CAPITAL STRUCTURE AND VALUE OF THE MANUFACTURING FIRM IN NEPAL

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Submitted By:
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RECOMMENDATION

This is to certify that the thesis
Submitted by:
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has been prepared as approved by this Department in the prescribed format of the Faculty of Management. Thesis is forwarded for examination.

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and found, the thesis to be the original work of the student written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for the master's Degree in Business studies (M.B.S).

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DECLARATION

I here by declare that the work report in this thesis entitled to "CAPITAL STRUCTURE AND VALUE OF THE MANUFACTURING FIRMS IN NEPAL." Submitted to Bhairahawa Multiple Campus, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master Degree in Business Studies [M.B.S] Under the guidance and supervision of Mr Sahadev Bhatta Faculty Member of Bhairahawa Multiple Campus,T.U.

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CHAPTER - ONE
INTRODUCTION

1.1   Background of the Study

Capital structure plays a vital role in the real life of an organization. The term capital structure refers to the proportion of debt and equity capital. Every business firm needs funds to operate. Generally, the firm can acquire the funds from two way, they are equity and debt. Equity provides the ownership of the firm to the shareholders. On the other hand, the debt borrowed fund, has fixed charge as an interest which is irrelevant to the earnings of the firm. The firm must pay the fixed charges (i.e. interest) periodically to the debt holder. Retained earnings may also be used as a source of financing to run the business firms.

The concept of capital structure occupies an important place in the theory of financial management. Capital structure is the mix of debt, preferred stock, and common equity with which the firm plan to raise capital. Firm should analysis a number of factors, and then establishes a capital structure. Capital structure may change over the time as condition change, but any given moment, management should have specific capital structure in mind. If the actual debt ratio is below the target level, issuing debt should generally raise expansion capital, where as if the debt ratio is above the target, equity should generally issue. The firm should select the capital structure, which will help in achieving the objective of financial management, that is to maximize the value of equity share. The capital structure should be examined from the view point of its impact on the value of the firm. It can be legitimately accepted that if the capital structure decision affect the total value of the firm, a firm should select such a capital structure is referred as a financing-mix as will maximize the shareholder's wealth. Such a capital structure is referred as the optimal capital structure" (Brigham and Houston, 2001).

The concept of capital structure is a core stone in the theory of finance. Thus, the financing decision of a firm relates to the choice of proportion of debt and equity to

finance requirement, which affects the cost of capital through the risk complexities and ultimately the value of the firm. A proper balance between debt and equity is necessary to ensure a trade off between risk and return to the shareholders. A capital structure with reasonable proportion of debt and equity is called optimal capital structure, which will minimize the overall cost of capital and maximizes the value of firm. Therefore, a firm should select the proper mix of debt and equity so that the value of firm can be maximized as well as overall cost of capital can be minimized. In other words, the point where the largest positive different exist between expected rate of return and required role of return is called optimal capital structure. For an optimal capital structure, the analysis of risk and return on various leverage positions are essential. The risk of bankruptcy depends to an important extent on the operating risk or business risk and return on equity depends on operating efficiency. Thus, the optimal debt-equity mix depend on the nature of business and there one kinds of investments that the company makes (Solomon and Prinjal, 1978: 452). But the capital structure decision in addition these variables, is influenced by several other variables, i.e. nature of the company, capital market situation, interest of the management and investors to control, liquidity position and operating efficiency of the company, company and regulation etc. If a judicious decision of capital structure is mode of taking consideration of all these factors, it will be a thing to maximize the value of the company.

The effect of debt capital only on earning per share does not measure overall effect. The leverage also effects on risk due to earning variability or bankruptcy cost. The change on market price of stock due to change on leverage measures, the actual effect of leverage. The prevailing market price of the securities of an enterprise determines the value of the enterprises. Market price of securities depends on the expected return and risk associated to the securities. The expected earnings and risk depends upon operating efficiency and financial leverage. Thus, for maximizing the value of the company, investment decision and capital structure decisions are prominent there, on this study only the capital structure decision is examined relating to the value of the listed companies.

Financial decision making is a process of choosing best alternative among various financial alternatives (Barges, 1963: 2). An alternative having minimum expenses with reasonable return compare to others is acceptable. The cost of capital refers to the discount rate that would be used in determining the present value of the estimated future cash proceeds and eventually deciding whether the projects worth under taking or not. The concept of cost of capital can also be used to evaluate the financial performance of the firm. In addition, the cost of capital concept helps management in moving towards its targeted capital structure or an optimal capital structure. There exists relationship between these two elements. In building up its capital structure over a period of time, a firm will depend on that line of financing which involves minimum cost. The capital structure and the cost of capital both are important in maximizing the value of firm. This study is a small effort in this direction in context of Nepal.

In almost all public enterprises capital structure continued to remain vary and indeterminate problem due to the lack of guided criteria that determines it (Shrestha, 1985: 14). The various study reports and official documents relating to public enterprises streamline the maintenance of ad-hoc capital structure to the extent that neither the government nor public enterprises themselves have been serious in the appropriate determination of capital structure. The firms may have different objectives. Among them, shareholder's wealth maximization is one of the most important objective. Most of the Nepalese companies could not meet this objective because in most of the companies there is no existence of debt capital in their capital structure or equity capital is only the source of financing. While in some cases, the proportion of debt is very high which creates the excess burden to the firm and on the other hand, it is very low in some cases. For instance, the use of the debt financing in the capital structure is very poor in banking sector.

From the above discussion, it is cleared that capital structure concept is not taken seriously by the Nepalese companies. Therefore, optimal capital structure doesn't exist at all. Besides this, the concept of cost of capital is also not clear in Nepalese companies because it is impossible to minimize overall cost of capital and

maximization the value of firm with out proper combination of capital structure component in financing of the firm.

"Capital structure policy involves a trade- off between risk and return. Using more debt raises the risk borne by stockholders. However, using more debt generally leads to a higher excepted rate of return raise it. Therefore, the optimal capital structure must strike a balance between risk and return as to maximize the firm's stock price". (Brigham and Houston, 2001).

1.2   Statement of the Problem

The two principal source of long term financing are equity and debt capital. The composition of these two long term financing is known as capital structure (Pandey, 1981). Under normal economic condition earning per share can be increased but leverage also increase the financial risk of the shareholders. As result, it cannot be said that whether or not the value of the firm will increase with leverage. In other words, a great deal of controversy has been developed on whether the capital structure is relevant factor for valuation of the firm. Further they said that value of the firm can be maximized by adopting optimal capital structure (Sharma and Rao, 1969). Modigliani and Miller, on the other hand argue that, in perfect capital market capital structure doesn't affect the value of firm. According to Sharma and Rao, the cost of capital is affected by debt a part from its tax advantage Pandey has used the multiple regressions to test the validity of M-M proposition and concluded that the cost of capital is the functions of capital structure (Pandey, 1981: 49). These studies indicates that the useful theoretical development have not been uniform accords all areas of financial decision making with in an organization. The affect of capital structure is one of the them. There are many studies conducted on capital structure, Cost of capital and value of firm. however no simple and conclusive result exists regarding their relationship whether the capital structure and cost of capital helps to maximize the value of firm. The relationship between them in under-developed countries like Nepal is not yet clearly known.

The reality of Nepalese companies is different from any capital structure theories developed in respect of developed capital market situation. Opposite to the theory of

leverage, Nepalese unlevered companies are operating in profit and most of the levered companies are suffering from loss and hence the values of unlevered firms are much more greater than that of levered companies. Among 114 listed companies very few levered companies operating in profit. Therefore, it cannot be said that whether or not leverage helps to maximize the value of the firm in context of Nepal. Therefore it is the subject of curiosity for the students, researchers businessmen and others who are interested to know that what the actual position of capital structure in Nepalese listed companies and what its effect on overall cost of capital as well as on the value of the firm. Therefore, to meet their curiosity, this study is devoted to examine the relationship between capital structure and the value of the firm in Nepalese companies. On the light of this basic problem, the following special problems have been set and tried to seek their solutions in this study.

1   What is the effect of capital structure on the value of firm. ?

2   How the companies are managing financial needs ?

3   Are they having the optimal capital structure?

4   Does the Nepalese investors are well informed or rational in trading stocks ?

5   Is the quality of financial management good in manufacturing companies ?

6   Does the value of the listed manufacturing companies increase exactly by the tax shield on the interest-on debt on M-M hypothesis states ?

1.3   Objectives of the Study

The main objective of the research is to examine the existing capital structure position of listed manufacturing companies in Nepal and to analyze the effect of capital structure on their value. By taking initial data of Nepalese selected manufacturing companies, this study taken the following specific objectives.

1.   To highlight the capital structure management in general.

2.   To examine whether or not the value of a company increases by the use of debt in its capital structure.

3.   To examine the relationship between the capital structure and value of selected manufacturing companies in Nepal.

4.   To examine the relationship among the capital structures variables with each other and to overall value of manufacturing companies.

1.4   Limitation of the Study

This study is based on the financial statement of the listed companies. The financial statements of manufacturing companies are not readily available, since they are treated as confidential. This study is based on the data published by Nepal Stock Exchange Limited.

Only annual data of the related companies are used for the analysis. Therefore, conclusion drawn from annual data can be somewhat less reliable and less valid. This study is based on sample so it may not explain the real solution of all the manufacturing companies. The dependent and independent variables are computed based on the data published by NEPSE is also the limitation of the study, these studies only covers the capital structure and value of companies and other financial aspects are not consideration.

It is an academic research covering only few companies and limited study period.

1.5   Organization of the Study

This study has been organized to five chapters each devoted to some aspects of the study of capital structure and the value of the firm. Chapter one to five consists of introduction, review of literature, research methodology, presentation and analysis of data and summary, conclusion and recommendations of the study.

Chapter one, deals with the introduction which consists of background of the study, statement of the problem, objectives of the study, limitations of the study and organization of the study.

Chapter two, review of literature includes review of capital structure theories, review from books, review of empirical studies and articles and review of dissertations.

Chapter third, describes the research methodology employed in the study. It explains the nature and source of data, population and sample of the study, research tools, hypothesis to be tested and description of the variables.

Chapter four, deals with analysis and interpretation of data using the statistical and financial tools as stated in the third chapter one. This chapter ends with major findings of the study.

Chapter five, deals with summary, conclusion and recommendation of the shown at the end of the data.

CHAPTER - TWO
REVIEW OF LITERATURE

This chapter covers review of literature. Review of literature not only provides solid information on the topic and also guides along the future streams of actions. It is an integral and mandatory process in research works. Literatures are reviewed with the purpose of developing in sight into the subject. Thus setting the foundation for the present study and linking with past studies and giving it continuity. The review of literature on capital structure is conducted to collect the relevant contribution. It includes conceptual framework along with review of books, journals, research works and previous thesis. This chapter is broadly discussed under three headings. They are:

) Conceptual framework.

) Review of related studies.

) Review of previous thesis.

2.1 Conceptual Framework

Capital structure refers to the relationship among various long term forms of financing which includes mainly three types of securities i.e., equity shares, preference shares and debentures. It is sometimes knows as financial plan, refers to the composition of long term sources of funds such as debentures, long term debt, preference share capital and equity share capital including reserves and surplus i.e. (retained earnings) (Pandey: 1985). Capital structure of a company refers to the composition or make up of its capitalization and it includes all long term capital resources, viz., loans, reserve shares and bonds (Gersthberg: 1960: 72).

Different sources of financing are used to finance current and fixed assets. The sources of financing may be short term or long term but they are usually grouped into debt and equity which represent the firm's financial structure. A distinction is usually made between financial structure and refers to all sources (both short term and long term) that covers the financing of entire assets of a firm whereas capital structure is the capitalized part of a firm's total financing which includes only the long term

sources such as long term debt and equity. Thus the capital structure is part of the financial structure (Pradhan: 2000: 447).

Capital structure and leverage seems alike. But, they are slightly different when the management decides to finance increment assets with debt involving fixed costs. It is said that the company has introduced financed leverage in its financial structure. Thus, it is depend as mix of debt and equity and is expressed in terms of ratio of debt to total fund (RM, Shrivastava, p. 795).

2.1.1 Optimal Capital Structure

The optimal capital structure is the combination of debt and equity that maximizes the total value of the firm or minimizes the weighted average cost of capital (Pandey: 1995: 611). Optimal capital structure maximizes the value of the company or shareholders wealth and minimizes company's cost of capital. The value will be maximized or the cost will minimum when the marginal cost of each sources of funds is the same. An optimum capital structure would be obtained at that combination at debt and equity that maximizes the total value of firm or minimizes the weighted average cost of capital. As the existence of an optimum capital structure implies the simultaneous optimization of both the cost of capital and the firm's market value occupies a central position in the theory of financial management (Hillipparours 947: 237). The normatic objective of the firm of maximizing stock holder's wealth is reduced the cost of capital to a minimum by continuity to raise long-term funds over a time in the least 'expensive way' (Kreps and Watch, 1975: 411). The optimum capital structure may be defined as the relationship of debt and equity securities. This maximizes the value of firm's equity stock it may exist under three situations;

1. The total value of firm is maximizing when its equity stock is at maximum value, market value of debt and preferred stock are not affected by fluctuation with profits of a firms.

2. The optimum capital structure occurs when a firm's overall cost of capital is a lowest point.

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3. The equity stock value should be maximized on per share basis. So as t ensure to optimal capital structure, the issue of additional share may increase the total value of equity stock but this action may decline in per share value of equity stock and the firms may more away from its optimum capital structure. The optimum capital structure should be balance between risks and return born by equity shareholders.

Objectives of optimum capital structures are as follows:

) To maximize the return on equity capital.

) To maximizes the cost of capital.

) To minimizes the risk.

) To increase the flexibility.

) To employ high grade securities.

2.1.2 Factors Affecting the Capital Structure

1. Growth Rates

Other things remaining the same, faster growing firms must rely more heavily on external capital. Further, the flotation cost involved in selling common stock exceed those incurred when selling debt, which encourage rapidly growing firms to rely more heavily on debt. At the same time, however, these firms often face greater uncertainty which tends to reduce their willingness to use debt.

2. Management Attitudes

Since no one can prove that one capital structure will lead to higher stock price than another, management can exercise it's own judgments about the proper capital structure. Some management tends to be more conservative than others and thus use less debt than the average firm in their industry, where as aggressive management use more debt in the guest for higher profits.

3. Sales Stability

A firm whose sales are relatively stable can safely take on more debt and incurs higher fixed charges than a company with unstable sales.

4. Taxes

Interest is tax deductible expense, and deductions are most valuable to firm with tax rates, the higher a firms tax rate, the greater the advantage of debt.

5. Lender and Rating Attitude

Lenders and rating agencies attitudes frequently influence financial structure decision.

6. Profitability

The capital structure of the company should be most advantageous within the constraints maximum use of leverage at a minimum cost should be mode.

7. Control

The effect of debt versus stock on a management's control position can influence capital structure if management currently has rating control (cover 50% of the stock) but is not in a position to buy any more stock, it may choose debt for new financing, on the other hand, management may decide to use equity if the firm's financing situation is so weak that the use of debt might subject it to serious risk of default because of the firm goes this default, the managers will almost surely loss their job, however, it too little debt is used, management runs the risk of a takeover. Thus, control consideration could lead to the use of debt or equity, because the type of capital that best projects management will vary from situation to situation.

According to L. Booth et al. journal of finance (2001 Feb.) capital structure can be affected by;

1.   Development of capital market.
2.   Agency cost.
3.   Growth opportunities.
4.   Profitability position.
5.   Debt tax shield.
6.   Level of economic growth.

In conclusion there is no different in capital structure of developing countries and developed countries.

2.1.3 Financial Structure and Capital Structure

Financial structure refers to the composition of sources and amount of funds collected to use or invest in business "The various means used to raise funds represent the financial structure of an enterprise. The financial structure of an enterprise is shown by liabilities and equity of the balance sheet traditionally, short-term borrowings are excluded from the list of methods of financing the firm's capital budgeting decisions, and therefore, the long term claims are said to form the capital structure of the enterprise. The firms capital structure is used to represent the proportionate relationship between debt and equity. "Equity includes paid up share capital, share premium and reserves and surplus (retained earnings) (Pandey, 1994: 529)." Financial structure is different from capital structure as capital structure includes only the long term sources of financing while financial structure includes both long term and short term sources of financing.

2.1.4 Determinants of Capital Structure

Capital structure refers to the mix of long term sources of funds, such as debentures, long term debt, preference share capital and equity share capital including reserves and surpluses. The capital structure has to be planned initially at the time a company is promoted. The initial capital structure should be designed very carefully. The management of the company should set a target capital structure and subsequent financing decision should be made with view to achieve the target capital structure. The following factors should be considered whenever a capital structure decision has to be taken (Pandey, 1994: 598).

      a)   Leverage

      b)   Growth and stability of sales

      c)   Cost of capital

      d)   Cash flow ability of the company

      e)   Control

      f)   Flexibility

g)   Size of the company

h)   Marketability

i)   Flotation cost

2.1.5   The Capital Structure Theories

Capital structure decision is most important for any company for its financial stability profitability and to the overall value of the firm. In this regard, various scholars have given different theories about the capital structure and value of the firm. The main theories are discuss below:

Net Income Approach

The essence of the Net Income (NI) approach is that the firm can increase its value or lower the overall cost of capital by increasing the proportional of debt in the capital structure. The crucial assumption of this approach are:

(I)   The use of debt doesn't change the risk perception of the investors.

(II)   The debt capitalization role less than the equity capitalization rate (i.e. kd < Ke)

(III)   The corporate income tax do not exist.

Net income approach suggest that the increase in leverage or (debt ratio), total value of the firm increase and overall cost of capital (k_o) declines and cost of equity (k_e) remain constant. If we plot net income in diagram it will be:

Cost of capital

k_e

k_o

k_i

Degree of leverage
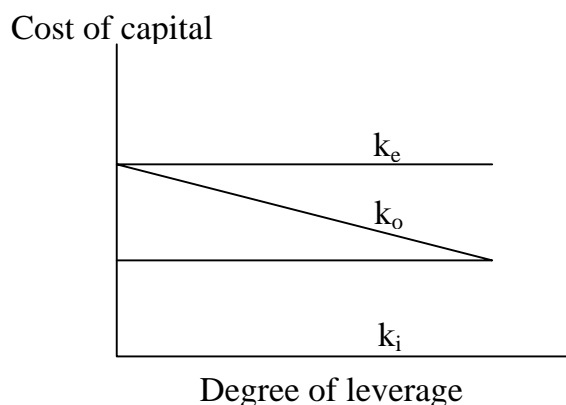
Fig. 1: The Effect of Leverage on Cost of Capital under NI Approach

Net Operating Income Approach

Net operating income approach is opposite to net income approach. In net income approach, optimal capital structure exists but here it does not exist. It states that with the increase in leverage the total value of the firm will remain unchanged and the cost of capital (k_o) will also remain unchanged but cost of equity (k_e) increase.
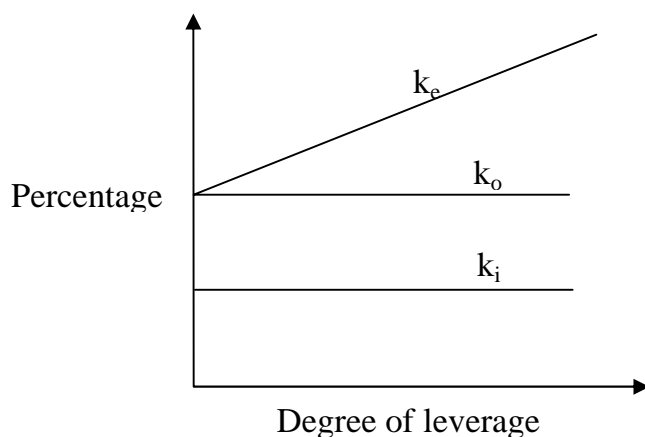
Fig. 2: The Effect of Leverage on Cost of Capital under NOI Approach

The critical assumption with this approach is that k_0 is constant, regardless of the degree of leverage. The market capitalizes the value of the firm as a whole; as a result, the breakdown between debt and equity is unimportant. An increase in the use of supposedly cheaper debt funds is offset exactly by the increase in required equity return, k_e. Thus, the weighted average of k_e and k_i remains unchanged. For all degree of leverage. As the firm increases its degree of leverage, it becomes increasingly more risky. Investor penalize the stock by raising the required equity return directly in keeping the debt to equity ratio. As long as k_i remains constant, k_e is a constant linear function of debt-to-equity ratio. Because the cost of capital of the firm, k_o can not be altered through leverage, the net operating income approach implies that there is no optimal capital structure (Van Horne, 1999: 254).

Traditional Approach

The traditional approach to valuation and leverage assumes that there is an optimal capital structure and that the firm can increase the capital structure can increase the

total value of the firm through the judicious use of leverage (Van Horne, 1999: 254). The traditional view, which is also known as, an intermediate approach, is a compromise between the net income approach and net operating approach. "According to this view, the value of the firm can be increase for the judicious mix of debt and equity capital. This approach very clearly implies that the cost of capital decrease within the reasonable limit of debt and then increases with leverage. Thus, an optimum structure exists and occurs when the cost of capital is minimum or the value of firm is maximum (Pandey, 1985: 236).

Thus, traditional approach supports the net-income approach and suggests that there exists optimal capital structure. According to this approach with the increase in leverage cost of capital first decline and then after reaching a certain point, it would start increasing.
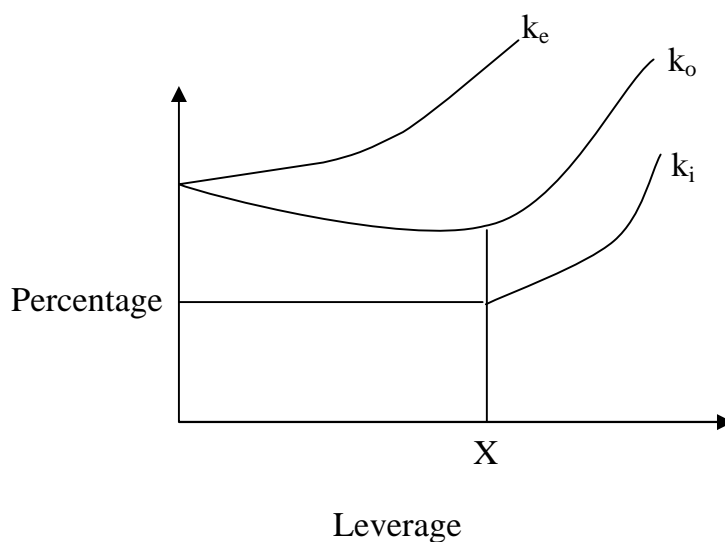
Fig. 3: The Cost of Capital Behavior on the Traditional View

Modigliani-Miller Approach

The Modigliani-Miller hypothesis is identical with the net operating income approach Modigliani and Miller argue that, in the absence of taxes, a firm's market value and the cost of capital remain invariant to the capital structure changes (Pandey, 1985: 239). The crucial assumption of this approach are (I) perfect capital market. (II) Expected future operating earnings are the same for all future period (ii) all firms in the same class have a same degree of business risk and (iv) the absence of corporate and personal taxes.

According to M-M, total value of the two firms will remain the same whether they have more debt or lower debt. Therefore, it is not important how we divide total value between debt and equity. They cannot be different. They talked about homemade leverage versus corporate leverage. It means that whether the company employees debt in capital structure or not. If company not employs debt, shareholder will manufacture the leverage and take advantage associated with debt. According to them, if two firms are identical in each aspect except for their capital structure then their value must be the same.

One firm has more debt and another firm has lower debt. Yet the value of the two firms must be the same. If it is not same than arbitrage will occur. Arbitrage means the shareholders of one company will move to another company. Why they want to move to another company ? Because by moving to another company they get more benefit. How long these arbitrage continue ? Answer is that until and unless the value of two firm became same. This is the main theme of MM approach to capital structure theory.
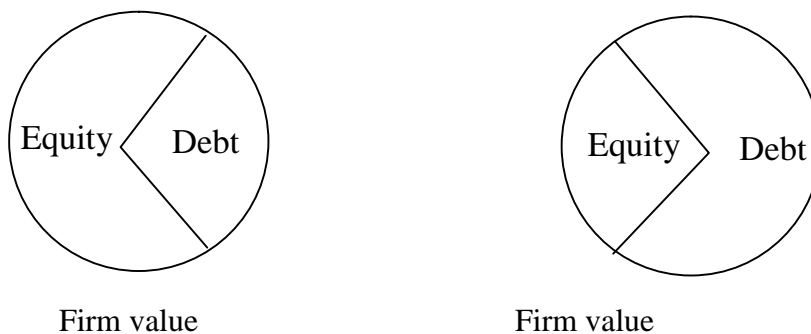
Fig. 4: Capital Structure irrelevancy under MM hypothesis

The M-M hypothesis can be explained in terms of their propositions i land ii.

Proposition I

M-M argue that, for firms in the same risk class, the total market value is independent of the debt equity combination and is given by capitalizing the expected income by the rate appropriate to that risk class. This is their proposition (i) can be shown in figure as:

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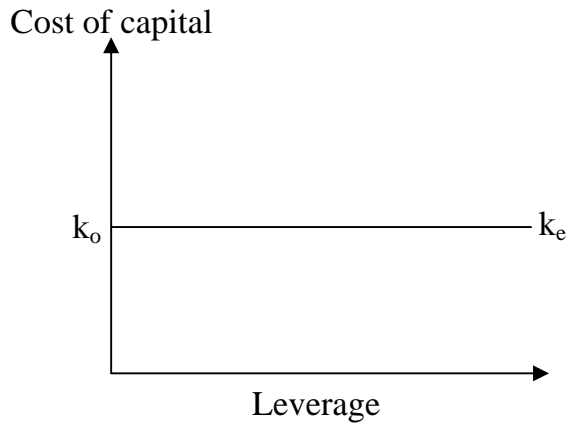
Fig. No. 5: Cost of Capital under MM Hypothesis

According to this proposition, there is no relationship between the value of firm and the way its capital structure is made up, and there is no relationship between the leverage, cost of capital and capital structure.

Proposition II

The essence of second proposition is that the expected rate of returns on equity of a levered company increases or decreases in proportion to the rise of fall in the debt equity ratio. It means that the cost of equity rises proportionately with increase in the finance leverage in order to compensate in the form of premium for bearing additional risk arising by increased leverage. With tax consideration M-M theory reveals that its conclusion is identical to that of net income with every approach, which says that the value of a firm increases with every additional unit of debt financing such as, the theory suggests that it is always better to have maximum debt financing (Sah, 2003).
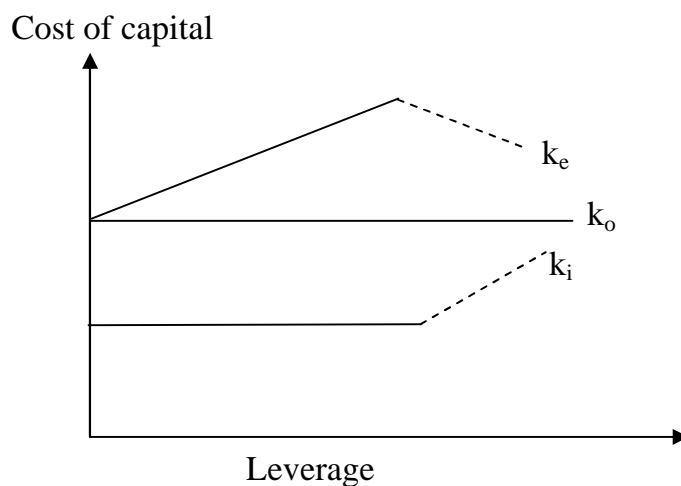
Fig. 6: Cost of Capital under MM Hypothesis II

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As stated above, the value of the firm is irrelevance to its capital structure. The irrelevance of capital structure rests on an absence of market imperfection. However, in reality taxes exists and interest on debt is deductible for the purpose of tax calculation that brings about the market imperfection. However, in reality, taxes exists and interest on debt is deductible for the purpose of the tax calculation that brings about the market imperfection. To the extent that there are capital market imperfection. However, changes in the capital structure of a company may affect the total size of pie to be divided to debt and equity that is to say, the firms valuation and cost of capital may change with changes in its capital structure. So, M-M hypothesis was created the 1936 taking consideration of effects of tax. Interest payment on debt makes a tax saving since interest is deductible from the net profit for the tax calculation. Thus, the value of levered company will be more by the present value of this annual tax shield. Thus, the original M-M. proposition as subsequently adjusted for corporate taxes suggested that an optimal strategy is to take on a maximum amount of leverage (Modigliani and Miller: 1963).

2.2   Review of Journals

The seminar work of Modigliani and Miller (1958) provided theoretical ground in the field of capital structure. They concluded capital structure irrelevance in their first work on the assumption of perfect capital market, homogenous expectations, no taxes and no transaction cost. They propounded that the value of the firm on the basis of cross section analysis of forty three utility companies and forty two oil companies depends on the profitability and not on the capital structure.

Modigliani and Miller (1963):

They reviewed their work relaxing no tax assumption and supported the findings of Weston that interest being tax deductive expense. A firm can get benefit of leverage and proposed companies to utilize as much debt as possible to maximize their value. They concluded that the value of firm is attributed to present value of the operating cash flows generated by assets in place by the tax subsidy on debt, by the growth potentials and by the firm size.

Mecking (1976):

He state that bankruptcy cost increase with the level of debt since there is the fear of that the company might not be able to generate profit to pay back interest and loans. The use of debt also causes increase in the agency cost due to relation of stock holder's and loan lenders and shareholders and managers if the debt is default riskily, the firm's management acting in the shareholder's interest has incentive to change the capital structure in a manner that results in the exploration of wealth from debt holders to the equity shareholders.

Booth et al. (2001):

He studied capital structure in developing countries with extremely different financial markets and concluded that the some variables can effect the choice of capital structure. They also concluded that profitability has an inverse relation with debt level and size. Tehre are many more researchers namely Graham (2001), Handlook and James (2002), Bhken (1973) Rodden and Lawrence (1995) on the some topic in different time.

Wippern(1966):

Wippern has also conducted a test of the relationship between leverage and cost of capital, by running regression on the data of 50 firms from seven manufacturing industries in the year 1956, 1985, 1961 and 1963 (Wippern, 1966/615-633). His main emphasis was to develop an unbiased measure of leverage. He has also included uncertainty variable in his test equation to account for the measure of leverage for both contained conceptual biases. He therefore used a different measures of leverage viz. i/E- 25, where i, is the current level of fixed charges; E is the most recent year cash flow operating income determined from a logarithmic regression of income on time are ten year period, and 25 is equal to two standard errors around the regression line. He used the following regression equation to test the cost of capital hypothesis: $Y = a + b_1$ leverage $+ b_2$ growth $+ b_3$ payout $+ b_4$ log size $+ b_5$ ...... b_{10} industry dummy variables.

In his statistical, represents earning price ratio. His estimates of the regression equation clearly show that equity yields and leverage are linearly related. But the rate of increase is not as great as to satisfy the M-M. hypothesis. His general conclusion therefore is that shareholder's wealth can be enhanced by a judicious of debt (Pandey, 1981/63). In other words the value of the firm can be maximized by proper mix of debt in capital structure of the firm.

Sharma and Rao(1965):

conducted the test of M-M. hypothesis on the influence of debt on the value of firm to a non regulated industry (Sharma and Rao 1969/677). They agreed that estimate of cost of capital arrived at through this model will be accurate only when their hypothesis on debt and dividends are correct, this is an essential condition from the employment of this model. For the study purpose, they used a sample of 30 engineering firms for three years (i.e. 1962, 1964 and 1965) and calculations were made exactly the same ways that made by M-M. with two expectations. They experimented with total assets and sales for deflecting the variables and the results were meaningful when fixed of total assets were used as a deflection. They argued that when the growth rate of total assets of fixed assets was used as the growth variable, the results were some what inconsistent with economic reasoning.

They therefore took the earnings growth rate as the growth variable this would take in to account growth of earnings due both to the utilization of existing capacity and to the additional of new capacity. They used the following equation.

$$\frac{V}{F} = a_1 \frac{\overline{X}_t - t\,\overline{R}}{F} + a_2 \frac{1}{F} + a_3 \frac{\overline{\overline{4\overline{X}t\ Zt\overline{R}}}}{F} + a_4.\frac{D}{F} + U$$

Where,

       V = Value of firm

$\overline{X}_t$ $Zt\overline{R}$ X The expected tax - adjusted earnings.

$\zeta\overline{X}_t$ $Zt\overline{\overline{R}}$ X The growth rate of tax adjusted earnings.

Times current - tax - adjusted earnings.

D = The amount of debt

F = The fixed assets used as a deflector to reduce heterosce dosticity.

They also used two stage least square as a method of arriving at the true expected future earnings. In their study, they found the co-efficient of debt variables to be more than the corporate income tax rate.

Finally, they supported the traditional view and conclude that value of firm and cost of capital is affected by debt, apart from its tax advantage. Hamada has taken the sample of over 304 firms and analyzed 20 years of study period. He used four procedures for his research (Hamada, 1972) such as M-M. valuation model approach, regression between the observed systematic risk of a stock and a number of accounting and leverage variable, the measurement of the systematic risk before and after a new debt issue and assuming the validity of M-M approach. He also used the Chi-square text. Performing such a various tests, he concluded that 16 the M-M. corporate tax leverage proportion, are correct, then approximately 21 to 24% of the observed systematic risk of the common stock can be explained merely be added financial risk taken or by the underlying firm with its use of debt and preferred stock. Both in pricing model and the M-M. theory, borrowing from whatever source while maintaining of fixed amount of equity increase the risk to the investors.

Pandey L.M(1981):

He had tried to test the M-M. approach in developing economy with taking the sample from four different utilities; i.e. cotton, chemicals, engineering and electricity from Indian market (Pandey, 1981/31). He made same improvement in the model derived by M-M. and used multiple regression equation for the year 1968, 1969 and 1970. For the looked data of the three cross sectional years, the improvement was made on the measurement of leverage and added earning variability and liquidity as risk measure variable in the regression equation he used two types of leverage which are as follows:

(i) The debt to total capital ratio i.e. $L_1 = \dfrac{D}{V}$

(ii)   The debt to equity ratio i.e. $L_2 = \dfrac{D}{S}$

The two ratios were measured with or without preference share capital in the debt portion. Both leverage were computed at book value and included short term loan as a part of leverage (debt). for the analysis purpose, he used the following regression equation for each industry.

$$K_0 = a + b_1L_1 + b_2LogS + b_3G + b_4 \quad +b_5 = Liq. + b_6\frac{E}{V} +u$$

Where,

     K_0 = Average cost of capital.

     L_1 = Leverage

     S = Size

     G = Growth

     D/P = Dividend payout ratio

     Liq. = Liquidity ratio

     E/V = Earning variability

     u = Random disturbance term

In the above regression equation, the average cost of capital is regressed with both the measure of leverages; i.e. debt to total capital and debt plus preferred stock to total capital with other exploratory variables and the results were consistent with the traditional view that the average cost of capital declines with the increases in debt in financial structure.

He further tried to test the use of leverage can increase the market value of the firm or lower the cost of capital, due to the tax deductibility of interest charges. The tax adjusted stock yield is regressed with leverage and other exploratory variables. The equation was as follows:

$$\frac{\overline{X} ZtR}{V ZtD} = a_1 + b_1L + b_2LogS + b_3G + b_4 \frac{D}{P} + b_5Liq. + b_6E/V + u$$

Where, $\dfrac{\overline{X} ZtR}{V ZtD}$ = Tax adjusted stock yield of the firm.

In this be used pooled data from three industries, they are cotton, chemicals and engineering and found the co-efficient of both measure of leverage were significant and negative in sign. Therefore, the result supported the traditional belief. He further studied to determine the relationship between leverage and cost of equity with other exploratory variable. The empirical model that he employed was:

$$k_e = a_1 + b_1 L_2 + b_2 LogS + b_3 G + b_4 \frac{D}{P} + b_5 Liq. + b_6 E/V + u$$

Where,

k_e = Cost of earning.

Other variables alike above.

Leverage were measured in two ways. The first leverage variable considered the preference capital as a part of equity capital.

$$\text{i.e. } L_1 = \frac{LTD + STD + PC}{EC + PC}$$

The second measure of leverage variable treated it as a part of debt capital

$$\text{i.e. } L_2 = \frac{LTD + STD + PC}{EC}$$

Where,

LTD = Long term debt

STD = Short term debt

PC = Preference capital

EC = Equity capital

The result of this model was also considered with the traditional approach. The cost of equity decline with leverage at acceptable range of debt and then starts to increase with increase in debt level in capital structure.

Shrestha,(1985):

He had studied about capital structure in selected public enterprises. He took ten public enterprises of Nepal for the study purpose. He sampled ten public enterprises

of Nepal for the study purpose. His study is basically focused on three aspects firstly, providing the conceptual base and determinants of capital structure, secondly, analyzing the capital structure so far devised in selected public enterprises and finally, he had suggested the possible measures to overcome the capital structure problems.

To conduct his study he had used ratio analysis as analytical tools. He had concluded that the selected public enterprise under study had very confusing capital structure since objective based financial plans and policies do not guide the corporations. He further added that many instances adhocism become the basis of capital structure and most of them want to eliminate debt if possible. Again he added that there were neither the public enterprises nor HMG had developed any criteria in determining capital structure nor this is the reasons as to why debt equity ratio becomes a ticklish problem. Finally, he had suggested that the debt equity ratio should be maintained properly. Highly levered company creates more financial obligation that i.e. beyond the capacity to meet, nor should it be much low levered to infuse operational lethargy to bypass responsibilities without performance.

2.3   Review of Relevant Thesis

The number of studies has been carried out on capital structure by the students of management to fulfill the requirement of the masters degree in management. Therefore, this section deals with the review of those thesis/dissertation which are related to the topic.

Adhikari Study (1991):

Adhikari has conducted the empirical study on "The effect of capital structured on the cost of capital" in which he has tested M-M propositions in the Nepalese context. He used simple as well as multiple regression equation to test the relationship between the cost of capital and capital structure with other exploratory variables. For the study purpose, he has selected five listed finance companies and their data from 1976 - 77 to 1988 - 89. He used the multiple regression equation for the analysis. The equation was as follows:

$$k_0 = a_1 + b_1L_1 + b_2LogS + b_3G + b_4\frac{D}{P} + b_5Liq. + b_6E/V$$

Where,

k_0 = Average cost of capital

L_1 = Leverage 1

S = Size of the company

G = Growth

D/P = Dividend payout ratio

E/V = Earning variability

Liq. = Liquidity

The result of the study showed that the cost of capital is the function of leverage. Hence he had supported the traditional view.

Ghimire Study (1999):

Ghimire in this thesis, "The capital structure and cost of capital"; comparative study between trading and manufacturing, and banking and finance sector" tried to test whether the cost of capital declines with leverage or not in Nepalese firms and how does leverage effect the cost of equity in Nepalese situation. He used simple and multiple regression approaches as an analytical tools. For the study purpose, he had used seven years data from 1989 to 1996. he found that the simple and multiple regression coefficients and average cost of capital were negative, size growth and dividend payout ratio and positive with earning variability and liquidity. Hence, he concluded that, the study does not support the M-M's independent hypothesis. In other words, the cost of capital can be affected by the use of debt in capital structure. However, the results were not enough to support the traditional belief.

S.N. Mainali (1996):

Mr. S.N. Mainali made a research about, "A Study on Capital Structure Management of Jyoti Spinning Mills Ltd." with following findings;

)   The company was highly levered.

-) The portion of share capital is comparatively low and increasing with moderate growth rate.

-) The company's earning power is week.

-) Investors of the company are being high loss upon their investment.

Then he suggested that:

-) It is better to issue share capital upon additional requirement of funds.

-) The old debt should be paid of by the sale of unused fixed assets and then search for cheaper source of debt.

-) The company should adopt attractive advertisement policy to push its existing product and promote new market.

Baral's Study (1996):

Mr. Keshar Jung Baral's study on the capital structure of financial institutions of manufacturing enterprise and trading enterprise. They are independent to all factors that are theoretically supposed to affect the capital structure. Thus, it can be concluded that capital structure of corporate enterprise in public sectors in Nepal more or less is the outcome of the deliberate decision of HMG Nepal but not a product of market and their public enterprises structure. In regular movement of proportion of debt and paid up capital suggest the absence of standard debt equity ratio in the corporate enterprise in public sector in Nepal. Hence, he suggests that, capital structure of corporate enterprises in Nepal is unsound.

Ale's Study (2003):

Suman Ale conducted a study by taking seven manufacturing companies from Nepal stock exchange. He took Nepal Battery Company Limited, Nepal Khadya Udhyog Limited, Bottlers Nepal Ltd. (Terai), Jyoti Spinning Mills Ltd. Nepal Lube Oil Ltd., Bottlers Nepal Limited (Balaju) and Nepal Lever Ltd. of a sample which covers 5 years period. he used three models in study.

Model I regressed separately average cost of capital against leverage and other variable that believed to effect cost of capital.

Model II regressed cost of capital against variable that is thought to effect cost of capital separately while Model III used to comparison have been made between the return on investment against the average cost of capital.

His study conclude that leverage have effect on cost of capital. As one increase its leverage one can lower its cost of capital it also shows that the performance of selected companies in terms of return on investment is satisfactory.

Sah, Study (2003):

Binod Kumar Sah also tries to show relationship between capital structure and cost of capital. His study includes two category i.e. finance sectors and non finance sectors and include 26 enterprises within period of 1995/96 to 1999/00.

His study used simple as well as multiple regressions to analyzes accomplished the objectives. Simple regression equations models were used to examine the relationship of cost of capital with each selected variables. Selected variables represents in his study are leverage. Size, dividend payout ratio, earning variability growth and liquidity ratio multiple regression ratio were used to examine the relationship of cost of capital with leverage, cost of equity and leverage ratios together with the selected variables. His study doesn't frequently support to M-M. hypothesis. The result indicates that the cost of capital can be affected by the use of debt in capital structure. However the result is enough to support the traditional propositions and that the cost of equity increase as leverage increase.

Khatri Study (1998):

Bhuvan Singh Khatri made a research about capital structure and the cost of capital of Nepalese listed companies with the objective of testing the M-M hypothesis. He took twelve listed companies from NEPSE including banking sector, insurance and finance sector manufacturing and processing sector, and trading sector. He used simple and multiple regression model as the tool of study and covers five years period.

This study doesn't support the M-M's independent hypothesis. It indicates that the cost of capital can be affected by the use of debt in capital structure. However, the result was not enough to support the traditional belief. The cost of equity, in some cases increase with leverage and n some cases, decreases with leverage. It was also different from the traditional belief. Findings and conclusions of this study is that. Nepalese listed companies have lack of theories and practices knowledge regarding capital structure and the cost of capital concept.

Khaniya Study (2003):

Nabaraj Khaniya conducted a study on "Leverage and Value of the Company Based in Context of Nepalese Listed Companies." He took the data of seven manufacturing companies two companies from Hotel industry two trading companies and one Airline company. The study period varying from company to company within nine years range of 1990 to 1998 A.D. He used simple correlation and regression, multiple regression models and earning valuation Model of Finance was used as the tools of analysis.

On the study, the correlation coefficient, simple and multiple regression coefficients for both tax ignoring and tax adjusted found to give positive relations of leverage with market value of the company for manufacturing sector. However, his result doesn't absolutely agree with traditionalist view. However, his result was found to be near to the traditionalist approach. For trading, transport and hotel sector, he concluded that the use of debt in capital structure minimizes the market value of company

Koirala Study (2005):

Deepak Raj Koirala made the study of "Capital Structure and Value of Listed Manufacturing Companies in Nepal", has tried to suggest that the long term debt net worth ratio should be maintained which is generally determined on the basis of industry average or the firm's post records and the long term debt and equity have equal contribution to the permanent capital.

Acharya Study (1998):

Mr. B.R. Acharya, in his work on "An Analysis of Capital Structure Position of Arihantha Multifibers Limited" concluded that the long term. Financial position of the company is not favourable. The company has long term debt and short term debt financing to acquire assets. The interest on capital employed ratio seems to be low as it fails to pay off interest. The return on owners equity is negative, which indicated that the debt capability to general income is not favourable. Debt to equity ratio is high which shows that outsiders claim on return is greater than that of equity holders. Finally, he stated trace out that the financial risk of the company is high.

CHAPTER - THREE

RESEARCH METHODOLOGY

Research methodology is the procedure by which researcher go about their work of describing explaining and predicting phenomena in the study. Research methodology is the research method used to test the hypothesis it includes some elements that can be found in almost all types of research and on almost all fields, which use research method for investigations (Wolf and Pant, 1999: 63).

In the previous chapter, the conceptual framework regarding capital structure of selected listed manufacturing companies has been discusses. At the same time, available relevant literature, concerning this study has been reviewed as an input to broaden the base of this study. In this chapter detail methodology as the eyes and ears of the study to examine the impact of capital structure with other explanatory variables on the value of the manufacturing companies, has been discussed. This chapter presents the hypothesis to be tested, the models, specifications of variables, list of companies, nature and sources of data, brief explanation of the statistical tests applied, and description of variables.

3.1 Research Design

The research design refers to the entire process of planning and carrying out a research study (Wolf and Pant, 2000: 53). research design is the plan, structure, and strategy of investigation conceives so as to obtain answers to research questions and to control variance (Kerlinger, 1986: 275).

Selection of appropriate design is necessary to meet the study objectives. This study attempts to analyze the relationship between capital structure and value of firm. Hence, analytical as well as descriptive designs are applied. Descriptive approach has been used mainly for conceptualization of the problem. Analytical approach has been followed mainly to analyze the effect of capital structure on the value of firm and other variables.

3.2 Nature and Sources of Data

The sources of data used in this study are secondary in nature. Financial statement of listed companies, financial statistics of listed manufacturing companies and the profile of listed companies published by Nepal Stock Exchange Limited, Kathmandu, are the main sources of data. Here financial statement basically indicates profit and loss account and balance sheets of selected companies. The necessary data and information on capital structure value of firm and other variables used in the study has been collected from website of Nepal stock limited. The website provided by the NEPSE is http://www.nepalstock.com. In addition to this, financial reports, periodicals and other information provided by the companies are the sources of data.

3.3 Population and Sample

Population for this study is all the listed manufacturing companies in Nepal Stock Exchange Ltd. (NEPSE), Kathmandu. There are twenty nine listed manufacturing companies in NEPSE which represent the population of the study. Looking at the data availability of the companies, only six manufacturing companies among the population are taken for the study, which represent. The sample of the study. The study period differs from company depending upon the data availability for the study. The following table shows the list of manufacturing companies selected for the study and their observation periods.

Table 3.1
Name of Manufacturing Companies under Study
Period Selected for the Study

S.N.	Name of the companies	Years	Observation year
1	Bottlers Nepal Ltd. (Balaju)	1997-2006	10
2	Nepal Lube Oil Ltd.	1997-2006	10
3	Joti Spinning Mills Ltd.	1997-2006	10
4	Bottlers Nepal Ltd. (Terai)	1997-2006	10
5	Arun Vanaspati Udhyog Ltd.	1997-2006	10
6	Shree Bhrikuti Pulps and paper ltd	1997-2006	10
	Total observations		60

3.4 Research Tools

To meet the objective as stated in section 1.3, different statistical and financial tools are employed in this study. As the statistical tools. Simple and multiple regression

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model are used and earning valuation model of finance is also be used as the tools for analysis. The models used in this study are described as follows.

Model I

In this Model, the ratio of the total value of the firm and the total assets is regressed against the selected explanatory variables such as leverage, size, growth, dividend payout, earning variability and liquidity. the equations are:

$$V/TA = a + b_1L$$
$$V/TA = a + b_2LogS$$
$$V/TA = a + b_3G$$
$$V/TA = a + b_4DPR$$
$$V/TA = a + b_5E.V.$$
$$V/TA = a + b_6Liq.$$

Where,

V = Market value of the company.

TA = Total assets or the book value of the company

L = Leverage

S = Size

G = Growth rate

DPR = Dividend payout ratio

$E.V.$ = Earning variability

$Liq.$ = Liquidity

Model II

In this Model, the ratio of the company's market value and total assets (i.e. book value of the company) is regressed against all the explanatory variables. The justification for this model is that the value of the company would depend on leverage size, growth, dividend payout ratio, earning variability and liquidity. The regression equation on this model is as follows:

$$V/TA = a + b_1L + b_2LogS + b_3G + b_4DPR + b_5E.V. + b_6Liq.$$

The notations of variables are similar as above.

Model III

In this model, the ratio of tax shield adjusted market value of the company and total assets of the company is regressed against the leverage together with other explanatory variables i.e. size, growth, dividend payout ratio, earning variability and liquidity. This regression model is used to test the correct proposition of M-M (1966 A.D.) that the value of the company increases by the tax benefit on interest payment. The beta coefficient of leverage must not significantly different from zero for supporting the M-M corrected proposition. The equation of Model is:

$$\frac{V\text{-}tD}{TA} = a + b_1L + b_2LogS + b_3G + b_4DPR + b_5E.V. + b_6Liq.$$

Where,

    tD present value of annual tax saving.

3.5 Description of Variables

The model itself does not give clear information about the variables and their relationships used in the study. The concept and measurement of variables takes significance to know and analyze the relationship clearly. Thus, this section devotes on the description of the variables used in the model.

The Ratio of Market Value and Total Assets

It is dependent variables taken as the ratio of the company's market value and total assets (Book value) of the company to eliminate the variation on the market value due to the difference in size. The market value of the company is the numerator of the dependent variable calculated by taking the sum of total liquidity (Excluding equity capital) and market price per share times the number of equity share.

    $V = TL + MPS \times n$

The total assets of the company is the denominator of the dependent variable taken the totality of the assets side of the balance sheet. There, the stock of the company is not traded in market the book value per share is used as the measure of the value of stock.

Leverage

Leverage is the most important variable effecting the company's value. The leverage factor is the ratio of the book value of total debt (D) to the total assets (ta) in book value terminology or market value of debt (B) to the total value (V) of the firm in market value terminology (Weston and Copeland: 1996, 566). In this study, leverage is calculated in book value terminology.

$$\text{So, } L = \frac{TD}{TA}$$

Where,

L = Leverage

TD = Total Debt

TA = Total Assets

Size of Capital Employed (LogS)

It has been suggested in the empirical works that size is correlated with valuation. Generally, the investors prefer to invest their funds in the securities of the large size companies because the large companies can manage the risk efficiently they have recognition in the capital market. They use the assets efficiently and they provide wide marketability of their shares. Other things remaining the same, the market value of the shares of larger firms would tend to be higher.

The natural logarithm of 'Capital employed' at the balance sheet is used as a measure of the company's size. Capital employed companies share capital plus reserve and surpluses, plus long term debts plus short term debt. In simple word, the capital employed comprises the net worth plus total debt.

Growth (G)

The growth in total assets indicates possibility of increase in earning capacity of business. Growth company is generally preferred by the investors to invest since it indicates the optimal utilization of assets and managerial excellence. Therefore, the growth rate is correlated with the company's market value. Increase in sales, increase

in profit, increase in assets, technological efficiency etc. are indicators of growth in a company. Growth can be calculated by result from assets in cross section year minus total assets in one year before dividing by total assets in one year before or previous year. In symbol,

$$G = \frac{A - At}{At}$$

Where,

A = Total assets in cross-section year

At = Total assets in one year before

Dividend Payout Ratio (DPR)

Dividend payout ratio measures the relationship between the earning available paid to equity shareholders and the dividend paid to them. A widely held belief is that the shareholders give more weighted to dividend that to the retain of earnings. It is calculated by dividing the dividing per share by earning per share.

$$DPR = \frac{Dividend\ per\ share}{Earning\ per\ share}$$

Earning Variability (EV)

Earning variability also known as business risk, affects the cost of capital investors prefer less risky business that has stable earning. In this study earning variability risk is the proxy measure for business risk in the regression models. The measure of business risk is a ratio, the numerator of which is the standard deviation of net operating income and the denominator is an average mean of such earning. Thus, this ratio is the coefficient of variation of net operating income.

Liquidity Ratio (Liq.)

A firm's liquid position deals with the question of how well the firm is able to meet its current obligation. Liquidity ratio is used to judge a firm's ability to meet short term obligations. Liquidity measures the short term risk in the company High liquidity effects the earning adversely and low liquidity is more risky. Liquidity effect on the

company's value through the earning and risk. It is calculated by dividing current assets by current liabilities.

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

Expected Earning per Share

It has been suggested that the market price of common stock be determined by investor's evaluation of expected future earning (Johnson: 1962, 627). The expected earning per share is obtained by growing the current year's earning by the growth rate calculated as above described in the same section.

Cost of Equity (k_e)

Cost of equity is shareholders required rate of return over their investment on the equity share of the company. The expected earning per share is capitalized by the equity holder's rate of return for calculating the market price per share. The cost of equity is measured by the value of ordinary shares of the cross section year.

Average Cost of Capital (K_o)

The average cost of capital is calculated by dividing the expected earnings i.e. Net income plus interest) by the average market value of equity share plus book value of preference share and total debt. The market value of share is calculated by multiplying the number of shares and market price of the shares. In case of the shares of the companies whose shares are not traded in the market the book value oft he equity share is used to calculate the average cost of capital in this study.

CHAPTER - FOUR

PRESENTATION AND ANALYSIS

Data presentation and analysis is the fourth chapter of this research study. It is an important phase of the research study. Collecting data is the connecting link to the world of reality for the researcher. The data connecting activity consists of taking order information from reality and transferring it into some recording system. So that it can later be examined and analyze for patterns. Research as media can be interpreted as having a content of data and a process of methodology. methodology is used to bring us the conclusion.

In this chapter, we firstly analyze the variables of capital structure of manufacturing companies by classifying manufacturing companies according to their usage of leverage. After that, we analyze the value of manufacturing companies relating with capital structure variables by correlation analysis. Lastly, we use simple and multiple regression analysis to empirically analyze the data of manufacturing companies taken for the study.

4.1 Analysis of Means and Standard Deviations

In the sense of data analysis, first of all the means and standard deviations of all the variables are presented in this section. The following Table 4.1 shows means and standard deviations of the variables taken for the study, cost of equity and average cost of capital and value of the company.

Table 4.1

Means and Standard Deviations of the Variables of

Listed Manufacturing Companies in Nepal

(60 Observations)

Variables	Mean	Standard deviation
Average cost of capital(k_0)	0.10	0.078
Cost of Equity (k_e)	-0.098	0.30
Market Value/Book Value (V/TA)	1.265	0.286
(Market Value-Tax shield)/Book Value	1.142	0.268
Leverage (L)	1.175	0.49
Size (LogS)	0.345	0.055
Growth in Total Assets (G)	0.183	0.402
Dividend Payout Ratio (DPR)	8.43	1.344
Earning Variability (E.V.)	0.145	0.305
Liquidity Ratio (Liq.)	-0.816	1.235
Market Price Per Share (MPS)	2.916	26.46
Earning Per Share (EPS)	225.65	173.88

Source: Appendix-A

The above table shows the overall view of the variables taken for the study for all the listed manufacturing companies. The above table clearly shows that average cost of capital of listed manufacturing companies is 10% and its scatterness is 7%. Average cost of equity in manufacturing⁻ companies is 9.8%. The scatterness of cost of equity in manufacturing companies is 30%. Above table also shows that the market value of manufacturing companies is 126.5 times their book value in average and its scatterness is 28.6%. The tax-adjusted average market value of listed manufacturing companies is 114.2 times the book value and scatterness in the ratio is 26.8%.

The average leverage in manufacturing companies is 1.175 (i.e. the manufacturing companies are using 117.5% leverage in an average) with the scatterness of 49%.

Average size of listed manufacturing companies is 34.5 times with the scatterness of 5.5%. The growth in total assets of manufacturing companies is 18.2% in average with the scatterness of 40.2%. Average dividend payout ratio of manufacturing companies is 843%, which is scattered by 134%. Average earning variability of the manufacturing companies is 14.5 percent. Market price per share of manufacturing companies is Rs.2.196 in average. Average earning per share of manufacturing companies is positive which shows that the companies are in profit. The standard deviation value of earning per share is high because some companies like Bottlers Nepal Ltd. are earning more while the shares of some companies like Arun Vanaspati Udyog Ltd. have very high negative earnings.

Table 4.1 shows the means and standard deviations of the variables by the manufacturing companies in total.

 Table 4.2 shows the means and standard deviations of the variables by dividing total manufacturing companies taken for the study into four categories according to their usage of leverage. In the following Table 4.2 the companies having up to 0.30 leverage are categorized as low-levered companies, the companies having 0.31 to 0.60 leverage are categorized as middle-levered company and the companies with 0.61 and above than that are categorized as high-levered companies.

Table 4.2

Means and Standard Deviations of the Variables of

Listed Manufacturing Companies
Using different Level of leverage

Variables	Non Levered Companies (Leverage = 0) (observations)		Low Levered Companies (Leverage <0.31) (observations)		Middle Levered Companies (Leverage = 0.31 to 0.60) (observations)		High Levered Companies (Leverage > 0.60) (observations)	
	Means	S.D.	Means	S.D.	Means	S.D.	Means	S.D.
k_0	0.141	0.13	0.134	0.087	0.063	0.058	0.062	0.037
k_e	0.146	0.156	-.008	0.30	-0.45	0.407	-0.081	0.347
V/TA	1.415	0.287	1.254	0.27	1.322	0.304	1.068	0.286
(V-tD)/TA	1.413	0.287	1.192	0.262	1.17	0.319	0.796	0.206
Liq	1.608	0.411	1.27	0.58	1.023	0.685	0.844	0.295
Lev	0.00	0.00	0.202	0.069	0.49	0.097	0.691	0.054
G	0.126	0.221	0.50	0.760	0.131	0.335	-0.028	0.293
Logs	8.494	0.428	7.845	0.325	8.627	4.329	8.771	0.296
DPR	0.178	0.208	0.352	0.685	0.051	0.325	0.00	0.00
E.V	0.503	0.126	-0.661	1.325	-0.92	0.637	-2.19	2.854
EPS	36.17	20.935	15.58	46.59	-15.05	20.91	-25.04	17.43
MPS	529.68	321.83	231.16	178.30	231.16	158.94	30.6	36.47

Source: Appendix-A (v).

Table 4.2 shows that the average cost of capital is lowest for high levered companies and highest for low-levered companies. The standard deviation of 0.058 shows that there is more uniformity in average cost of capital in middle-levered companies than that of other companies. The mean value of cost of equity is highest for non-levered companies and lowest for high-levered companies. The above table shows that the required rate of return on investment for common shareholders increases with the amount of debt used by the companies in their capital structure. The cost of equity is low for high-levered companies than that of non-levered companies, which does not support to our expectation, which may be due to data inconsistency. The standard deviation of 0.15 indicates that there is more uniformity in the cost of equity of non-levered companies than that of other companies.

The ratio of market value to book value of company is highest for non-levered companies (i.e. 1.41 times). The ratio is lowest for high levered companies (i.e. 1.06 times). This indicates non-levered companies are valued more at market than that of other companies. The standard deviation of the ratio is highest (i.e. 0.30) among the companies which indicates the ratio of market value to book value of company is more scattered in middle-levered companies. The ratio of tax-adjusted market value to book value is highest for non-levered companies among the companies using different level of leverage.

Average liquidity ratio is highest for non levered companies (i.e. 1.608) and lowest for high-levered companies. This indicates that the liquidity position of non-levered companies is better than that of other companies. The average size of high-levered companies is highest and that of non levered companies is lowest (i.e. log 7.81 i.e. Rs.64.57million). The value of standard deviation shows that there is highest scatterness among the size of middle-levered companies than other companies. The growth rate of total assets in low-levered companies is highest (i.e. 0.5 i.e. 50%). The negative growth rate of high-levered company shows that these companies are not the growing companies.

Average dividend payout ratio is highest for ,low-levered companies (i.e. 0.352) and lowest for high-levered companies. This indicates that low-levered companies are paying more of their earnings as dividends to the shareholders than other companies. The scatterness in dividend payout ratio is high in low-levered companies. Earning variability is highest in non-levered companies (i.e. 0.503) and lowest in non-levered companies. Average market price per share is high for non levered companies, which indicates that the investors pay more for the companies that use all equity capital in their capital structure. Due to the fact that in many observations the share of the companies are not traded in the market which is the reason for being the values of standard deviation so high in all categories of companies. Average earning per share is highest in non-levered companies and negative in middle and high-levered companies.

4.2 Capital Structure and Value of the Company

In this section, we analyze the value of manufacturing companies with the capital structure variables (i.e. leverage, growth, size, dividend payout ratio and earning variability). Firstly, we make the correlation analysis to know the relation between the variables. After that, we use simple regression analysis and finally, we make multiple regression analysis for the variables as stated in chapter three.

4.2.1 Correlation Coefficient between Variables

The actual data of selected listed manufacturing companies relating with the variables specified in chapter three, yields the following coefficient of correlation between the variables as shown in table 4.2.

Table 4.3

Correlation Coefficient between Variables of

Listed Manufacturing Companies

Variables	V/TA	Liq.	Lev	Logs	DPR	G	E.V
V/TA	1	.433*	-.276	0.200	-0.062	-.293*	.042
Liq.		1	-.084	-0.28	.193	-.259	.052
Lev			1	.977*	0.303	-.142	-.133
Logs				1	.388*	-.351*	-.106
DPR					1	-.471**	-.046
G						1	-.046
E.V							1

*Correlation is significant at the 0.05 level (2- tailed).

**correlation is significant at the 0.01 level (2- tailed).

Source: Appendix-B.

The Table 4.3 shows the correlation between each of the variables taken from manufacturing companies. Table 4.3 shows that in manufacturing companies the ratio of market value to the book value is negatively correlated with the leverage. It indicates that the value of the investor's expectation on increased return due to increasing leverage less than the value of the risk perception of the investors for the

leverage. The ratio of market value to the book value of the company is negatively correlated with the size, which means investors give less value to the large size company. This may be due to the large companies is not perceived to manage risk efficiently and they are less recognition in the capital market, which in effect provide less marketability of their shares. There is low degree of correlation between the value of company with the growth in total assets. The negative correlation coefficient between the ratio of market value to book value and growth indicates that the investors give less value to the growing firms in their investments. The negative correlation coefficient between the value and dividend payout ratio shows that the companies paying dividend have negative impact at the market. There is the positive correlation between the value of company and earning variability, which indicates the companies having more fluctuating operating profit are more valued by the investors. The value is negatively correlated with the liquidity, which indicates that increase in liquidity position decrease the company's value in Market. This negative correlation may be because the companies are financing their net working capital by cost bearing capital, which affects the profitability of the company adversely.

Leverage is positively correlated with the size of the company and negatively correlated with growth in total assets, dividend payout ratio, earning variability and liquidity ratio. Positive correlation between leverage and size shows that the larger companies use more leverage in their capital structure. The negative correlation between growth and leverage shows that the companies which have higher growing total assets have low leverage. Other negative correlation coefficients indicate that the leverage decreases as the increase in earning variability, and liquidity ratio of the company.

The size and liquidity of manufacturing company is negatively correlated with growth in total assets and is negatively correlated with earning variability, dividend payout ratio, and earning variability of the company. The growth rate on total assets is negatively correlated with dividend payout ratio and with earning variability of company. However, there is negative correlation between growth and size and liquidity it is not significant. Dividend payout ratio is negatively correlated with earning- variability and liquidity but the relation between dividend payout ratio and

earning variability is significant. There is positive correlation between the earning variability and liquidity ratio of company. This indicates that the more the current assets in company, there is higher variability in its earnings.

4.2.2 Simple Regression Analysis of Variables

The regression analysis is used to develop an estimating equation that is mathematical formula that relates the known variables to the unknown variable. In this analysis the ratio of market value to book value of company is the unknown variable and leverage, growth, size, liquidity ratio, dividend payout ratio and earning variability are the known variables. In this section, the dependent variable is regressed against each of the independent variables to examine the impact of each variables on the market value of the company. The simple regression result for the Nepalese manufacturing companies is presented in table 4.3.

Table 4.4

Result of Simple Regression Analysis of Selected Variables for

Listed Non-Leverage Manufacturing Companies

Models	No. of Observations	Constant (a)	Beta Coefficient	R^2	SEE	t-value
$V/TA = a + b_1 Lev$	19	-	-	-	-	-
$V/TA = a + b_2 LogS$	19	0.292	.132	.039	.2899	.827
$V/TA = a + b_3 G$	19	1.435	-.179	0.019	.292	-.573
$V/TA = a + b_4 DPR$	19	1.364	.271	0.039	2.88	.829
$V/TA = a + b_5 E.V.$	19	1.274	.276	0.015	.2935	.506
$V/TA = a + b_6 Liq.$	19	1.292	.007	-0.04	.2937	.473

Source: Appendix i.

The regression coefficient for each of the capital structure variables against the ratio of market value to book value of the non-levered company is shown in above Table 4.4. From above table, we see that the regression coefficient of leverage against ratio of market value to book value of company is none. Because above table represent the non-levered companies.

The regression coefficient for size of the company against the ratio of market value to book value of the company is positive which indicates that the increase in size of

capital employed lend to increase in the market value of the company. The t-value justifies the positive relation of size and the value of company but insignificant 5 percent level of confidence. Since the value of R^A is 0.039 which means that the out of total value of market to book value, only 3.9 percent changes due to size of company. Similarly, the beta coefficient of growth to the market value to book value in negative. It indicates that the investors give more value of growing companies and the value of R^2 indicates that the variation in the value due to growth in total assets of company is 0.19 percent. Again, the regression coefficient of value on dividend payout ratio is positive. Which indicates that the increase in dividend payout ratio increase the market value of the company. The t-value at 5 percent level of significant justify the positive relation of dividend payout ratio to market value and the coefficient of determination tells us that the variation in the value due to dividend payout ratio is 42.8 percent. The beta coefficient of earning variability is negative which means 1 percent increase in earning variability decrease the percent market value of company by 27.6 The coefficient of determination indication that the variation in value due to earning variability is only 27.6 percent. Similarly the beta coefficient of liquidity ratio in positive which indicates that a percentage increase in the liquidity ratio increase the value of company by 0.0079. The coefficient of determinant (R^2) in -0.04, which indicates that out of total variation in the market value of company only 4.5 percent is due to the liquidity ratio.

Table 4.5

Result of Simple Regression Analysis of Selected Variables for Listed Low-Leverage Manufacturing Companies

Models	No. of Observations	Constant (a)	Beta Coefficient	R^2	SEE	t-value
$V/TA = a + b_1Lev$	12	.860	1.948	.249	.2475	1.823
$V/TA = a + b_2LogS$	12	.856	.005	.004	.2851	.192
$V/TA = a + b_3G$	12	1.310	-.111	.096	.2716	-1.031
$V/TA = a + b_4DPR$	12	1.282	.004	.013	.2838	.367
$V/TA = a + b_5E.V.$	12	1.266	.0018	.008	.2845	.285
$V/TA = a + b_6Liq.$	12	1.304	-.003	.007	.2847	-.266

Source: Appendix (ii).

The regression coefficient for each of the capital structure variables against the ratio of market value to book value of low levered company is shown in table no. 4.5 from

above table, we see that the beta coefficient of leverage against ratio of market value to book value of company is 1.948 which indicates that 1 percent change in leverage affects 194.8 percent change in value of firm for low levered firm. In other word the use of debt in capital structure decrease the market value of the company and the coefficient of multiple determination is small i.e. (0.45) which indicates the variation of in the market value of company is less. As far as the t-value is concerned, it is positive and significant at 5 percent level of significant.

Similarly beta coefficient of size of firm to the market value to book value of company is positive which indicates that the increase in size of capital employed lead to increase in the market value of the company. The coefficient of determination is 0.009, which indicates that out of total variation only 0.9 percent is due to size of capital employed. The t-value is positive and significant at 5 percent level of significant.

The regression coefficient of value on dividend payout ratio for low levered companies is positive, which means that increase in dividend payout ratio increase the market value of the company. The t-value justifies the positive relation of dividend payout ratio and value and the coefficient of determination tells us that the variation in the value due to dividend payout ratio is only 1.3 percent. The beta coefficient of value on growth for low levered companies is negative, which mean the increase in growth, decrease the market value of company. The beta coefficient of liquidity ratio of low-levered companies is negative, which indicates that investors give more value to the companies with having low current assets for their investment. The coefficient of determinant of E.V. is 0.018 which indicates that out of total variation, only 1.8 percent is due to EV. Similarly the coefficient of determinant of liquidity ratio is -0.0039 which is very small, and it means that the variation in the value of company due to the variable taken for the study is only .39 percent for low levered companies.

Table 4.6

Result of Simple Regression Analysis of Selected Variables for Listed Middle-Leverage Manufacturing Companies

Models	No. of Observations	Constant (a)	Beta Coefficient	R^2	SEE	t-value
V/TA = a + b_1Lev	18	2.044	-1.460	.211	.2843	-2.002
V/TA = a + b_2LogS	18	3.514	-.254	.049	.3122	-.875
V/TA = a + b_3G	18	1.302	.219	.059	.3105	.970
V/TA = a + b_4DPR	18	1.311	.412	.008	.3056	1.204
V/TA = a + b_5E.V.	18	1.492	.172	.127	.2990	1.478
V/TA = a + b_6Liq.	18	1.072	.252	.328	.2623	2.707

Source: Appendix (iii).

The regression coefficient for each of the capital structure variables against the ratio of market value to book value of the middle levered manufacturing companies is shown in above table no. 4.6. From the above table, we see that the beta coefficient of leverage against ratio of market value to book value is negative, indicates that the value of company decrease as the increase in leverage for middle levered companies. The coefficient of multiple determinant is very small i.e. 3.3 percent only. Which indicates out of total variation only 3.3 percent change due to leverage. As for as the t-value is concerned, it is negative and significant at 5 percent level of significance.

The beta coefficient for size of the company against the ratio of market value to book value of the company is negative which indicates that the size of capital employed lead to decrease in the market value of the company. The t-value at 5 percent level of significance also justifies the negative relation of size and value of the company for middle levered companies. The value of R^2 is very small i.e. (0.01) only, that means the variation in the value of company due to size is very small.

The regression coefficient of value on dividend payout, ratio, growth, and liquidity ratio is positive and the t-value ratio is significant.

The beta coefficient of earning variability is positive for middle levered companies. Which indicates 1 percent increase in E.V increase the value of firm by (8%). The value of R^2 is 0.309, that means the variation in the value of company due to the

earning variability is 8 percent for middle levered companies. The t-value at earning variability in positive and significant at 5 percent level of significance.

Table 4.7

Result of Simple Regression Analysis of Selected Variables for

Listed High-Leverage Manufacturing Companies

Models	No. of Observations	Constant (a)	Beta Coefficient	R^2	SEE	t-value
V/TA = a + b_1Lev	12	-1.446	3.628	.469	.2213	2.658
V/TA = a + b_2LogS	12	6.728	-.668	.447	.2259	-2.541
V/TA = a + b_3G	12	1.058	-.102	.011	.3020	-.297
V/TA = a + b_4DPR	12	-	-	-	-	-
V/TA = a + b_5E.V.	12	1.161	.454	.206	.2706	1.44
V/TA = a + b_6Liq.	12	1.194	-.163	.027	.2996	-.467

Source: Appendix (iv).

The regression coefficient for each of the capital structure variables against the ratio of market value to book value of the high levered manufacturing companies is shown in above table. From above table, we see that beta coefficient of leverage to the market value to book value is positive for the high levered manufacturing companies which indicates that value of company increase as increase in leverage for high levered companies. The coefficient of multiple determinants is very small i.e. 3.68 percent, indicating out of total variation only 3.68 percent change due to the leverage. As far as t-value is concern, it is negative and significant at 5 percent level of significance.

The beta coefficient of the size of the company against ratio of market value to book value is negative for high levered companies indicates that the size of capital employed lead to decrease in the market value of the company. The value is about 64.6 percent which means out of total variation only 64.6 percent variation due to the size of capital employed for high levered companies. The t-value is negative and significance at 5 percent confidence level.

The beta coefficient of growth and liquidity ratio indicated the negative relation to the ratio of market value to the book value for high levered companies. As far as the t-value is concern, it is negative and both significance at 5 percent level of significance.

The R^2 of Liquidity ratio is small i.e. 1.1 percent, which indicates that out of total variation about 1.1 percent variation due to the liquidity ratio for high levered companies. The beta coefficient of growth and E.V to the ratio of market value to book value is positive which means that if 1 percent increase in dividend payout ratio, the value of firm increase by 5 percent for high levered companies. The coefficient of multiple regression (R^2) is zero percent. So far as t-value is concerned it is negative and significant at 5 percent level of significance.

4.2.3 Multiple Regression Analysis of Variables

In this analysis, the ratio of market value to book value of the company is regressed against all the explanatory variables as per the second model specified in chapter three. Table 4.4 represent the regression result of manufacturing companies using ratio of market value to book value of the company as the dependent variable and leverage, size, growth, dividend payout ratio, earning variability and liquidity ratio as independent variables.

Table 4.8

Result of Multiple Regression Analysis of Selected Variables for

Listed Non-Leverage Manufacturing Companies

Reg. Eq^n:V/TA = a + b,L + b_2LogS + b_3G + b_4DPR + b_5E.V. + b_6Liq.

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	0.317	-	.111	-.142	.219	.131	.0042	.093	.322
t-value		-	.463	-.380	.555	.163	.235		

Source: Appendix - (i).

The regression result in the table 4.8 shows the zero coefficient or leverage for non levered companies. This indicates that became non-levered companies do not use the debt. Similarly. the beta-coefficient of size, growth, dividend payout ratio, and liquidity ratio are positive. Which indicates that investor give more value for size, dividend payout ratio and liquidity of the company and for the companies, which give

the greater portion of their earnings as dividend, which growth rate is positive. The t-values of size dividend payout ratio, and significant at 5 percent level of confidence.

The beta coefficient of growth is negative for non levered companies. The t-value is negative and significant at 5 percent level of confidence. The multiple coefficient of determinant (R^2) is 0.093 which indicates that the variation in the value of company due to the variables taken for the study is 9.3 percent. This indicates that the value of Nepalese non levered manufacturing companies is driven by capital structure variables that are taken for study.

Table 4.9

Result of Multiple Regression Analysis of Selected Variables for Listed Lower-Leverage Manufacturing Companies

Reg. Eq^n: V/TA = a + b$_1$L + b$_2$LogS + b$_3$G + b$_4$DPR + b$_5$E.V. + b$_6$Liq.

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	1.824	.330	-.005	-.476	.438	.138	-.364	.704	.2199
t-value		.235	-.001	-2.319	1.475	.489	-1.068		

Source: Appendix - (ii).

The regression result in the table 4.9 shows the positive coefficient for leverage. This indicates that the value of company increase as the increase in the leverage for low levered companies. This means that the increase in the debt by company will increase value in the market for low levered companies. Similarly, the beta coefficient of size, growth and liquidity is negative which indicates the negative relation to the market value of low levered manufacturing companies. Similarly the beta-coefficient of dividend Payout ratio and earning variability and size are positive to the ratio of market values to book value. The multiple coefficient of determinant R^2 is only 0.704, which indicates that the variation in the value of low levered companies due to the variables taken for the study is 70.4 percent. This indicates that the value of Nepalese low levered manufacturing companies is driven by other factors than the capital structure variables that taken for study.

Table 4.10

Result of Multiple Regression Analysis of Selected Variables for

Listed Middle-Leverage Manufacturing Companies

Reg. Eq^n: V/TA = a+ b$_1$L + b$_2$LogS + b$_3$G + b$_4$DPR + b$_5$E.V. + b$_6$Liq.

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	-3.547	-.744	.546	.531	.690	-.201	.262	.487	.2807
t-value		-.832	.568	.851	.438	-.496	2.127		

Source: Appendix - (iii).

The regression result in the table 4.10 shows that the beta coefficient of size, dividend pay out ratio and liquidity are positive. This indicates that value of middle levered companies increase with increase in debt and greater liquidity ratio. The t-value for all variables are insignificant at 5 percent level of confidence the value of R^2 is 0.487 which indicates that the variation in the value of company due to the variables taken for the study is only 48.7 percent. This means that the value of Nepalese middle levered manufacturing companies is driven by other factors than the capital structure variables that are taken for the study.

Table 4.11

Result of Multiple Regression Analysis of Selected Variables for

Listed High-Leverage Manufacturing Companies

Reg. Eq^n: V/TA = a + b$_1$L + b$_2$LogS + b$_3$G + b$_4$DPR + b$_5$E.V. + b$_6$Liq.

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	3.947	4.07	-.595	.639	-	000.1	-.546	.955	.009
t-value		4.549	-.539	3.980	-	-.076	-.373		

Source: Appendix - (iv).

The regression result in the table 4.11 shows that the beta coefficient of leverage, growth and liquidity of high levered companies are positive, these indicating that the

value of company increase with increasing the leverage,. As far as t-value concern, it is positive and insignificance at 5 percent level of confidence for leverage and. The beta coefficient of size and liquidity of high levered manufacturing companies in negative, which indicates that decrease is size of capital employed and liquidity lead to decrease in the market value of the company. The beta as far as t-value concerned for size, it is negative and significance at 5 percent level of confidence. Also, the t-value for liquidity is negative and insignificance at 5 percent level of confidence. The value of R^2 is 0.955, which indicates that the variation in the value of company due to variables taken for the study is 95.5 percent. This indicates that the value of high levered manufacturing companies in driven by the capital structure variables that are taken for study.

4.3 Tax Adjusted Value and Capital Structure

In this section, the effect of the capital structure variables on the ratio of tax-adjusted value to book value of company is analyzed by using the third model of regression equation as stated in chapter three. Here the relation between the tax-adjusted value of the company and the capital structure variables is analyzed by using the multiple regression model in which the ratio of market value to the book value of company is taken as dependent variable and leverage, size, growth, dividend payout ratio, earning variability and liquidity ratio as independent variables. The result of multiple regression of the variables taken for the study is presented in following table 4.12.

Table 4.12

Result of Multiple Regression Analysis of Selected Variables for

Listed Non-Leverage Manufacturing Companies

Reg. Eq^n: $\dfrac{V\text{-}tD}{TA} = a + b_1L + b_2LogS + b_3G + b_4DPR + b_5E.V. + b_6Liq.$

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	3.17	-	.111	-.142	.219	.131	.0042	.093	.3220
t-value		-	.463	-.380	.555	.163	.235		

Source: Appendix-(v)

The beta coefficient of growth ratio are negative for non-levered companies that indicates that the tax adjusted value of company low for non-levered manufacturing companies. The t-value of growth explain that the regression coefficients for these variables are significant. The t-value of 0..38 shows that the beta coefficient of growth rate is insignificant.

The table shows the beta coefficient of size and dividend payout ratio, earning variability are positive. Which indicates that the investor give more value to the large and dividend paying companies. The t-value of size and dividend payout ratio explain that the regression coefficients for these variables are significant at 5 percent level of significance. The value of R^2 0.684, which indicates the variation in the value of company after tax adjusted due to variables taken for the study is 68.4 percent. This indicates that the value of non-levered manufacture companies with tax adjustment is driven by the capital structure variables that are taken for study.

Table 4.13

Result of Multiple Regression Analysis of Selected Variables for

Listed Low-Leverage Manufacturing Companies

$$\textbf{Reg. Eq}^{\textbf{n}} : \frac{\textbf{V-tD}}{\textbf{TA}} = \textbf{a} + \textbf{b}_1\textbf{L} + \textbf{b}_2\textbf{LogS} + \textbf{b}_3\textbf{G} + \textbf{b}_4\textbf{DPR} + \textbf{b}_5\textbf{E.V.} + \textbf{b}_6\textbf{Liq.}$$

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	2.083	.0052	-.003	-.472	.426	.265	-.378	.684	.219
t-value		.037	-.042	-2.311	1.441	.535	-1.114		

Source: Appendix- (vi).

The beta coefficient of growth, size, liquidity for low levered listed manufacturing companies are negative. This indicates that the tax adjusted value of company is low for low levered companies. The t-value for these variables are negative and insignificance at 5 percent level of significant.

The table shows the beta coefficient of dividend payout ratio , leverage, and earning variability of low levered companies are positive. This indicates that the investor give more value to the more dividend paying companies. As far as t-value concern, it is positive and insignificance at 5 percent level of confidence. The value of R^2 is 0.684,

which indicates the variation in the value of low levered company after tax adjustment is due to variables taken for the study is only 68.4 percent.

Table 4.14

Result of Multiple Regression Analysis of Selected Variables for

Listed Middle-Leverage Manufacturing Companies

$$\text{Reg. Eq}^n : \frac{\text{V-tD}}{\text{TA}} = a + b_1L + b_2LogS + b_3G + b_4DPR + b_5E.V. + b_6Liq.$$

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	-3.785	-1.059	.573	.543	.733	-.211	.262	.534	.2801
t-value		-1.186	.597	.872	.466	-.523	2.126		

Source: Appendix- (vii).

The regression result in the table 4.14 shows that the beta coefficient of leverage is negative for middle levered listed companies. This means that increase in amount of debt the tax-adjusted value of company is decrease for middle levered companies. The t-value of leverage is negative and insignificant at 5 percent level of confidence. Similarly the size of growth rate, dividend payout ratio, liquidity and growth are positive to the tax adjusted value of company for middle levered companies. This indicates the invertors give more value to the large and dividend paying companies. The value of R^2 is 0.534 which indicates the variation in the value of middle levered company after tax adjustment is due to variables taken for the study in only 53.4 percent.

Table 4.15

Result of Multiple Regression Analysis of Selected Variables for

Listed High-Leverage Manufacturing Companies

$$\text{Reg. Eq}^n: \frac{\text{V-tD}}{\text{TA}} = a + b_1L + b_2LogS + b_3G + b_4DPR + b_5E.V. + b_6Liq.$$

	Constant (a)	Lev	LogS	G	DPR	E.V.	Liq.	R^2	SEE
Beta Coefficient	2.586	.942	-2.19	.115	-	.003	-.530	.676	.1759
t-value		.544	-1.025	.371	-	.930	-1.875		

Source: Appendix- (viii).

The regression result in the table 4.15 shows that the beta coefficient of leverage is positive for high levered companies. Which indicates that increasing the amount of debt increase the tax adjusted value of high levered companies. The t-value of leverage is positive and significant. Similarly beta coefficient of growth rate and earning variability and positive that gives the investors give more value to the large and growth companies. The t-value of liquidity is negative and insignificant at 5 percent level of significance. The beta coefficient of size and liquidity ratio is negative. this indicates that the investors give less value for size of company. This also indicates that the investor give more value to the companies having low current assets for their investments. The value of R^2 is 0.676, which indicate that the variation in the value of company due to the variables taken for the study is 67.6 percent. This indicates that the value of Nepalese high levered manufacturing companies is driven by the capital structure variables that are taken for the study.

4.4 Major Findings of the Study

In previous section of this chapter, the collected data are tabulated in understandable manner and different statistical tools are used to analyzed the data. In this section the major findings through the analysis of the data is presented the major findings of this study can be discussed as under.

ʃ   The average cost of capital of non-levered companies is the highest i.e. 14.1 percent than that of the companies using other level of leverage and the average cost of capital of high levered companies is the lowest i.e. (6.4%). The average cost of capital of the manufacturing companies as a whole is 10 percent. The cost of equity of the companies using non-level of leverage is highest of 14.1 percent, whereas the cost of equity as a whole is only 10 percent. This result shows that the manufacturing companies which have higher leverage are enjoying the lowest overall cost of capital.

ʃ   The cost of capital can be affected by the use of debt in capital structure. The cost of capital is decline with increase in leverage. Thus the result support to the traditional proposition and reject to the M-M proposition. Also the cost of equity also decline with increase in leverage.

The correlation matrix shows that the value of company is positively correlated with the size of capital employed, dividend pay out ratio, and liquidity ratio and it is negatively correlated with growth and earning variability. The negative correlation between leverage and value of company indicates that the value of investors-risk perception for the increased leverage is high than their expectation for the increased return due to increasing leverage.

The simple regression model results shows that the beta coefficient of growth is negative. while beta coefficient of size and dividend payout ratio earning variability of the companies are positive. This indicates that the value of Nepalese manufacturing companies decrease with the use of debt in the capital structure of companies.

The multiple regression result shows the value of company for both tax adjusted and without tax adjusted is positively related with dividend payout ratio (except in high-levered companies) indicates investor's give more value which give the greater portion of their earning as dividend.

The multiple regression results shows that the size of capital employed and dividend payout ratio for non levered and low levered companies are positive but it is negative for both middle levered manufacturing companies. Similarly, beta coefficient of dividend payout ratio (except middle levered) are positive like wise earning variability (except Non levered) companies are positive.

The multiple regression results shows the value of tax-adjusted company is negatively related with E.V of Non levered companies. While it is positive of other levels. Similarly, growth rate in total assets and dividend payout ratio are positive for high levered companies, but are negative for non and low levered companies.

The negative coefficient of leverage indicates that the increasing level of debt in the capital structure of Nepalese manufacturing companies decrease their value. This may be because many Nepalese manufacturing companies are financing their net working capital by interest bearing fund. Many companies have positive earning and negative income in debt further increased their cost

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which is another cause for decrease in the value of company but when the amount of debt further increase, it reduced the lost and increased the value of companies.

) The negative coefficient of growth indicates that's the value of company does not increased by increasing the total assets of the company rather it decrease the market value of the company.

) The value of coefficient of multiple determination (R^2) is high for low levered, middle levered and high levered companies. Which indicates that the variation in the market value of company due to the variables taken is high. In other words, these variables are driving the market value of company in those manufacturing companies.

) The value of coefficient of multiple determination (R^2) for Non levered manufacturing companies are high which indicate that the variation in the market value of company due to the variables takes is very small. In other words these variables are driving the market value of company in these in Nepalese manufacturing companies.

CHAPTER - FIVE
SUMMARY, CONCLUSIONS AND
RECOMMENDATIONS

The subject matter of study consisting introduction, problem of the study, objective of study, variable of study, organization of study and limitation of study have been already presented in first chapter. In the second chapter, it included a discussion on the conceptual framework, financial leverage, capital structure theories, optimal capital structure and review of major empirical works relating to the capital structure and value of firm. Research methodology - adopted to achieve the objective i.e. models, specification of the variables, sample selection, data collection and limitation of the study is briefly descried in the chapter third. All articles, data are presented and analyzed in the forth chapter, lastly the last chapter deals with summary, conclusion and recommendations of the study.

5.1 Summary

A financing mix, which will lead to maximization of shareholders wealth as reflected in the market price of shares is termed as an optimum capital structure. The capital structure concept has an importance place in the theory of financial management. Financial structures is refers to the way the firm's assets are financed. Financial structure is represented by the entire right-hand side of balance sheet. Capital structure of capitalization of the firm is permanent financing represented by long-term debt preferred stock, and shareholder's equity. The value is expressed in terms of a market for the security or in terms of the laws or accounting procedures applicable to the security. The value, which is determined by the us of standardized accounting techniques and is calculated from the financial reports, particularly the balance sheet, prepared by the firm is called book value of the firm. However, if we examine a firm whose stock or debt is traded in a securities market, we can determine the market value of the security. In other words, the value, which is reflected in the bond or stock market's perception of firm, is called market value of the company.

The main objective of this study is to examine empirically the relationship of value of the company with its capital structure. Along with this the other objectives of this

study are: to examine whether the value of increases with the increase in the amount of debt in its capital structure, to examine the re4ation between the capital structure variables, to know the capital structure position of companies, and to examine the investing behavior of the investors in manufacturing companies. To fulfill these objectives the data of Nepalese manufacturing companies that are listed in the security board are taken. The data and their analysis are presented in the analysis section of this study.

In respect of the relationship between capital structure and value of the company, Modigliani and Miller in their first proposition, argued that in tax free world, the value of the company is independent to the capital structure. In their second study, they concluded that the market value of levered company excess only by the present value of tax shield than the market value of uni-levered company while considering the corporate tax. However, in contradiction of MM opinion, traditionalists conclude that the use of debt in capital structure firstly increases the market value of the company after a point where the use of debt becomes extreme the market value of company declines. Various studies have been conducted till now in respect of this issue. The result is that some support traditionalists view while others support MM opinion.

In this study, to find the relationship between capital structure and value of the company, the data of six listed manufacturing companies are taken and analyzed by using simple and multiple regression equations. Along with this the overall status of Nepalese listed manufacturing companies is presented in terms of their average cost of capital, cost of equity, their value, and other capital structure variables such as leverage, growth rate, size, liquidity ratio, earning variability and dividend payout ratio.

5.2 Conclusions

Simple and multiple regression models are used in this study to accomplish the objectives. Simple regression equation models were used to examine the relationship of market value to book value with each selected variables. Multiple regression equations were used to examine the relationship of ratio of market to book value 1 tax

adjusted market to book value with leverage, size of capital employed, dividend payout ratio growth in total assets, earning variability and liquidity ratio from these models described in research methodology. The analysis of averages and standard deviations of capital structure variables is used to know the actual status of Nepalese manufacturing companies. The analysis of correlation is used to know the relationships between the capital structure variables and value of the company. The major findings and conclusion are described as follows:

Averages of the variables shows that the manufacturing companies that have used more debt in their capital structure have the lowest overall cost of capital as well as lower cost of equity. Average cost of equity is highest for the non levered company i.e. 40.7 percent. This result shows that the manufacturing companies which have higher leverage are enjoying the lowest overall cost of capital. This indicates that Nepalese manufacturing companies can lower their overall cost of capital by increasing the projection of debt in their capital structure.

The correlation matrix shows that the value of company is positively correlated with size of capital employed, growth in total assets, dividend payout ratio, and liquidity ratio and is negatively correlated with leverage and earning variability. The negative correlation between leverage and value of company indicates that the value of investor risk perception for the increased leverage is high that their expectation for the increased return due to increasing leverage.

The multiple regression results shows the value of tax-adjusted company is negatively related with leverage of middle levered companies. While it is positive or other level of leverage. Similarly grow the rate in total assets and earning variability are positive for middle and high levered companies but are negative for non and low levered companies.

The cost of capital can be affected by the use of debt in capital structure. The cost of capital is decline with increase in leverage. Thus the result support to the traditional proposition means not support to the MM proposition. Also the cost of equity also decline with increase in leverage.

The negative coefficient of leverage indicates that the increasing level o debt in the capital structure of Nepalese manufacturing companies decrease their value. This may be because many Nepalese manufacturing companies and financing their net working capital by interest bearing fund. Many companies have negative earning and income in debt further increased their cost which is another cause for decrease in the value of company but when the amount of debt further increase, it reduced the lost and increased the value of companies.

The negative coefficient of growth indicates that's the value of company does not increased by increasing the total assists of the company rather it decrease the market value of the company.

The value of coefficient of multiple determination (R^2) is very small for low levered and middle levered companies. Which indicates that the variation in the market value of company due to the variables taken is low.

The value of coefficient of multiple determination (R^2) for nonlevered and highly levered manufacturing companies are large which indicate that the variation in the market value of company due to the variables takes is very high that means that these variables are driving the market value of company in Nepalese manufacturing companies.

5.3 Recommendations

The basis objectives of capital structure management is to determine the proper mixed of debt, preferred stock and equity that will minimized composite cost of capital and maximized the market value of company. Sound capital structure management ensures the company success. Capital structure play a vital role in the real new life of an organization. Although, the concept of capital structure has not received much attention in the Nepalese enterprises. Most of the companies are financing their capital, which is neither good for company's stability nor for the inventor's who are employing their funds.

The following recommendations are present in order to facilities investors businessmen, planner policy maker, researcher and other concerned parties.

⟩ Nepalese manufacturing companies should give proper attention in designing their capital structure which should be directed towards the value maximization.

⟩ It is necessary to conduct a research on why did not Nepalese enterprises design an appropriate capital structure.

⟩ Most of manufacturing companies takes for study did not gave most spring factors that is dividend to the shareholder's so they should consider about dividend.

⟩ Proper disclosure of information regarding the performance of companies is necessary to make Nepalese capital market more efficient and perfect .

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