CHAPTER - I

INTRODUCTION

1.1 Background of the Study

The study of capital structure occupies an important place in the literature of finance. Capital structure has attracted intense debater and scholar attention both from theorists and practitioner of financial management area over the past four decades. The basic goal of a firm is to maximize the value of the firm or shareholder's wealth. To achieve this goal, the company should have sound investment and financing policy. Company should acquire current assets and fixed assets. To acquire these assets, a firm uses various sources of financing policy. These sources of firm may be of short term or long term. Thus, when a firm expands its business activity it needs capital.

Financial manager should maintain a good relationship between debt and capital and should be very much careful while designing capital structure of the firm because capital structure decision affects value of the firm. A Company's financial manager should try to minimize the cost of capital and maximize the shareholders' wealth/value. The structure of long-term financing which minimizes the overall cost of capital or maximizes the value of firm is called optimal capital structure.'

Capital structure decisions are intertwined with other corporate decisions. The financing decision of a firm involves the choice of an appropriate mix of different sources of financing, namely, ownership funds and outsider funds. Capital structure decision of an enterprise affects the cost of capital through the risk complexion and ultimately affects the value of the enterprise. So a financial manager should try to minimize the overall cost of capital and maximize value of firm by optimizing the capital structure. The highly levered firms are more likely to keep away from profitable investment opportunities. The selection of the capital structure will obviously depends on the bearing that it has on the firm's objective of maximization

of shareholder's wealth. A financing mix, which will lead to maximization of shareholder's wealth as reflected in the market price of shares, a termed value of an enterprise, can be maximized by the use of judicious mixture of the different component of capital.

The advantage of having an optimal financing structure, if such an optimum does exist, is two fold. It maximizes the value of the company and hence, wealth of its owners, and minimizes the company's cost of capital, which, in term, increases its ability to find new wealth creating investment opportunities. One of the most pertaining issues facing financial manager is the relationship between capital structure and stock price. Should different industries and different firms within industries have different capital structures and if so, what are the factors that bring these differences? The theoritical and empirical research shows the capital structure decisions are affected by, among other things, agency costs, information asymmetry, industry condition and taxes.

Capital structure refers to the way a firm's fixed assets are financed with. Prudent financial decision goes through the questions about maturity composition of the firm's sources of fund and proportions of various forms of permanent financing. The previous one refers to the division of short term and long terms funds, which in term, is decided by asset structure of the firm. The later refers to the ration of debt, preferred stock and equity to the total assets, which implies capital structure management.

The important aspect of capital structure management is to find out the proper mix of debt and equity capital that maximizes market price of share or minimize composite cost of capital. The proper mix of debt and equity capital is known as optimal capital structure. Theories of capital structure suggest how some of the factors might be correlated with leverage. Greater the proportion of tangible assets is on the balance sheet, the more lenders intend to supply loan, and leverage should

be higher. The optimum capital structure is determined by trading off between the benefits of management accesses to funds for good investment opportunities and the cost of access to bad ones.

It is well accepted fact that Nepal has human and natural resources to exploit but at the same time it has inadequate financial resource. The capital is shy in the country like Nepal. In addition, appropriate mix of debt and equity is essential for Nepalese enterprises to maximize shareholders' wealth and minimize overall cost of capital, because capital structure has direct relationship with cost of capital value of the firm, risk and tax expenses of the company. This study is, therefore, devoted to analyze the capital structure in the context of Nepal.

1.1.1 Evolution of Industry in Nepal

“Industrialization is an important factor for achieving the basic objective of a country’s economic and social progress” (Pant, 2004).

Industrialization is universally accepted as a strategy of economic development as well as fundamental goal of most developing countries. “Like most other developing countries one of the important aspirations of Nepal has been to bring about a structural change that would transform its agricultural economy into an industrial one” (Pathak, 1994). Industrialization not only provides goods and services but also creates employment opportunities. It facilitates an effective mobilization of resources of capital and skilled manpower, which might, otherwise, remain unutilized. It also acts as a vehicle for fostering innovation and technological improvement. Thus, industrial development has a multiplier effect on the economy. The prevailing state of under development is commonly contributed due to the lack of adequate industrialization, it is because most of the economically advanced nations of the contemporary world reached their living standard through successful thrust of industrialization. Industrialization is the major tool; with the aid of which

the vicious circle of poverty can be broken. Industrialization helps the unemployed manpower to get employment opportunity.

Apart from its natural beauty, Nepal is also known as developing country. Nepal is just moving towards industrialization with very small manufacturing industries. The globalization, privatization and liberalization processes have made a worldwide pressure on planners and policy makers to design towards rapid growth. Nepal can't remain free from such phenomenon. Nepal is facing a critical juncture in its modern economic situation. The industrialization will be the remedy of such disease. Industrialization can be defined in many ways by relating to the existing conditions of a nation and their respective situation of the development.

"Industrialization is an economic development in which growing part of the national resources is mobilized to develop a technically up to date diversified domestic economic structure characterized by dynamic manufacturing customer goods, capable of assuring a high rate of growth for economy as a whole and achieving economic and social progress" (Pathak, 1994).

In the context of Nepal, Industrialization can be the major instrument of progress, modernization and social development. Industrialization is the process of enabling the idle human and other manufacturing resources in order to develop the nation without hampering the economic condition of the Nation. Industrialization can play a dominant role in a country like Nepal, where agro-dominated economy is prevailing. It is because industrial development helps country in enormous ways; it contributes to the national income, absorbs the growing labour forces to reduce significantly the disguised unemployment, lessens the dependence on imports and promotes exports. Mixed economy is prevailing in Nepal where we can observe both state controls cum private participation in the country's economy. Both the Government and private sector are putting their efforts to enhance the condition of the economy from their respects. Nepal is lagging behind in the development

process of modern, huge and middle scale industries. Industrial sector is the second leading sector of Nepalese economy after agriculture. Most of the modern industries established within the country are in public govt. sector with foreign collaboration. It reveals that there is a lack of entrepreneur who accommodates industrial investment. There are prevailing practices of measuring the pace of industrial development of the country in the world by taking contribution made by the industrial sector in GDP as chief economic indicator. Thus, the industrial sector is the key of the advancement of any country.

In Nepal, the history of development of industry begins with the establishment of "Udhyog Parisad" in 1936 A.D. During the Rana regime, they were not interested in the development of the country. Though, Biratnagar jute mill (1936 A.D.), Nepal Bank Ltd(1937 A.D.), Juddha Match Factory, Morang Cotton Mill, Mahendra Sugar Mill and Butawal Plywood had been established during this period. They are the leading industries in Nepal. After the introduction of Democracy in 2007 B.S, the government felt the need of the industrialization and started some public enterprises; likewise the government established a separate unit as "Industry Department". After the restoration of democracy, the department has been recognized with its new name "Cottage and Small Industry Department ".

It was felt that the private sector could not set up all basic and feasible industries capable of making special contribution to the industrial development of the country. Within the period of this plan the new industrial policy 1974 was also announced by the government of Nepal. In 1981 A.D. a new industrial policy was declared and the main features of this policy were that all industries were kept open to private sectors except the defiance industry.

The changing political situation has changed the industrial policy. In 1992 a new liberal industrial policy was declared. Private investment is encouraged and foreign investment is welcomed. In this reference, the government has conducted the

procedures of privatizing some public enterprises, such as Bansbari Leather And Shoes Factory, Bhrikuti Paper Mill and Harisiddhi Brick Factory are the major in first phase. Likewise the Ministry of Industry and UNDP haveS jointly conducted a foreign investment forum on the first week of the December 1992 A.D., the investors, more than hundred countries, attended the conference and showed their keen interest in the industrialization process of Nepal. They also signed on the proposal presented by so many industries, which are going to be established in Nepal. It is believed that the conference became helpful for the development of industrial situation of Nepal.

The first five year plan period **(1956-61 A.D.),** In this period, industrial policy (2014 B.S.), private firm registration act (2014 B.S.), and factory and factory workers' Act (2016 B.S.) were published. Nepal Industrial Development Corporation was established in 2016 B.S.

Second plan **(1962-65 A.D.)**, In this plan sugar, metal, handicrafts, hotels, match, textile, biscuit and confectionary industries including Janakpur Cigarette Factory, Birgung Sugar Factory and Bansbari Leather and Shoe Factory were established in the public sector.

Third plan **(1965-70 A.D.)**, In this plan, Vegetable ghee, flour, milk, soap, cold storage, bakery etc industries were established in the private sector, while Hetaunda & Balaju Textile Industries were established in the public sector under the assistance of the Chinese government.

Forth plan **(1970-75 A.D.)**, In this plan, vegetable ghee, flour mill, soap, cold storage, bakery, etc. Industries were established in private sectors, At the same period new industrial policy and industrial enterprises act (2030 B.S.) were enacted and Industrial Services Center (2031 B.S.) was set up.

Fifth plan **(1975-80 A.D.)**, In this period, only 3 industries were established in the public sector, while a few small industries , such as flour mill , sugar , cotton,

textile, soap ,polythene pipe, etc. were established in the private sector. Security Exchange Center (2033 B.S.) came into existence.

Sixth plan **(1980-85 A.D.)**, In this period, biscuit and confectionery, shoes and sandal, rice mills, brick factories were established in the private sector. Hetauda Cement Industry, Bhrikuti Paper Factory, Nepal Orient Magnesite and Nepal Metal Industry were under construction phase, However, Industrial Policy (2037 B.S.), Industrial Enterprises Act (2038 B.S.), Foreign Investment and Technology Act (2038 B.S.) were formulated.

Seventh plan **(1985-90 A.D.)** In his period, industries established in this period in the private sector were woolen carpets, readymade garments, beer, distillery, cement, cigarette, etc, Lumbini Sugar Factory, Udayapur Cement Factory, Industrial District Management Ltd and Economic Services Center Ltd were set up in the public sector.

Eight plan **(1992-97 A.D.)**, in this period, NG has adopted open and liberal economic policies. As a result, Industrial Policy (2049 B.S.), Industrial Enterprises Act (2049 B.S.), Foreign Investment and Technology Transfer act (2050 B.S.) were reviewed. During the plan period, medicines, soap and detergent powder industries were set up under foreign collaboration. The government had already privatized 16 public enterprises.

Ninth plan **(1997-2002 A.D.)** has also been accomplished which continued the liberal economic policy. The plan had targeted to privatize 30 more public enterprises during the period but could not be done as per the target.

Tenth Plan **(2002-2007 A.D.)**,At present the Tenth plan period, 2003-2008 A.D. is in operation. The main objective of Tenth plan is to make economic sector of country effective healthy, dynamic and competitive by maximum utilization of

available resources. The plan conceives to expand the role of private sector for higher economic growth and effective operation of poverty alleviation programme. The strategy adopted for the promotion of private sector are as follows (Tenth plan, 2002-2007 A.D., National planning commission, NG Nepal: 108).

- Emphasis on investor friendly environment for economic improvement by policy wise quarantine.
- Provision of entry and drawback of private investment in every sector of economy by defining the role of private sector.
- Increase in competitive capacity by providing facilities and benefits to the investment sector,
- Acceleration of privatization programme effectively.

Industrialization is in increasing trend: manufacturing, trading and commercial business enterprises are operated by govt. as well as by individuals. If organized, developed, motivated and managed properly, the manufacturing industries can contribute much more to the upliftment of the country.

1.1.2 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, 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 depends 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 Bir Bikram Shah Dev stressed that it is the key to progress and there can be no development of a society without industrialization. It helps fulfill the large gap between developed and underdeveloped countries. Industrialization offers substantial dynamic benefits to a developing economy and also removes the problem of disguised employment existing 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.

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” (Wippern; 1996: 13-22).

It is clear from the fact that some Asiatic regions,like 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 an important place in the modern economy. Perhaps the Chinese government has introduced “A big leap” in their economy and that has affected 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 have been increased in the country as a 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 all the 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 successful to earn profit. Financial manager of manufacturing companies of Nepal must consider the capital structure.

1.2 Statement of the problem

Capital structure refers to the proportion of different types of securities issued by the firm like common shares, preference share capital, long-term debt (debentures and bonds) and retained earnings. Different companies required different combination of shareholder's equity and debt financing to maximize the profit. Effective capital structure is a key to successful industrialization.

Manufacturing companies are the backbone of Nepalese economy. Only the manufacturing companies can play a vital role to get rid of the widespread economic crisis. The main objective of manufacturing companies is to maximize profit and reduce its cost effectively way within the constraints of limited resources. In doing so, it must take care of different factors that affect profitability, hence, capital structure is one of the major factors.

The study is devoted to examine the practices of effective capital structure in the selected manufacturing companies of Nepal; with reference to Nepal Lube Oil Ltd, Nepal Bitumen and Barrel Udhyog Ltd., Bottlers Nepal Ltd. and Unilever Nepal Ltd. This study specially deals with the following problem:

- Whether or not Nepalese manufacturing companies are practicing optimal capital structure and to what extent to achieve goal?
- How much debt and shareholder's equity is used in the manufacturing companies to finance total assets?
- How does leverage affects the financial performance of manufacturing companies?
- To what extent the manufacturing companies are able to retain their shareholders?

1.3 Objectives of the Study

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

- To know the financial structure of selected companies.
- To know the financial performance of selected companies.
- To know the return on total assets.
- To analyze the return on common equity.

1.4 Significance of the Study

The capital structure deeply impacts over the cost of capital and long-term financial position of the firm. The earning nature of the firms helps adopt appropriate mix of debt and equity in the capital structure. On account of this significance, the capital structure and cost of capital of the firm is justified as specific subject matter for the study. Simple and multiple regression approaches are used to test this relationship. The findings of this study are based on the pooled data of selected banks.

The study helps the researchers, investors, creditors and other stakeholders analyze the financial position of the firm and they also may know the impact of capital structure on a firm's sustainability. This study is based on the annual accounting data collected, basically from the profit and loss account and balance sheet.

1.5 Limitations of the Study

This research is conducted under the following limitation:

- This research is focused on the analysis of the four manufacturing companies of Nepal only.

- Due to the lack of time and financial resources, only four 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.

1.6 Chapter Scheme

The whole study has been designed into five chapters:

Chapter I: Introduction

This chapter includes introduction of capital structure, manufacturing enterprises at glance, brief introduction of selected companies, statement of problem, objective, significance and limitation of the study.

Chapter II: Review of Literature

The second chapter consists of conceptual framework and review of literature under which the term capital structure, leverage ratios, cost of capital etc. have been described as well as previous related research works have also been reviewed.

Chapter III: Research Methodology

In the third chapter the research methodology followed to achieve the purpose of this study has been designed which includes research design, period covered, nature and source of data, tools used to analyze the data and research variables are described.

Chapter IV: Data Presentation and Analysis

The fourth chapter includes the presentation and analysis of data made availed from the selected companies regarding the development and the practice of effective capital structure in the company.

Chapter V: Summary, Conclusion and Recommendation

This is the last chapter of this dissertation which consists of summary of the study, major findings and the recommendation for improving the process and practices of capital structure to the company.

CHAPTER - II

REVIEW OF LITERATURE

2.1 The Conceptual Framework

This section is devoted to discuss briefly about the theoretical concept regarding the theories of capital structure.

2.1.2 Concept of Capital Structure

Capital structure, known as financial plans refers to the composition of long term debt, preference share capital and equity share capital including reserves and surplus. Capital structure is concerned with the analyzing the capital composition of the company. In other words of well known professor Weston and Brigham "Capital structure is the permanent financing of the firm, representing primarily by long term debt, preferred stock and common stock, but excluding all short term credit .Thus a firm's capital structure in only a part of its financial structure" The capital structure of the firm, defined as the mix of financial instruments used to finance the firm, is simplified to include only long term interest bearing debt and common stock, including short term liabilities. Capital structure is the combination of the long-term sources of funding, i.e. preferred stock and common stock that are used to finance the firm. Similarly capital structure is the mix of long term debt and equity maintained by the firm. Optimum capital structure can be defined as the mix if debt and equity, which will maximize the market value of a company, i.e. aggregate value of the claims of ownership interest represented as the credit side of the balance sheet.

In the study of capital structure, a change in one capital source due to the

changing source of another capital can be studied under leverage. Similarly, in the profit planning process, firm analyses the ways of increasing amount of profit, considerable attentions are given to different kinds of leverage. Thus, the financial leverage measures the responsiveness of EPS to change in EBIT. As the objective of the firm should be directed towards the maximization of the value of the firm, the capital structure decision should be examined from the point of view of impact on the value of the firm. If the value of the firm be affected by capital structure, a firm should prefer a capital structure, which maximizes the value of the firm.

The value of a firm depends upon its expected earning streams and the rate used to discount this stream. The rate used to discount the earning stream is the required rate of return or cost of capital. Thus, the capital structure decision can affect the value of the firm either by changing the expected earnings or the cost of capital both. The cost of capital is the most vital concept in the financial decision making. The cost of capital is influenced by the change in capital structure. The cost of capital is also called hurdle rate or requited rate of return for investors. The required rate of return of all the assets is not same because of their variability in return and attitude of investors towards them. The required rate of return of investors is made up of two components i.e. risk free rate of return and market risk premium. According to Capital Assets Pricing Model developed by William Sharp and John Litner, the required rate of return of an investor is the linear function of security market line. The risk free rate of return, which one gets by investing in the government securities, is the same for all assets but the market risk premium may be different for different assets. The market risk premium is the compensation for bearing systematic portion of total risk associated with the given assets. Thus, higher the attachment of systematic risk in the given assets the higher will be the market risk premium and hence required rate of return.

From the company's point of view, the required rate of return of an investor is the cost of capital of a firm. The higher the required rate of returns to investors, the higher the cost of capital of a firm and ultimately lower the value of the firm and vice- versa. Different sources of capital require a specific cost for the use of them in the firm. Therefore, any change incurred in the source of fund of capital structure may cause similar change in the overall cost of capital and value of the firm. Theoretically, the financial manager should plan an optimum capital structure for his company. The optimum capital structure is obtained when the market value per share is maximum or the average cost of capital is minimum. The value of the firm will be maximized or the cost will be minimized when the marginal real cost of each source fund is same. The optimal capital structure is justified by analyzing the solvency of the company. The long- term solvency is measured by various capital structure ratios. The capital structure ratios indicate whether the firm has resorted to an optimal financing mix or it is highly or lowly levered.

2.1.3 Determinants of the Capital Structure

Capital structure of a firm is determined by the various internal and external factors (Baral; 1996, 161). Capital structure is one of the much crucial decisions that a financial manager has to make as it affects risk, return, and cost of capital and value of firm. The optimal capital structure is one that maximizes the value of the firm or reduces the overall cost of capital. But, in practice the optimal capital structure is governed by many factors beside the cost of capital in the capital structure. The financial manager should set a target capital structure and the subsequent financing decision should be made with a view to achieve target capital structure. Every time when the funds have to be procured, the financial manager needs to weight pros and cons of various sources of finance and selects most advantageous source keeping in view the target capital structure. We may use various methods of analysis, none completely satisfactory in itself but taken

collectively, they give enough information to make a rational decision.

The negative views stress that relationship between capital structure and size of the enterprises measured by the ratio of total debt to total assets, is very high outside equity funds for a small enterprise. The positive views stress that relationship between size of enterprise and capital structure is sound on the theoretical ground because the larger enterprises are more diversified, have easy access of capital market, receive higher credit ratings for their debt issues and pay lower interest rate, is less prove to bankruptcy. The agency cost is likely to be higher for enterprises in growing industries which have more flexibility in their choice of future investment. Hence, growth rate is negatively related with long term debt level, conversely, pecking order theory implies the positive relation between debt level and growth rate of the enterprise. The proportion is based on the reasoning that a higher growth rate implies a higher demand for funds, a greater reliance on external financing through the preferred source of debt.

Profitability of the firm is one of the important explanatory factors of the capital structure. The static trade-off hypothesis pleads the low level of debt capital of risky firms. The higher profitability of firms implies higher debt capacity and less risky to the debt holders. So as per this theory, capital structure and profitability are positively associate. The non- debt tax shield specially depreciation affects the capital structure of the enterprises. De Angelo and Masuli in their non debt tax shield model argue that the presence of non- debt tax shields affects the corporate capital structure to the extent to which corporations can gain from the substitution of debt for equity. The higher debt service ratio shows the higher debt capacity of the enterprises. Hence, this theory suggests the positive relationship between the debt service capacity and capital structure of the enterprises.

Similarly, age of enterprises, business risk, collateral value of the assets and operating cash flows also determine the capital structure.

2.1.4 Capital Structure Theories

In respect of capital structure decision of the firm, several capital structure theories have been developed over the period. The theories introduced in early stage are based on the assumption of investor's view over the degree of leverage. These theories are as follows:

I. Net Income Approach (NI)
II. Net Operating Income Approach (NOI)
III. Traditional Approach
IV. Modigliani- Miller's Approach

These divergent views are the variations of the net income approach (NI) and the net operating income approach (NOI) as an originally developed by Durand (Durand, 1958). In 1958 a comprehensive analysis of capital structure by Franco Modigliani and Metro Miller published an article on the issue of capital structure irrelevancy. The article is considered to be the most significant work in financial research. In this article M-M logically assert that the value of the firm or the cost of capital is independent of capital structure decision of the firm. However, two conflicting views exist in the relationship between capital structure and cost of capital or the value of the firm (Modigliani and Miller, 1958).

I. Net Income Approach (NI)

The Net income approach assumes no change in the attitude of the both

stockholders and debt holders regarding the required rate of return in response to a change in debt and equity ratio of the firm. Consequently the interest rate on debt (k_i) and the equity capitalization rate (k_e) remain constant regardless of the leverage. Due to limited degree of risk, the debt holder's required rate of return is relatively lower than that of equity holders: So the debt financing is relatively cheaper than equity. In addition at constant cost equity (k_e) and the cost of debt (k_i), the over all cost of capital (k_o) declines with the increased proportion of the debt in the capital structure. In other words, the increased use of debt results the lower overall cost of capital (k_o) and higher market value of shares. Thus, this approach is appeared as relevancy theory. Therefore according to this approach, the capital structure decision is relevant to the valuation of the firm and the overall cost of capital. In other words, a change in the financial leverage (proportion of debt in the capital structure) will lead to a corresponding change in the overall cost of capital as well as total value of the firm. So, if we increase the ratio of debt in the capital structure, the weighted average cost of capital will decline and the value of the firm as well as the market price of the ordinary shares will increase. In contrast, a decrease in the debt ratio will cause an increase in the overall cost of capital and a decline in the value of the firm as well the market prices of the equity shares.

There are various assumptions of net income approach, and to calculate the value of a firm and weighted average cost of capital (WACC), these assumptions are constantly used and they are as follows:

1 There are no taxes.

2 The cost of debt is less than the equity-capitalization rate or the cost of equity.

3 Cost of debt and cost of equity remain constant.

4 The use of debt does not change the risk perception of investors.

5 Net operating income remains constant.

6 Overall cost of capital decreases as leverage increases.

II. Net Operating Income Approach

The net operating income approach (NOI) is slightly different from net income approach with respect to the assumption of the behaviour of equity holders and debt holders. The NOI approach assumes that the equity holder feel higher degree of financial risk and demand higher rate return for higher debt equity ratio. Furthermore, this approach says that the cost of equity increases with the debt level, and the higher cost of equity offset the benefit of cheaper debt financing; consequently, no effect at all on overall cost of capital (ko) as well as the cost of debt (ki) remain constant regardless of the degree of the leverage. Thus, this approach argues that the capital structure decision of the firm is irrelevant because, any change in leverage will not lead to any change in the total value of the firm and the market price of shares. This theory assumes that the capital structure (proportion of debt and equity) is irrelevant to the value of firm and the overall cost of capital. Under this approach, net operating income is capitalized as an overall capitalization rate to obtain total market value of the firm. The market value of the debt, then, is deducted from the total market value to obtain the market value of the stock. There are various assumptions of the net operating income approach and they are as follows:

1. The overall cost of capital remains constant.
2. The cost of debt remains constant.
3. Cost of debt is less than cost of equity.
4. The required rate on equity increases linearly with an increase in debt ratio.
5. Total operating profit remains constant.

The function of "k_e" under 'NOI' approach can be expressed in equation as

follows. $k_e = k_o + (k_o - k_b)D/S$…… (2.1)

where, D/S is the debt equity ratio at market values equation (2.1) indicates that if 'ko' and 'kb' are constant 'ke' would increase linearly with debt equity ratio D/S.

At the extreme degree of 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 Pincheas 1975:791).

III. Traditional Approach

Traditional approach assumes the capital structure as relevant matter for the value and cost of capital of the firm. It takes some features of both net income and net operating income approach. This approach strikes a balance between the two different approaches net income and net operating income. Therefore, it is also known as the intermediate approach. It resembles the net income approach in arguing that cost of capital and total value of the firm are not independent of the capital structure. But it does not subscribe to the view of net income approach that a value of a firm will necessarily increase for all degree of leverage. In one respect it shares a feature with the NOI approach that beyond a certain degree of leverage, the overall cost increases leading to a decrease in the total value of the firm.

According to this approach, there is an optimal capital structure therefore; the firm can increase the total value of the firm through the wise use of leverage. The firm initially can lower its overall cost of capital through the use of cheapest cost debt and raise its total value through leverage. But the increase in leverage increases the risk to the debt holders and the debt holders demand high interest rate as a result the overall cost of capital also increases.

"The traditional approach assumes that there exists an optimal capital structure and that a firm can increase its total value through the judicious use of leverage." (Van Horne, 1997; 261).

According to this view, the value of the firm can be increased or the cost of capital can be reduced by the judicious mix of debt and equity capital." (Pandey, 1987; 236).

According to traditional approach, the manner in which the overall cost of capital reacts to change in capital structure can be divided into three stages. (Soloman1969; 94)

Stage 1 - Increasing value

The first stage begins with the introduction of debt in the total capital.

"In this stage, the debt capitalization rate, kd remains more or less constant upto a certain degree of leverage but rises thereafter at an increasing rate". (Prassanna Chandra, 1990; 461). It means, the equity capitalization rate, ke remains constant or rises slightly with debt fund, but when it increases, it does not increase fast enough to offset the advantage of low cost debt. During this stage, the cost of debt (kd) remains constant or rises negligibly since the market views the use of debt as a reasonable policy. As a result, the value of the firm (V) will increase or the overall capitalization rate (ko) falls with increase in leverage.

Under the assumption that 'ke' remain constant within the acceptable limit of debt, the value of the firm will be:

$$V = S \quad B \quad \frac{X - KiB}{Ke} \quad KiB$$

$$\frac{X - KiB}{Ke} \quad B \quad \frac{X \quad (Ke - kI)}{Ke \quad Ke} \qquad \text{.....(2.2)}$$

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

When equation (2.2) is solved for X/V we get

$$K_o = X/V = K_e - (K_e - K_i)\, B/V \qquad \text{..... (2.3)}$$

This implies that with $k_e > k_i$, the average cost of capital will decline with leverage.

Stage 2- Optimum Value

In the second stage, "The cost of equity capital (Ke) remains more of less constant or raises only gradually upto a certain degree of leverage and rises sharply thereafter." (Chandra, 1990; 461).

Once the firm has reached a certain degree of leverage, further application of debt have a negligible effect on the value of the firm or the overall cost of capital to the firm. This is so because the increase in cost of equity offsets the advantage of low cost of debt. At this specific level of leverage the value of firm will be maximum or the cost of capital will be minimum.

Stage 3- Declining Value

After the acceptable range of leverage, the value of the firm decreases with leverage or the overall cost of capital increases with leverage. This happens because, the cost of both 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 third stage, the market value of the firm will show depressing tendency. In this stage the overall cost of capital Ko as a consequence of the behavior of cost of equity and cost of debt

- decrease upto a certain point
- remains more or less unchanged for moderate increase on leverage thereafter, and
- rise beyond a certain point.

The overall effects of these three stages are 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 starts rising. Under such a situation, there is a precise point at which the cost of capital would be minimized. This precise point would occur at that optimum degree of leverage, at which marginal cost of debt is equal to the average cost of capital (Soloman, 1969; 94).

IV. **Modigliani - Miller Approach (M-M Approach)**

M-M in their original position advocate that the relationship between leverage and the cost of capital is explained by net operating income approach. They make a formidable attack on the traditional position by offering behavioral justification for the cost of capital; Ko remains constant throughout all degree of leverage. They argue that in the absence of taxes,

total market value and the cost of capital of the firm remain invariant to the capital structure change. Simply M-M position is based on the idea that no matter how you divide up the capital structure of a firm among debt, equity and other claims, there is a conversion of investment value. In view of Srivastava, M-M contended that the cost of capital is equal to the capitalization rate of a 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 assumptions made under this approach is as follows:

- Capital market is perfect. Information is free of cost and readily available to all investors. There are no transaction costs and all securities are infinitely divisible. Investors are assumed 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 distributions of expected operating earnings for all future periods are 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.

- There is no income tax. This assumption is removed latter by M-M.

- Dividend payout ratio is 100%.

Proposition I

Given the above assumption, M-M argued that for firm in the same risk class, the total market value is independent of the debt equity combination and given by capitalizing the expected net operating income by the rate of appropriate to that risk class (Srivastava, 1993;268). In equation, it can be expressed as:

$$V = (S+D) = (S \square\square D) \square\square\square^{X} \quad \square\square\square^{NOI}$$

$$\text{.....(2.4)}$$

$$Ko \quad Ko$$

Where,

V= the market value of the firm D= the market value of the debt S= the market value of the equity

X= the expected net operating income on the assets of the firm

Ko= the capitalization rate of overall cost of capital, X/V, appropriate to the risk classes of the firm.

This case can be expressed in term of cost of capital, X/V, which is the ratio of expected earnings to the market value of securities. That is,

$$\frac{X}{S} \equiv \frac{X}{D+V} \equiv Ko \quad \text{.....(2.5)}$$

If Kd is the expected return on the firm's debt and Ke is the expected return in firm's equity then

$$X = K_o/V = K_e(s) + K_d(d) \quad \text{.....(2.6)}$$

By definition

$$Ko \equiv \frac{X}{V}$$

Therefore,

$$K_o = K_e(S/V) + K_d(D/V) \quad \text{.....(2.7)}$$

Since M-M concluded that the total market value of the firm is unaffected by the debt, equity mix, it follows that the average cost of capital to any firm is completely independent of its capital structure. Thus, two firms identical in all respect except capital structure can not command the different value of the firm of cost of capital, arbitrage will take place which will enable investors to engage in personal leverage to restore equilibrium in the market (Pandey, 1981; 37-38).

Proposition II

On the basis of proposition I, M-M formulated Proposition II which defines the cost of equity is the linear function of the leverage. The equation form of this proposition can be expressed as follows:

$K_e = K_o = (K_o - K_e)B/S$……(2.8)

Equation (2.7) is derived from the definition of average cost of capital i.e. $K_o = K_e(S/S+D) + K_d(D/S+D)$. Equation (2.8) shows that for any firm is a given risk class the cost of equity, K_e is equal to the constant average cost of capital and cost of debt times debt equity ratio i.e., premium for financial risk. Validity of the M-M proposition II depends upon the assumption that K_d will not rise or remains constant for any degree of leverage. But in practice, K_d , increases with leverage beyond a certain acceptable level of leverage. However, M-M maintain that even if K_d is a function of leverage, K_o will remain constant as K_e will increase at a decreasing rate to compensate.

2.2 Review of Related Studies

2.2.1 Review of International Studies

Modigliani and Miller's First Study (1962), used previous work of 'Allen and Smith' in support of their independence hypothesis. In the first part of their work, M-M tested their proposition I, the cost of capital is irrelevant to the firm's capital structure by correlating after tax cost of capital with leverage. They found that the correlations are statically insignificant and positive in sign. The regression line does not follow curvilinear, 'u' shaped cost of capital-key of traditional view, when the data are shown in scattered diagram.

In the second part of their study, they tested their proportion II, the expected yield on common shares, is a linear function of debt to equity ratio. The second part of their

study is consistent with their views i.e. if the cost of borrowed funds increases, the cost of equity will decline to offset this increase.

Modigliani and Miller Second Study (1963), M-M were conducted the second study in 1963 with correcting their original hypothesis for leverage for its tax advantages. They, therefore wanted to test whether leverage had tax advantages or not. For this, they conducted mathematical analysis regarding the effect of leverage and other variables on the cost of capital. They found that the leverage factor is significantly only because of the tax advantages involved.

Weston, J Fred, Eugene F and Brigham (1978), ***"****A Test of Cost of Capital Proposition"*. He made some important improvement in the cost of capital model. He included firm size and growth as additional explanatory variables in his model.

When he used MM model, he found the regression coefficient of leverage to the positive and significant. However, when the multiple regressions were run, he found that the correlation coefficient is significant and the regression coefficient of leverage is negative and significant. When the influence of growth is isolated, leverage is found to be negatively correlated with the cost of capital. He concluded that the apparent lack of influence of leverage on the overall cost of capital observed by M-M was due to the negative correlation of leverage with earning growth. Weston also tested M-M proposition II, when he used the M-M's model, his results were found to be consistent with their results, i.e. cost of equity is the linear function of debt equity ratio.

Both,Aivazian, Kunt and Maksimovic's Study (2001**),** They conducted a comparative study on "*Capital Structure in Development Countries*". This study used a new data set to assess whether capital structure theory is portable across countries with different institutional structure. This paper uses a new form level data base to examine the financial structure of firms in sample of 10 developing countries. Those developing Countries Chosen for the study are India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan, and Korea.

This study's focus is on answering these questions:

- ❖ Does corporate financial leverage decision differ significantly between developing and developed countries?
- ❖ Are the factors that affects cross–sectional variability in individual countries capital structure similar between developed and developing countries?
- ❖ Are the prediction of conventional capital structure models improved by knowledge of the company?

This study finds that the variable that are relevant for explaining capital structure in the United States and European countries are also relevant in developing countries, despite the profound different in institutional factors across these developing countries. However, there are systematic differences in the way these ratios are affected by country factors such as GDP growth rates inflation rates and the development capital markets. This finding suggests that although some of the insight from modern finance theory is portable across countries many remain to understand the impact of different institutional features on capital structure choices.

2.2.2 Review of Related Studies In The Context of Nepal

Shrestha (1985), "An Analysis of Capital Structure in Selected Public Enterprises." In this study, the selected public enterprises understudy has a very confusing capital structure since the corporation are not guided by objectives based financial plans and policies. Further, the debt equity ratios should neither be highly levered to create too much financial obligations that lies beyond the capacity to meet the target nor should it be too low levered to infuse operational strategy to by pass responsibilities without performance.

In this study, neither there exists proper determinant nor standard are developed to justify appropriating capital structure. So, neither government nor public enterprises themselves are serious for the use of appropriate capital structure. Interest obligation seems to financial burden to the existing public enterprises to maintain optimum capital structure because there is no reliable basis ensure sound capital structure. Shrestha concludes that the selected public enterprises under study have a very

confusing capital structure since corporation are not guided by objective based financial plans and policies Finally, he suggested that the debts equity should be highly levered to create to much financial obligation that lie beyond capacity to meet, nor should it be much low levered to infuse operational lethargy to bypass responsibility with out performance.

By reviewing these empirical studies, we can make a general conclusion that in respect to imperfect capital market where the corporate tax exists, the use of the debt in capital structure decreases the cost of capital. But, the Nepalese companies do not have any guideline to make appropriate capital structure and they choose the capital structure randomly. In other words, the relationship between capital structure and cost of capital may not have a define trend in Nepal. So, there is a need to carry out specific study on the impact of capital structure on the cost of capital this type of study is expected to provide useful information for policy markets and implementation at both micro and macro levels

Aryal (1991), "An Evoluation of Capital Structure of Bottlers Nepal Ltd." In this study, the long-term debt of BNL is increasing year by year because the company has borrowed more long-term debt. Ratio analyses showed the inefficient capital structure management of the company. The study has been done only for the five years period and concluded that the company has to follow good policy to set the capital structure.

The calculation of leverage position indicates the bad performance of the company because it is in increasing trend. After doing all calculation like ratio, leverage, capital structure position, correlation and P/E, etc. he had found the company had not proper balance of debt and company is regarded as highly levered company, he pointed that the company has to lower down the amount of debt and to obtain additional fund through the issue of equity share by using cheaper source of collecting fund. In order to build up public image, share must be issued to the general public. Moreover the company should think about other new products for winter

season to increase good image of the company. He has also suggested that the company should maintain the general norms of optimal capital structure of 2:1.

Khanal (1992), 'The Capital Structure of Industrial Enterprises in Public Sectors'. In this study, the effect of leverage and the relationship between capital investment and earnings generation have been tested. Under this study, the overall result was unsatisfactory. Further, improving their self-efficiency in the financial performance and the reduction of subsidy and donation, which has been the main cause of inefficiency of the management, have been suggested.

Pathak (1995), "A Study on Capital Structure Management of Gorakhakali Rubber Udyog Limited". In this study, all the variables in form of ratio analysis had been analyzed. Especially to the capital structure and profitability position, the following issues had drawn in major findings.

Gorakhakali Rubber Udyog limited was very high as compared to the shareholder's equity and the trend of debt/equity ratio was increasing every year. Company's debt servicing capacity was very poor due to the negative I/C ratio. The operational performance was satisfactory due to negative earnings and low volume of sales revenue. The operational performance was not satisfactory due to negative earnings and low volume of sales revenue. The company was not able to utilize its capacity more than 50% which resulted the huge losses. At last, to lower down the amount of debt and obtained additional funds through issue of equity share, improve its capital and reduce over staffing, make strategic plans and develop the motivations management have been recommended.

Pathak(1999**),** "Capital Structure and Profitability" he has comparative case study between Nepal Investment Bank Ltd. and Standard Chartered Bank of Nepal Ltd". The capital structures of both banks are highly levered, so it is difficult for them to pay interest and principal that may ultimately lead them to liquidity or bankruptcy. There is no significant relationship between debt and equity ratio in terms of fixed deposits to net worth and overall capitalization rates of the banks. The ROE fluctuation was influenced by the dividend payout ratio and interest margin in NIB

Ltd. Both banks vary in the case of total assets, number of bank branches and volume of transactions. Both the banks are efficient and well established and doing well. He has suggested that NIB ltd. should expand assets and branches, which may ultimately affect the bank's performance and increase the profitability more than ever.

Tamang (2001), "An Impact of Capital Structure on Profitability". The two hotels Soaltee and Y&Y have only been taken for the study. The study is limited to the impact of capital structure on profitability. The government should make sound policy towards tourism but without increasing hotel's capacity and making good plan to attract the tourist has been recommended.

It is already stated that Nepal is becoming a center of attraction as a tourism destination. Although in recent days it has been violated by so many reasons, hotel sector, a small part of tourism, is playing a great role in the development of the country. To know about the role of the hotel sector, in this regard, , has done comparative study about two hotels Yak & Yeti and Soaltee. He found that profit is one of the measurements of successful organization planning its most optimum capital structure to provide maximum return to its shareholders and to increase the value of the firm. By analyzing the debt to equity ratio in terms of long-term debt and shareholders equity, both hotels' D/E ratios are not higher according to the standard ratio, which constitute 1:1. Hotel Y&Y is trying to be levered company, which has practice of increasing the D/E ratio, since 2055/056 by approximately 27% every year. While calculating the correlation co-efficient, he found that hotel Soaltee has negative correlation co-efficient and there is safety to lenders last year, which is indicated by the decreasing D/E ratio. Hotel Soaltee does not have financial leverage that is why changes in EBIT are not able to bring change in EPS. Therefore he has suggested that hotel Y&Y to should reduce its equity multiplier and increase the use of assets efficiently, in other to get higher ROE. Both hotels have once higher profit margins but it is impossible to get high profit margins every time. So they should try to increase assets turnover and redeem the amount of total debt, otherwise such debt would be a burden in terms of paying fixed interest while hotels are not getting high profits. He has also recommended that they should give equal importance to other

factors like operating efficiency and assets efficiency, etc and the government also should make effective tourism policy.

Parajuli (2001), "Capital Structure and its Impact on Profitability of Nepal Lever Limited" The study focused on the short-term debt to gain more profit. Also, the study focused on the short-term debt but not on debt and equity proportion.

The long run debt seems very high at the time of establishment. But later on, there is no long-term debt at all. Thus it can be said that the company's management is reluctant toward employing long term loans. From DU-Pont it is found that the profit margin and equity multiplier are in decreasing trend, which causes continuous decrease in ROE. Now it appears that Roe can be levered up by increasing the amount of debt in the firm. According to different calculations, he has found that performance of NLL is not at satisfactory level. He has recommended the maintenance of proper capital structure by including the long term.

Sah (2002), "The Relationship between Capital Structure and Cost of Capital" MM hypothesis on listed companies by using multiple regressions models has been tested in this study and found the result supporting the traditional proposition. Sah (2002) conducted study in 26 listed companies, 11 finance and 15 non-finance sector enterprises. The result indicated that the cost of capital can be affected by the use of debt in capital structure and the cost of equity increases as leverage increase. Also cost of capital and capital structure are inversely related in manufacturing and trading sector while directly in hotel sector companies.

Capital structure attracted intense debate and scholarly attention in the literature of finance over the past four decades. However, it has received a scant attention in the context of Nepal, In addition, there are rare studies conducted on the capital structure and its impact on the cost of capital in Nepalese. Viewed in this way, there is need to carry out a study specific to the effect of capital structure on cost of capital. This study is developed to test the relationship between capital structure and cost of capital in Nepalese manufacturing enterprises.

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 four manufacturing industries to cover the analytical part and fulfill the objectives of the study.

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 relationship Sbetween them. In this study, by the use of regression analysis, the strength of relation ship between two variables (eg 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 a systematic, scientific and planned way of collection analysis and interpretation of data and facts to solve the research problems and accomplish the basic objectives of the study.

“Research is undertaken not only to solve a problem exiting in the work setting, but also to add or contribute to the general body of knowledge in a particular area of interest to the researcher. Research is the huge knowledge, which can be used for different purposes. It is used to build a theory, develop policies, support decision making and solve problems with the opening of new frontiers of knowledge through research, new concepts and theories are developed to explain, verify and analyze the social phenomena”.

It is also defined as the objective and systematic method of finding solution to a problem covering systematic collection, recording, analysis, interpretation and reporting of information about various facts of a phenomenon under study. In other words, research refers to the systematic method consisting of enunciating the problem, collecting facts or data, analyzing the facts critically and reaching conclusions based on them. The research methodology of the study includes research design, population sampling, and nature of data, sources of data, survey methodology, data processing and 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 four 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, openair 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 approaches have been adopted to examine the effect 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

The 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 Nepal Stock Exchange Ltd and selected manufacturing companies. Accuracy of data is dependent on the organization, which provides most of the data required for the study. The website of NEPSE Ltd **http:/www.nepsestock.com**, and its annual report are the major sources of secondary data.

3.3 Population and Sample

There are 179 companies listed in Nepal Stock Exchange Ltd. Out of them, 17 are Commercial Banks, 57 are Finance Companies, 4 are Hotels, 18 are Manufacturing and Processing Companies, 3 are Hydropower Companies, 4 are Trading Companies, 17 are Insurance Companies, 24 are Development Banks, 2 are Corporate Debenture, 1 is Mutual Fund, 29 are Promoter Share and 2 others. Out of 18 manufacturing and processing companies only four manufacturing companies are selected as samples for the study. For the purpose of the study, the sampled companies are as follows:-

- Unilever Nepal Limited

- Nepal Bitumen and Barrel Udhyog Limited
- Nepal Lube Oil Limited
- Bottlers Nepal Limited

The selections of above four 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 in a 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 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 maximize shareholders' wealth. Under these analyses, the following calculations are made:

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

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 the variable cost exceed the fixed cost, or earning before interest and taxes exceeds the fixed return required, the leverage is called 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.

$$\text{DOL} = \frac{\%\ \text{change in EBIT}}{\%\ \text{change in sales}}$$

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.

$$\text{DFL} = \frac{\%\ \text{change in EBIT}}{\%\ \text{change in sales}}$$

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 used 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 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 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

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

b) Acid Test Ratio or Quick Ratio

The quick ratio is the 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.

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

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 is defined 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.

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

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, Assets equal to total liabilities is also called debt to total capital ratio

$$\text{Debt to Asset ratio= } = \frac{\text{Total debt}}{\text{Total Asset}}$$

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 informs us about the proportion of total assets of the company financed by the ownership capital.

Shareholder Equity to Total Assets Ratio

$$= \frac{\text{Shareholder Equity}}{\text{Total Asset}}$$

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.

a) Interest Coverage Ratio

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

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

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

a) Dividend Coverage Ratio

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

$$\text{Dividend coverage ratio} = \frac{\text{Earning After Tax (EAT)}}{\text{Preference dividend}}$$

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

$$\text{Gross profit margin} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100\%$$

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.

$$\text{Operating expenses ratio} = \frac{\text{Operating expenses}}{\text{Sales}} \times 100\%$$

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.

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

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= $\frac{\text{Earning After tax}}{\text{Number of shares}}$

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. Higher

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= = $\frac{\text{Earning After tax}}{\text{Market Per Share}}$

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

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 contributed 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 used 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 areas 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:

$$\text{ROE} = \frac{\text{Net Profit}}{\text{Shareholder's Equity}}$$

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.

3.4.1 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.

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

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.

3.4.5 Dividend Policy

Company's total net income can be divided into two parts: earning to be distributed to the equity shareholders and earning to be kept in the organization. Earnings that are distributed to the shareholders are known as dividend and earnings that kept in the organization are known as retained earnings. Dividend policy determines the division of earnings between payments to stockholders and reinvestment in the firm. The dividend decision is guided by number of factors such as investment opportunity, liquidity, earning stability, growth prospects, legal constraints, need to repay debt, shareholders preference and so on. The dividend payout ratio delineates the dividend policy of the firm. It is calculated by dividing dividend paid by net profit.

$$Dividend\ Payout\ Ratio = \frac{\text{Dividend Paid}}{\text{Net profit after Tax}}$$

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 type 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;

$$\text{Mean } (\bar{X}) = \frac{\text{sum of observations}}{\text{Number of observation}} = \frac{\sum X}{N}$$

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$(\sigma) = \frac{\sqrt{\sum(X-\bar{X})^2}}{N}$

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 = $\frac{S.D}{\bar{X}} \times 100\%$

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 analyzed and presented 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.

Table 4.1

Calculation of Degree of Operating Leverage (DOL)

F.Y	EBIT	Change in EBIT	% Change	Sales	Change in Sales	% Change	DOL
NLOL							
2000/01	1.65	-	-	72.22	-	-	-
2001/02	11.38	9.73	589.70	136.01	63.79	88.33	6.68
2002/03	8.52	-2.86	-25.13	119.15	-16.86	-12.40	2.03
2003/04	3.83	-4.69	-55.05	84.71	-34.44	-28.91	0.14
2004/05	6.37	2.54	66.32	118.10	33.39	39.42	0.34
2005/06	3.48	-2.89	45.37	148.75	30.65	25.95	0.06
2006/07	4.25	0.77	22.13	153.15	4.40	2.96	0.18
						Average	**1.57**
						S.D	**2.38**
						C.V (%)	**151.67**
NBBUL							
2000/01	6.08	-	-	95.23	-	-	-
2001/02	7.26	1.18	19.41	100.60	5.37	5.64	3.44
2002/03	-2.45	-9.71	-133.75	72.49	-28.11	-27.94	4.79
2003/04	8.39	10.84	-442.45	164.68	92.19	127.18	-3.48
2004/05	13.03	4.64	55.30	223.36	58.68	35.63	1.55
2005/06	9.07	-3.96	-30.39	201.31	-22.05	-9.87	3.08
2006/07	10.02	0.95	10.47	222.68	21.37	10.62	0.99
						Average	**1.73**
						S.D	**2.64**
						C.V (%)	**152.78**
UNL							
2000/01	107.75	-	-	1541	-	-	-
2001/02	69.22	-38.53	35.76	1236.1	-304.94	-19.79	-1.81
2002/03	126.65	57.43	82.97	1244.73	8.67	0.70	118.53
2003/04	195.57	68.92	54.42	1524.90	280.17	22.51	2.42
2004/05	257.46	61.89	31.65	1481.56	-43.34	-2.84	-11.14
2005/06	306.78	49.32	19.16	1469.69	-11.87	-0.80	-23.95
2006/07	346.62	39.84	12.99	1818.53	348.84	23.75	0.55
						Average	**14.10**
						S.D	**47.55**
						C.V (%)	**337.20**
BNL							
2000/01	45.60	-	-	414.58	-	-	-
2001/02	58.14	12.54	27.50	535.49	120.91	29.16	0.94
2002/03	30.06	-28.08	-48.30	609.65	74.16	13.85	-3.49
2003/04	45.01	14.95	49.73	632.11	22.46	3.68	13.51
2004/05	44.14	-0.87	-1.93	614.74	-17.37	-2.75	0.70
2005/06	32.29	-11.85	-26.85	621.83	7.09	1.15	23.34
2006/07	32.68	0.39	1.21	635.24	13.38	2.15	0.56
					Average		**5.93**

					S.D		**9.40**
					C.V (%)		**158.64**

Source: SEBO/NEPSE

In the above table, the calculation of DOL for NLOL shows 6.68, 2.03, 0.14, 0.34, 0.06, and 0.18 in the F.Y. 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 respectively. In the F.Y 2001/02 the DOL for NLOL shows 6.68 which means if the sales change by 1% then EBIT will change by 6.68%. Similarly in the F.Y. 2002/03, the DOL for NLOL is 2.03 indicating that 1% change in sales will affect the EBIT by 2.03%. For the F.Y. 2003/04, DOL is 0.14 when the EBIT has been decreased by 55.05% and the sale has been decreased by 28.91%. In the same way, F.Y. 2004/05 shows DOL 0.34, which indicates that EBIT has been increased by 66.32% and the sale, has been increased by 39.42%. For the fiscal year 2005/06, DOL for NLOL is 0.06, which indicates that EBIT would change by 0.06% if sales were change by 1%. Similarly in the F.Y 2006/07, DOL for NLOL shows 0.18 which means if the sales change by 1% then EBIT will change by 0.18%. S.D and C.V of NLOL are 2.39 and 152.23%. This shows that the degree of operation leverage is inconsistent in nature.

Similarly the calculated DOL of NBBUL for the fiscal year 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 are 3.44, 4.79, -3.48, 1.55, 3.08 and 0.99 respectively. In the F.Y. 2003/04 the DOL is 3.44, which indicates that a change in sales by 1% will cause a change of 3.44% on its EBIT. In the F.Y. 2003/04 the DOL is negative -3.44, which indicates the situation of loss. In the F.Y. 2001/02, 2002/03, 2004/05, 2005/06, 2006/07 the DOL is 3.44, 4.79, 1.55, 3.08 and 0.99 which means if the sales is increased by 1% then its EBIT will increase by 3.44%, 4.79%, 1.55%, 3.08% and 0.99%. S.D and C.V of this company are 2.64 and 152.78% respectively. This value shows that degree of leverage of NBBUL is highly inconsistent in nature.

Similarly, the DOL for UNL in the F.Y. 2001/02 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.2002/03, 2.24 in F.Y. 2003/04, -11.14 in F.Y.

2004/05, -23.95 in F.Y 2005/06 & 0.55 in F.Y 2006/07 indicating that 1% change in sales will affect the change in EBIT by118.53%, 2.24%, -11.14%, -23.95% and 0.55% respectively. S.D and C.V of UNL are 47.55 and 372.23% 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. 2001/02 is 0.94, which indicates 1% change in sales will change the EBIT by 0.94%. In the F.Y.2002/03 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. 2003/04 and 0.7 in the F.Y. 2004/05. The DOL is increasing in the last two years i.e. 2005/06 and 2006/07 of research it is increasing which proves that the company may face a situation of profit when sales will increase only with a small unit. And DOL for the F.Y 2005/06 and 2006/07 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 9.4 and 158.52%, which indicates that the ratio is inconsistent in nature.

The average DOL for NLOL is 1.57, for NBBUL is 1.73, for UNL is 14.10 and for BNL is 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 in 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. Among all the four manufacturing company S.D and C.V of UNL is highly inconsistent.

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.

Table 4.2

Calculation of Degree of Financial Leverage (DFL)

F.Y	EPS	Change in EPS	% Change in EPS	EBIT	Change in EBIT	% change in EBIT	DFL
NLOL							
2000/01	-10.89	-	-	1.65	-	-	-
2001/02	30.61	41.50	180.99	11.38	9.73	589.70	0.31
2002/03	20.90	-9.71	-31.73	8.52	-2.86	-25.13	1.26
2003/04	1.53	-19.37	-92.68	3.83	-4.69	-55.05	1.68
2004/05	15.08	13.55	885.62	6.37	2.54	66.32	13.35
2005/06	8.62	-6.46	-42.84	3.48	-2.89	-45.37	0.94
2006/07	13.26	4.64	53.83	4.25	0.77	22.13	2.43
						Average	**3.33**
						S.D	**4.53**
						C.V (%)	**136.06**
NBBUL							
2000/01	4.14	-	-	6.08	-	-	-
2001/02	4.43	0.29	7.00	7.26	1.18	19.41	0.36
2002/03	-33.10	-37.53	-847.18	-2.45	-9.71	-133.75	6.33
2003/04	13.86	46.96	-141.87	8.39	10.84	-442.45	0.32
2004/05	32.24	18.38	132.61	13.03	4.64	55.30	2.40
2005/06	11.90	-20.34	-63.09	9.07	-3.96	-30.39	2.08
2006/07	11.29	-0.61	-5.13	10.02	0.95	10.47	-0.49
						Average	**1.83**
						S.D	**2.25**
						C.V (%)	**122.90**
UNL							
2000/01	73.9	-	-	107.75	-	-	-
2001/02	46.28	-27.62	-37.37	69.22	-38.53	-35.76	1.05
2002/03	101.78	55.50	119.92	126.65	57.43	82.97	1.45
2003/04	152.90	51.13	50.24	195.57	68.92	54.42	0.92
2004/05	205.50	52.59	34.39	257.46	61.89	31.65	1.09
2005/06	258.80	53.17	25.87	306.78	49.32	19.16	1.35
2006/07	285.70	27.05	10.46	346.62	39.84	12.99	0.81
						Average	**1.11**
						S.D	**0.22**
						C.V (%)	**20.22**
BNL							
2000/01	33.15	-	-	45.60	-	-	-
2001/02	24.94	-8.21	-24.77	58.14	12.54	27.50	-0.90
2002/03	9.94	-15.00	-60.14	30.06	-28.08	-48.30	1.25
2003/04	19.40	9.46	95.47	45.01	14.95	49.73	1.19
2004/05	17.80	-1.57	-8.09	44.14	-0.87	-1.93	4.19
2005/06	12.80	-5.02	-28.15	32.29	-11.85	-26.85	1.05
2006/07	11.20	-1.61	-12.57	32.68	0.39	1.21	-10.14
						Average	**-0.56**
						S.D	**4.53**

	C.V (%)	**-809.78**

Data Source :SEBO/NEPSE

As mentioned in the above table, the calculation of DFL for NLOL in the F.Y. 2001/02 is 0.31, which indicates a change in EBIT by 1% will affect the EPS by 0.31%. However, the DFL in the subsequent year is increasing, but both the EBIT and EPS are fluctuating. Therefore, the company should try to streamline these things, otherwise, it can think about changing its capital structure to get reliable condition of the company. The DFL in the F.Y. 2002/03 is 1.26, in the F.Y.2003/04 is 1.68 and in the F.Y. 2004/05 are 13.35 which mean 1% change in EBIT will cause the EPS by 1.26%, 1.68% and 13.35% respectively. In the FY 2005/06, DFL for NLOL is 0.94, which indicates a change in EBIT by 1% will affects the EPS by 0.94% & in F.Y 2006/07 DFL is 2.43 which means 1% change in EBIT will cause the EPS by 2.43%. S.D and C.V of NLOL are 4.53 and 136.06%, which clearly shows the degree of financial leverage of NLOL is inconsistent in nature.

Similarly, the calculation of DFL for NBBUL shows quite favorable condition of the company. It has positive DFL in all the fiscal year except in 2006/07 chosen for the study. The DFL for the F.Y. 2001/02, 2002/03, 2003/04, 2004/05 and 2005/06 and 2006/07 is 0.36, 6.33, 0.32, 2.40, 2.08 and -0.49. The negative DFL in the fiscal year 2006/07 is due to the lower EPS in 2006/07 than the EPS in 2005/06. The organization made lower profit in the fiscal year 2006/07 than the profit in the fiscal year 2005/06 which resulted negative DFL. S.D and C.V are 2.25 and 122.90%. The value of NBBUL shows that the ratio is highly volatile and ranged from -0.49 to 6.33 during the period taken for study.

In the above table, the EBIT and EPS for UNL are also fluctuating which fluctuates the DFL. In the F.Y. 2001/02, 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 2002/03 and 0.92 in 2003/04, i.e.; 1% change in EBIT may affect the EPS by 2.10% in 2002/03 and by 0.92% in 2003/04. Although the DFL is decreased in

the F.Y. 2003/04 and 2006/07 but it is increased in the F.Y. 2002/03. The DFL decreases in the F.Y 2003/04 i.e. 0.92 indicating that the EPS will affect by 0.92 if the EBIT is changed by 1%. In the F.Y. 2004/05 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. 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 20.22%. This C.V and s.d clearly show that the degree of financial leverage is very favorable.

The DFL for BNL is also tremendously fluctuating as the EBIT and EPS are also fluctuating. For BNL, the DFL in the F.Y. 2001/02 is negative, it has dropped to (0.90) and again it increased to 1.25, 1.19, and 4.19 in 2002/03, 2003/04 and 2004/05. but again decreased to 1.05 in the F.Y. 2005/06 and again dropped to (10.14) on 2006/07. 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 -809.78%, 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 NLOL is 3.33, for JSML is 3.65, 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.

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

F.Y	Long Term Debt	Total Debt	LTD as a % of Total Debt	Change
NLOL				
2000/01	0	74.27	0	-
2001/02	0	66.15	0	0
2002/03	0	93.96	0	0
2003/04	0	76.09	0	0
2004/05	0	87.40	0	0
2005/06	0	105.66	0	0
2006/07	0	107.25	0	0
	Average			**0**
NBBUL				
2000/01	0	46.85	0	-
2001/02	0	54.64	0	0
2002/03	0	45.90	0	0
2003/04	0	48.20	0	0
2004/05	0	60.99	0	0
2005/06	0	56.67	0	0
2006/07	0	48.74	0	0
	Average			**0**
UNL				
2000/01	0	354.32	0	-
2001/02	0	223.21	0	0
2002/03	0	426.45	0	0
2003/04	0	543.71	0	0
2004/05	0	882.02	0	0
2005/06	0	742.23	0	0
2006/07	0	750.47	0	0
	Average			**0**
BNL				
2000/01	0	268.08	0	-
2001/02	0	340.12	0	0
2002/03	0	332.85	0	0
2003/04	0	174.02	0	0
2004/05	0	228..99	0	0
2005/06	0	275.46	0	0
2006/07	0	289.48	0	0
	Average			**0**

Data Source: SEBO/NEPSE

From the above table, it is clear that there is no LTD in the capital structure of all the selected companies i.e. NLOL, NBBUL, 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

F.Y	Total Debt	Total Assets	Total Debt/ Total Assets	Change
NLOL				
2000/01	74.27	117.18	63.38	-1.09
2001/02	66.15	111.83	59.15	-4.23
2002/03	93.96	143.33	65.56	6.40
2003/04	76.09	115.107	66.10	0.54
2004/05	87.4	127.19	68.70	2.60
2005/06	105.66	145.42	72.70	4.00
2006/07	107.25	137.20	78.20	5.50
		Average	**67.68**	
		S.D	**5.80**	
		C.V (%)	**8.56**	
NBBUL				
2000/01	46.85	86.08	54.43	1.08
2001/02	54.64	95.64	57.13	2.70
2002/03	45.90	83.09	55.24	-1.89
2003/04	48.20	88.37	54.54	-0.70
2004/05	60.99	119.87	50.88	-3.66
2005/06	56.67	132.54	42.76	-8.12
2006/07	48.74	145.64	33.47	-9.29
		Average	**49.78**	
		S.D	**7.97**	
		C.V (%)	**16.01**	
UNL				
2000/01	354.32	760.42	46.60	4.69
2001/02	223.21	571.34	39.07	-7.53
2002/03	426.45	784.91	54.33	15.26
2003/04	543.705	939.718	56.10	1.80
2004/05	882.022	1098.958	80.30	24.2
2005/06	742.23	967.95	76.70	-3.60
2006/07	750.47	836.32	89.70	13.00
		Average	**63.26**	
		S.D	**17.58**	
		C.V (%)	**27.79**	
BNL				
2000/01	268.08	951.86	28.16	7.10
2001/02	340.12	1036.00	32.83	4.67
2002/03	332.85	1038.41	32.05	-0.78
2003/04	174.02	886.55	19.60	-12.45
2004/05	228.99	975.26	23.50	3.90
2005/06	275.46	1048.36	26.30	2.80
2006/07	289.48	1081.26	26.80	0.50
		Average	**27.03**	
		S.D	**4.28**	
		C.V (%)	**15.84**	

Data Source: SEBO/NEPSE

The debt to total asset ratio of NLOL for the 2001/02 2002/03, 2003/04 2004/05 2005/06 & 2006/07 are 63.38, 59.15, 65.56, 66.10, 68.70, 72.70, 78.20 The asset financing through total debt is between 59% and 79%. The average debt to total ratio for NLOL for the research period is 67.68%. The company should try to maintain the ratio at the optimum level that will be suitable for the company. S.D and C.V of NLOL are 5.80 and 8.56%. This value indicated that debt to total asset ratio during the study period is slightly consistent in nature.

The debt to total asset ratio for NBBUL had increased in the fiscal year 2001/02 by 2.70 million (i.e. from 54.43 million in fiscal year 2000/2001 to 57.13 million in the fiscal year 2001/02). While in the subsequent years the ratio has followed the decreasing trend and finally reached 33.47 in the fiscal year 2006/07 from 54.43 in the fiscal year 2000/01. The ratio in the fiscal year 2002/03, 2003/04, 2004/05 and 2005/06 is 55.24, 54.54, 50.88 and 42.76 respectively. The ratio of financing assets through debt has ranged from 33.47 to 55.24. NBBUL might have decreased the financing assets through debt in lieu to avoid interest that arises from debt. Further, the average ratio for the seven years study period is 49.78, which means on an average almost half of the debt amount goes on financing the assets. S.D and C.V of NBBUL are 7.97 and 16.01%, which indicates that the debt to total assets ratio is slightly consistent in nature.

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 fiscal year, F.Y. 2000/01, the ratio shows that the 46.60% of the total asset financed by debt capital whereas in the F.Y. 2001/02 the ratio decreasedto39.07% After the F.Y.2002/03, the ratio started to Increase till the F.Y. 2004/05. As per the ratios 54.33% of asset financed through debt in the F.Y. 2002/03, 56.1% assets financed by debt in the F.Y. 2003/04 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 fiscal year 2005/06 of the study the ratio is increased due to decrease in total debt capital as well as total assets. The above debt to total asset ratio calculation shows that 76.7% it shows there was a minimum asset procures from debts. The average ratio for the entire period was 63.26, which is quite good among the selected companies. S.D and C.V of UNL are 17.58and 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. 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06, 2006/07 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 15.84%. 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

F.Y	Shareholder's Equity (SE)	Total Assets	SE/TA %	Change
NLOL				
2000/01	37.14	117.18	31.69	-
2001/02	38.6	111.83	34.52	2.82
2002/03	39.7	143.33	27.70	-6.82
2003/04	40.75	115.11	35.41	7.70
2004/05	40.77	127.21	32.05	-3.35
2005/06	40.95	145.42	28.16	-3.89
2006/07	41.20	137.20	30.03	1.87
		Average	**31.37**	
		S.D	**2.74**	
		C.V (%)	**8.72**	
NBBUL				
2000/01	22.04	86.08	25.60	
2001/02	21.28	95.64	22.25	-3.35
2002/03	14.33	83.09	17.25	-5.00
2003/04	17.25	88.37	19.52	2.27
2004/05	24.03	119.87	20.05	0.53
2005/06	23.80	132.54	17.96	-2.09
2006/07	22.44	121.25	18.51	0.55
		Average	**20.16**	
		S.D	**2.68**	
		C.V (%)	**13.31**	
UNL				
2000/01	342.35	760.42	45.02	-
2001/02	348.13	571.34	60.93	15.91
2002/03	358.43	784.91	45.67	-15.27
2003/04	396.01	939.72	42.14	-3.52
2004/05	216.93	1098.96	19.74	-22.4
2005/06	224.91	967.15	23.25	3.52
2006/07	234.79	836.32	28.07	4.82
		Average	**37.83**	
		S.D	**13.63**	
		C.V (%)	**36.03**	
BNL				
2000/01	666.81	951.86	70.05	-
2001/02	695.93	1036	67.17	-2.88
2002/03	705.59	1038.41	67.95	0.77
2003/04	727.15	886.55	82.02	14.07
2004/05	761.89	975.26	78.12	-3.90
2005/06	776.57	1048.36	74.07	-4.05
2006/07	791.47	1081.26	73.20	-0.88
		Average	**73.23**	
		S.D	**5.02**	
		C.V (%)	**6.86**	

Data Source: SEBO/ NEPSE

The total assets and shareholders equity ratio of NLOL for the F.Y. 2000/01 is 31.69, which tell us that on the total assets the shareholders have a contribution

of 31.69%. The ratio is 34.52 in the F.Y. 2001/02, 27.7 in the F.Y. 2002/03, 35.41 in the F.Y. 2003/04 and 32.05 in the F.Y. 2004/05. The ratio is 28.16 in the F.Y. 2005/06 and 30.03 in the F.Y. 2006/07. This indicates that the assets of the company are financed by 31.69%, 34.52%, 27.70%, 35.41%, 32.05%, 28.16% and 30.03% of shareholders equity during our study. The average shareholders equity to total asset ratio is 31.37 for the NLOL. S.D and C.V of NLOL are 2.74 and 8.72%, which indicates that the ratio is consistent in nature

The calculation of the above table tells us that NBBUL's shareholder equity has lower contribution on total assets as compared to total debt, which has almost 50% contribution. Furthermore, both the assets and ownership capital are followed irregular trend. In first year of the study, the ratio is 25.60 that mean 25.60% of its assets are financed through equity capital. In the F.Y. 2001/02, 2002/03, 2003/04, 2004/05, 2005/06, and 2006/07, the ratio is 22.25, 17.25, 19.52, 20.05, 17.96 and 18.51 respectively. For NBBUL, the ratio in average is 20.16. To get maximum profit the company should finance in balance way both equity and debt financing. S.D and C.V of NBBUL are 2.68 and 13.31% represent the ratio is consistent in nature.

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. 2000/01 indicating that 45.02% of assets are financed through equity capital and the ratio is rising till the F.Y. 2001/02. 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 2002/03, 2003/04 & 2004/05. At the F.Y 2002/03, 2003/04 & 2004/05 the ratio declined by 15.27%, 3.52%, & 22.4%. At the final two years of the study, the ratio is increased by 23.23 & 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. 2000/01 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. 2001/02 to 67.17 and thereafter it increased to 67.95 in the F.Y. 2002/03, 82.02 in the F.Y. 2003/04 of the research. The ratio are decreased by 78.12 in the F.Y 2004/05, 74.07 in the F.Y 2005/06 & again decreased by 73.20 in the F.Y. 2006/07. 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 consistent 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

F.Y	EBIT	Interest Charges	EBIT/Interest Charges (in times)	Change
NLOL				
2000/01	1.66	3.84	0.43	
2001/02	11.38	3.68	3.09	2.66
2002/03	8.52	30.1	2.83	-0.26
2003/04	3.83	3.43	1.12	-1.71
2004/05	6.37	2.42	2.63	1.51
2005/06	3.48	3.25	1.07	-1.56
2006/07	4.25	3.47	1.22	0.15
		Average	**1.77**	
		S.D	**0.97**	
		C.V (%)	**54.93**	
NBBUL				
2000/01	6.08	4.92	1.24	
2001/02	7.26	5.92	1.23	-0.01
2002/03	-2.45	4.51	-0.54	-1.77
2003/04	8.39	5.14	1.63	2.18
2004/05	13.03	5.32	2.45	0.82
2005/06	9.07	5.82	1.56	-0.89
2006/07	10.02	6.81	1.47	-0.09
		Average	**1.29**	
		S.D	**0.84**	
		C.V (%)	**64.93**	
UNL				
2000/01	107.75	14.21	7.58	
2001/02	69.22	12.61	5.49	-2.09
2002/03	126.65	2.60	48.71	43.22
2003/04	195.57	1.79	109.26	60.55
`2004/05	257.47	1.77	145.46	36.20
2005/06	306.45	1.79	171.20	25.74
2006/07	346.62	1.06	327.00	155.8
		Average	**116.39**	
		S.D	**104.86**	
		C.V (%)	**90.10**	
BNL				
2000/01	45.60	0.08	570.00	
2001/02	58.14	0.66	88.09	-481.91
2002/03	30.06	0.28	107.36	19.27
2003/04	45.01	0.04	1125.25	1017.89
2004/05	44.14	0.27	163.48	-961.77
2005/06	32.29	1.33	24.25	139.20
2006/07	32.68	1.43	22.85	-1.43
		Average	**300.18**	
		S.D	**379.37**	
		C.V (%)	**126.38**	

Data Source: SEBO/ NEPSE

For NLOL, the EBIT is sufficient to repay its interest charges except for the fiscal year 2000/01 where the profit is very nominal but the interest charge is still growing. The ratios are 0.43, 3.09, 2.83, 1.12, 2.63, 1.07, & 1.22 times for the fiscal years 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 correspondingly indicating the relevant proportion for payment of interest charges out of profit. From the calculation we can see that the profit is sufficient to repay the interest charges excluding the final year of the research. The F.Y. 2000/01 is still poor for the ratio but the F.Y. 2001/02 is the safest year during the study period from the point of view of creditors. S.D and C.V of NLOL are 0.97 and 54.93%, which indicates that the interest coverage ratio of NLOL is in consistent during the study.

The situation for NBBUL is not so pleasing regarding the interest coverage ratio. The ratio is -0.54 in the F.Y. 2002/03 which is below the boundary line, which means the company has to borrow loan even to pay the interest. The interest coverage ratio in the fiscal year 2000/01 (i.e. 1.24) and the fiscal year 2001/02 (i.e. 1.23) are also not good. Also in the fiscal year 2003/04, 2004/05, 2005/06 and 2006/07, the ratio is 1.63, 2.45, 1.56 and 1.47 respectively. Overall the interest coverage ratio in the study period is not good enough in the study period. NBBUL should decrease its debt in order to decrease interest and thus to increase profit and remain sustained. The company should try to manage its debt in relationship with its profit. S.D and C.V of NBBUL are 0.84 and 64.93% respectively indicated that the ratio is volatile.

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. 2000/01 and 5.49 in the F.Y. 2001/02. In the F.Y. 2002/03 the ration is increased 43.22 but it is also below the boundary line. The ratio increased to 109.26, 145.46, 171.20 and 327.0 in the F.Y. 2003/04, 2004/05 2005/06 & 2006/07 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.2006/07 is

the safest year for the creditors' point of view due to higher ratio and F.Y. 2000/01 and 2001/02 is an unsafe year due to the low interest coverage ratio. S.D and C.V of UNL are 104.86 and 90.10% 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 F.Y. 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 & 2006/07 are 570, 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

F.Y	Net Profit	Sales	Net Profit/Sales	Change
NLOL				
2000/01	-2.21	72.22	-3.06	-7.8
2001/02	6.21	136.01	4.57	7.63
2002/03	4.24	119.15	3.56	-1.01
2003/04	0.31	84.71	0.37	-3.19
2004/05	3.06	118.10	2.59	2.22
2005/06	1.75	148.75	1.18	-1.41
2006/07	2.69	153.15	1.76	0.58
		Average	**1.57**	
		S.D	**2.30**	
		C.V (%)	**146.83**	
NBBUL				
2000/01	0.87	95.23	0.91	
2001/02	0.93	100.60	0.92	0.01
2002/03	-6.95	72.49	-9.59	-10.51
2003/04	2.91	164.68	1.77	11.35
2004/05	6.77	223.36	3.03	1.26
2005/06	2.50	201.31	1.24	-1.79
2006/07	2.37	222.68	1.06	-0.18
		Average	**-0.09**	
		S.D	**3.94**	
		C.V (%)	**-4176.68**	
UNL				
2000/01	68.04	1540.99	4.42	-2.56
2001/02	42.61	1236.05	3.45	-0.97
2002/03	93.71	1244.72	7.53	4.08
2003/04	140.78	1524.90	9.23	1.70
2004/05	189.20	1481.56	12.77	3.54
2005/06	238.15	1469.69	16.20	3.43
2006/07	263.06	1818.53	14.47	-1.74
		Average	**9.72**	
		S.D	**4.57**	
		C.V (%)	**47.01**	
BNL				
2000/01	35.89	414.58	8.66	-6.34
2001/02	48.61	535.49	9.08	0.42
2002/03	19.37	609.65	3.18	-5.9
2003/04	37.80	632.11	5.98	2.80
2004/05	34.74	614.74	5.65	-0.33
2005/06	24.96	621.83	4.01	-1.64
2006/07	21.82	635.21	3.44	-0.57
		Average	**5.71**	
		S.D	**2.22**	
		C.V (%)	**38.90**	

Data Source: SEBO/ NEPSE

The profit margin ratio of NLOL is fluctuating very much and reached negative at the beginning of the study as the company suffers from loss. The ratio for the F.Y. 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 & 2006/07 is -3.06, 4.57, 3.56, 0.37, 2.59, 1.18, & 1.76 respectively. The average ratio of profit margin for the company is 1.57. The increase in sales has resulted in the increase in net profit and vice-versa. In the same way, the ratio is also volatile. The ratio has been decreasing in 2003/04 & 2005/06 years and it is negative in the fiscal year 2000/01 of the study. The company should try to increase its sales volume to maintain a competitive status. S.D and C.V of NLOL are 2.3 and 146.83% which indicates that profit margin ratio of NLOL is inconsistent in nature.

The profit margin ratio for NBBUL during the study period is negative the F.Y. 2002/03. Although being sole industry engaged in manufacturing bitumen and emulsion the huge loss i.e. 6.95 million in the fiscal year indicated that the capital structure of the company is not suitable at that period and the company was not using its resources properly. The average profit margin ratio is also negative, i.e. (-0.09) indicating the worst condition of the company. S.D and C.V of NBBUL 3.94 and -4176.68, which clearly show that the profit margin ratio is inconsistent in nature.

The profit margin ratio of UNL is in increasing trend except in the fiscal year 2000/01 and 2006/07. In the F.Y. 2000/01 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 ratio for the succeeding six fiscal years is 3.45, 7.53, 9.23, 12.77, 16.20 & 14.47 respectively. The average profit margin ratio is 9.72 for the company. On the light of the above data, we can conclude that the F.Y. 2005/06 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. 2006/07 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 4.57 and 47.01%. This shows that the profit margin ratio is slightly consistent in nature.

The situation of the BNL is far better among the selected companies 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 F.Y. 2000/01, 2001/02 and 2002/03 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. 2003/04 from the sale of its product. The ratio dropped to 3.44 in the F.Y. 2006/07. The ratio of the company declined from the F.Y. 2002/03 and it continued till the last year of the study except in the F.Y 2006/07. The profit margin ratio for BNL is 15.71 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 38.90% , from this value we can say that profit margin ratio is consistent in nature. In the view of S.D and C.V, the ratio NBBUL is highly inconsistent 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 four 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

F.Y	Net Profit	No of shares	EAT/ No of Shares	Change
NLOL				
2000/01	-2.21	0.20	-10.89	-
2001/02	6.21	0.20	30.61	41.50
2002/03	4.24	0.20	20.9	-9.71
2003/04	0.31	0.20	1.53	-19.37
2004/05	3.06	0.20	15.08	13.55
2005/06	1.75	0.20	8.62	-6.46
2006/07	2.69	0.20	13.26	4.64
		Average	**11.30**	
		S.D	**12.41**	
		C.V (%)	**109.82**	
NBBUL				
2000/01	0.87	0.21	4.14	-
2001/02	0.93	0.21	4.43	0.29
2002/03	-6.95	0.21	-33.10	-37.52
2003/04	2.91	0.21	13.86	46.95
2004/05	6.77	0.21	32.24	18.38
2005/06	2.50	0.21	11.90	-20.33
2006/07	2.37	0.21	11.29	-0.62
		Average	**6.39**	
		S.D	**18.31**	
		C.V (%)	**286.35**	
UNL				
2000/01	68.04	0.92	73.90	-
2001/02	42.61	0.92	46.28	-27.62
2002/03	93.71	0.92	101.78	55.50
2003/04	140.78	0.92	152.91	51.13
2004/05	189.20	0.92	205.50	52.59
2005/06	238.15	0.92	258.67	53.17
2006/07	263.06	0.92	285.72	27.05
		Average	**160.68**	
		S.D	**85.69**	
		C.V (%)	**53.33**	
BNL				
2000/01	35.89	1.08	33.15	-
2001/02	48.61	1.95	24.94	-8.21
2002/03	19.37	1.95	9.94	-15.00
2003/04	37.80	1.95	19.40	9.46
2004/05	34.74	1.95	17.83	-1.57
2005/06	24.96	1.95	12.81	-5.02
2006/07	21.82	1.95	11.20	-1.61
		Average	**18.47**	
		S.D	**7.71**	
		C.V (%)	**41.76**	

Data Source: SEBO/NEPSE

The EPS of NLOL in the F.Y. 2000/01 is -10.89, during the first years, the EPS of the company shows the negative sign which means company suffered loss during the year. In the subsequent years the EPS is 30.61 and increased to the by 41.50% for the F.Y. 2001/02. This indicates the good earning capacity of the company and a good return to the shareholders on their investments as well. But the EPS declined by -9.71% to 20.09 in the F.Y. 2002/03 and went on negative, i.e. (19.37) in the F.Y. 2003/04. This shows that the company's earning capacity is worsening and the return to the investors is also harassing. The EPS on an average during the entire study period is 11.3 so shareholders are getting 11.30% return from that investment in research period. The EPS of NLOL for F.Y. 2004/05, 2005/06 & 2006/07 are 15.08, 8.62 & 13.26 respectively. The above calculations show that financial year 2001/02 is the best from the point of view of net profit and EPS. In that year shareholders are getting more return among the research period. Therefore the company should try to give more return to shareholder by increasing its capacity to maximize profit. Then company should make good policy to solve with this problem. S.D is 12.41 and its C.V is 109.82%. S.D and C.V of 12.41 and 109.82%. This value also clearly shows that the earning per share of NLOL is inconsistent.

The situation for NBBUL is horrifying as it has negative highly negative EPS during the fiscal year 2002/03, the equity shareholders returns have been jeopardized in this year. However, the shareholders enjoyed a high earning per share (i.e. 32.24) in the fiscal year 2004/05. In remaining years the company's EPS ranged from 4.14 to 11.90. S.D is 18.31 and C.V has 286.35%. This C.V clearly shows the earning per share of NBBUL is inconsistent.

The condition 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.2000/01 is 73.9, in the F.Y. 2000/01 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. 2001/02. The EPS increased by 55.5% to 101.78 in the F.Y. 2002/03 and it also increased by 51.13% to 130.98 during the F.Y. 2003/04. The increasing EPS due to increasing net profit attracts shareholders to invest more money. In the financial year 2004/05, 2005/06 and 2006/07 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. 2000/01 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. 2000/01 and 2001/02 respectively as a return on their investments. Unfortunately the EPS decreased by 15 in the F.Y. 2002/03 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. 2003/04. 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 F.Y. 2004/05, 2005/06 & 2006/07 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 41.76%. 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 NBBUL 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

F.Y	Net Profit	Shareholder's Equity	ROE %	Change
NLOL				
2000/01	-2.21	37.14	-5.95	
2001/02	6.21	38.6	16.09	22.04
2002/03	4.24	39.7	10.68	-5.41
2003/04	0.31	40.75	0.76	-9.92
2004/05	3.06	40.77	7.51	6.74
2005/06	1.75	40.95	4.27	-3.23
2006/07	2.69	41.20	6.53	2.26
	Average		**5.70**	
	S.D		**6.53**	
	C.V (%)		**114.67**	
NBBUL				
2000/01	0.87	22.04	3.95	
2001/02	0.93	21.28	4.37	0.42
2002/03	-6.95	14.33	-48.50	-52.87
2003/04	2.91	17.25	16.87	65.37
2004/05	6.77	24.03	28.17	11.30
2005/06	2.50	23.80	10.50	-17.67
2006/07	2.37	22.44	10.56	0.06
		Average	**3.70**	
		S.D	**22.65**	
		C.V (%)	**611.67**	
UNL				
2000/01	68.04	342.35	19.87	
2001/02	42.61	348.13	12.24	-7.63
2002/03	93.71	358.43	26.14	13.90
2003/04	140.78	396.01	35.55	9.41
2004/05	189.20	216.93	87.22	51.67
2005/06	238.15	224.91	105.89	18.67
2006/07	263.06	234.79	112.04	6.15
		Average	**56.99**	
		S.D	**39.87**	
		C.V (%)	**69.96**	
BNL				
2000/01	35.89	666.81	5.38	
2001/02	48.61	695.93	6.98	1.60
2002/03	19.37	705.59	2.75	-4.24
2003/04	37.80	727.15	5.20	2.45
2004/05	34.74	761.89	4.56	-0.64
2005/06	24.96	776.57	3.21	-1.35
2006/07	21.82	791.47	2.76	-0.46
		Average	**4.41**	
		S.D	**1.47**	
		C.V (%)	**33.35**	

Data Source: SEBO/NEPSE

The ROE condition of NLOL for the second and third year is quite good, where the shareholder's enjoyed 16.09% and 10.68% return of their investment in the fiscal year 2001/02 and 2002/03 respectively. The fiscal year 2000/01 of the study, the profit margin is negative due to the loss on the company because of this fact the ROE is also negative. In the F.Y. 2000/01, ROE is -5.95, which increased by 22.04% and reached to 16.09 in the F.Y. 2001/02. ROE for the F.Y. 20002/03 and 2003/04 decreased by 5.41 and 9.92 and reached to 10.68% and to 0.76 respectively. The average ROE is 5.70 for the company, which is not so good and also the ratio has followed fluctuating trend, which NLOL should try to trace the weak spot and increase the profitability. In the F.Y. 2001/02, the ratio is highest which reveals the fact that shareholders maximum return during this year. S.D and C.V of NLOL are 6.53 and 114.67%, from this value the ROE is inconsistent in nature

The position as calculated in the above table shows that the situation of NBBUL is the worst among the companies selected for research. NBBUL faced a huge loss i.e. 6.95 million in the fiscal year 2002/03 as a result the shareholder's of the company had to face a negative return i.e. 48.50% on equity. The ratio ranged from 3.95% in the fiscal year 2000/01 to 28.17% in the fiscal year 2004/05. Although NBBUL made an average ROE of 3.70%, it is not satisfactory as compared to opportunity cost that the shareholder's might have made if invested in other sector. The management of the company is advised to rearrange its capital structure and run the company with a new sight; otherwise it is impossible to anticipate any success in future. S.D and C.V of NBBUL are22.65 and 611.67% respectively, which indicate that ROE is highly volatile.

For UNL the shareholders return on their investment is highest among all those four 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 ratio also tells us about the effectively utilization of assets than other manufacturing. During the F.Y.

2000/01 the ROE is 19.87 which decreased to 12.24 in the F.Y. 2001/02. But after that ROE becomes continuously increasing in the F.Y. 2002/03, 2003/04, 2004/05, 2005/06 & 2006/07 is correspondingly 26.14, 35.55, 87.22, 105.89 & 112.04 resulting the average ROE for the company is 56.99 which is the highest ROE among the selected companies. S.D and C.V of UNL are 39.87 and 69.96%, 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. 2000/01 is 5.38, which increased to 6.98 in the F.Y. 2001/02 and decreased to 2.75 in the F.Y. 2002/03. Then after, it increases to 5.20 in the F.Y. 2003/04. Unfortunately after that the ratio is continuously decreased to 4.56 in the F.Y. 2004/05, 3.21 in the F.Y. 2005/06 and 2.76 in the F.Y. 2006/07. 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

F.Y	Net Profit	Total Asset	Net Profit to Total Asset in %	Change
NLOL				
2000/01	-2.21	117.18	-1.89	-
2001/02	6.21	111.83	5.55	7.44
2002/03	4.24	143.33	2.96	-2.59
2003/04	0.31	115.12	0.27	-2.69
2004/05	3.06	127.20	2.41	2.14
2005/06	1.75	145.42	1.20	-1.20
2006/07	2.69	137.20	1.96	0.76
		Average	**1.78**	
		S.D	**2.14**	
		C.V (%)	**120.34**	
NBBUL				
2000/01	0.87	86.08	1.01	-
2001/02	0.93	95.64	0.97	-0.04
2002/03	-6.95	83.09	-8.36	-9.34
2003/04	2.91	88.37	3.29	11.66
2004/05	6.77	119.87	5.65	2.35
2005/06	2.50	132.54	1.89	-3.76
2006/07	2.37	121.25	1.95	0.07
		Average	**0.91**	
		S.D	**4.07**	
		C.V (%)	**445.47**	
UNL				
2000/01	68.04	760.42	8.95	-
2001/02	42.61	571.34	7.46	-1.49
2002/03	93.71	784.91	11.94	4.48
2003/04	140.78	939.72	14.95	3.04
2004/05	189.2	1098.96	17.22	2.24
2005/06	238.15	967.15	24.62	7.41
2006/07	263.06	836.32	31.45	6.83
		Average	**16.66**	
		S.D	**8.03**	
		C.V (%)	**48.23**	
BNL				
2000/01	35.89	951.86	3.77	-
2001/02	48.61	1036.05	4.69	0.92
2002/03	19.37	1038.41	1.87	-2.83
2003/04	3708	886.55	4.26	2.40
2004/05	34.735	975.26	3.56	-0.70
2005/06	24.96	1048.36	2.38	-1.18
2006/07	21.82	1081.26	2.02	-0.36
		Average	**3.22**	
		S.D	**1.04**	
		C.V (%)	**32.41**	

Data Source: SEBO/NEPSE

The ratio clearly shows that the net profit of the company is very low as compare to total asset. The company must increase its profit. For the FY 2000/01, the ROA is -1.89 which increased by 7.44% to 5.55 in the F.Y. 2001/02. Similarly the returns on the total asset for the FY 2002/03, 2003/04, 2004/05, 2005/06 & 2006/07 are 2.96, 0.27, 2.41, 1.20, & 1.96 respectively which shows the company had a fluctuating returns on the total asset. The average ROA during the entire period is also 1.78 only, which is not satisfactory. Therefore, the company must focus on its strategies to stop the reducing capacity of assets in terms of generating sales earning net profit. S.D and C.V of NLOL are 2.14 and 120.34%, which indicates that the returns on assets ratio are not consistent in nature.

The statistics relating to NBBUL are extremely very poor. The ROA is very low and also reached to negative in the fiscal year 2002/03, when the company passed through a huge loss of 6.95 million. The management remained unsuccessful to convert its total assets in increasing profit. Only the maximum level of 5.65% ROA has been achieved in this study period. The data shows that the company's total assets have been misused in the matter of making profit. The average ROA in the period taken is less than 1% i.e. only 0.91%. Similarly the S.D and C.V are 4.07 and 445.47%, which extremely very high and indicate that the ratio of NBBUL during the study period is inconsistent in nature.

The calculation of ROA for UNL is also not excellent, but it is quite good among the four companies selected for the study. The ROA for UNL shows the increasing trend. The ROA for the F.Y. 2000/01 is 8.95, which decreased by 1.49% in the F.Y. 2001/02 to 7.46. After that it seems the assets of the company have been very efficiently used to earn maximum profit. In the F.Y. 2002/03, 2003/04, 2004/05, 2005/06 & 2006/07 the ratio increase to 11.94, 14.95, 17.22, 24.62 & 31.4 7.46 respectively. The average ROA for UNL is 16.66%, and the ROA for last three F.Y. 2004/05, 2005/06 & 2006/07 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 48.23%. 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 the200/01, which increased to 4.69 in the F.Y.2001/02, it downed to 1.87 in the F.Y. 2002/03. The ratio started increased to 4.26 in the F.Y. 2003/04. The above figures show that the earning capacity of the assets for the company are in decreasing trend from the F.Y. 2004/05, 2005/06 and 2006/07 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 satisfied but better in comparison to NBBUL and NLOL. S.D and C.V of BNL indicates that the ratio is consistent.

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 four manufacturing companies listed in NEPSE selected for the study.

Table 4.11

Calculation of Overall Cost of Capital (K_o)

F.Y.	EBIT	Value of The Firm	Overall Cost of Capital
NLOL			
2000/01	1.66	20.29	8.13%
2001/02	11.38	20.29	56.09%
2002/03	8.52	20.29	41.99%
2003/04	3.83	20.29	18.88%
2004/05	6.37	20.29	31.39%
2005/06	3.48	20.29	17.15%
2006/07	4.25	20.29	20.95%
	Average		**27.78%**
NBBUL			
2000/01	6.08	21.09	28.83%
2001/02	7.26	21.09	34.42%
2002/03	-2.45	21.09	-11.62%
2003/04	8.39	21.09	39.78%
2004/05	13.03	21.09	61.78%
2005/06	9.07	21.09	43.01%
2006/07	10.02	21.09	47.51%
	Average		**34.82%**
UNL			
2000/01	107.75	92.07	117.04%
2001/02	69.22	92.07	75.18%
2002/03	126.65	92.07	137.55%
2003/04	195.57	92.07	212.41%
2004/05	257.46	92.07	279.64%
2005/06	306.45	92.07	332.84%
2006/07	346.62	92.07	376.47%
	Average		**218.73%**
BNL			
2000/01	45.60	108.27	42.12%
2001/02	58.14	194.89	29.83%
2002/03	30.06	194.89	15.42%
2003/04	45.01	194.89	23.10%
2004/05	44.14	194.89	22.65%
2005/06	32.29	194.89	16.57%
2006/07	32.68	194.89	16.77%
	Average		**23.78%**

Data Source: SEBO/NEPSE

The above table shows the measures of overall capitalization rates of the selected manufacturing companies listed in NEPSE. The data of NLOL shows that the overall capitalization rate is less in the F.Y. 2000/01 to 8.13 but after one year it has highly increased its overall capitalization rate which is 50.09% in the F.Y. 2001/02. Then its overall capitalization rate is being up and downs. The overall capitalization rates are 41.99%, 18.88%, 31.39%, 17.15% and 20.95% in the remaining fiscal years. The average rate of NLOL is 27.78%.

The overall capitalization rate of NBBUL is higher in comparison with the overall capitalization rate of UNL and NLOL. During the study period the overall capitalization rates are 28.83%, 34.42%, -11.62%, 39.78%, 61.78%, 43.01% and 47.51% during the study period of seven years. However the overall capitalization rates are going up and down. The average capitalization rate of NBBUL is 34.82%.

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 42.12%, 29.83%, 15.42%, 23.10%, 22.65%, 16.57%, and 16.77% during the study period of 2000/01 to 2006/07 respectively. The average rate of BNL is 23.78%. The overall capitalization rates is low in comparison to UNL, NLOL and NBBUL, 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)

F.Y.	EBT	Market Value of Common Shares	Equity Capitalization Rate
NLOL			
2000/01	-2.20	20.92	-10.52
2001/02	7.70	20.92	36.81
2002/03	5.50	20.92	26.29
2003/04	0.40	20.92	1.91
2004/05	4.00	20.92	19.12
2005/06	0.23	20.92	1.10
2006/07	0.78	20.92	3.73
	Average		**11.21%**
NBBUL			
2000/01	1.16	21.09	5.50
2001/02	1.34	21.09	4.41
2002/03	-6.95	21.09	-32.95
2003/04	3.24	21.09	13.80
2004/05	7.70	21.09	32.10
2005/06	3.26	21.09	11.85
2006/07	3.21	21.09	11.24
	Average		**6.56%**
UNL			
2000/01	93.54	92.07	101.60
2001/02	56.61	92.07	61.49
2002/03	124.04	92.07	134.72
2003/04	193.78	92.07	210.47
2004/05	255.70	92.07	277.72
2005/06	304.65	92.07	330.91
2006/07	345.56	92.07	375.32
	Average		**213.18%**
BNL			
2000/01	45.52	108.27	42.04
2001/02	57.48	194.89	29.49
2002/03	29.76	194.89	15.27
2003/04	45.01	194.89	23.10
2004/05	43.88	194.89	22.52
2005/06	30.96	194.89	15.89
2006/07	31.25	194.89	16.03
	Average		**23.48%**

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 cost of equity for NLOL is negative during the fiscal year 2000/01 of the study, which indicates that the company has not paid any cost for equity capital in that year. The equity capitalization rates of NLOL are -10.52, 36.81, 26.29, 1.91, 19.12, 1.10 and 3.37 during the study period of seven years. The average equity capitalization rate for NLOL is 11.21%.

The equity capitalization rate of NBBUL ranges from -32.95% to 32.10% during the study period. The rate remained very volatile during the period. However, the organization maintained an average 6.56% equity capitalization during the seven fiscal year period.

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. 2001/02. 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 42.04, 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 23.48%. 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 Dividend Policy

Dividend policy determines the division of earnings between payments to stockholders and reinvestment in the firm. Therefore, the decision regarding how much profit to distribute to the shareholders and how much to keep in the organization is the dividend policy. The dividend policy maintained by the companies selected for study is delineated through dividend payout ratio which is calculated by dividing Dividend paid by Earning after Tax as mentioned below:

Table 4.13

Calculation of Dividend Payout Ratio

Company	Fiscal Year							Mean DP Ratio
	2000/01	20001/02	2002/03	2003/04	2004/05	2005/06	2006/07	
NLOL	0.00	0.00	0.50	0.47	0.12	0.13	0.33	**0.22**
NBBUL	0.00	0.65	0.00	0.00	0.97	0.96	0.45	**0.43**
UNL	0.31	0.38	0.75	0.86	0.62	0.00	0.00	**0.42**
BNL	0.00	0.54	0.40	0.50	0.44	0.00	0.00	**0.27**

Source: Annual Report of Companies

The above table showed that NLOL distributed 0%, 0%, 50%, 47%, 12%, 13%, 33% of Net profit as a dividend to its shareholders in the fiscal year 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 respectively. While in average the Dividend payout ratio is 0.22, which means 22% of the profit has been distributed as a dividend in average in the studied period. Overlooking the average payout ratio, it can be considered that more of the net profit has been retained for internal financing for coming year.

Similarly, the dividend payout ratio of NBBUL in the fiscal year 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 is 0, 0.65, 0, 0.97, 096 and 0.45 respectively. It seems that NBBUL has no standard policy for retaining profit for future purpose because its payout ratio in each profit earning is often very high. The dividend payout ratio of 97% in the fiscal year 2004/05 and 96% in the fiscal year 2005/06 can be taken as evidence. The average payout ratio of NBBUL (i.e. 0.43) is also high than the average payout ratio of other companies taken for study.

Again, the dividend payout ratio of UNL in the fiscal year 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 is 0.31, 0.38, 0.75, 0.86, 0.62, 0 and 0 respectively. The average dividend payout ratio is 0.42. Since, the company is enjoying profit in each fiscal year; it seems quite favorable that the company had distributed 42% of its net profit to the shareholders for their investment.

Also, BNL has distributed dividend in the four consecutive years starting from 2001/02. The ratio in the fiscal years 2001/02, 2002/03, 2003/04 and 2004/05 is 0.54, 0.40, 0.50 and 0.44 respectively. The dividend payout ratio of BNL does not vary much in the paid years and thus is consistent. The average dividend payout ratio in the seven years period is 0.27, which means the company retained almost 73% of its net profit for internal financing.

4.6 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.

Table 4.14

Data Summary

S. N.	Ratios	NLOL	NBBUL	UNL	BNL
1	DOL	1.57	1.73	14.10	5.93
2	DFL	3.33	1.83	1.11	-0.56
3	LTD to Total Debt	-	-	-	-
4	Debt to Total Assets	67.68	49.78	63.26	27.03
5	Shareholders Equity to Total Assets	31.37	20.16	37.83	73.23
6	Interest Coverage	1.77	1.29	116.39	300.18
7	Profit Margin	1.57	-0.09	9.72	5.71
8	Earning Per Share	11.30	6.39	160.68	18.47
9	Return On Equity	5.70	3.70	56.99	4.41
10	Return On Assets	1.78	0.91	16.66	3.22
11	Overall Capitalization Rate (Ko)	27.78	34.82	218.73	23.78

12	Equity Capitalization Rate (Ke)	11.21	6.56	213.18	23.48
13	Dividend Payout Ratio	0.22	0.43	0.42	0.27

From the above summary of calculations made to present data the following major findings have been taken out;

- The average of DOL for NLOL, NBBUL, UNL & BNL are 1.57, 1.73, 14.10, & 5.93 respectively. Average for NLOL is too low, which shows the inefficient earning capacity of the firm. As compare to the NLOL, the DOL for NBBUL and BNL is quite good whereas UNL the DOL is high, which indicates the riskiness of the company. So, the UNL should try to manage its DOL whereas other two NLOL should try to increase their sales volume to improve the operating position of the company due to negative DOL

- Due to negative DFL in the fiscal year 2000/01 and 2006/07, the average DFL for BNL is in negative and thus shows the unsatisfactory performance of the company. The average DFL for NLOL (3.33) has highest among the others.

- The average Debt to Total Assets of NLOL (67.68) is highest among the Debt to Total Assets of NBBUL (49.78), UNL (63.26) and BNL (27.03). It means both NLOL and UNL finance their Total Assets through short term debt, since long term debt is absence.

- The average ratio between shareholders equity and total asset for BNL is highest i.e. 73.23% which means 73.23% of total assets of BNL is financed through shareholders equity. BNL finances most of its fund requirement through internal financing. The shareholders equity to total assets of NLOL, NBBUL and UNL are 31.37%, 20.16% and 37.83% respectively.

- On the basis of interest coverage ratio, the average interest coverage ratio of NLOL, NBBUL, UNL and BNL are 1.77, 1.29, 116.39 and 300.18 respectively. Due to the use of lower amount of debt; the interest coverage ratio for BNL is very high. The UNL has very good coverage ratio, NLOL has manageable coverage ratio but NBBUL has poor 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 average ratio is negative for the NBBUL (-0.09%) as the company faced a huge loss in the fiscal year 2002/03. The profit margin for UNL is highest (9.72%) among the all companies, which indicates the good earning capacity of the company by selling its products.

- Earning per share for UNL (Rs.160.68) seems to be higher than that of four companies. So the investors can be attracted by the proposal of UNL. Since, NBBUL has lowest EPS (Rs. 6.39), the management of company should make an effective policy to increase its profit and thus to retain its shareholders.

- The investors of the UNL are getting more returns (56.99%) from their investments. Although NLOL (5.70%), NBBUL (3.70%) and BNL (4.41%) have positive average return, such return cannot be considered good because even the interest rate in market is higher than such return. The management of these companies should set out new policy to increase the profit otherwise these companies would have to face a high shareholder turnover.

- The average return on assets for NBBUL (0.91%) is lowest and the average return on assets of UNL (16.66%) is highest. Among the four

companies UNL has remained highly able to optimally utilize its assets to produce greater profit.

- From the calculation of overall capitalization rate, we can see that UNL shows its highest average overall capitalization value among all the companies. The data of equity capitalization 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 increase.

- The dividend payout ratio of NBBUL (0.43) is highest than the ratio of other companies. UNL has also higher dividend payout ratio (0.42) after NBBUL. While NLOL and BNL gave their attention in retaining profit so that they can meet their fund requirement through internal financing and thus have a good liquidity position.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Capital structure refers to the combination of long-term sources of funds, such as, long-term fund, preference stock and common equity including reserves and surpluses (i.e. retained earnings). Capital structure represents the relationship among different kinds of long-term capital through the issue of common shares, sometimes accompanied by preferences shares. The share capital is often supplemented by debt securities and other long-term borrowed capital. Depending upon the nature of companies, different companies require different composition of capital structure.

This study mainly aims at examining the capital structure of Nepalese manufacturing sectors. The specific objectives are to examine the capital structure of selected companies, viz, UNL, NLOL, NBBUL and BNL, to analyze cost of capital and return on capital in relation to the capital employed and to assess the debt servicing capacity of the selected companies.

This study is based on secondary data only. With regard to the secondary data, four manufacturing companies, Unilever Nepal Limited (UNL), Nepal Lube Oil Limited (NLOL), Nepal Bitumen and Barrel Udhyog Limited (NBBUL) and Bottlers Nepal Limited (BNL), listed in NEPSE have been selected. These enterprises cover about 22% of percent of total listed manufacturing and processing companies in the Nepal Stock Exchange Ltd. The necessary data on capital structure were collected for the period 2000/01 to 2006/07. The financial statements, mainly the profit and loss accounts, and balance sheets published by Security Board Nepal “Profile of Listed Companies-2007” and Annual Report published by Nepal Stock Exchange Ltd. provided the data required to carryout the study.

For analyzing the secondary data, this study used financial tools; Leverage, Ratio Analysis, DU-point Analysis, Cost of Capital, Dividend Policy and Statistical Tools; Average or mean, standard deviation and Coefficient of variation, to accomplish the objectives.

The study has been organized in five main chapters consisting of (i) Introduction, (ii) Review of Literature, (iii) Research Methodology, (iv) Data Presentation and Analysis and (v) Summary, Conclusion and Recommendations.

5.2 Conclusion

Based on the data provided by the concerned company, the above analysis was made and based upon the major findings of the study as revealed in the analysis, it can be concluded that UNL has the highest earning capacity as compared to the other manufacturing companies, since the DOL of UNL is highest than that of other companies taken for study. However, DFL indicates that the percentage change in earning per share (EPS) to the percentage change in earning before interest and tax (EBIT) of NLOL is highest among all the other companies.

Similarly, all the companies selected have the trend of not taking long term loan as a result almost half of total assets of NLOL, UNL and NBBUL are financed through the debt i.e. short term debt. Also,less than one-third of total assets are financed through the internal financing i.e. shareholder's equity in the aforementioned companies. However, BNL has the practice of financing one-third of total assets through short term debt and two-third of the total assets through internal financing. It seems that BNL remained more successful in effectively utilizing its short term debt, since the interest coverage ratio of BNL is far higher than that of other companies.

Except UNL and BNL, the profit margin of other companies are very poor.

Both the companies, NBBUL and NLOL are suffering through retaining low profit margin, even the average profit margin of NBBUL is negative within these study period taken. However, the shareholders of all the companies selected are getting satisfactory Earning per Share (EPS) for their investment in share but the shareholders of NBBUL is getting low EPS. Both return on equity and return on assets of UNL is highest than those of NBBUL, BNL and NLOL. However, besides suffering from loss, the dividend payout ratio of NBBUL is highest in comparison of other selected manufacturing companies. In overall, it can be concluded that UNL has optimally utilized its capital structure for the prosperous of the company.

5.3 Recommendations

From the above findings and conclusion the following recommendations can be drawn out:

- It will be better if NLOL and NBBUL increase EBIT in the same proportion with the increase in sales to increase Degree of operating Leverage and eventually to increase net profit.
- The NBBUL, UNL and BNL should try to increase their EPS in the same proportion with the increase in sales to increase their Degree of Financial Leverage and thus to yield higher earning per share and finally retain their shareholder.
- The practice of taking long term loan does not always reduce profit, such loan can be fruitful to increase surplus. So, all the companies should consider of taking lower amount of long term debt to become release of paying short term debt in shorter period and especially in case of scarcity of cash.
- The capital structure of NLOL and NBBUL seems poor, because the profit margin is relatively less and even negative in case of NBBUL. So, both the company should restructure their capital structure that will generate higher profit.

- Likewise, NLOL and NBBUL should mobilize their short term loan in appropriate investment sector as a result they can increase their interest coverage ratio.
- The management of NLOL, NBBUL and even BNL should give considerable time in planning and thus to increase their profit margin ratio and thus to become sustained in the manufacturing sector.
- Both return on equity and return on assets of UNL should be continued, while other remaining selected companies should increase such returns in order to retain shareholder.
- The cost of capital and equity capitalization rate of NBBUL, NLOL and BNL should be increased in order to attract the potential shareholder and retain the existing shareholder. While it will be better if UNL keeps on continuing the existing cost of capital and equity capitalization rate on the forthcoming years.
- Also the dividend payout ratio of NBBUL should be slightly decreased and retain the larger amount of profit for future purpose.
- All the companies should take participatory method in planning the organizational goal, i.e. the lower level management should also be involved and communicated in case of making organizational policy.

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