. The conceptual framework, different view of different writers, books and journals and articles has been dealt in the Review of literature section.

As per the objective of this study, it tries to analyze the relationship between debt and shareholders' equity of manufacturing companies to provide suggestion on the basis of findings. To fulfill this purpose, the study follows the analytical and descriptive research design.

Research Methodology is studied in the third chapter. It has included the research design. It presents nature and sources of data, data collection and processing techniques and financial tools used.

Average DOL of UNL is higher then another company.

Debt to total assets ratio is less then 50% for UNL and BNL, has the average ratio of 27.03% only. The BNL had relied mainly on owner's capital. UNL have the ratio less than 50%. The average interest coverage ratio is 116.39 times for UNL and 300.18 times for BNL. The profit margin of the companies does not show a satisfactory picture during the study period. The profit margin for UNL is higher then the BNL. Earning per share for UNL is the highest. The ROE for UNL is highest than for another. The average ROA is highest for the UNL among the selected companies for study. The overall capitalization rate of UNL is higher among the companies. Cost of equity capitalization is also higher on an average for UNL among the selected manufacturing companies listed with NEPSE

5.2 Conclusion

The average DOL, for UNL is 14.10 and for BNL is 5.93. Among the same type of manufacturing industries, there is a vast difference in the DOL. UNL has a very

high degree of operating leverage which is also harmful for the good health of the company. When the company has high degree of operating leverage, a small change is sales makes comparatively a high change in EBIT. The average DFL for UNL is 1.11 and for BNL is 0.49. None of the companies show consistency in the DFL. BNL has very low DFL, which is not a good sign; therefore companies should concentrate on restructuring their structure of capital.

There is no LTD in the capital structure of UNL and BNL during the research period, which means that the TD is composed of short-term loans, which is in a variable trend.

The average ratio of shareholders equity to total asset for UNL is 37.83 which show that on an average the input of equity for the assets is 37.83%. The average ratio of shareholders equity and total assets for BNL for the complete study period is 73.23%. The overall analysis and calculation indicate that the assets financed mainly from the equity capital. Among the selected companies, only UNL has a good proportion of owners and outsiders fund for financing the assets. The interest coverage ratio for UNL during the study period is fluctuating with the average of 116.39 times. BNL is not using the long-term debt in its capital structure at all and the amount of interest is also comparatively on lower side among the selected companies for the study.

The average interest coverage ratio is approximately 300.18 times. The above result shows that the capital structure of the company is not fixed. The lower amount of interest means the use of lower amount of debt capital in the capital structure of the firm and use of high amount of equity capital. In such circumstance, the company should understand that the high percentage of equity capital means the high tax payment to the government. It should try to increase its

sales volume and minimize costs to enhance profitability to sustain in the competitive world. The average profit margin ratio is 9.67% for UNL.

The sales volume of UNL is increasing except for the F.Y. 2002/03 and 2003/04, the management needs to pay attention in this respect. The situation of the UNL is far better among the selected companies for research on this count. However, the company despite increasing sales volume, the profit is not in an increasing order. The profit margin ratio for BNL is 5.71% on an average. The net profit is also increasing but the profit margin ratio is fluctuating. The increase in profit is not as much as of increase in sales, which is the reason of fluctuating ratio. The fluctuating situation of the company tells us about the inefficiency in running the business. The overall calculation shows that the net profit is fluctuating and the profit margin ratio is also decreasing whereas the sales on increasing. This indicates the company should make such policy to earn high amount of profit from the sales revenue by increasing operating efficiency. Earning per share for UNL seems to be higher than that of BNL. So the investors can be attracted by the proposal of UNL.

ROE for UNL is higher than of another. The investors of the UNL are getting more returns from their investments. The average ROA is highest for the UNL indicating the good production power of assets.

From the calculation of overall capitalization rate, we can see that the UNL has the highest average value of Ko among all the companies. Ke is also higher in an average for UNL among the selected manufacturing companies listed in NEPSE. The use of less costly debt fund increases the risk to the shareholders; this causes the equity capitalization rate to increases.

5.3 Recommendations

Sound capital structure management ensures that the company success and it is also indicated that the overall financing condition. The concept of capital structure has not received much attention in the Nepalese manufacturing companies while designing the capital structure. Based on the major findings of the study of the selected manufacturing companies listed in NEPSE, the following recommendations are presented in order to facilitate investors, businessmen, planners, policymakers, researchers and other concerned parties.

It is suggested that and UNL should increase the equity proportion in financing its assets to be in a safe mode against liquidation. Thus manufacturing companies should maintain liquidity standard to compensate the short-term risk.

The UNL and BNL should try to access longer-term source of debt, which will be less costly for them rather than relying heavily in short-term loans.

Both the companies should try to streamline their sales.

As per the increase in sales the profit for UNL is not correspondingly increasing. From the sales revenue, the UNL should make policy to earn high amount of profit by increasing operating efficiency.

Due to the higher operating cost of production some of the Nepalese manufacturing companies are incurring loss. The management should give emphasis towards the minimization of administrative and operating expenses. The unskilled manpower, over-staffing, unsystematic purchase of raw materials, unnecessary expenses, misuse of facilities, heavy expenses on overhead etc .are the major causes for high operating cost. These causes should be eradicated by the management of the company.

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APPENDICES
APPENDIX - 1
Calculation of Degree of Operating Leverage (DOL)- UNL

Year	Ratio (X)	Ratio (X^2)
2002/03	-	-
2003/04	-1.81	3.276
2004/05	118.53	14049.36
2005/06	2.42	5.856
2006/07	-11.14	124.099
2007/08	-23.95	573.602
2008/09	0.55	0.302
	X= 84.60	X^2= 14756.495

$$\bar{X} = \frac{\Sigma x}{n} = \frac{84.60}{6} = 14.10$$

Calculation of Degree of Operating Leverage (DOL)- BNL

Year	Ratio X	Ratio X^2
2002/03	-	-
2003/04	0.94	0.88
2004/05	-3.49	12.18
2005/06	13.51	182.52
2006/07	0.70	0.49
2007/08	23.34	544.76
2008/09	0.56	0.31
	X= 5.93	X^2= 741.14

$$\bar{X} = \frac{\Sigma x}{n} = \frac{35.56}{6} = 5.93$$

APPENDIX - 2
Calculation of Degree of Financial Leverage (DFL)- UNL

Year	Ratio X	Ratio X^2
2002/03	-	-
2003/04	1.05	1.10
2004/05	1.45	2.10
2005/06	0.92	0.85
2006/07	1.09	1.19
2007/08	1.35	1.82
2008/09	0.81	0.66
	X =6.67	X^2=7.72

$$\bar{X} = \frac{\Sigma x}{n} = \frac{6.67}{6} = 1.11$$

Calculation of Degree of Financial Leverage (DFL)- BNL

Year	Ratio X	Ratio X^2
2002/03	-	-
2003/04	-0.90	0.81
2004/05	1.25	1.56
2005/06	1.19	1.42
2006/07	4.19	17.56
2007/08	1.05	1.10
2008/09	-10.14	102.82
	X =3.36	X^2=125.27

$$\bar{X} = \frac{\Sigma x}{n} = \frac{3.36}{1.11} = 0.56$$

APPENDIX - 3

Calculation of Debt to Total Assets Ratio-UNL

Year	Ratio X	Ratio X^2
2002/03	46.6	2171.56
2003/04	39.07	1526.47
2004/05	54.33	2951.75
2005/06	56.1	3147.21
2006/07	80.3	6448.09
2007/08	76.7	5882.89
2008/09	89.7	8046.09
	X =442.80	X^2=30174.05

$$\bar{X} = \frac{\Sigma x}{n} = \frac{442.8}{7} = 63.26$$

Calculation of Debt to Total Assets Ratio-BNL

Year	Ratio X	Ratio X^2
2002/03	28.16	792.985
2003/04	32.83	1077.809
2004/05	32.05	1027.203
2005/06	19.60	384.16
2006/07	23.50	552.25
2007/08	26.30	691.69
2008/09	26.80	718.24
	X =189.24	X^2=5244.34

$$\bar{X} = \frac{\Sigma x}{n} = \frac{189.24}{7} = 27.04$$

APPENDIX - 4

Calculation of Shareholders Equity to Total Assets Ratio-UNL

Year	Ratio X	Ratio X^2
2002/03	45.02	2026.80
2003/04	60.93	3712.47
2004/05	45.67	2085.80
2005/06	42.14	1775.78
2006/07	19.74	389.67
2007/08	23.25	540.56
2008/09	28.07	787.93
	X = 264.82	X^2 =11318.95

$$\overline{X} \; = \; \frac{\Sigma x}{n} \; = \frac{264.82}{7} \; = 37.83$$

Calculation of Shareholders Equity to Total Assets Ratio-BNL

Year	Ratio X	Ratio X^2
2002/03	70.05	4907.0
2003/04	67.17	4511.81
2004/05	67.95	4617.20
2005/06	82.02	6727.28
2006/07	78.12	6102.73
2007/08	74..07	5486.37
2008/09	73.20	5358.24
	X = 4.38.51	X^2 =37710.63

$$\overline{X} \; = \; \frac{\Sigma x}{n} \; = \frac{438.51}{7} \; = 62.64$$

APPENDIX - 5

Calculation of Interest Coverage Ratio-UNL

Year	Ratio X	Ratio X^2
2002/03	7.58	57.46
2003/04	5.49	30.14
2004/05	48.71	2372.66
2005/06	109.26	11937.75
2006/07	145.46	21158.61
2007/08	171.20	29309.44
2008/09	327.00	106929.00
	X = 814.39	X^2 =171795.06

$$\bar{X} \ = \ \frac{\Sigma x}{n} \ = \frac{814.7}{7} \ = 116.39$$

Calculation of Interest Coverage Ratio-BNL

Year	Ratio X	Ratio X^2
2002/03	570.00	324900
2003/04	88.09	7759.848
2004/05	107.36	11526.17
2005/06	1125.25	1266188.00
2006/07	163.48	26725.71
2007/08	24.25	588.06
2008/09	22.85	522.12
	X = 2101.28	X^2 =1638209.48

$$\bar{X} \ = \ \frac{\Sigma x}{n} \ = \frac{2101.28}{7} \ = 300.18$$

APPENDIX - 6

Calculation of Profit Margin-UNL

Year	Ratio X	Ratio X^2
2002/03	4.42	19.54
2003/04	3.45	11.90
2004/05	7.53	56.70
2005/06	9.23	85.19
2006/07	12.77	163.07
2007/08	15.8	249.64
2008/09	14.47	209.38
	X = 67.67	X^2 =795.43

$$\bar{X} \ = \ \frac{\Sigma x}{n} \ = \frac{67.67}{7} \ = 9.67$$

Calculation of Profit Margin-BNL

Year	Ratio X	Ratio X^2
2002/03	8.66	74.99
2003/04	9.08	82.45
2004/05	3.18	10.11
2005/06	5.98	35.76
2006/07	5.65	31.92
2007/08	4.01	16.08
2008/09	3.44	11.83
	X = 40	X^2 =263.15

$$\bar{X} \ = \ \frac{\Sigma x}{n} \ = \frac{40}{7} \ = 5.71$$

APPENDIX - 7
Calculation of EPS-UNL

Year	Ratio X	Ratio X^2
2002/03	73.9	5461.21
2003/04	46.28	2141.84
2004/05	101.78	10359.17
2005/06	152.91	23381.47
2006/07	205.50	42230.25
2007/08	258.67	66910.17
2008/09	285.72	81635.92
	X = 1124.76	X^2 =232120.02

$$\bar{X} = \frac{\Sigma x}{n} = \frac{1124.76}{7} = 160.68$$

Calculation of EPS-BNL

Year	Ratio X	Ratio X^2
2002/03	33.15	1098.92
2003/04	24.94	622.00
2004/05	9.94	98.80
2005/06	19.40	376.36
2006/07	17.83	317.91
2007/08	12.81	164.10
2008/09	11.20	125.44
	X = 129.27	X^2 =2803.53

$$\bar{X} = \frac{\Sigma x}{n} = \frac{129.27}{7} = 18.47$$

APPENDIX - 8

Calculation of ROE-UNL

Year	Ratio X	Ratio X^2
2002/03	19.92	396.81
2003/04	12.22	149.33
2004/05	26.08	680.17
2005/06	35.32	1247.50
2006/07	87.61	7675.51
2007/08	105.88	11210.57
2008/09	110.13	12125.62
	X = 397.16	X^2 =33488.51

$$\overline{X} \; = \; \frac{\Sigma x}{n} \; = \frac{397.16}{7} \; = 56.76$$

Calculation of ROE-BNL

Year	Ratio X	Ratio X^2
2002/03	5.45	29.70
2003/04	6.98	48.72
2004/05	2.70	7.29
2005/06	5.20	27.04
2006/07	4.60	21.16
2007/08	3.19	10.18
2008/09	2.78	7.73
	X = 30.9	X^2 =151.82

$$\overline{X} \; = \; \frac{\Sigma x}{n} \; = \frac{30.9}{7} \; = 4.41$$

APPENDIX -9

Calculation of ROA-UNL

Year	Ratio X	Ratio X^2
2002/03	8.95	80.10
2003/04	7.46	55.65
2004/05	11.94	142.56
2005/06	14.95	223.50
2006/07	17.22	296.53
2007/08	24.62	606.14
2008/09	31.45	989.10
	X = 116.59	X^2 =2393.60

$$\overline{X} = \frac{\Sigma x}{n} = \frac{116.59}{7} = 16.66$$

Calculation of ROA-BNL

Year	Ratio X	Ratio X^2
2002/03	3.77	14.21
2003/04	4.69	21.99
2004/05	1.87	3.50
2005/06	4.26	18.15
2006/07	3.56	12.67
2007/08	2.38	5.66
2008/09	2.02	4.08
	X = 22.55	X^2 =80.27

$$\overline{X} = \frac{\Sigma x}{n} = \frac{22.55}{7} = 3.22$$