

CHAPTER I

INTRODUCTION

1.1 Background of the study

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

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

Economic development of the country is a pillar for the development of a nation in the present age of globalization. Industrialization is the way of raising productivity and creating employment. Unfortunately, the growth of industries in Nepal has been slow

process. The Rana oligarchy, which ruled Nepal for 104 years (1846-1950), isolated the country from the winds of industrial revolution going on in Europe. It did not encourage the growth of modern industries based on new technology. Economic development was never a goal of the Rana rule.

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

1.2 Meaning of Manufacturing Industries

Industry can be defined as “Productive enterprises specially manufacturing or certain service enterprises such as transport and communication which require relatively large amount of capital and labor. The term is often used in a collective sense referring for example to the productive activities of the entire country or other area. It is also identifying a special industry. The Phrase “Commerce and industry being used if reference is made both to industry as defined above and to buying and selling”¹

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

1. Harold S. Ston Arnotdiz Zurcher, "**Introduction to Modern Economy**", New York, MC Grew-Hill 1983, p 325.

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.²

For underdeveloped countries, industrialization has been a magic word of the mid twentieth century, which opens a new Horizon in the process of economic development. So perhaps political thinkers said, "Real progress must ultimately depend on Industrialization"³ Today it is being recognized that industrialization is the answer to the problem of agro-based underdeveloped countries. In modern age of technology, only the agriculture sector cannot speed up a nation's economic progress. Even the agricultural development cannot proceed further without a corresponding rate of industrialization because it is industry, which provides all the scientific tools to agricultural sector. Realizing the fact our late king Mahendra Shah Dev stressed that it is the key to progress and there can be no development of society without industrialization. Industrial developed helps to fulfill the large gap between developed and undeveloped countries. Industrialization offers substantial dynamic benefits to a developing economy and also removes the problem of disguised employment exist in agricultural sector for a rapidly increasing labor force. Again, in underdeveloped country like Nepal, as the process of industrialization can run faster and faster, the private entrepreneurs and new innovators will increase in the economy which will help as an effective means of stimulating indigenous scattered property to give fruitful result.

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

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2. Pathak K., "**A Study On Capital Structure Management Of Gorkhali Rubber Udyog Limited**", Master Thesis degree submitted to T.U. CDM. 1995.
 3. Rao.C.U and Lintznberger, R.H., "**Leverage and Cost of Capital In A Less Developed Capital Market: Comment**", **The Journal of Finance**, American Association USA, April 1970, p 777-782.

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”⁴

So it is necessary to develop industry especially in underdeveloped country because there is a scope of internal and external economic being higher and it would help creating economic surplus for future investment. Industrialization can substitute the meaning of economic development. Thus it is industrialization which finally made them developed and underdeveloped”⁵

It is clear from the fact that some Asiatic regions, Japan, Russia and America, Canada have been flourishing their economy only because of their industrial development. Japanese experience in industry also shows that industry can occupy in important place in a modern economy. Perhaps China ease governments have been introduced “A big leap” in their economy and she has chosen to play important role in our countries industrialization.⁶

Thus the goal of industrialization in Nepal is to stimulate the establishment of industry to give reshape of economic and thereby to improve Nepalese living standards.

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

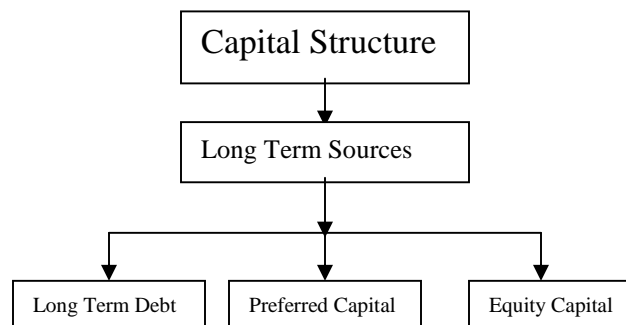
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4. Ronald Wipern, “A Note on the Equivalent Risk Class Assumption Journal of Engineering Economist” University of California. USA, Vol. XI, spring 1996, p 13-22
 5. K.B. Devji “A Study on Role of Forest and Agro-Based Industries in Economic Development of Nepal”, Master degree Thesis submitted to T.U. CDM 1980.
 6. Pant, Y.P. “Planning Experience in Nepal”. Gorkhapatra Katmandu 10th August p-4

development and commercial activity in the country as result in 1936 Biratnagar Jute Mill was seen as the first modern industry of Nepal. At present, there are 3557 manufacturing concerns in Nepal but only 29 have fulfilled the criteria of the Nepal Stock Exchange, NEPSE. So they are listed under NEPSE. The manufacturing sector in Nepal is very small and its contribution to GDP is only 9%. It is declining in recent years

Nepalese manufacturing companies are not performing well. Many large, companies have been closed and some are about to close. Almost companies are able to earn profit but the margin of the profit is low. Out of 29 listed companies, only 11 are operating in profit and remaining are going throughout the losses. Thus due to the several reasons Nepalese manufacturing sector has not been succeed to earn profit. Financial manager of manufacturing companies of Nepal must consider the capital structure.

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

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



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

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

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

1.3 Historical Development of Industry in Nepal

In ancient times, industries play a significant role. During Lichhibi period, industries like weaving, mining, handicrafts, metal idols, food products were encouraged. Prithvi Narayan Shah has made policies to protect cottage industries by discouraging import and encouraging indigenous products. As a result, Nepal became self dependant in textiles and other products. After Sugauli Treaty, industrial products began to be imported from England. Trade treaty between Nepal and England in 1923 A. D. increased import of foreign goods and decreased the export of indigenous products.

In 1987 A. D., permission was given to establish large-scale industries to those willing to open industries. But no such industry found to have been established. Before the Second World War, there was possibility of establishing modern and large-scale industries. As a result, in 1935 A. D. an industrial board named "Udhog Parishad" was formed with a view of producing goods under medium and large-scale industry in 1936 A. D. the first Company act and Nepal trade and patent act was promulgated. Under this act, Biratnagar Jute Mills, the first joint stock company was established. A few years later, Morang Cotton Mills was established in Biratnagar. To provide financial assistance to industries and trade, Nepal Bank Limited was established in Biratnagar. To provide financial assistance to industries and trade, Nepal Bank limited was established in 1937 A. D. With a view to encourage cottage industries, an office was established for the advertisement of Nepalese textiles and cottage industries.

During the Second World War, many industries like Morang Hydroelectric Supply Corporation, Morang Cotton Mills, Nepal Plywood and Bobbins Company, Birgunj Juddha Match Factory, Raghupati Jute Mills, Morang sugar Mills etc were established. Beside them paper, soap, furniture, oil, rice industries were also established. During 10 years (1936-1946 AD) altogether 63 industries were established with the investment of Rs 7.20 crores but the Nepalese had invested only Rs. 20 lakhs. Until 1951 A. d., 73 large-scale industries and 78 small-scale industries went on liquidation because those industries were not promoted with proper industries feasibility.

In 1951 A. D. (2007 B. S.) autocratic Rana Regime was overthrown and democracy was established. In 1956 A. D. Nepal initiated planned development. During the first five-year plan (2013-2018 B. S.), industrial Policy 2014, Private Firm Registration Act and Factory Worker Act 2016 were published and Nepal Industrial Development Corporation (NIDC) was established in 2016 B. S.

During second three years' plan (2019-2022 B. S.) sugar, metal, handicrafts, hotels, matches, textiles. Biscuits and confectionery industries were established in private sectors while in public sectors Janakpur Cigarette Factory, Birgunj Sugar Factory and Bansbari leather and Shoes Factory were established.

During third five year plan (2022-2027 B. S.) rice mills, vegetables, beer, biscuits, confectionery, hotels etc industries were established in private sectors. In public sector Brick and Tile Factory, Agricultural; Tools Factory were established.

During fourth five year plan (2027-2032 B. S.) vegetable ghee, flourmill, soap, cold storage, bakeries etc industries were established in private sector while Hetauda and Balaju Textile industries were established in public sector. In this period new industrial policy and Industrial Enterprises Act 2030 were enacted and Industrial Service Centre 2031 was established.

During fifth five-year plan (2032-2037 B. S.), industrial development sector was not satisfactory. Only three industries were established in public sector. In private sector, very few small-scale industries such as biscuit, flour, sugar, soap, textiles, polythene pipe, and insecticides were established. Security Exchange Centre 2033 was established and fourth national industrial conference (2033) was conducted.

During sixth five-year plan (2037-2042 B. S.), biscuits, sweets, shoes, etc industries were established in private sector. In public sector Lumbini Sugar Factory, Bhrikuti Paper Industry, Nepal Paper Industry, Herbs Production and Processing Company Limited. Butwal Spinning Mills Ltd., Nepal Oriented Magnetic, and Nepal Metal Company were established.

During seventh five-year plan (2042-2047 B. S.), industries like woolen carpet, readymade garments, beer, distillery, cement, cigarette, soap etc were established in private sector while in public sector Udayapur Cement Factory, Industrial District Management Ltd and Economic Services Centre Limited were established.

During eighth five-year plan (2049-2054 B. S.), HMG adopted liberal and competitive economic policies. As a result of this Industrial Policy 2049, Industrial Enterprises Act 2050, were reviewed. During the plan period some 16 important industries such as

Bansbari leather and shoe factory, Harisiddhi Brick Factory, Balaju Textile Industry, Nepal Metal Industries, Seti Cigarette Factory, Raghupati Jute Mills, and Agricultural Tools Factory etc were privatized. During this plan period drug, soap, detergent was established under foreign investment. The main objectives of new policy are growth of industrial production and productivity, emphasis on export-oriented industries, development of employment generating industries and balanced development of all regions of the country.

During ninth five-year plan (2054-2059 B. S.), It implemented to continue the liberal economic policy. Though the Plan's targets were to privatize 30 public enterprises, so far only 16 enterprises have been privatized and that too, mostly during the earlier plans. The objectives of ninth plan were to a) increase contribution of industrial sector in domestic production, b) increase the earnings and services of foreign exchange through the identification of commodities of comparative advantages, c) increase the production of processes goods through the arrangement of necessary infrastructure, and d) increase the income and purchasing power of people residing in rural areas with contribution of industrial sector in domestic production, through the cottage and small-scale industries. However, most of these objectives have not been fulfilled to the desired extent and the plan's target to attain 14 percent (in terms of industrial sectors contribution to GDP) at the end of the plan is unlikely to be met. The share of manufacturing in GDP went up from 6.8 percent in 1990/91 to 8.43 percent in 2001/2002, an increment of 24 percent. Manufacturing sector is critical to the pursuit of sustained growth due to its potential to promote technological capacities, advance the diversification of production and exports and to foster inter-sectoral and inter-industry linkages.

The duration of tenth five-year plan (2059-2064) has been completed recently. The year 2060 marks the 54th year of development assistance to Nepal and the 49th year of planned development exercise. Almost 20 years have passed since the Structural Adjustment Programmed (SAP) started and 12 years, since experimentation with the economic liberalization practices in Nepal. Despite all these initiatives and strategies, desired level of development could not take place and only a limited success especially in

the basic physical infrastructure - transport, communication and energy has been achieved.

Due to the lack of time and it is not possible to do research for all the manufacturing industry I have taken sample for two manufacturing companies listed in the NEPSE for the study which are summarized as below:

1.4 A Brief Overview of Manufacturing Companies Selected for the Study

1.4.1 Unilever Nepal Limited

UniLever Nepal Limited (UNL) was formed as a subsidiary company of Hindustan Lever Limited, India. The factory is situated at Basamadi V. D. C. of Makawanpur district, which is about six kilometers far from Hetauda municipality, and its Corporate Office is situated at Heritage plaza II, Kamaladi, Kathmandu. Unilever Nepal Ltd was established in 1994 as a joint venture company between Hindustan Lever Limited, India and Nepali Promoters under the Company Act 2021. It is the subsidiary company of foreign investment and technology transformation. A notice was issued dated on 18th Feb 2005 (2061/11/07) in the Kathmandu Post to inform all concerned about the change in the name of the company from Nepal Lever Limited, to Unilever Nepal Limited as per the approved decision taken by eleventh AGM held on 13th Dec 2004 (2061/8/28) under the special resolution. The change in name has been approved by the company registrar office/HMG with effect from 9th Feb 2005 (2061/10/27) binding Unilever Nepal Limited to bear assume all the tax and other payable liabilities towards all the movable and immovable assets existing in the company's former name. The main objectives of the company is to manufacture soaps, detergent, cosmetics, toiletries, oleaginous, detergent, and other chemical products and marketed them in and outside the country under the brand name of the products of Hindustan Lever Limited. The register of this company is NIDC capital market limited which is situated as the Kamaladi, Kathmandu. The purpose of Unilever Nepal Ltd is to meet the everyday needs of people everywhere to anticipate the aspiration of their consumers and customers are to respond creativity and competitively with branded products and services, which raise the quality of life.

Factory has been operating three shifts for all the seven days in weeks. The market of this company is focused on locally and presently in India.

1.4.2 Bottlers Nepal Limited

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

1.5 Statement of the Problem

To operate the business activities generally every companies has its own policy in determining capital structure. Capital structure concept is not taken seriously by the Nepalese Companies. Therefore, optimal capital structure does not exist at all. Among the listed companies in the stock exchange very few are using the debt capital and contrary to this some of the companies are ruined by the excess burden of the cost of debt capital. Some of the business use only equity capital, some use only debt capital and some combine both equity and debt capital. Therefore determination of capital structure largely depends upon the company policy and cost of capital. Most of the companies make low cost of capital structure. In the initial period of any company they want to use only equity capital and do not want to include debt in their capital due to their high

interest charge. To solve such problem the management of the company should beware of importance of capital structure management. The purpose of this small study is to analyze, examine and make aware of the importance of the capital structures management of the firm.

1.6 Objectives of the Study

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

-) To examine and evaluate the capital structure of UNL & BNL.
-) To analyze the cost of capital and return on capital in the relation to capital employed.
-) To assess the debt servicing capacity of the companies.
-) To suggest and recommend on the basis of major finding.

1.7 Significance of the Study

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

1.8 Limitations of the Study

The research is conducted under the following limitation:-

-) The study is totally based on secondary data
-) The research is focused as a sample only two manufacturing companies
-) The consistency of the result is strictly based on the information provided to the researcher
-) The data are taken of six years for the study.
-) The research is completed in six months.

1.9 Organization of the Study

The study is organized into five chapters in the following ways

Chapter 1

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

Chapter 2

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

Chapter 3

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

Chapter 4

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

Chapter 5

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

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

CHAPTER II

REVIEW OF LITERATURE

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

According to Wolf & Pant "The purpose of reviewing the literature is to develop some expertise in one's area to see what new contribution can be made & to review some idea for developing research design"⁷

For the study of capital structure management of manufacturing companies of Unilever Nepal Limited, Bottlers Nepal Limited, one can't find previous investigation, dissertation have been consulted which dissertation are presented by various researcher about the capital structure management.

2.1 Conceptual Review

2.1.1 Concept of Capital Structure

The term "Capital Structure" is the combination of long term debt and equity; it is a part of financial structure i.e. comprised to the total combination of preferred stock, common stock, long-term debt, and current liabilities. If the current liabilities are removed from it, we get capital structure"⁸

Capital Structure is made up of debt and equity securities which comprise a firm's finance of its assets. It is the permanent financing of a firm, represented by long term debt plus preferred stock plus net worth". A distinction is usually made between financial structure and capital structure. Financial structure refers to all sources i.e. (both short term and

7. Pant, P.R & Wolf, H.K, 'Social Science Research & Thesis writing', Buddha academic enterprises Second Edition, p 31-44.

8. Iquwal Mathur "Introduction of Financial Management" Mac Millan Publishing Co.Inc, New York, 1979, P-92.

long term) that are used to finance the entire assets of a firm where as capital structure is taken as the capitalization part of firm's total financing which include only the long term sources such as long term debt and equity. Thus the capital structure is a part of financial structure. The composition of capital structure could differ from company to company, which is directly guided and controlled by the management of the company. However a reasonable satisfactory capital structure can be determined considering relevant factors and analyzing the impact of alternative financing proposals on the earning per share"⁹

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

Capital structure is the permanent financing of the firm represented primarily by long term debt, preferred stock and common stock, capital surplus and accumulated retained earning"¹⁰

According to I. M Pandey "An optimal capital structure would be obtained at the combination of debt and equity that maximizes the total value of the firm or minimizes the weighted average cost of capital".¹¹

The optimal capital structure had defined by Ezra Solo man, "Optimal Capital Structure can be defined as that mix of debt and equity which will maximize the market value of a company. If such an optimum does exist, is two fold. If maximize the value of the

9. Richard A Bearly and Stewart C. Myers, "**Principles of Corporate Finance**" Tata Mc-Grew Hill Publishing Company Ltd, New Delhi, 1985, 4th Edition p-397

10. J. Red Western & Eugene F. Brigham, "**Managerial Finance**" The Dryden Press, Hinsdale, Illinois 7th Ed, p-145

11. Pandey, I.M., "**Financial Management**", 7th revised edition, Vikash Publishing House Pvt. Ltd., New Delhi, 1995, p-11.

company and hence the wealth of its owners it minimizes the company's cost of capital which is in turn increase its ability to new wealth creating investment.

Capital structure means the proportion of security issued by the firm. The optimal Capital structure, which consists of reasonable proportion of debt and equity, which can help to maximize the value of the firm and ultimately maximizes the shareholders wealth. The Capital structure patterns can be simple or complex. A simple capital consists of equity and preference share but the complex structure consists of multi-securities as equity shares, preference share, bonds, debenture etc. It can be dealt with three different level of complexity i.e.

-) Static View
-) The Comparative Static View
-) The Dynamic View.

Static View

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

The Comparative Static View

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

The Dynamic View

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

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

-) The debt-equity ratio does not exceeds 2:1.
-) For large capital intensive projects a higher debt-equity ratio of 4:1 or even 6:1 may be allowed. (Debt for this purpose is defined long term debt plus preference capital, which is redeemable after 12 years).
-) The ratio of preference capital to equity does not exceed 1:3
-) Promoters hold at least 25% of the equity capital.

2.1.1 Factors Affecting Capital Structure

After the overview of the capital structure management, we can point out the following factors, which affect the capital structure of any organization. Following factors should be taken into consideration while designing the optimal capital structure.¹²

2.1.1.1 Stability of Sales and Growth Rate

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

12. Pandey, I.M., "Financial Management", 7th revised edition, Vikash Publishing House Pvt. Ltd., New Delhi, 1995, p-15.

2.1.1.2 Cost of Capital

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

2.1.1.3 Asset Structure

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

2.1.1.4 Management Attitudes

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

2.1.1.5 Lender Attitudes

Lender attitudes frequently influence capital structure decisions. Lenders emphasize that excessive debt reduces the credit standing of the borrower and the credit rating of the securities previously issued. The corporation discusses its financial structure with lenders and gives much weight to their advice. If management wants to use leverage beyond norms for the industry, lenders may be unwillingly to accept such debt increases.

2.1.1.6 Operating Leverage

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

2.1.1.7 Taxes

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

2.1.1.8 Profitability

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

2.1.1.9 Interest Rates

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

2.1.1.10 Control

The effect of debt versus stock on a management's control position can influence capital structure. If management currently has voting control, but is not in a position to buy any more new stock, it may choose debt for new financing. On the other hand, management may decide to use equity if the firm's financial situation is so weak that the use of debt might subject risk of default because, if the firm goes into default, the managers will almost surely lose their jobs. However, if too little debt is used, management runs the risk of a takeover. Thus, control considerations could lead to the use of either debt or equity.

2.1.1.11 Flexibility

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

2.1.1.12 Nature and Size of the Firm

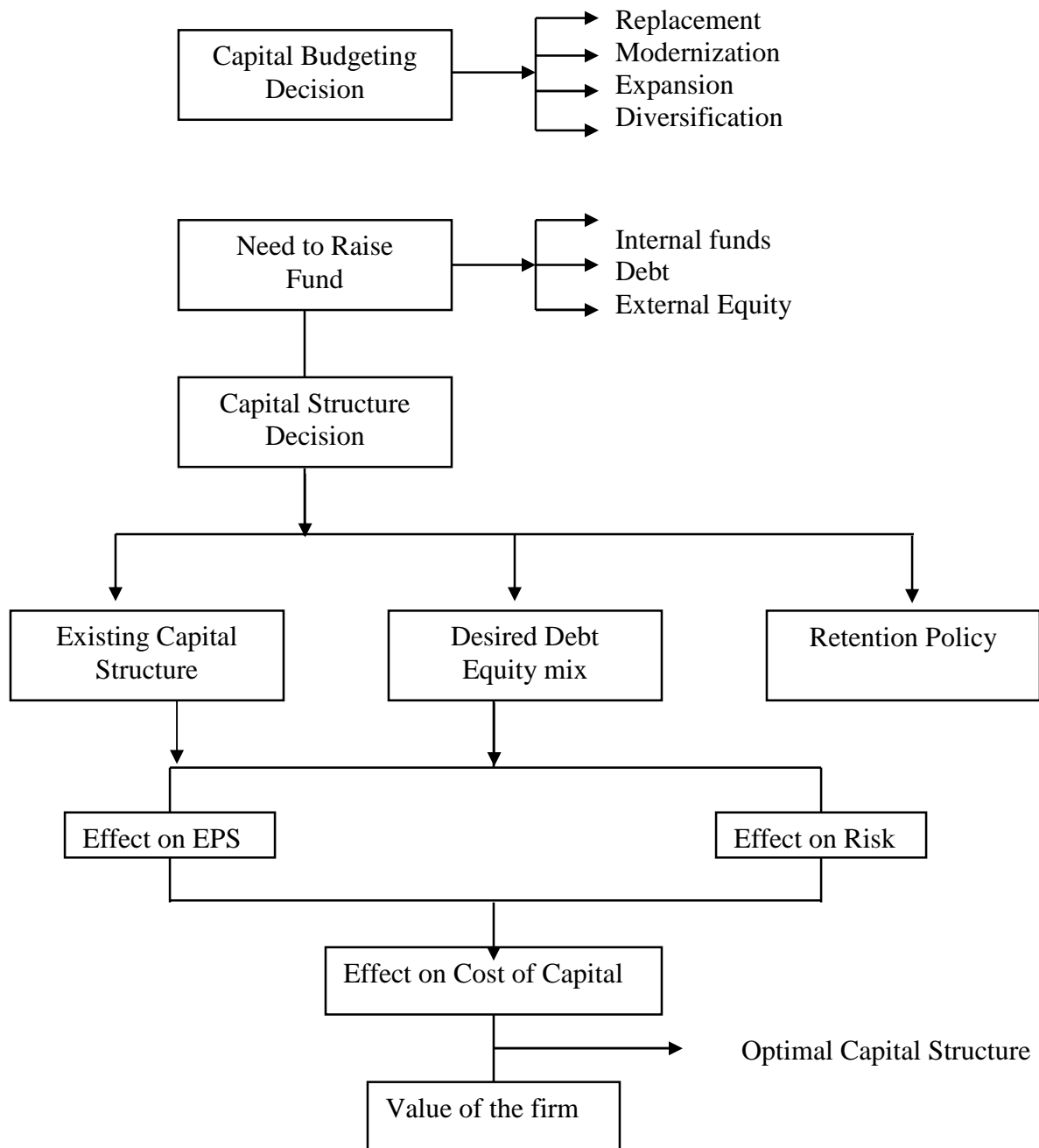
Nature and size of a firm also influences its capital structure. A public utility concern has a different capital structure as compared to other manufacturing concerns. Public utility concerns may employ more of debt because of stability and regularity of their earnings. On the other hand a concern which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

2.1.2 The Capital Structure Decision

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

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

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



(Sources: I.M Pandey of it, p-204)

In the above chart, the main objective of the firm is to maximize the value of the firm with limited optimum capital structure. For capital budgeting decision funds need for the replacement of the capital, modernization of the capital, expansion of the capital and diversification of the capital. Once the capital decision is made the firm needs to raise

funds either from the internal funds, debts or from external equity from which capital structure decision is made.

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

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

According to I.M Pandey "An optimum capital structure would be obtained at the combination of debt and equity that maximizes the value of the firm or minimizes the weighted average cost of capital.

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

2.1.2.1 Taxes

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

2.1.2.2 Bankruptcy Cost

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

2.1.2.3 Assets Type

The cost of distress is likely to be greater for firms whose value depends on growth opportunity of intangible assets. These firms are more likely to go for profitable

opportunities and default occurs, their asset may erode rapidly. Hence, firms whose assets are weighted forward intangible assets should borrow significantly less on average than firms holding assets you can kick.

2.1.2.4 Financial Slack

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

2.1.3 Assumptions of Theories of Capital Structure

In order to grasp, the capital structure and the value of the firm or the cost of capital controversy properly, we make the following assumption.

1. Firm employ only two types of capital debt and equity.
2. The total assets of the firm are given. The degree of leverage can be changed by selling debt to repurchase shares or selling shares to retire debt.
3. Investors have the same subjective probability distributions of expected future operating earning for a given firm.
4. The firm has a policy of paying 100% dividend.
5. The operating earning of the firms are not expected to grow.
6. The business risk is assumed to be constant and independent of capital structure.
7. The corporate and personal income taxes do not exist. This assumption is relaxed later on.

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

- a. B = Total market value of debt.
- b. S = Total market value of stock.
- c. V = Total market value of firm ($B+S$)
- d. K_e = Equity capitalization rate.

- e. $K_d = \text{Cost of debt/Yield on the debt.}$
- f. $K_o = \text{Overall capitalization rate.}$
- g. $I = \text{Total amount of annual interest.}$
- h. $\text{EBIT} = \text{Earning before interest \& taxes.}$
- a) $\text{Cost of debt i.e. } K_d = I/B \text{ where, } I = \text{Interest \& } B = \text{debt.}$
- b) $\text{Cost of equity} = \frac{\text{EBIT} - I}{S} \text{ or } \frac{\text{NOI} - I}{S}$
- c) $\text{Overall cost of capital i.e. } K_o = \frac{\text{NOI}}{V}$
 Or, $K_o = K_d (B/V) + K_e (S/V)$
- d) $\text{Value of the firm i.e. } V = B + S$

2.1.4 Theories of Capital Structure

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

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

These theories are:

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

2.1.4.1 Net Income (NI) Approach

Net Income Approaches focuses the increase in total valuation of the firm through the reduction in the cost of capital leading to an increase in the cost of capital leading to an increase in the degree of leverage. It is also known as dependent hypothesis of capital structure. The essence of this approach is that the firm can reduce its cost of capital by using debt. According to I.M Pandey “The approach is abased on the crucial assumption that the use of debt does not change the risk perception of the investors. Consequently, the interest rate on debt (K_d) and the equity capitalization rate (K_e) remains constant to debt”,¹³

According to M.K Shrestha, “The emphasis is on EBIT is measure how the degree of leverage brings change in valuation of the firm. Assuming a constant equity capitalization rate, the increase in cheaper debt funds lowers the weighted average cost of capital and there by rising the value of the firm and the increasing in debt may not increasingly risky.”¹⁴

The crucial assumption of NI approach is: ¹⁵

-) The use of debt does not change the perception of investors, as a result, the equity-capitalization rate, K_e and the debt-capitalization rate; K_d remains constant with change in leverages.
-) The debt capitalization rate is less that the equity capitalization rate (i. e. $K_d < K_e$).
-) The corporate income taxes do not exist.

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

13.Thapa, k."Corporate Financial Management Theory and Practice", Second Edition, p-99

14. M.K Shrestha, “Prashasan”, NJOPA, Year 16 No. 12, 1985, p 49

15.Pandey, I.M.,”Financial Management” 8th ed, Vikash Publishing House Pvt. Ltd, New Delhi, 1999, p-681

Overall cost of capital can be expressed by following formula.

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

Or

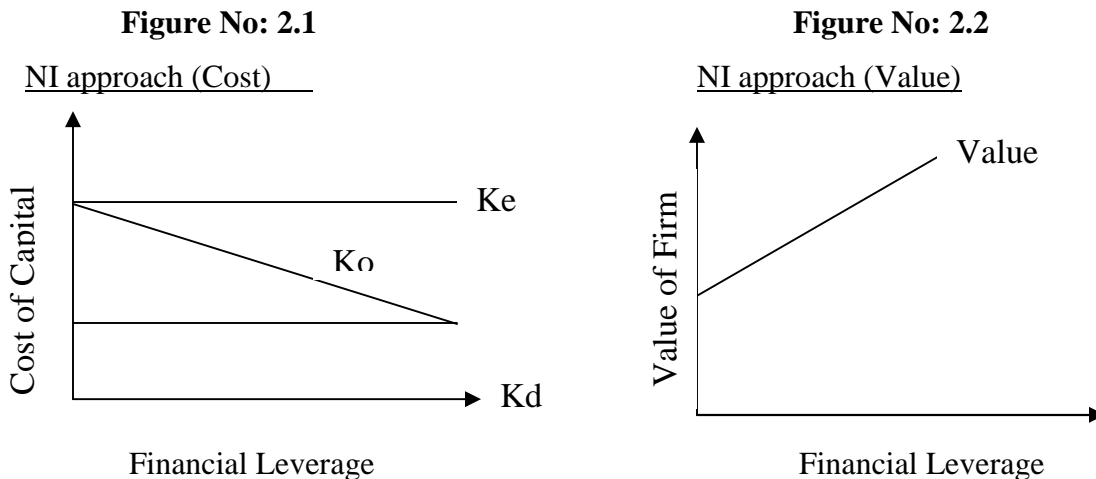
$$\frac{\text{EBIT}}{V}$$

Another formula for 'K_o' is: $K_o = k_e - (k_e - k_d) B/V$

As per assumptions of NI approach, K_e and K_d are constant and K_d is less than K_e.

Therefore, K_o will decrease as B/V increases. Also, 'K_e'=K_o when B/V=0.

This approach is graphically shown in the following figure:



(100% Equity D/E ratio 100% Debt)

(100% Equity D/E ratio 100% Debt)

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

The calculation is simplified by using following calculation model:-

Table No 2.1

'O'	Net Operating Income	.....
'F'	Total Interest (Kd.B)	<u>.....</u>
'E'	Earning Available to common shareholder(O-F)	.....
'Ke'	Equity capitalization rate	<u>.....</u>
'S'	Total market value of equity(E/Ke)	.....
'B'	Total market value of debt	<u>.....</u>
'V'	Total value of firm(S+B)	.....
'Ko'	Overall capitalization rate (O/V)	.....

By the adoption of model we find the overall capitalization rate as outcome.

2.1.4.2 Net Operating Income (NOI) Approach

The second behavioral approach to capital structure is the Net Operating Income Approach, which is slightly different from the NI approach. It is an independent hypothesis of capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm and market price of share, as the overall cost of capital is independent of the degree of leverage”¹⁶. The NOI approach assumes that the equity holders feel higher degree of financial risk and demand higher rate of return for higher debt to equity ratio. Further more, this approach says that the cost of equity increases with the level of debt, and the higher cost of equity offsets the benefit of cheaper debt financing consequently no effect at all on Ko, in other word overall capitalization rate 'Ko' as well as the cost of debt 'Kd' remain constant regardless of the degree of leverage.

16. Khan, M.Y. and Jain, P.K.,”**Financial Management**”, Tata McGraw-Hill Publishing Company, New Delhi, 1990, p-495

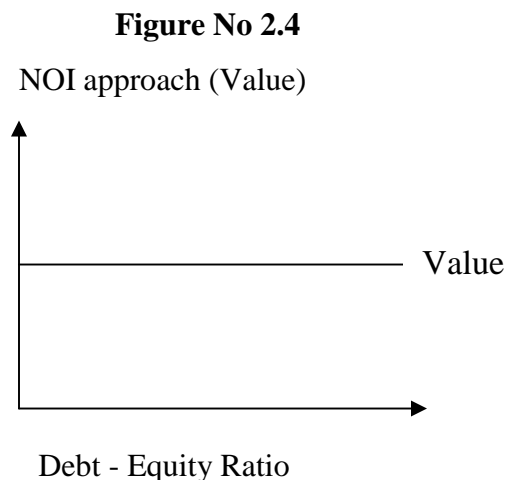
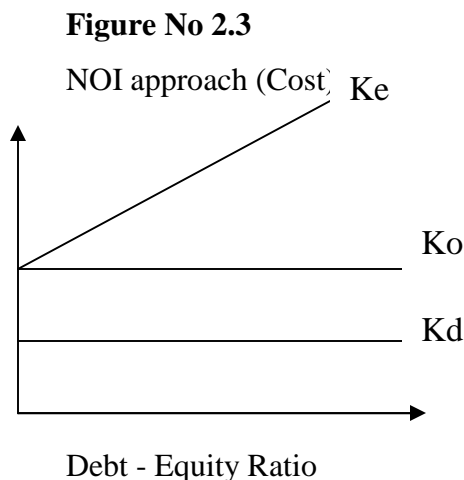
The assumption here is that the overall capitalization rate of the firm is constant for all degrees of leverages.

The critical assumptions of NOI Approach are¹⁷

1. The market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important.
2. The market uses an overall capitalization rate K_o , to capitalize the net operating income. K_o , depends upon the business risk. If the business risk is assumed to remain unchanged, K_e is constant.
3. The use of less costly debt fund increases the risk to the shareholders; this causes the equity capitalization rate to increase. Thus, the advantage of debt is offset exactly by the increase in the equity capitalization rate, K_e .
4. The debt capitalization rate, K_d , is a constant.
5. The corporate income taxes do not exist.

"Under NOI approach the capital structure selected is a more details since the value of the firm is dependent of the firm's capital structure. If the firms increase its use of financial leverage by employing more debt this is directly offset by an increase in the cost of capital."¹⁸

It can be expressed by the following figures



17. Pandey, I.M, "Financial Management", 8th ed, Vikash Publishing House Pvt. Ltd New Delhi, 1999, p-681.

18. Gitman and Pinches, "Managerial Finance", Harper and Row publishing, NY, p-793.

The above figures show that 'Ko' and 'Kd' are constant and 'Ke' increases with leverage. As 'Ko' is constant, leverage is optimal. "At the extreme degree of financial leverage hidden cost becomes very high hence, the firms cost of capital, and their market values are not influenced by the use of additional cheap debt fund."¹⁹

Which can be expressed as

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

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

The calculation is simplified by using following calculation model

Table No 2.2

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

By the adoption of model we find the market value of stock as outcome.

2.1.4.3 Traditional Approach

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

19. Gitman and Pinches, "Managerial Finance", Harper and Row publishing, NY, p-791.

According to I. M. Pandey, "The more sophisticated version of the net income approach is contained in the traditional view. According to this approach, the value of the firm can be increased or the cost of capital can be reduced by a judicious mix of debt & equity capital"²⁰

"In this approach the cost of capital decreases within the reasonable limit of debt and then increase with in the leverage"²¹

The crucial assumptions of the traditional approach are

1. The cost of debt (K_d) remains more or less constant up to a certain degree of leverage but rises thereafter at an increasing rate.
2. The cost of equity (K_e) remains more or less constant or less only gradually up to a certain degree of leverage and rises sharply there after.
3. The average cost of capital (K_o) as a consequence of above behaviour or ' K_e ' and ' k_d ' (i) decreases up to a certain point (ii) remains more or less unchanged for moderate increases in leverage thereafter and rise beyond a certain point.

According to the traditional position, the manner in which the overall cost of capital reacts to change in capital structure can be divided into three-stages.²²

STAGE-1:- Increasing Value

In this first stage, the equity capitalization rate (K_e) rises only a certain level of leverage and not before or rises slightly with debt. So that the use of debt does not necessarily increase the K_e And the slight increase in K_e may not be so high as to neutralize the benefit of using cheaper fund. In other words, the advantages arising out the use of debt is so large that even after allowing for higher K_e , the benefit of the use of the cheaper

20. Pandey, I.M, "Capital Structure and cost of Capital", Vikash Publishing House Pvt Ltd. New Delhi, 1981 p.30

21. Prashanna, Chandra, "Fundamental of Financial Management", 2nd ed., Tata McGraw-Hill Publishing Company Ltd. New Delhi, 1992, p-461

22. Ezra Solomon, "The Theory Of Financial Management", Columbia University Press, New York 1963, p-94.

sources are still available. As a result, the value of the firm, V, increases while the overall cost of capital falls with the increasing leverage.

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

$$\begin{aligned}
 V &= S+B \\
 &= \frac{O-K_d.B}{K_e} + \frac{K_d.B}{K_d} \\
 &= \frac{O-K_d.B}{K_e} + B \\
 &= \frac{O}{K_e} + \frac{(K_e - K_d) B}{K_e}
 \end{aligned}$$

Thus, as long as 'Ke' and 'Kd' are constant the value of the firm 'V' increases at a constant rate.

STAGE-2:- Optimum Value

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

STAGE-3:- Declining Value

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

The overall effect of these three stages is to suggest that the cost of capital is a function of leverage. First it declines with leverage and after reaching a minimum point or range it

status rising. This minimum point defines the optimum capital structure. This fact is graphically shown in the figure.

This fact is illustrated in the following figures: V

Figure 2.5

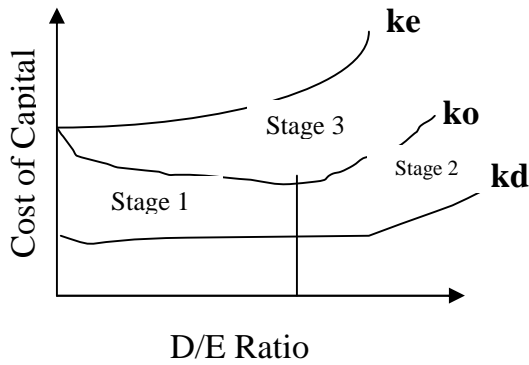
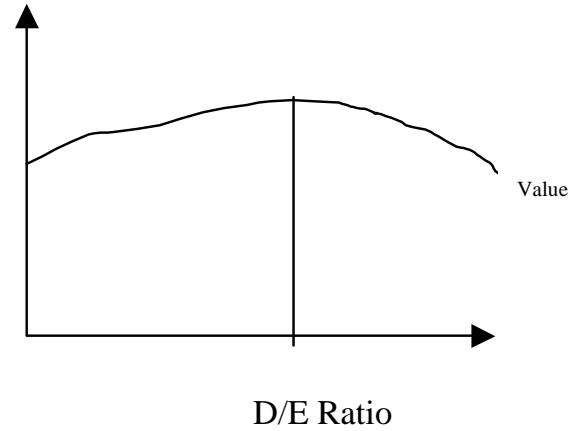


figure 2.6



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

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

The table is shown as calculation model:

Table No 2.3

'O'	Net Operating Income	.....
'F'	Total Interest (Ki B)	.....
'E'	Earning Available to common share-holder(O-F)	.....
'Ke'	Equity Capitalization rate	.....

'S'	Total Market value of equity (E/Ke)	.....
'B'	Total market value of debt	.....
'V'	Total Value of firm (S+B)	.....
'Ko'	Overall capitalization rate (O/Ko)	.....

By the adoption of model, we find the overall capitalization scenario as outcome structure.

2.1.4.4 Modigliani-Miller (M-M) Theory (In the World without Taxes)

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

The crucial assumptions of MM preposition are:²³

1. Perfect Capital Market: Information is costless and readily available to all investors. There are no transaction costs, and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.
2. The average expected future operating earnings of a firm are represented by subjective random variables. It is assumed that the expected values of the

23. Modigliani. F. and Miller. M.H., "Estimates of the Cost of Capital to Electric Utilities Industry",1954-57, American Economic Review, 15 June, 1966, p 333-391

- probability distribution of all investors are the same. The M-M illustration implies that the expected values of the probability distributions of expected operating earnings for all the future periods are the same as present operating earnings.
3. Firms can be categorized into "equivalent return" classes. All firms within a class have the same degree of business risk. As we shall see later this assumption is not essential for their proof.
 4. The absence of corporate income taxes is assumed. M-M removes their assumption later.

Proposition: I

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

$$V=NOI/Ko$$

Where,

V= Value of the firm

NOI= Net operating income

Ko= Risk adjusted capitalization rate.

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

Proposition: II

This theory states that the cost of equity rises proportionately with the increase in the leverage in order to compensate in the form of premium for bearing additional risk arising from the increase in leverage. It assumes that only the equity holders adjust the

capitalization rate for the degree of financial leverage risk. It means that K_e increases as debt-equity ratio increases. The K_d doesn't respond to changes in debt-equity ratio and it remains constant. It is expressed as follows:

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

Where,

K_e = Cost of equity

K_o = Average cost of capital.

K_d = Cost of debt or interest rate.

D/E = Debt Equity ratio

The validity of proposition-II depends upon the assumptions that k_d will not increase for any degree of leverage but in practice k_d increases with leverage beyond a certain acceptable level. However, M-M mention that even if k_d is function of leverage, K_o will remain constant, as k_e will increase at a decreasing rate of compensate. Thus, taking both the propositions I and II together, the M-M theory in the absence of taxes contents that the overall cost of capital as well as the value of the firms are independent of capital structure. The theory in a tax free world is identical to the NOI approach. In other words, the value of levered firm V_L is equal to the value of an unleveled firm V_U in the same risk class i.e. $V_L = V_U$.

2.1.4.5 M-M THEORY (In the World with Taxes)

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

Value of a levered firm = Value of an unleveled firm + PV of interest tax shield.

Symbolically,

$$V_L = V_{ul} + \text{PV of interest tax shield}$$

The value of unlevered firm when corporate taxes exist is,

$$V_{ul} = \frac{\text{NOI}(1-T)}{K_{ou}} = \frac{\text{NOI}}{K_{eu}}$$

Where,

NI = Net income after tax

K_{eu} = The Equity Capitalization rate of an unlevered firm.

K_{el} = The Equity Capitalization rate of an levered firm.

K_{ou} = The overall capitalization rate of unlevered firm.

K_{ol} = The overall capitalization rate of levered firm.

V_{ul} = Value of unlevered firm.

V_l = Value of levered firm.

T = Corporate Tax Rate

Also, when a firm is unlevered, $K_{ou} = K_{eu}$. Thus,

$$V_l = \frac{\text{NI} + Dt}{K_{eu}}$$

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

This can be shown as follows:

Figure 2.7

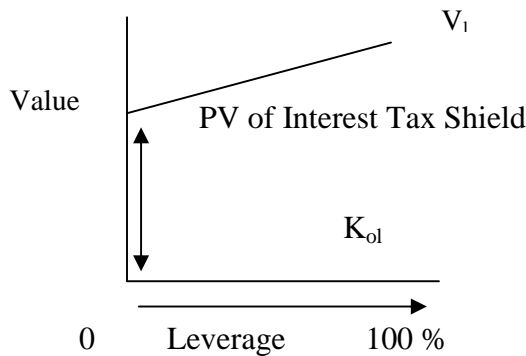
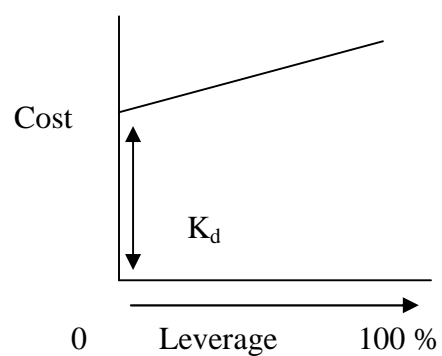


Figure 2.8



$$K_{eu} = K_{ou}$$

Because of the tax deductibility of interest charges, a firm can increase its value or lower overall cost of capital by using cheaper debt funds. Thus, the optimal capital structure is attained when employs 100 percent debt. But in practice firm doesn't employ large amount of debt, nor are the lenders ready to lend beyond the certain limit. Why companies do not employ extreme level of debt or the lenders are ready to lend beyond the certain limit. Why companies do not employ extreme level of debt in practice? The reason behind it is that, the borrowing may involve extra costs (in addition to fixed interest cost) like cost of financial distress, which may offset the advantage of using debt. Another reason may be the personal taxes involved for lenders.

2.2 Review of Journal and Research Work

2.2.1 Review of Journal

Dr M.K. Shrestha Study: The research work done by Prof. Dr. M.K. Shrestha²⁴, *"An analysis of Capital Structure in Selected Public Enterprises."* In this study Dr. Shrestha found that the selected public enterprises understudies have a very confusing capital structure since the corporation are not guided by objectives based financial plans and policies. In many instances adhocism became the basis of capital structure and most of them want to eliminate debt if possible to relieve financial obligations. He has further pointed out that the debt equity ratios should neither be highly levered to create too much financial obligations that lies beyond the capacity to meet the target not should it be too low levered to infuse operational strategy to by pass responsibilities without performance. The calculating of equity capitalization rate is according to the given data providing in credible results in many cases, although they carry valid and meaningful result in some instances.

The Modigliani and Miller First Study:-In their first study they 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

24. Dr. M.K. Shrestha, "Analysis of Capital Structure in Selected Public Enterprises", PNJOPA, Year 16 No. 2
p 54

correlations are statically insignificant and positive in sign. The regression line does not support a 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 proposition 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: M-M was conducted the second study²⁵ 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 significant only because of the tax advantages involved.

Weston Study: The research work done by Weston²⁶, is "*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 be 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.

25. Modigliani, F. and Miller, M.H., "Estimates of the Cost of Capital to Electric Utilities Industry", 1954-57, American Economic Review, 15 June, 1966, pp 333-391

26. Weston, J.F., "A Test of Cost of Capital Proposition. Southern Economic Journal", Vol. 30, October 1963, p. 107- 112

2.2.2 Review of Dissertations

Ramesh R. Aryal concluded on his research titled “*An evaluation of capital structure of Bottlers Nepal Ltd.*” (1991). He has found that 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. He had made his analyses only for the five years period and he suggested 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 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.

Deepak Khanal Study: Mr. Deepak Khanal²⁷ has done a study about ‘*The capital Structure of industrial enterprises in public sectors*’. For this, he tested the effect of leverage and measured the relationship between capital investment and earnings generation. Under his study, he found that the overall result was unsatisfactory. He has suggested improving their self-efficiency in the financial performance. He has further suggested that the subsidy and donation should be reduced which has been the main cause of inefficiency of the management.

Kamal Raj Pathak has carried out a study on “*Capital Structure & Profitability: a comparative case study between Nepal Indoseuz Bank Ltd. and Nepal Grindlays Bank*” (1999). 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

27. Khanal, D, "A Study Of Capital Structure Of Industrial Public Enterprises", Unpublished Master Level Dissertation Submitted to T.U. 1992.

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.

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, G.B.Tamang, has done comparative study about two hotels Yak & Yeti and Soaltee, a comparative study with the analyses, which is entitled " An Impact of Capital Structure on Profitability " (2001). 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.

Shambhu Prasad Parajuli's study on "*Capital Structure Management of NLL*" gives the DE ratio of the company however her mentions the low debt level of NLL in this

summary and suggests including long term debt to gain more profit. He focused his study on the short-term debt to gain more profit. He focused his study on the short-term debt but not on debt and equity proportion.

G.B. Tamang has taken only two hotels Soaltee and Y&Y for his study. The study is limited to the *“Impact of capital structure on profitability”*. He recommend that the government should make sound policy towards tourism but without increasing hotel's capacity and making good plan to attract the tourist, the government alone cannot do anything.

Krishna Pathak Study: Mr Krishna Pathak²⁸ has made a study on *“Capital structure management of Gorakhkali Rubber Udyog Limited”*. He had analyzed all the variables in form of ratio analysis. In his findings specially to the capital structure and profitability position, following issues had drawn.

GRUEL'S debt capital 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 not satisfactory due to the 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, he suggested lowering down the amount of debt and obtaining additional funds through issue of equity shares, improving its working capital and reducing over staff, making strategic plan and developing the motivational management.

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 manufacturing industries to cover the analytical part and fulfill the objectives of the study. Possibly this study may be the first of its kind in the area as the study is concentrated in only five manufacturing companies of Nepal listed in NEPSE. It has also analyzed the Du-Pont system of analysis.

28. Pathak, K, "A Study on Capital Structure Management of Gorakhkali Rubber Udyog Limited", Master Thesis Submitted to T.U. 1995.

CHAPTER III

RESEARCH METHODOLOGY

“Research Methodology” is composed of two words “Research” and “Methodology”. “Research” is a systematic method of finding out solution to a problem where as “Methodology” is the research method used to test the hypothesis. Thus “Research Methodology is the way to solve systematically about the research problem. It refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view”²⁹.

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

3.1 Research Design

Research Design is the plan structure and strategy of investigation conceived so as to obtain the answers to research questions and to control variance”³⁰. 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 6 years from 2000 to 2006 for the two selected manufacturing companies from the Stock Exchange Ltd And Nepal Security Board. It analyses the debt and equity positions in capital investments of related companies. In order to achieve the predetermined objectives of the study, secondary data have been used. In some cases, opinion survey methods are also used. This study tries to make comparison and establish relationship between two or more variables. So the research design of this study is based on descriptive and analytical study.

29. Kothari C.R., **Research Methodology; Method and Techniques**, New Delhi Wiley Eastern Pvt, 1989, p-19.

30. Kerlinger, F.N., **Foundation of Behavioral Research**, New York, Rimehart and Winston, 1984, p 92.

3.2 Source of Data

This required data for the study are collected from the secondary resources and this study is mainly based on “secondary data”. Thus secondary data are extensively used in this study. Secondary data are directly obtained from the Nepal Stock Exchange Ltd 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.

3.2.1 Period Covered

For the study, only six years data from the year 2000 to 2006 of selected two manufacturing companies have been collected. The period of 6 years range is not sufficient for analysis but researcher unable to obtain more than six years data.

3.3 Population and Sample

There are 125 companies listed in Nepal Stock Exchange Ltd. At the end of fiscal year 2004/2005 only 29 manufacturing companies fulfill Nepal security board criteria. Out of 29 manufacturing companies only two manufacturing companies are selected as a sample for the study. For the purpose of the study, the samples companies are as follows:-

-) Unilever Nepal Limited
-) Bottlers Nepal Ltd

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

3.4 Data Analysis

The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation.

Analytical Tools Used

Financial tools have been used for analyzing capital structure management in Nepalese manufacturing companies.

3.4.1 Financial tool

Financial tool is a measuring instrument, which can be used in financial analyses and helps to calculate the relationship between two financial variables on ratio and percentage basis. Under these analyses, the following calculations are made:

3.4.1.1 Degree of Leverage:

Degree of Operating Leverage (DOL)

= Percentage Change in EBIT / Percentage Change in Sales

3.4.1.2 Degree of Financial Leverage (DFL)

= Percentage Change in EPS / Percentage Change in EBIT

3.4.2 Ratio analysis

3.4.2.1 Long Term Debt as a percentage of Total Debt

= Long Term Debt / Total Debt

3.4.2.2 Debt to Total Asset Ratio

= Total Debt / Total Asset

3.4.2.3 Shareholders Equity to Total Asset Ratio

= Shareholders Equity / Total Asset

3.4.2.4 Interest Coverage Ratio

= Earning Before Interest and Tax / Interest Charges

3.4.2.5 Profit Margin

= Net Profit / Sales

3.4.2.6 Earning Per Share (EPS)

= Earning After Tax / Number of Shares

3.4.2.7 Price Earning Ratio (P/E Ratio)

= Market Price Per Share / Earning Per Share

3.4.3 DU-Pont Analysis

3.4.3.1 Return on Equity (ROE)

= Profit Margin X Total Assets Turnover X Equity Multiplier.

Or =Net Profit / Sales X Sales / Total Assets X Total Assets / Equity

3.4.3.2 Return on Asset (ROA)

= Net Profit / Total Asset

3.4.4 Cost of Capital:

3.4.4.1 Overall Cost of Capital (K_o)

= Net Operating Income/Total Value of the Firm

3.4.4.2 Equity Capitalization Rate (K_e)

=Net Operating Income/Market Value of the share

All the necessary calculations and analysis have been made to arrive to the conclusion of the study and were presented in Annex as per requirements.

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 represent and analyses are 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:³¹

- 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.

³¹ .Thapa Kiran, "**Corporate Financial Management**", MBS First Year, Second Edition, Kiran Thapa p 305.

4.1.1 Degree of Operating Leverage (DOL)

The degree of operating leverage (DOL) is defined as the percentage change in operating income (EBIT) associated with a given percentage change in sales. The operating leverage can be measured as the degree of operating leverage (DOL) in the following table Also it calculates.

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

Table No 4.1
Degree of Operating Leverage

Calculation of Degree of Operating Leverage (DOL)								
Company	F.Y	EBIT	Change in EBIT	% Change	Sales	Change in sales	% change	DOL
UNL								
	2000/01	127.9	127.90		1541	1541		
	2001/02	73.75	-54.19	-42.36	1236.1	-304.94	-19.79	2.14
	2002/03	133.6	59.85	81.08	1244.7	8.67	0.7	115.6
	2003/04	190.30	56.70	42.44	1524.90	280.20	22.51	1.88
	2004/05	248.20	57.90	30.43	1481.50	-43.40	-2.85	-10.68
	2005/06	295.50	47.30	19.06	1469.60	-11.90	-0.80	-23.82
Average								14.19

BNL									
	2000/01	87.24	87.24		414.58	414.58			
	2001/02	102.3	15.06	17.26	535.49	120.91	29.16	.59	
	2002/03	80.05	-22.247	-21.75	609.65	74.16	13.85	-1.57	
	2003/04	105.05	25	31.21	632.11	22.46	3.68	8.48	
	2004/05	101.35	-3.70	-3.52	614.73	-17.38	-2.75	1.28	
	2005/06	98.98	-2.37	-2.34	621.827	7.1	1.15	-2.03	
Average									1.125

Source: SEBON & NEPSE

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

In the above table, the calculation of DOL for UNL is 2.14 in F.Y 2001/02 & 115.6 in F.Y 2002/03, 1.88 in F.Y. 2003/04, (10.68) in F.Y 2004/05, (23.82) in F.Y 2005/06 indicating that 1% change in sales will affect the change in EBIT by 2.14%, 115.6%, 1.88%, respectively. In F.Y. 2004/05 and 2005/06 DOL has negative which indicates the situation of loss. If the sales decrease by 1% then its EBIT will decrease by 10.68%. On the same way, the DOL in the F.Y. 2005/06 is also negative by (23.82) indicating that EBIT will decrease by 23.82% by decrease of sales by 1%.

In the case of BNL, the DOL for the F.Y. 2001/02 is 0.59. It means the EBIT will change by 0.59% if 1% changes in sales. The DOL for the F.Y. 2002/03 is negative by (1.57), which indicates the situation of loss. In F.Y. 2003/04 the DOL is 8.48% indicating that 1% change in sales will affect the change in EBIT by 8.48%. In F.Y. 2004/05 the DOL is 1.28 when the EBIT has been decreased by 3.70% and the sale has been decreased by 2.75%. In F.Y. 2005/06 the DOL is negative by 2.03. If the sales decrease by 1% then EBIT also decrease by 2.03%.

4.2.2 Degree of Financial Leverage (DFL)

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

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

$$\% \text{ change in EBIT}$$

Table No 4. 2
Degree of Financial Leverage

Calculation of Degree of Financial Leverage (DFL)								
Company	F.Y	EPS	Change in EPS	% Change in EPS	EBIT	Change in EBIT	% change	DFL
UNL								
	2000/01	73.9	73.90		127.94	127.94		
	2001/02	46.28	-27.62	-37.37	73.75	-54.19	-42.36	0.88
	2002/03	101.19	54.91	118.65	133.55	59.8	81.08	1.46
	2003/04	258.67	157.48	155.63	190.30	56.75	42.49	3.66
	2004/05	205.49	-53.18	-20.56	248.2	57.9	30.42	-0.67
	2005/06	152.90	-52.59	-25.59	295.5	47.30	19.06	-1.34
Average								0.665
BNL								
	2000/01	18.42	18.42		87.24	87.24		
	2001/02	24.94	6.52	35.4	102.3	15.06	17.26	2.05
	2002/03	10	-14.94	-59.9	80.053	-22.247	-21.75	2.75
	2003/04	19.39	9.39	93.9	105.05	24.99	31.22	3.01
	2004/05	17.82	-1.57	-8.09	101.35	-3.7	-3.52	2.3
	2005/06	12.80	-5.02	-28.17	98.98	-2.37	-2.34	12.04
Average								3.69

Source: SEBON & NEPSE

As mentioned in the above table, the calculation of DFL for UNL in the F.Y. 2001/02 is 0.88, which indicates a change in EBIT by 1% will affect the EPS by 0.88%. 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 1.46; In the F.Y. 2003/04 is 3.66 which mean 1% change in EBIT will cause the EPS by 1.46%, 3.66% and in the F.Y. 2004/05 is (0.67), F.Y. 2005/06 is (1.34). The company has negative EPS during four – year period of research.

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 2.05, in the F.Y. 2002/03 is 2.75, in F.Y. 2003/04 is 3.01 whereas it has dropped to 2.3 in the F.Y. 2004/05; again it increased to 8.26 in the F.Y. 2005/06 is 12.04 which mean 1% change in EBIT will cause the EPS by 8.26% and 12.04%

In the capital structure of any company, interest expenses and return on equity increases the level of financial position. According to the calculation of DFL the selected manufacturing companies do not shows any positive signal. The average DFL for UNL is 0.665 and for BNL is 3.69. None of the companies' DFL has consistency. Negative DFL, is not a good sign; therefore companies should concentrate on restructuring their structure of capital.

4.2.3 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 No: 4.3
Long Term Debt as a percentage of Total Debt

Calculation of Long Term Debt as a percentage of Total Debt					
Company	F.Y	Long Term Debt	Total Debt	LTD as a % of Total Debt	Change
UNL					
	2000/01	0	354.32	0	0
	2001/02	0	223.21	0	0
	2002/03	0	426.45	0	0
	2003/04	0	543.07	0	0
	2004/05	0	882.02	0	0
	2005/06	0	742.23	0	0
Average					0
BNL					
	2000/01	0	268.08	0	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	275.48	0	0
Average					0

Source: SEBON & NEPSE

From the analysis of the data for UNL, it is obvious that there is no LTD in the capital structure 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.

From the above table, it is obvious that there is no LTD in the capital structure of 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.

4.2.4 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 than 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 No 4.4
Debt to Total Assets Ratio

Calculation of Debt to Total Assets Ratio					
Company	F.Y	Total Debt	Total Assets	Total Debt/ Total Assets	Change
UNL					
	2000/01	354.32	760.42	46.6	
	2001/02	223.21	571.34	39.07	-7.53
	2002/03	426.45	784.91	54.33	15.26
	2003/04	543.07	939.72	57.79	3.46
	2004/05	882.02	1098.85	80.27	22.48
	2005/06	742.23	967.14	76.74	-3.53
Average				59.13	
BNL					
	2000/01	268.08	951.86	28.16	
	2001/02	340.12	1036	32.83	4.67
	2002/03	332.85	1038.41	32.05	-0.78
	2003/04	174.02	901.17	19.31	-12.74
	2004/05	228.99	990.88	23.11	3.8
	2005/06	275.48	1052.05	26.18	3.07
Average				26.93	

Source: SEBON & NBPSE

The debt to total asset ratio for UNL shows the fluctuating amount of debt capital, increasing amount of total assets and the fluctuating ratios. The above debt to total asset ratio calculation shows that 46.6%, 39.07%, 54.33%, 57.79%, 80.29% & 76.74% of the total assets financed by debt in the F.Y. 2000/01, 2001/02

, 2002/03, 2003/04, 2004/05 & 2005/06 respectively. The average ratio for the entire period was 59.13%, which is quite good then BNL.

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 are 28.16, 32.83, 32.05, 19.31, 23.11, & 26.19 respectively. The average ratio is also 26.93 only.

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.

4.2.5 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 No 4.5**Shareholders Equity to Total Assets Ratio**

Calculation of Shareholders Equity to Total Assets Ratio.					
Company	F.Y	Shareholder's Equity	Total Assets	Shareholder's Equity/Total Assets (%)	Change
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	3.53
	2004/05	216.93	1098.95	19.74	-22.40
	2005/06	224.91	967.14	23.25	3.51
Average				39.46	

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	0.78
	2003/04	727.15	901.17	80.69	12.74
	2004/05	761.88	990.88	76.89	-3.80
	2005/06	776.57	1052.05	73.81	-3.08
Average				72.76	

Source: SEBON & NEPSE

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 increase in the F.Y. 2001/02, the ratio is 60.93%. In the F.Y. 2002/03, 2003/04, 2004/05 & 2005/06 the ratios are 45.67, 42.14, 19.74, and 23.25 respectively. The ratios are decreasing which means that the company is increasing the debt capital for financing its assets. The average ratio of shareholders equity to total asset for UNL is 39.46 that tell us that in an average the input of equity for the assets is 39.46%.

The calculation of the above table tells us that BNL has too much owner's capital than the debt. Furthermore, both the assets and ownership capital are in increasing trend. In the F.Y. 2000/01, 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, 80.69 in the F.Y. 2003/04 of the research. The ratio decreased by 76.89 in the F.Y 2004/05 & again decreased by 73.81 in the F.Y 2005/06. The average ratio for BNL for the complete study period is 72.76. The overall analysis and calculation indicate that the assets are highly financed by the equity capital.

4.2.6 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
Interest Coverage Ratio

Calculation of Interest Coverage Ratio					
Company	F.Y	EBIT	Interest Charges	EBIT/Interest Charges (in times)	Change
UNL					
	2000/01	127.94	14.21	9	
	2001/02	73.75	12.61	5.85	-3.15
	2002/03	133.55	2.6	51.37	45.52
	2003/04	190.30	1.78	106.91	55.54
	2004/05	248.20	1.76	141.02	34.11
	2005/06	295.50	1.79	165.08	24.06
Average				79.87	
BNL					
	2000/01	87.24	0.08	1090.5	
	2001/02	102.3	0.663	154.3	-936.2
	2002/03	80.053	0.284	281.88	127.58
	2003/04	105.05	0.004	26262.50	26980.62
	2004/05	101.35	0.265	1559.23	-24703.27
	2005/06	98.98	0.133	744.21	-815.02
Average				5015.44	

Source: SEBON & NEPSE

The interest coverage ratio for UNL during the study period is fluctuating. The ratios are 9, 5.85, 51.37, 106.91, 141.02, 165.08 times for the financial year 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06 respectively. From the above calculation, the company is sufficient to repay the interest charge. The average ratio is 79.87. But the ratios for the F.Y. 2000/01, 2001/02 and 2002/03 are lower than the average ratio. The F.Y.2005/06 is the safest year for the creditors' point of view due to higher ratio and F.Y. 2001/02 is an unsafe year due to the low interest coverage ratio.

BNL					
	2000/01	35.89	414.58	8.66	
	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	2.8
	2004/05	34.73	614.74	5.65	-0.33
	2005/06	24.96	621.83	4.01	-1.64
Average				6.09	

Source: SEBON & NEPSE

The sales volume of UNL is increasing except for the final three year, the net profit is also increasing, but the profit margin ratio is fluctuating. The increase in profit is not as much as of increase in sales, which is the reason of fluctuating ratio. In the F.Y. 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 five fiscal years is 3.45, 7.53, 9.23, 12.8, & 16.2 respectively. The profit margin ratio is 8.94 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. 2003/04 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.

The profit margin ratio for the F.Y. 2000/01, 2001/02, 2002/03, 2003/04, 2004/05 & 2005/06 is 8.66, 9.08, 3.18, 5.98, 5.65 & 4.01 respectively, which indicates that the company is earning a profit of 8.66%, 9.08% , 3.18%, 5.98%, 5.65% & 4.01% from its sales. The profit margin decreased by 5.9% to earn 3.18% profit on the F.Y. 2002/03 from the sale of its product. The ratio dropped to 4.01 in the F.Y. 2005/06. The profit margin increased to 9.08 although the sales and net profit increase and again decrease to 3.18. The profit margin ratio for BNL is 15.37 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.

4.2.8 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 No 4.8
Earning Per Share

Calculation of EPS					
Company	F.Y	Net Profit	No of shares	EAT/ No of Shares	Change
UNL					
	2000/01	68.04	92.07	73.9	
	2001/02	42.61	92.07	46.28	-27.62
	2002/03	93.71	92.07	101.78	55.5
	2003/04	140.78	92.07	152.9	51.12
	2004/05	189.92	92.07	206.28	53.38
	2005/06	238.16	92.07	258.67	52.39
Average				139.97	

BNL					
	2000/01	35.89	108.27	33.15	
	2001/02	48.61	194.89	24.94	-8.21
	2002/03	19.37	194.89	9.94	-15
	2003/04	37.80	194.89	19.39	9.45
	2004/05	34.73	194.89	17.82	-1.57
	2005/06	24.96	194.89	12.81	-5.01
Average				19.675	

Source: SEBON & NEPSE

The condition of UNL is quite satisfactory then BNL for the study. It has average EPS 139.97, which is pretty good indicating that the shareholders are getting 139.97% return from their investments. The EPS for the F.Y. 2000/01 is 73.9, which 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 to 152.9, 206.28 & 258.67 during the F.Y. 2003/04, 2004/05 & 2005/06 respectively. The increasing EPS due to increasing net profit attracts shareholders to invest more money. Unluckily, the ratio decreased by 27.62% to 46.28 in the F.Y. 2001/02 indicating only NRS 46.28 is available for shareholders as earning per share, which is less than the average EPS NRS 139.97. 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. In the financial year 2001/02 the shareholder are getting 46.28%, in the F.Y. 2002/03 the shareholder are getting 101.78%, in the F.Y. 2003/04, 2004/05 & 2005/06 the shareholder are getting 152.9%, 206.28%, 258.67% respectively. So this indicates that EPS is 139.97% that is good condition for shareholders. So shareholders are getting 139.97% return from their investment.

The above calculation of EPS shows that the EPS of BNL is decreasing during the the study period. 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. The EPS in the F.Y. 2000/03 decreased to 9.94 giving a return of NRs.9.94 per share to the shareholders. The EPS for the F.Y. 2003/04, 2004/05 & 2005/06 is 19.39, 17.82 & 12.81 2000/01 correspondingly. The average EPS for the shareholders of the company is 19.67.

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.

4.2.9 Price Earning Ratio (P/E Ratio)

The P/E ratio indicates the times earning per share are covered by its market price. The P/E ratio represents the amount which investors are willing to pay each rupee of the earnings. The calculation of PE ratio for the selected companies are presented as

Table 4.9
Price Earning Ratio

Calculation of P/E Ratio					
Company	F.Y	Market Price Per Share	EPS	P/E Ratio	Change
UNL					
	2000/01	2200	73.9	29.77	
	2001/02	1350	46.28	29.17	-0.6
	2002/03	1130	101.19	11.17	-18
	2003/04	1226	152.9	8.07	-3.15
	2004/05	1410	206.28	6.83	-1.19
	2005/06	1821	258.67	7.04	21
Average				15.33	

BNL					
	2000/01	600	18.42	32.57	20.86
	2001/02	700	24.94	28.07	-4.51
	2002/03	700	10	70	41.93
	2003/04	277	19.39	14.28	-55.72
	2004/05	54	17.82	3.03	-11.25
	2005/06	500	12.81	39.3	36
Average				26.71	

Source: SEBON & NEPSE

The P/E ratio is 29.77 in the F.Y. 2000/01 for the UNL, which decreased by 0.60% for the F.Y. 2001/02 to 29.17 indicating that the investors lack confidence on their investments. The P/E ratio of the company for the F.Y. 2002/03 decreased to 11.17, which means that the investors can earn 11.61 times than the EPS if they sell their shares at the market price of NRS 101.19. The ratio decreased to 8.07, 6.83 and 7.04 in the F.Y. 2003/04, 2004/05 and 2005/06 respectively. The average P/E ratio is 15.33. The decreasing P/E ratio indicates the bad situation of the company. This indicates the shareholders will loss if they sell their equity in the prevailing market price during that year.

The P/E ratio for BNL is in fluctuating trend during the study period. The P/E ratio is 32.57 during the F.Y. 2000/01, which decreased to 28.07 in the F.Y. 2001/02. In the F.Y. 2002/03 the ratio increased to 70, which is the highest ratio during the study period. In the F.Y. 2003/04 and 2004/05 the ration decrease to 14.28 and 3.03 which reveals that the company is loosing the attention of its investors. The ratio inclined to 39.03 in the F.Y. 2005/06 indicating that the shareholders can get 39.3 times more than the EPS if they sell their shares at the existing market rate. The average P/E ratio for BNL is 26.71. The P/E decreased to 3.03 in the fiscal year 2004/05 & again it inclined to 39.03 in the fiscal year

2005/06 The higher P/E ratio indicates the greater confidence of investors with the company's future.

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 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:

$$\begin{aligned} \text{ROE} &= \text{Profit Margin} \times \text{Total Assets Turnover} \times \text{Equity Multiplier.} \\ &= \text{Net Profit} / \text{Sales} \times \text{Sales} / \text{Total Assets} \times \text{Total Assets} / \text{Equity} \end{aligned}$$

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

Table 4.10
Return on Equity

Calculation of ROE						
Company	F.Y	Profit Margin in %	Total Asset Turnover	Equity Multiplier	ROE %	Change
UNL						
	2000/01	4.42	2.03	2.22		
	2001/02	3.45	2.16	1.64	12.22	-7.7
	2002/03	7.53	1.59	2.19	26.08	13.86
	2003/04	9.23	1.62	2.37	35.44	9.36
	2004/05	12.8	1.35	5.06	87.44	52
	2005/06	16.2	1.51	4.3	105.19	17.75
Average					47.71	

BNL						
	2000/01	8.66	0.44	1.43	5.45	
	2001/02	9.08	0.52	1.48	6.98	1.53
	2002/03	3.18	0.58	1.47	2.7	-4.28
	2003/04	5.98	0.7	1.24	5.19	2.49
	2004/05	5.65	0.62	1.3	4.55	-0.64
	2005/06	4.01	0.59	1.35	3.19	-1.36
	Average				4.68	

Source: SEBON & NEPSE

For UNL the profit margin in the F.Y. 2001/02 is decreased to 3.45, which were 4.42 during the F.Y. 2000/2001. But after the F.Y. 2001/02, the ratio started to increase continuously indicating that there is good planning of sales and net profit. Similarly, the assets turnover ratio is in increasing trend unto the F.Y. 2001/02 then it turned down which point out about the decreasing earning capacity of the assets. The equity multiplier is also in fluctuating trend as the shareholders equity is vibrating which shows that the equity value is also fluctuating in assets financing. Due to the above reasons, the ROE for the company is also irregular. The ROE for the F.Y. 2000/01, 2001/02, 2002/03, 2003/04, 2004/05 & 2005/06 is correspondingly 19.92, 12.22, 26.080, 35.44, 87.44 & 105.19 resulting the average ROE for the company 47.71 which is the highest ROE among the selected companies.

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 decreasing from the third year of the study. The total assets turnover ratio tells us about the ineffective utilization of assets as it is in decreasing trend. The

company needs to reevaluate 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 5.45, which increased to 6.98 in the F.Y. 2001/02 and decreased to 2.7 in the F.Y. 2002/03. It increases to 5.19 in the F.Y. 2003/04. Then after, continuously decreased to 4.55 in the F.Y. 2004/05 and 3.19 in the F.Y. 2005/06 providing an average ROE of 4.68 for the company during the six years period. The situation of the company shows that the shareholders are not receiving their return on fixed amount at all. The F.Y. 2001/02 is the year where the shareholders return on their investment is highest and the F.Y. 2002/03 is the worst year for their investment return.

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

Table 4.11
Return on Asset

Calculation of ROA					
Company	F.Y	Net Profit	Total Asset	Net Profit to Total Asset in %	Change
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	14.98	3.04
	2004/05	189.92	1098.95	17.28	2.3
	2005/06	238.16	967.14	24.63	7.35
Average				14.21	

BNL					
	2000/01	35.89	951.86	3.77	-2.86
	2001/02	48.61	1036.046	4.69	0.92
	2002/03	19.37	1038.408	1.87	-2.83
	2003/04	37.80	901.17	4.19	2.32
	2004/05	34.73	990.88	3.5	-0.69
	2005/06	24.96	1052.05	2.37	-1.13
Average				3.40	

Source: SEBON & NEPSE

The calculation of ROA for UNL is not satisfactory, but it is quite good than the BNL for the study. The ROA for UNL shows the fluctuating trend. The ROA for the F.Y. 2000/01 is 8.95, which decreased in the F.Y. 2001/02 to 7.46. In the F.Y. 2002/03, the ratio increased to 11.94 and continued to increase in the F.Y. 2003/04, 2004/05 & 2005/06 to 14.98, 17.28 & 24.63 respectively. The average ROA for UNL is 14.21 which is above the ROA for F.Y. 2000/01, 2001/02 & 2002/03 below the ratio of rest of the years. The continuous increase in the ratio from the F.Y. 2002/03 shows the increasing productivity of the assets in terms of sales revenue and profit.

The calculation of ROA for BNL shows that the net profit and the ROA are in fluctuating trend in spite of the fact that the assets are increasing. This clearly tells us that the productivity of the assets is not satisfactory for the company. The ROA is 3.77 in the F.Y. 2000/01, which increased to 4.69 in the F.Y. 2001/02 and started decreasing subsequently. The ratio decreased to 1.87 in the F.Y. 2002/03, it increased to 4.19 in the F.Y. 2003/04 it decreased to 3.5 in the F.Y. 2004/06 and to 2.37 in the year 2005/06. The above figures show that the earning capacity of the assets for the company are in decreasing trend from the F.Y. 2002/03, which

may create serious problems for the company if it is not treated in time. The average ratio is 3.40.

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 (Ko)

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

Overall cost of capital can be expressed by following formula.

Overall cost of capital (Ko)= Net Operating Income

Total value of the firm

Or EBIT/V

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

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

Table 4.12
Overall cost of Capital

Calculation of Overall Cost of Capital (Ko).				
Company	F.Y.	EBIT	Value of The Firm	Overall Cost of Capital
UNL				
	2000/01	127.9	441.94	28.94%
	2001/02	73.75	1381.97	5.34%
	2002/03	133.6	2053.16	6.51%
	2003/04	190.3	2025.54	9.40%
	2004/05	248.2	2062.37	12.30%
	2005/06	295.5	1040.39	28.40%
Average				15.10%
BNL				
	2000/01	87.24	730.84	11.94%
	2001/02	102.3	701.60	14.58%
	2002/03	80.05	1179.08	6.79%
	2003/04	105.05	1169.34	8.98%
	2004/05	101.35	8470	1.20%
	2005/06	98.98	10403.90	0.95%
Average				7.41%

Source: SEBON & NEPSE

The above table shows the measures of overall capitalization rates of the sampled manufacturing companies listed in NEPSE. The above figure tells us about the Ko of two companies. For the both companies the Ko is in very fluctuating trend. The

average KO for UNL and BNL is 15.10% and 7.41% respectively. UNL has the highest KO, which indicates that the company can gain less amount of profit compared to BNL. The company should make an effort to trim down the overall cost of capital (Ko) to secure high percentage of return for collected capital. Reducing the debt capital is one of the best ways of reducing the Ko.

4.4.2 Equity Capitalization Rate (Ke)

Equity is one of the sources of capital that has its own cost and it is called as the cost of equity (Ke). A large amount of equity means the higher charge of Ke. EBT divided by MV of shares to derive the equity capitalization rate (Ke) for this study purpose. The following table shows the calculation of equity capitalization rate (Ke) for the selected companies.

Table 4.13
Equity Capitalization Rate

Calculation of Equity Capitalization Rate (Ke).				
Company	F.Y.	EBT	Market Value of Common Shares	Equity Capitalization Rate
UNL				
	2000/01	113.69	441.94	25.73%
	2001/02	61.14	1381.97	4.42%
	2002/03	131	2053.16	6.38%
	2003/04	188.53	2025.54	9.31%
	2004/05	246.50	2062.37	11.95%
	2005/06	293.68	1040.39	28.23%
Average				14.34%
BNL				
	2000/01	87.16	730.84	11.93%
	2001/02	101.64	701.60	14.49%
	2002/03	79.77	1179.08	6.77%
	2003/04	105.05	1169.34	8.98%
	2004/05	101.09	8470	1.19%
	2005/06	97.66	10403.90	0.94%
Average				7.38%

Source: SEBON & NEPSE

The above table shows us the equity capitalization rates for the selected manufacturing companies for 6 years. The equity capitalization rate tells us about the cost paid to the equity in spite of using the funds. The equity capitalization rate (Ke) is fluctuating as the above table is indicating. The cost of equity for UNL is highest than BNL. The average Ke for UNL and BNL is 14.34% and 7.38% respectively. 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.

4.5 Major Findings of the study

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

Table 4.14
Summary Major Findings

S. No.	Ratios	UNL	BNL
1	DOL	14.19	1.125
2	DFL	0.665	3.69
3	LTD to Total Debt	-	-
4	Debt to Total Assets	59.13	26.93
5	Shareholders Equity to Total Assets	39.46	72.76
6	Interest Coverage	79.87	5015.44
7	Profit Margin	8.94	6.09
8	Return On Equity	47.71	4.68
9	Return On Assets	14.21	3.40
10	Earning Per Share	139.97	19.675
11	Price Earning (P/E)	15.33	26.71
12	Overall Capitalization Rate (Ko)	0.15	0.0741
13	Equity Capitalization Rate (Ke)	0.14	0.0738

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

The average of DOL for UNL & BNL are 14.19 & 1.125 respectively. As compare to the UNL and BNL, the DOL for BNL is quite good. The higher DOL indicates the risky ness of the company.

The average DFL for BNL has higher then UNL.

The average of Long Term Debt as a percentage of Total Debt for UNL is 30.66. BNL shows the unlevered condition and UNL shows the highly levered position.

The average ratio between debt and total assets is above 50 for the UNL excluding the BNL, which has the average ratio of 26.93 only. This situation indicates that the debt amount is comparatively high for asset financing as per the figure of the ratio.

The average ratio between shareholders equity and total asset for the BNL has too much owner's capital than the debt. The UNL have the ratio below 50, which indicates that more that 50% assets are financed through outsiders' fund.

The average Interest Coverage ration for UNL & BNL is 79.89 & 5015.44.

Due to the use of lower amount of debt, the coverage ratio for BNL is very high. The UNL has very good coverage ratio.

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

The average ratio of Return on Equity for UNL & BNL is 47.71 & 4.68. This indicates the investors of the UNL are getting more returns from their investments.

The average return on assets for UNL & BNL is 14.21 & 3.40. The average ROA is higher for the UNL indicating the good production power of assets.

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

The BNL has the higher value of P/E ratio than UNL for the study. For any company, the higher P.E ratio indicates the greater confidence of investors with its future.

From the calculation of overall capitalization rate, we can see that the UNL has the higher average value of K_o BNL due to a levered company. K_e is also higher in an average for UNL between the two 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.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

This study is based upon the capital structure management of two selected manufacturing companies of Nepal. It covers the period of seven years from 2000 to 2006 A.D. It included the data of two manufacturing companies listed with Nepal Stock Exchange Ltd. Kathmandu, Nepal (NEPSE).

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

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

This study covered two listed Nepalese manufacturing companies they are Unilever Nepal Limited and Bottlers Nepal Limited. The necessary data on capital structure and related variables were collected for the period 2000 to 2006 for this purpose of the study.

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

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

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

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

Presentation and analysis of data is carried out in the fourth chapter.

Average DOL for UNL is higher than BNL. The BNL has the higher DFL.

Debt to total assets ratio is above 50% for UNL. The BNL has the average ratio of 26.93% only. The average ratio between shareholders equity and total asset for BNL is higher. The BNL had relied mainly on owner's capital. The UNL have the ratio less than 50%. The average interest coverage ratio 79.87 times for UNL and 5015.44 times for BNL. The profit margin of the companies does not show a satisfactory picture during the study period. The profit margin for UNL is higher. The ROE for UNL is higher than BNL. The average ROA is higher for the UNL than BNL. Earning per share for UNL is the higher than BNL. The BNL has the higher value of the P/E ratio than UNL for the study.

The overall capitalization rate of UNL is higher than BNL. Cost of equity capitalization (K_e) is also higher on an average for UNL than the BNL.

5.2 Conclusion

The average DOL for UNL is 14.19 and for BNL is 1.125. The same type of manufacturing industries, there is a vast difference in the DOL. UNL has 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 average DFL for UNL is 0.665 and for BNL is 3.69. Both of the companies show consistency in the DFL. The companies should concentrate on restructuring their structure of capital, which company has the negative DFL

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

The average ratio of shareholders equity to total asset for UNL is 39.46% which shows that on an average the input of equity for the assets is 39.46%. The average ratio of shareholders equity and total assets for BNL for the complete study period is 72.76%. The overall analysis and calculation indicate that the assets financed mainly from the equity capital. Compare to BNL, UNL has a good proportion of owners and outsiders fund for financing the assets. The interest coverage ratio for UNL during the study period is fluctuating with the average of 79.87 times. BNL is not using the long-term debt in its capital structure at all and the amount of interest is also comparatively on lower side than UNL for the study.

The average interest coverage ratio is approximately 5015 times. The above result shows that the capital structure of the company is not fixed. The lower amount of interest means the use of lower amount of debt capital in the capital structure of

the firm and use of high amount of equity capital. In such circumstance, the company should understand that the high percentage of equity capital means the high tax payment to the government. It should try to increase its sales volume and minimize costs to enhance profitability to sustain in the competitive world. The average ratio of profit margin for the UNL is 8.94 %. The increase in sales has resulted in the increase in net profit and vice-versa. In the same way, the ratio is also fluctuating. The average profit margin ratio is 6.09 % for BNL.

The sales volume of UNL is increasing, the net profit is also increasing. The profit margin ratio also increasing. The increasing profit margin ratio situation of the company tells us about the efficiency in running the business. UNL is better than BNL. However, the company despite increasing sales volume, the profit is not in an increasing order. The profit margin ratio for BNL is 6.09% on an average. The overall calculation shows that the net profit is fluctuating and the profit margin ratio is also decreasing whereas the sales on increasing. This indicates the company should make such policy to earn high amount of profit from the sales revenue by increasing operating efficiency. The ROE for UNL is higher than of BNL. The investors of the UNL are getting more returns from their investments. The average ROA is higher for the UNL indicating the good production power of assets. Earning per share for UNL seems to be higher than that of BNL. So the investors can be attracted by the proposal of UNL.

For any company, the higher P/E ratio indicates the greater confidence of investors with its future. The BNL has the higher value of the P/E ratio than UNL for the study.

From the calculation of overall capitalization rate, we can see that the UNL has the higher average value of K_o . K_e is also higher in an average for UNL The use

of less costly debt fund increases the risk to the shareholders; this causes the equity capitalization rate to increase.

5.3 Recommendations

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

- The BNL and UNL should try to access longer-term source of debt, which will be less costly for them rather than relying heavily in short-term loans.
- Both companies should try to streamline their sales.
- As per the increase in sales the profit for BNL is not correspondingly increasing. From the sales revenue, the BNL should make policy to earn high amount of profit by increasing operating efficiency.
- Due to the higher operating cost of production some of the Nepalese manufacturing companies are incurring loss. The management should give emphasis towards the minimization of administrative and operating expenses. The unskilled manpower, over-staffing, unsystematic purchase of raw materials, unnecessary expenses, misuse of facilities, heavy expenses on overhead etc .are the major causes for high operating cost. These causes should be eradicated by the management of the company.

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