CHAPTER - I

INTRODUCTION

1. 1 General Background of the study

Capital Structure plays a vital role in 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 in irrelevant to the earnings of the firm. The firm must pay the fixed charges (i.e. interest) periodically to the debt provider. Retained earnings may also be used as a source of financing by running business firms.

The concept of capital structure is a corner stone in the theory of finance. Thus the financing decision of a firm relates to choice of proportion of debt and equity to finance requirement, which affects the cost of capital through the risk complexion 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 maximize. the value of firm. Therefore a firm should select the proper mix of debt bend 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 difference exists between expected rate of return and required rate 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 or operating extent on operating efficiency. Thus, the optimal debt-equity mix depends on the nature of business and there on 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 viz. 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 made taking consideration 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 affects on risk due to earning variability or bankruptcy cost. The change on market price of stock due to the 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 depends on the expected return and risk associated to the securities. The expected earning and risk depends upon operating efficiency and financial leverage. Thus, for maximizing the value of the company, investment decision and capital structure decisions are the prominent. Here, on this study, only the capital structure decision is examined relating to the value of the listed companies.

Financial decision- marking is a process of choosing best alternative among various financial alternatives (garges, 1963:2). An alternative having minimum cost 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 project's worth under taking or not. The concept of cost of capital is significant not only as investment criteria but 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 the direction in context of Nepal.

In almost all public enterprises capital structure continued to remain a very 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, shareholders wealth maximization is one of the most important objectives. 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 low in some cases. For instance, the use of the debt financing in the capital structure is very poor in banking sector.

1.2 Focus of the study

Among 150 listed companies (still 15 th July 2008) very few levered companies are operation in profit. Therefore it cannot be said that whether or not leverage helps to maximize the value of the firm in contest of Nepal. Therefore it is the subject of curiosity for the students, researchers, businessman 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 they value of the firm in contest of Nepal. Therefore it is the subject of curiosity for the students, researchers, businessman 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 firm in Nepalese companies.

1. 3 Statement of the Problems

The two principal source of long term financing are equity and debt capital the composition of these two long term financing is know as capital structure (Pandey, 1981). Under normal economic condition earning per share can be increased but leverage also increases the financial risk of the shareholders. As a result, it cannot be said that weather 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 affects value of the firm or not. Traditionalists argue that 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) Modiagliani and Miller, on the other

hand argue that, in perfect capital market, capital structure does not affect the value of firm. According to Sharma and Rao, the cost of capital is affected by debt a part from its tax advantages. 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 unifrom accords all area of financial decision making with in an organization. The effect of capital structure is one of 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 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 to any capital structure theories developed in respect of developed capital market situation. Opposite to the theory of leverage. Nepalese unlevered companies are operation in profit and most of the levered companies are suffering from loss and hence the values of unlevered firms are much more greater than of levered companies. On the light of this basic problem, the following special problems have been set and tried to seek their solutions in this study:

- Whether or not value of the firm is increased with leverage?
- Whether or not the other factors except leverage affects the value of the firm in Nepalese context?

- What is the relationship between capital structure or leverage and value of the firm?

1.4 Objectives of the Study

The basic objective of this study is to analyze the effect of capital structure on the value of firm in the listed companies in Nepal. Under the guideline of this leading objective, the following objectives are to set in this study:

I. To study and examine whether or not the leverage affects the value of the firm.
II. To analyze the other variables in addition to leverage which affect the value of the firm.
III. To test and evaluate the relationship between value of the firm and it's determining variables.
IV. To provide appropriate suggestions for decisions regarding capital structure and value of the firm on the basis of study results.

1.5 Significance of the study

Capital structure concept is not taken seriously by the Nepalese companies. Therefore optimal capital structure does not exist at all. Beside 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 maximize the value of firm with out proper combination of capital structure component in financing of the firm. This study will be useful for the readers interested in the field of finance marketing companies, policy markers, researchers and especially the students in master's degree engaged in the research works on capital structure and value of the firms

as well as in the fields of Nepalese finance system. This study will provide a clear idea and knowledge to those persons who are interested to know make about capital structure and its impact and value of companies.

The study on capital structure of Nepalese manufacturing and Non manufacturing Company is significance as follow:

- To the owners:- This is to observation of the capital structure condition by different views of the companies so the company owners will certainly get benefits from it.
- To the share holders:- This analysis helps the shareholders to now the better view of the company's financial position where they are investing their money.
- To the students:- This study reviews the capital structure theory too, which will be helpful for the management student.

1.6 Limitations of the Study

There are some limitations in undertaking this study. Among one hundred and fifteen listed companies (till 15th July 2008) few companies have been using the debt capital. Thus, only eleven companies have been selected as sample size due to the data problem. Beside these some of the major limitations are presented below:

- This study is based on secondary data published by Nepal Stock Exchange and Security Board Nepal.
- The calculation of dependent and independent variables are based on accounting data of the enterprises published by Nepal stock exchange and Security Board Nepal.

- The study period begins from 2057 B.S. to 2065 B.S. but due to the unavailability of necessary information, it varies from company to company.
- The sample companies were classified in two sectors viz. Manufacturing sector and non manufacturing sector with the assumption that associated risks of the sample companies are similar within each sample sectors.
- The closing market price of previous year are taken as market price of the stock while calculating value of the company where the actual market price of stock is not available and the calculations to fit the analytical mode are made by computer.
- Focus is given only to analyze the impact of debt capital or leverage on the value of the company.

1.7 Organization of the Study

This study has been organized in to five chapters, each devote to some aspects of the study of capital structure and 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 introduction which consists of general background of the study. focus of the study. statement of the problem, objectives of the study. Significance 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 emperical studies and articles and review of dissertations.

Chapter three, Research Methodology describes the methodology employed in the study and also includes research design, nature and sources of data, Population and sample size, period of the study, tools employed and description of variables.

Chapter four contains with presentations and analysis of data with their interpretations by using the statistical and financial tools.

Finally, chapter five represents the summary, conclusion and recommendations of the study.

CHAPTER- II
REVIEW OF LITERATURE

In this chapter, various books, research works and articles have been reviewed to make clear concept about the topic as well as to recall the previous studies made by various researchers in the field of capital structure. The term capital structure refers to the proportion of dent and equity capital. So, this chapter has been divided in to the following four sections.

1. Review of capital structure theories.
2. Review from books.
3. Review of empirical studies :Articles.
4. Review of Theses: Dissertations

2.1 Review of Capital Structure Theories

The History presents several theories on capital structure. Those theories can be grouped into two schools of thought. One suggest that an optimal capital structure exists for a firm and the other hand holds the view that no such capital structure exists. The theories based on both versions have dominated the financial world. They are classified as follows:

2.1.1 Behavioral Theories

a) Net Income (NI) Approach
b) Net Operation Income (NOI) Approach
c) Traditional Approach

2.1.2 Contemporary Theories

a) M-M theory without Taxes

b) M-M Theory with Taxes

2.1.1 Behavioral Theories

Behavioral theories were developed by David Durand (Durand, 1952) by considering the rational reaction of investors to firm's leverage risk. Although his theories sound intuitively appealing, they are not founded in a scientific base.

a) Net Income (NI) Approach

The Net Income (NI) approach is also called as relevancy theory of capital structure because the capital structure decision is relevant to the valuation of the firm. According to this approach. There is no change in the attitude of the both stockholders and debt holders regarding their required rate of return in response to a change in debt equity capital remain unchanged when leverage ratio varies. Due to the limited degree of risk, the debt holder's required rate of return is relatively lower than that of equity holders. So, the debt financing is relatively chapter than that of equity. In equity holders, at constant cost of equity (Ke) and cost of debt (Kd), the overall cost of capital (Ko) declines with the increased proportion of debt in the capital structure or increment of debt results, lower overall cost of capital and higher value of the firm. The NI approach is based on following assumptions (Khan and Jain, 1996:477):

i. The corporate taxes do not exist.
ii. The use of debt does not change the risk perception of investors as a result; ke and Kd remain constant with increased use of debt.
iii. The cost of debt (Kd) is less than the equity capitalization rate or cost of equity Ke.

According to these assumptions, the increase in debt ratio magnifies the earning per share. No the given equity capitalization rate, the increase in EPS makes an increase in market price of stock. I.e.:

$$MPS \quad X \frac{EPS}{Ke}$$

Where,

MPS = Market price of stock
EPS = Earning per share
Ke = Cost of Equity

In other words, the increase in debt ratio cause decline in overall cost of capital (Ko) and the decrease on Ko enhances the marked value of the firm or company. I..

$$V \; X \quad \frac{NOI}{Ko} X \frac{EBIT}{Ko}$$

Where,

V= Market value of the company
NOI = Net operating Income
Ko= Overall cost of capital

Thus, a firm can maximize its market price of stock or value by achieving the optimal capital structure by making judicious mix of debt and equity. This theory or approach is graphically shown in the figures.

Fig: 2.1Cost of capital and D:E ratio under NI Approach

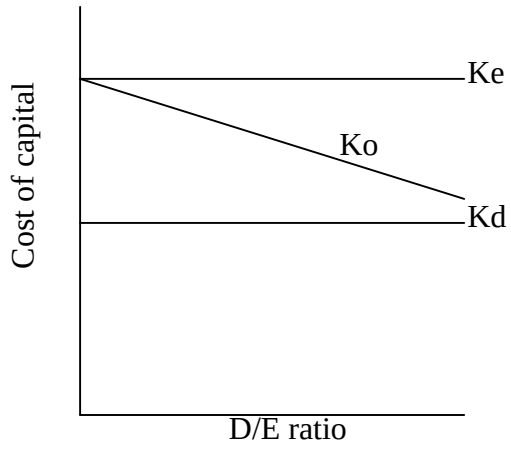
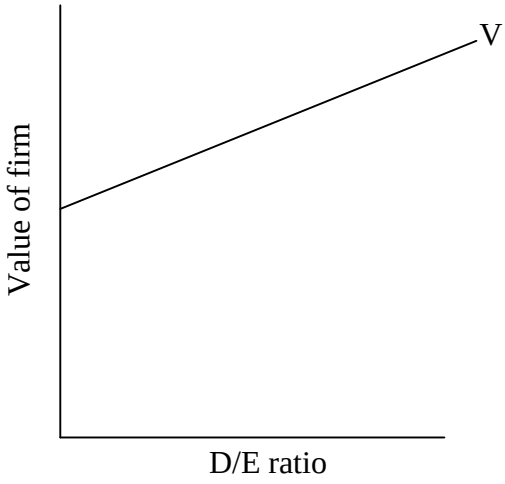


Fig: 2.2 Value of firm and D:E ratio under NI Approach



Where,

D:E = Debt Equity ratio

V = Value of firm

From the above figures, it is clear that cost of debt (Kd) and cost of equity (Ke) are constant but overall cost of capital (Ko) is declining as increasing level of debt, whereas the value of the firm is maximum with higher level of debt. Therefore the optimum capital structure would occur at the point where the value of firm is maximum and overall cost of capital is minimum. It will have the maximum value of the firm and lowest cost of capital when it is all debt financed or has much debt as possible.

b) Net Operating Income (NOI) Approach

The NOI approach is also known as irrelevancy theory of capital structure because capital structure decision is irrelevant to the valuation of the firm. It implies that the total value of the firm is unaffected by its capital structure. According to this approach, the equity holders feel higher degree of risk and demand higher rate of return for higher debt equity ratio. In addition, the benefit of cheaper debt financing. There is no effect at all overall capitalization rates the firm. In other words, the overall cost of capital (Ko) as well as cost of debt (Kd) remain constant regardless of the degree of leverage. Therefore this approach argues that the capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm. The NOI approach is based on the following assumptions (Pandey, 1993:456):

a) Corporate taxes do not exist.
b) Cost of debt remains constant.
c) Cost of equity increase with increase in debt use.
d) Overall cost of capital remains constant.
e) The market capitalizes the value of the company as a whole. Thus the split between debt and equity is not important.

According to this approach, both the earning per share (EPS) and equity capitalization rate (Ke) increases on same proportion with the increasing debt ratio. So, Market price of stock (S) remains unchanged on any leverage. The total market value of the company also remains unchanged, since as previously said that the net operation earnings as well as overall cost of capital do not vary with the leverage. The market value of the company is obtained as below:

$$V \; X \; \frac{NOI}{Ko}$$

Where,

V= Value of the firm

NOI = Net operating Income

Ko= Overall cost of capital

The NOI approach is shown in figures below:

Fig: 2.3 Cost of capital & D:E ratio under NOI approach

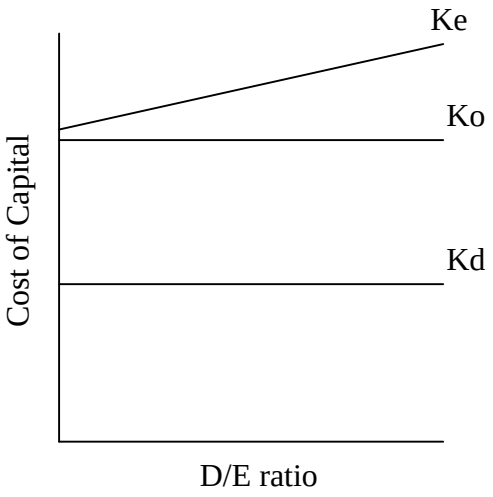
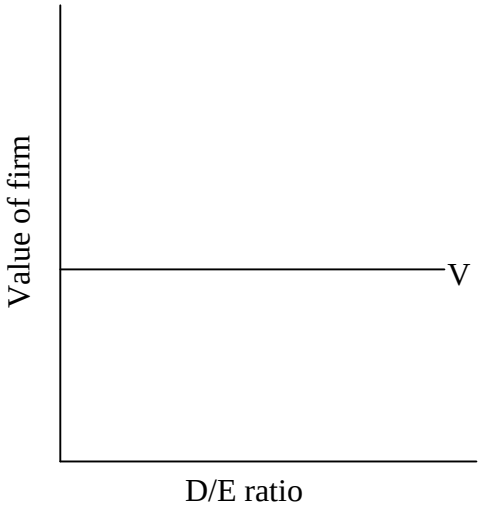


Fig: 2.4 Value of firm and D:E ratio under NOI Approach



Where,

D:E = Debt Equity ratio

V = Value of firm

The above figures shows that the cost debt (Kd) and overall cost of capital (Ko) remain constant and the cost of equity (Ke) is increasing with higher level of debt use. A part from these, the value of firm (V) is also constant with leverage. ‘At the extreme degree of financial leverage, hidden costs become very high and hence the firm’s cost of capital and its

market value is not influenced by the use of additional cheaper debt fund" (Gitman and Pinchease, 1988:72). Thus, this approach suggests that there is no optimal capital structure.

c. Traditional Approach

The traditional approach was development by Ezra Solomon. It is also known as intermediate approach between Net Income (NI) approach and Net Operating Income (NIO) approach. The traditional approach assumes that there exists an optimal capital structure and that a firm can increase its total value through the judicious use of leverage (Van Horn, 2000:261). In other word, the value of the firm can be maximized or overall cost of capital can be minimized through proper mix of debt and equality capital. Due to the fact that (Van Horn 2000:261) the debt increase in cost of equity (Ke) does not offset entirely the benefits of using cheaper debt funds. Thus, overall cost of capital (Ko) decreases up to certain level of debt use (Ke) increases at lower rate debt (Kd) remain constant up to certain level of debt use. At that time, the overall cost of capital is also minimized and the value of firm (V) is maximized. After that cost of equity (Ke), cost of debt (Kd) and overall cost of capital (Ko) increases rapidly and the value of firm will also decreases. The optimal capital structure exists at that point where overall cost of capital (Ko) is minimum and the value of firm (V) is maximum. The assumptions of this approach are as follows:

i. Equity holders adjust their required rate of return proportionately for every unit of debt inclusion.
ii. Debt holders do not really care for the level of debt inclusion and do not demand any premium for the leverage risk at least in the beginning.

iii. The expected outcome of the behaviour of equity holders is the benefit of cheaper debt financing causes the cost of equity and debt, increases.

According to this approach (Solomon, 1969:94), the manner in which the overall cost of capital reacts to change in capital structure can be divided in to three stages.

Fig: 2.5 Cost of capital and D:E ratio under Traditional Approach

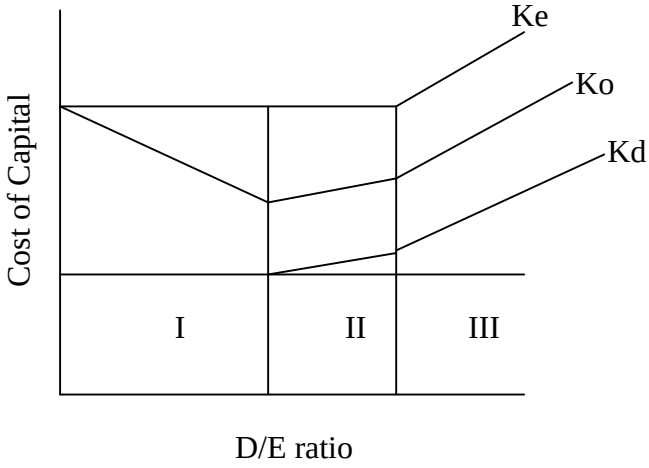
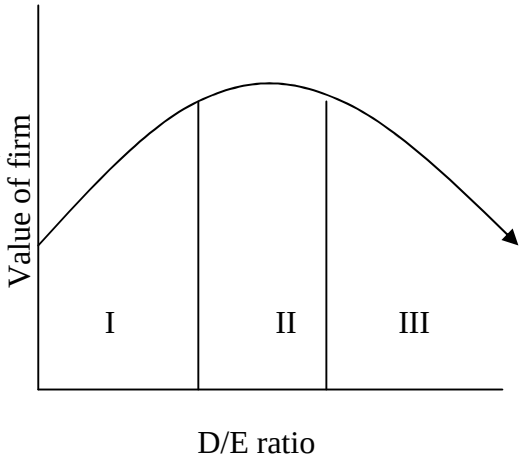


Fig:2.6 Value of firm and D:E ratio under Traditional Approach



Stage: I

The first stage of traditional approach begins with the introduction of debt in the total capital. Initially (Pandey, 1981:31), the cost of equity (Ke) remains constant or rises slightly with the use of debt fund and it does not increase fast enough to offset the advantage of low cost debt. During this stage, the cost of debt (Kd) remains constant or raises negligibly since the market views the use of debt as a reasonable policy. As a result, the value of the firm (V) will increase or the overall capitalization rate (Ko) falls with increase in leverage. This implies that,

within acceptable limit of debt, the average cost of capital will decline with leverage.

Stage: II

Once the firm has reached a certain degree of leverage, further application of debh have a negligible affect on the value of the firm or the overall cost of capital to the firm. This is because the increase in cost of equity offsets the advantage of low cost debt. Within the range of such level or at a specific point, the value of the firm will be maximum or the cost of capital will be minimum (Pandey, 1981:31).

Stage: III

Beyond the acceptable limit of leverage, the value of the firm decreases with leverage or the overall cost of capital increases with leverage. This happens because the cost of equity increases by more than enough to offset the advantages of low cost debt (Pandey, 1981:31).

The overall effect of these three stages suggests that the cost of capital and the value of the firm are the functions of leverage and there exists optimal capital structure.

2.1.2 Contemporary Theories

A comprehensive analysis of capital structure was revealed in 1958 when Franco Modigliani and Merton Miller (M-M) published and article on the issue of capital structure relevancy. The article is considered to be the most significant work in financial research ever published. The major aspects of their theory are discussed below.

a) Modiagliani and Miller Theory (In the world without taxes)

Modiaglini and Miller (M-M) support the relationship between leverage and cost of capital that explained by NOI approach. They argue that in the absence of taxes, total market value and cost of capital of the firm remain invariant to the capital structure change. " They make a fromidable attack on the traditional position by offering behavioural justification for having the cost of capital (Ko) remains constant through out all degree of leverage" (Solomon, 1969:92). M-M contained that the cost of capital is equal to the capitalization rate of pure equity stream of income and the market value is ascertained by capitalizing its expected income at the appropriate discount rate for its risk class. The M-M cost of capital hypothesis can be best expressed in terms of their propositions I and II. However the following assumptions regarding the behaviour of the investors and capital market, the action of the firm and the tax environment are crucial for the validity market, the action of the firm and the tax environment are crucial for the validity of the M-M hypothesis.

i. Securities are traded in perfect capital market situations.
ii. Firms can be grouped in the homogeneous risk class.
iii. Divided payout ratio is 100 percent.
iv. Corporate income tax does not exist.
v. Investors have homogeneous expectations about expected future corporate earnings also the riskiness of there earnings.
vi. The variance of return may differ from investor to investor.

Proposition I

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

$$V \; X \; \frac{NOI}{Ko}$$

Where,

V= Value of the firm

NOI = Net operating Income

Ko = Risk adjusted capitalization rate

The M-M proposition-I also implies that the weighted average cost of capital (Ko) to any firm (i.e. levered or unlevered) is completely independent of its capital structure and equal to the cost of equity (Ke) to an unlevered firm in the same risk class. Thus, there is no relationship between the value of a firm and the way its capital structure is made up, nor there is any relationship between the average cost of capital and the capital structure. It is identical to the NOI approach.

Proposition II

The proposition II Sates that the cost of equity rises proportionately with the increase in the financial leverage in order to compensate in the from of premium for bearing additional risk arising from the increased leverage. In other words, for any firm (i.e. Levered or unlevered) in a

given risk class the cost of equality (Ke) is equal to the constant average cost of capital (Ko) plus a premium of financial risk which is equal to debt equity ratio times the spread between constant average cost of capital (Ko) and interest rate (Kd). It can be expressed as follows:

$$Ke = Ko + (Ko-Kd)\ D:E$$

Where,

Ke= Cost of equity

Ko = Average cost of capital

Kd = Cost of debt or interest rate

D:E = Debt Equality ratio

The validity of proposition - II depends upon in the assumptions that Kd will not increase for any degree of leverage but in practice Kd increase with leverage beyond a certain acceptable level. However, M-M mention that even if Kd is functions of leverage, Ko will remain constant, as Ke will increase at a decreasing rate of compensate (Pandey, 1981:40). Thus, taking both the proposition I and II together, the M-M theory in the absence of taxes contends that the over all cost of capital as well as the value of the firms are independent of capital structure. The theory in a tax free world is identical to the NOI approach. In other worlds, the value of levered firm (V_L) is equal to the value of an unlevered firm (V_U) in the same risk class i.e. $V_L = V_U$ (pradhan, 992:363).

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

At first, M-M assume that the corporate tax do not exist and said that cost of capital and the value of firm are independent to the capital structure decision. This assumption was not valid. In reality, there exist corporate taxes and interest on debt is deductible for the purpose of the tax calculation. It means the after tax net income increases by the amount of tax benefit resulting in an increase in the value of firm by the same amount. It can also be shown in the proposition I and II.

Proportion-I

As per proposition-I, the value of a firm is determined by capitalizing the net operating income before tax at a rate that is appropriate to its risk class. Where tax is considered, interest payment on debt makes a tax saving since interest is dedicated from net income for the tax calculation. Thus the value of levered firm will be more by the present value of debt tax shield than that of unleveled firm. In other words, the value of levered firm is equal to the value of unleveled firm plus percent value of debt tax shield. This can be shown in equation.

$$V_L = V_U + TB$$

Where,

V_L = Value of levered firm

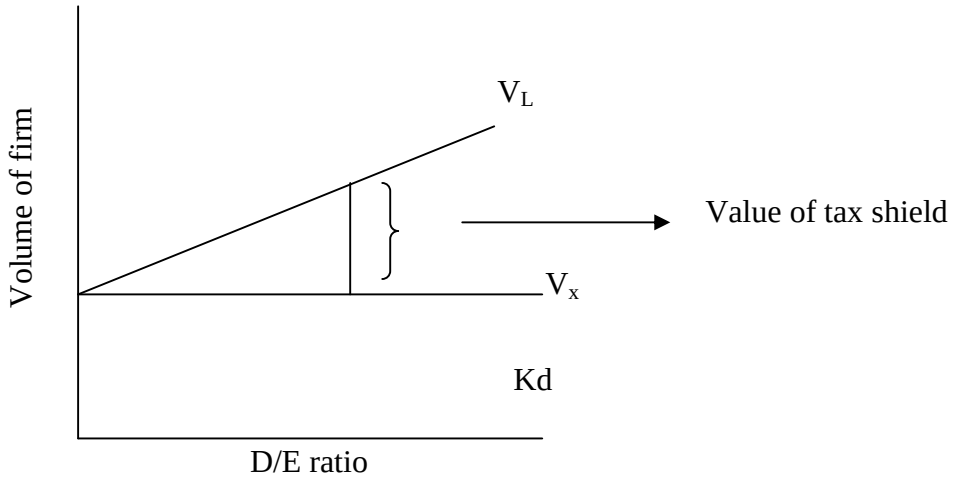
V_U = Value of Unleveled firm

T = Tax rate

B = Amount of debt

Thus, M-M proposition- I with taxes indicates that $V_L > V_U$ and suggest that a firm's value rises continuously as it moves from zero debt to 100% debt. It can also be presented through the figure below.

Fig 2.7 Value of firm and D:E ratio under M-M Approach



Proposition: II

"The M-M proposition II states that the cost of equity levered firm (Ke_L) rises with leverage ratio to compensate for the additional leverage risk while the cost of debt remains constant because the debt is assumed to be risk less" (Pradhan, 1992:369). Accordingly the cost of equity is calculated as follows:

$$Ke_L = Ke_U + (Ke_U - Kd)\ (1-t)\ D:E$$

Where,

KeL = Cost of equity of levered firm.

Keu = Cost of equity of unleveled firm

Kd = Cost of debt

T = Tax rate

D:E = Debt Equity ratio

It indicates that the cost of equity increases with D:E ratio. On the other hand, the tax deductibility of interest on debt lowers the cost of debt but still remains constant irrespective of debt- equality ratio. This reduction in the cost of debt as result of tax saving outweighs the increased cost of equity, forcing the average cost of capital (Ko) to decline with every unit of additional debt financing. As a result, the weighted average cost of capital of the firm does not remain uncharged when there is a change in D:E ratio. This can be seen from below equation.

$Ko_L = Ke_L (E:V) + Kd (1-t) D:E$

Where,

Ko = Overall Cost 0f equity of levered firm.

Ko_L = Cost f equity of levered firm.

E = Equity amount

V = Total value

T = Tax rate

D/E = Debt Equity ratio

From the above equation it is clear that the cost of equity increases with D:E ratio, the average cost of capital decreases continuously until it reaches to the level of cost of debt at 100% debt financing.

Thus it can be concluded that tree M-M theory with taxes is identical to NI approach, which says that the value of firms increases with every additional unit of debt financing. As such, the theory suggests that it is always better to have maximum debt financing.

2.1.3 Factors Affecting capital structure

Capital structure of different types of firms varies widely. “there is no rigid fromula to explain the temperaments. Managing directors or major shareholders may often be the major determining factors and expectations as to future money availability and whether interest rates and expectations as to future money availability and whether interest rates are thought likely to rise or fall, will be the important factors.” There are no hard and fast rules about what percentage of capitalization should be represented by bonds and debentures and what part should be of equity shares and preference shares. Factors affecting capital structure revolved principally around the adequacy and stability of earnings. The greater the stability of earnings the higher may be the ratio of bonds of stock in the capital structure also. The stocks structure should be balanced with a sufficient equity cushion to absorb the shocks of the business cycle and to afford flexibility. (Gesternberg, 1962: 181)

Following are the factors, which affect the capital structure

1. Market conditions: Conditions in the stock an bonds market undergo both long and short term changes which can have an important bearing on a firm’s optimum capital structure.
2. Cost of Capital: Debt is usually least expensive because there are tax shielded savings on interest whereas the use of common stock is the most expensive. “ The impact of financing decisions on the overall cost of capital should be evaluated and the criteria should be to minimize the overall cost of capital or to maximize the value of the firm.” (Pandey 1981: 264)
3. Firm’s internal conditions: The internal condition of a company also plays and important role in capital structure. According to Braghms,”

Suppose a firm has just successfully completed an R and D programme and projects higher earnings in the immediate future, however, the new earnings are not yet anticipated by investors and hence are not reflected in the price of the stock. It would prefer to finance with debt until the higher earnings materialize and reflected in common stock, retire the debt and return to its target capital structure." (Brigham, 1973: 473).

4. Growth Rate: Faster growing firms must rely more heavily on external capital. Rapidly growing firms tend to use somewhat more debt than companies of slower growth.
5. Stability of sales: Stability, adequacy, volume, and predictability of earnings of determine the capital structure. The firms with stable sales would have high ratio of funded debt because they will not face difficulty in meeting their fixed commitments. The companies with declining sales would not employ debt or preference share capital, because they would not like to be burdened with fixed changes.
6. Cash Flow Ability of a Company: " To determine the debt capacity of a firm, the cash flow of the firm under very adverse conditions, should be examined." A firm is conservatively financed if it is able to serve its fixed charges under any reasonably predicable adverse conditions. "It is not the average cash inflow but the yearly cash inflow which is important to determine the debt capacity of a company. Fixed financial obligations must be met when due not on an average and not in most years but always." (Johnson, 1973: 216)
7. Floatation Costs: Floatation costs are incurred only when the funds are raised. The cost of floatation a debt is less than cost of floating an equity shares.
8. Assets Structure: Firms whose assets are suitable as securities for loans tend to use debt heavily. According to J. Batty, " Borrowed

capital should not exceed a reasonable percentage of fixed assets." (J. Batty, 1963: 159). " Generally fixed assets are associated with long-term debts while current assets with short term debts." (W.A. Chudson, 1965: 103).

9. Interest Rate Level: This affects the choice of securities to be offered to investors. High interest rate makes financing costly. When funds are obtained easily and cheaply, is there latitude for choice of type of security to be used.
10. Nature of Industry and Capital requirements: The pattern of capital structure of the industry of which the firm is a part is also a very important factor in determining the capital structure of the firm. The needs and financial conditions of a company have to be considered. If growth is only moderate, re-investment of earnings will serve purpose.
11. Control: If management has voting control over the company and is not in a position to buy any more stock, debt may be a choice for new financing. On the other hand, management group that is not concerned about voting control may decide to use equity rater than debt. An excessive amount of debt can also cause bankruptcy, which will mean a complete loss of control.
12. Flexibility: "The company's desire for flexibility in future financing decisions also affects the capital structure of the company. "Therefore the company should compare the benefits and costs of attaining the desired degree of flexibility and balance them properly.
13. Profitability: The firms which very rates of return on investment use relatively little debt. Their high rates of return enable them to do most of their financing with retained earnings.
14. Taxes: Interest is a deductible expense while dividends are not deductible. Hence, the higher a firm's tax rate, the greater is the advantage in using debt.

15. Leverage Effect; The Company with a high level of earnings before interest and taxes can make a profitable use of the high degree of leverage to increase return on the shareholders' equity.

2.2 Review From Books

"Whether or not, the capital structure of any firm effects; its value?" This is the matter of controversy which was begun in the late 1950's and there is as yet no perfect solution. Different scholars have been expressed different views in respect to the topic. So, this section is devoted to review of some books, which are related to the topic.

According to Western and Brigham, capital structure is the permanent financing of the firm, representing primarily by long term debt, preferred stock and common stock, but excluding all short term credit (Weston and Brigham, 1981:555). Thus a firm's capital structure is only a part of its financial structure. The capital structure of the firm, defined as the mix of financial instruments used to finance the firm, is simplified to include only long term interest bearing debt and common stock, excluding short term liabilities.

In the words of Pandey, "The value of a firm depends upon its expected earning streams and the rate used to discount this stream. The rate used to discount the earning stream is the required rate of return or cost of capital (Pandey, 1993:560). Thus, the capital structure decision can affect the value of the firm either by changing the expected earnings or the cost of capital or both."

In the opinion of Bolton and coon as the proportion of debt in the capital structure increases, both the cost of equity and the cost of debt begin to rise, reflecting the increased financial risk but the two do not necessarily rise in the same proportion (Bolton and Coon, 1981:348). Thus with the increasing use of debt, the overall cost of capital begins to fall because the after tax cost of debt is typically cheaper than the cost of equity. After a point, while the financial markets consider to the signs of excessive use of debt and too much financial risk, completely offsets the advantage of using the lower cost debt. So, they agree with the statement that the Judicious mix of long term debt and equity can lower the total cost of capital for the company, resulting in higher profits and stock price.

According to the Ezra Solomon and John J. Pringle (Solomon and Pringle, 1978:94), the cost of debt is less than that of equity but it increases the probability of financial distress. Thus, an effect f leverage depends very much on the relationship between firm's ability to earn or its rate of return on assets and interest cost of debt. They conclude that the judicious use of debt enhances expected return and as well as the value of the firm.

According to Ezra Solomon "Optimal capital structure can be defined as that mix of debt and equity which will maximize the market value of the company (Solomn, 1963:92) If such an optimum does exist it is tow fold . It maximize the value of company and hence the wealth of it's owners; it minimizes the company's cost of capital which in turn increase its ability to find new wealth creation investment opportunities."

2.3 Review of Empirical Studies

There are numerous studies carried out on capital structure. So, it is out of the scope of this study to review all empirical studies. Therefore, some important and related studies are reviewed in this section.

2.3.1 Modigliani and Miller First Study

Franco Modigliani and Melton Miller, two Novel Prize winner, American, Finance theorist conducted the first study on electric Utilities ad Oil companies. For the study, they selected 43 electric utilities and 42 oil companies. They tested their proposition-I (Pandey, 1981:50) by correlating N^t:v with D/V. i.e; after tax cost of capital with leverage (a measure of the capital structure). If the traditional view were correct, the correlation would be significantly negative; if M-M view represented a better approximation to reality, the correlation would not be significantly different from zero. They use the following linear regression model to test their hypothesis:

$$X=a+bd$$

Where,

$$X= x^t/v = \frac{\text{after tax operating income}}{\text{Market value of all securities}}$$

$$t= D/v = \frac{\text{Market value of senior securities}}{\text{Market value of all securities}}$$

The regression results were as follows:

Electric Utilities

$X= \quad 5.3 + 0.006d \qquad R = 0.12$

$\quad (\pm 0.008)$

Oil Companies

X= 8.5 + .006 d R = 0.04

(±.024)

These tests support the m=M hypothesis of independence as correlation coefficients are statistically insignificant (t-value is less than 1 in both cases i.e. 0.75 in case of electric utility and 0.25 in case of oil companies.) and positive in sign.

Again they tested proposition - II, that the expected yield and common shares [($\bar{x}$-R) (`1-T) - pr. Div]:S, is a liner function of debt to equity ratio, D:S They used the fallowing model.

Z= a+bh)

Where,

$$Z = \frac{\text{Shareholders' net income after tax}}{\text{Market value of common shares}}$$

$$H = \frac{\text{Shareholders' of senior securities}}{\text{Market value of common securities}}$$

The following regression results were obtained from their study.

Electric Utilities:

Z= 6.6+0:0017h R= 0.53

(± 0.004)

Oil companies

Z= 8.9+ 0.051 h R= 0.53

(≀ 0.012)

Both correlation coefficients are significant and positive. T-value for h coefficient is 4.25 in both the cases, electric utilities and oil companies, which is significant at 5% level of confidence. Thus the M-M view is supported that cost of capital and the value of the firm are irrelevant to the capital structure and no gain from leverage or the overall cost of capital (Ko) does not decline with increase in leverage. Cost of capital is the linear function of leverage.

2.3.2 Barage Study

Barages improved some of the limitations of M-M's empirical works (Barges, 1963:22) and conducted the most comprehensive and meticulous test of M-M hypothesis. Link M-M, he analyzed the relationship between the average cost of capital and leverage, and between the stock yield and debt equity ratio. For the purpose of study, he utilized crossectional data from three different industries. They are: Railroad, Departmental Stores and Cement Industries. He used two approaches; direct tests and yield tests to examine the validity of the independent hypothesis. Direct tests were made on the relationship between the average cost of capital and the total market value while tests were made to determine whether yields increase from zero debt up to some moderate debt range. To test stock yield hypothesis, he used the following two models:

$$Y = a + bX_1$$

$$Y = a + bX_2$$

Where,

Y= Stock Yield

X1 = Long term debt/ preferred stock plus common equity.

X2= LTD plus preferred stock/ common equity.

For railroad industry, he selected 61 samples and perfromed both yield as well average cost of capital test. The results were obtained as follows:

Model- I : $Y= 11.36 + 0.0194\ X_1$ R=0.173

Model-II : $Y= 10.21 + 0.03756 \times 26X_2$ R=0.068

Likewise, from the sample size of 63 departmental stores, he obtained the results as follows:

Model- I : $Y = 10.077 + 0.0497\ X_1$ R=0.068

Model-II : $Y= 10.80 + 0.02386\ X_2$ R=0.056

Finally, from the sample size of 34 cement industries, he obtained the following results:

Model- I : $Y= 9.01 - 0.0107\ X_1$ R=0.173

$Y= 7.79 + 0.0016\ X_2$ R=0.293

The results show that in all the cases, the correlation coefficients are not statistically significant at 5% level of risk. Thus he concluded that the traditional view was supported.

2.3.3 Western Study

The main contribution of western study is the specification improvement of the cost of capital model (Weston, 1963:107-112). He included firm size (measured by assets) and growth (Per share income over a tea year period) as additional exploratory variables in his model. For the purposes of study, he took the sample of 59 utilities and used M-M model. He found the regression co-efficient of leverage to be positive and significant. However, when the multiple regression was run, the following results were obtained.

X= 5.91-0.0265d + 0.0A = 0.0822 E

(0.0079) (0.0001) (0.0024) R= 0.5268

Where,

D= Market value debt

A= Size of the firm in terms of total assets

E= Earning per share growth over a period of 10 years

The correlation coefficients significant and the regression coefficient of leverage is negative and significant. When the influence of growth is isolated, leverage is found to be negatively correlated with the cost of capital. He concluded that the appropriate lack of influence of leverage on the overall cost of capital observed by M-M was due to the negative correlation of leverage with earnings growth. The cost of capital is found to be significantly negatively correlated both with leverage and growth.

Western also test M-M's proposition II. When he used their model his results were found to be consistent with theirs, i.e. cost of equity was

linear function of leverage. However, when he included growth and size variables, the following results were found

Z= 6.75 - 0.0029H + 0.0A - 0.1352E

(0.0159) (0.0002) (0.0454) R= 0.4032

h= 39.59 - 1.16E R=-0.48

(o.29)

The results clearly indicate that growth and leverage are negatively correlated and when growth is introduced in the regression equation, leverage variable's coefficient become insignificant. Thus, the results are consistent with the traditional approach.

2.3.4 M-M Second Study

In their article of 1963, M-M corrected their original hypothesis for corporate taxes and expected cost of capital cost of capital to be affected by leverage for its tax advantage. In their second study (Modigliani and Miller, 1966:333-391), they there fore wanted to test whether their primary purpose of the test was to search for possible trends in the cost of capital that might enable the decision maker to assign prior values to this important variable. For the purpose of study, they selected 63 samples of large electric companies and their three year data of 1954, 1956 and 1957, M-M resort a "Two stage instrumental" variable approach. First, regression of reported earnings, on several selected instrumental variables, viz., size, growth, debt, preferred stock and dividends obtained. Secondly, the earnings computed from this regression equation are substituted for the reported earnings. When the two stage estimates are abstained, the debt and preferred stock coefficients are substantially

reduced and become so small in relation to their standard errors that they can not be considered significant. Finally they conducted that these findings are in agreement with their hypothesis that the leverage factor is significant only because of the tax advantage involved. In other words the value of firm is equal to the functions of value of assets, tax subsidy on debt, growth period and firm size. i.e.: Value of firm = f (value of assets, tax subsidy on debt, Growth period and firms size.)

Finally, it supports that there exist optimal capital structure and gain from leverage. i.e. overall cost of capital (Ko) decreases by increases in leverage and hence value of the firm also be maximum.

2.3.5 Wippern Study

Wippen 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, 1958, 1961 and 1963 (Wippern.1966: 615-633). His main emphasis was to develop an unbiased measure of leverage. He has also included uncertainty variables 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-2S, where i, is the current level of fixed charges; E, is the most recent year's cash flow operating income determined from a logarithmic regression of income on time over ten year period, and 2S 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 $+ b_3$ pay out $+ b_4$log size $+ b_5$ ---------- b_{10} industry dummy variables.

In his statistical analysis, Y 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 justify the M-M hypothesis. His general conclusion there fore is that shares holder'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 the capital structure of the firm.

2.3.6 Sharma and Rao Study

Sharma and Rao conducted the test of M-M hypothesis on the influence of debt on the value of a firm to non-regulated industry (Sharma and Rao, 1969:677). They argued 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 for 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 sales for deflecting the variables and the results were meaningful when fixed of total assets were used as the deflector. They argued that when the growth rate of total assets or of fixed assets was used as the growth variable, the results were somewhat 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 top the additional of new capacity. They used the following equation:

$$\frac{V}{F} X a, \frac{x_t Z_t R}{F} a_2 \frac{1}{F} \Gamma a_3 \frac{\zeta X_t Z_t R}{F} \Gamma a_4 \frac{D}{F} \Gamma M$$

where,

V= Value of the firm

F= Fixed assets used as deflector to reduce hetroscedasticity.

$\overline{xt}\,\overline{Z\,tR}$ = Expected tax adjusted earnings

$\triangle \overline{xt}\,\overline{Z\,tR}$ = Growth rate of tax adjusted earnings times current tax adjusted earning.

D= Debt.

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.

2.3.7 Hamada Study

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 test.

Perfroming such a various tests, he concluded that if the M-M corporate tax leverage proportions are correct, then approximately 21 to 24% of the observed leverage proportions are correct, then approximately 21 to 24% of the observed systematic risk of the common stock can be explained merely beaded financial risk taken or by the underlying firm with its use of debt and preferred stock. Both in pricing mode and the M-M theory, borrowing from whatever source while maintaining of fixed amount of equity increase the risk to the investors.

2.3.8 Pandey Study

Pandey had tried to test the M-M approach in the 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 pooled data of the three crossectional 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 = D:V

ii) The debt to equity ratio; i.e. L_2 = D:S

The two ratios were measured with or without preference share Scapital in the debt portion. Both leverage were computed at book value

and included short-term loan as a part of leverage (debt). For analysis purpose, he used the following regression equation for each industry.

$$Ko = a, + b_1 L + b_2 \log S + b_3 G + b_4 D{:}P + b_5 liq + b_6 E{:}V + u$$

Where,

Ko= Average cost of capital

L1 = Leverage 1

S= Size

G= Growth

D:P = Dividend pay out 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 increase 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:

$$\frac{\bar{X}\ Z\,tR}{V\ Z\,tD} Xa, \Gamma b_1 L\ \Gamma\, b_2 \log S\ \Gamma\, b_3 G\ \Gamma\, b_4 \frac{D}{P}\ \Gamma\, b_5\, liq\ \Gamma\, b_6\ \frac{E}{V}\ \Gamma\, u$$

Where,

$\frac{\bar{X}\,Z\,tR}{V\,Z\,tD}$ = Tax adjusted stock yield of the firm

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

$$Ke\ Xa,\Gamma b_1\ L_1\ \Gamma\ b_2\ \log S\ \Gamma\ b_3 G\ \Gamma\ b_4\ D\!\!\diagup\!\!P\ \Gamma\ b_5\ liq\ \Gamma\ b_6\ E\!\!\diagup\!\!V\ \Gamma\ u$$

Where, ke= Cost of equity

Other variables are alike above

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

$$\text{i.e.} \qquad L_1\ X\frac{LTD\ \Gamma\ STD\ \Gamma\ PC}{EC\ \Gamma\ PC}$$

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

$$\text{i.e} \qquad L_2\ X\frac{LTD\ \Gamma\ STD\ \Gamma\ PC}{EC}$$

where,

LTD = Land term debt

STD = short term debt

PC= Preference capital

EC = Equity Capital

The result of this model was also consisted 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.

2.3.9 Shrestha Study

Prof. Dr. Manohar Krishna Shrestha had studied about capital structure in selected public enterprises (Shrestha, 1985). 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 the 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 in also most of them want to eliminate debt if possible. Again he added that were neither the public enterpjrises 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 lie beyond the capacity to met, nor should it be much low levered to infuse operational lethargy to bypass responsibilities without performance.

2.4 Review of Theses: Dissertations

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

2.4.1 Adhikari Study

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 (Adhikari, 1991). He used simple as well as multiple regression equation to test the relationship between 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:

$$\text{Ko Xa,}\Gamma b_1 \, L_1 \, \Gamma \, b_2 \, \log S \, \Gamma \, b_3 G \, \Gamma \, b_4 \, D/P \, \Gamma \, b_5 \, \frac{E}{V} \, \Gamma \, b_6 \, \text{Liq} \, \Gamma \, u$$

Where,

Ko= Average cost of capital

L_1 = leverage 1

S= Size of the company

G= Growth

D:P= divided pay out 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.

2.4.2 Khatri Study

Khatri had also conducted a research on capital structure and the cost of capital of Nepalese listed companies with the objective of testing the relationship between cost of capital and capital structure, and between cost of equity and capital structure in selected listed companies (Khatri, 1998). His study was based on five years pooled data of four banking and finance companies, and eight manufacturing and trading companies. He used simple as well as multiple regression models as the tool of study. On the study, he found that the regression coefficient of leverge against cost of capital were negative sector. In addition the t- value showed the beta coefficients were not statistically enough to established relationship between cost of capital and capital structure and with other exploratory of Nepalese listed companies were confusing and determined with out considering the capital structure theories.

2.4.3 Ghimire Study

Ghimire, in his 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 situation (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 with leverage, size, growth and divided 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.

2.4.4 Khaniya Study

Khaniya had conducted a study on "leverage and value of the company" with the objective of testing the impact of leverage on the value of selected listed companies (Khaniya, 1999). He selected twelve companies from different sectors; i.e. seven companies from manufacturing sector, two from hotel industry, two from trading companies and one from other. The models were:

$$\frac{V}{TA} Xa,\Gamma b_1 L\,\Gamma b_2 \log S\,\Gamma b_3 G\,\Gamma b_4\ DPR\,\Gamma b_5 E.V\,\Gamma b_6 liq$$

Where,

V= Market value of the company
TA= total assets or book value of the company
L= Leverage
S= Size
G= Growth rate
E:V = Earning variability
Liq = Liquidity

$$\frac{V\ Z\ tD}{TA}\ Xa,\Gamma b_1\ L\ \ \Gamma b_2\ \log S\Gamma b_3 G\ \Gamma b_4\ DPR\ \Gamma b_5\ E.V\ \Gamma b_6\ liq$$

The second model was used to test corrected M-M proposition that the value of the company increase by the tax benefit on interest payment.

He has used the ratio of total value of the firm to total assets as depend variable. He found that in manufacturing sector, the correlation coefficient of simple and multiple regression both for tax ignoring and tax adjusted, gives the positive relations of leverage with market value of the company. But the t-value was being small. Hence it cannot be conclude that the empirical result absolutely agree with the traditionalist view. But the result is nearly to the traditional approach. Like wise the correlation coefficient of leverage were negative and significant both simple and multiple regression and for tax ignoring and tax adjusted market value of the company in hotel and transportation sector which indicates that the use of debt in capital structure minimizes the market value of the company.

From the review of above empirical works, it can be seen that the specific relationship between capital structure and cost of capital is almost not exists in Nepal. Viewing this situation, there is a need to carry out this kind of study and expected to provide useful infromation at both macro and micro levels.

CHAPTER III
RESEARCH METHODOLOGY

"The term research methodology refers the various sequential steps to be adopted by researcher in studying a problem with certain objectives in a view. It describes the methods and process applied in the entire aspect of study" (Kothari, 1994:19). Therefore this chapter has been divided in to six sections to accomplish the objectives, which has been set in chapter- I. Section one deals with research design. Section two, three and four presents nature and sources of data, sample size and study period, and tools employed respectively. Likewise, section five and six deals with description of variables and limitations of the study.

3.1 Research Design

Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variances" (Kerlinger, 1986:275). For the purpose of this study, descriptive cum analytical research design has been followed. Descriptive approach has been followed for conceptualization of the problem whereas analytical approach has been followed to analyze the effect of debt use in capital structure on the values of the firm.

3.2 Nature and Sources of Data

This study is based on secondary data, thus secondary data are used extensively and are modified to some extent for the study purpose. Most of the data are collected from Security Board and Nepal Stock Exchange. Beside these the data are also collected from annual reports of respective companies, Websites, pervious research studies, dissertations, articles and so on.

3.3 Population and Sample size

Population, for the purpose of this study has been defined in terms of the companies listed in Nepal Stock exchange. The total number of listed companies are 150 till 15th July, 2008. Most of them do not provide scope for listed the study due to the unavailability of necessary information. Since we intend to examine the empirical relationship between capital structure and value of firm, only levered companies ha been selected as sample size which contains 7 companies from manufacturing sector and 4 companies from non manufacturing sector. Two hotels and two trading companies are selected as non - manufacturing. The names of selected companies are shown in below table.

Table 3.1

Sample size and study period

Sector	S.N	Company Name	Years	Study periods
Manufacturing				
	1	Nepal lube Oil Ltd.	2057-2060	4 yrs
	2	Bottlers Nepal Terai Ltd.	2057-2058	2yrs
	3	Arun Banaspati Uddhyog Ltd.	2057-2063	7 yrs
	4	Nepal bitumen and Barrel udhyog	2057-2059	3 yrs
	5	Raghupati jute mils Ltd.	2058-2064	7 yrs
	6	Joyti Spinning mills	2058-2064	7 yrs
	7	Nepal Khadhye udhyog	2058-2064	7 yrs
Non Manufacturing				
	8	Salt Tarding Corporation	2058-2064	7 yrs
	9	Nepal trading Company	2057-2061	5 yrs
	10	Yak and Yeti hotel	2058-2064	7 yrs
	11	Solatee Hotel	2060-2064	5 yrs

3.4 Data presentation and Analysis method

The collected data's will be categorized, tabulated, processed and analyzed using different methods. Means, correlations and regressions will be calculated. To test the hypothesis, simple correlation and multiple regression analysis will be used.

3.5. Tools Employed

To get the solution of the objectives which are set in chapter-I, the statistical and financial tools are employed. In this study, simple correlation, simple regression and multiple regression models are used as analytical tools.

Model-I

In this model, the ratio of total market value of the company total assets is regressed against each of the selected explanatory variables such as leverage, size, growth, dividend pay out ratio, earning variability and liquidity. The equations are as follows:

$$V{:}TA = a + b_1 L$$

$$V{:}TA = a + b_2 \text{Log } S$$

$$V{:}TA = a + b_3 G$$

$$V{:}TA = a + b_4 DPR$$

$$V{:}TA = a + b_5 EV$$

$$V{:}TA = a + b_6 Liq$$

Where,

V= Market value of the company

TA= total assets or book value of the company

L= Leverage

Log S= Size of the company

S= Size

G= Growth rate

E:V = Earning variability

Liq = Liquidity

The expected signs of these beta coefficients are :

$b_1, b_2, b_3, b_4, b_5, b_6 > 0$ & $b_5 < 0$.

Model- II

The ratio of the company's market value and total assets or book value is regressed against leverage and with other explanatory variables in this second model. The justification for this model is that the value of the company would depend on leverage, size, dividend pay out ratio, earning variability and liquidity. The equation is

$$V/TA\ Xa, \Gamma b_1\ L\ \Gamma b_2\ \log S\ \Gamma b_3 G\ \Gamma b_4\ DPR\ \Gamma b_5\ E.V\ \Gamma b_6\ liq$$

The notifications and expected sings of beta coefficients are similar as above.

Model- III

This model is used to test the corrected proposition of Modigliani and miller that the value of the company increases by the tax benefit on interest payment. In this model, the ratio of tax adjusted market value and total assets is regressed against leverage variable together with other

explanatory variables i.e. size, growth, dividend pay out ratio, earning variability and liquidity. The equation is:

$$(V\ Z\ tD)/TA\ Xa,\Gamma b_1\ L\ \Gamma b_2\ \log S\ \Gamma b_3 G\ \Gamma b_4\ DPR\ \Gamma b_5\ E.V\ \Gamma b_6\ liq$$

Where,

tD= Present value of annual tax saving

The beta coefficient must not significantly different from zero for supporting the M-M corrected proposition. The notification and the expected signs of beta coefficients are similar as above. The corporate rate is assumed 30% for both manufacturing and non manufacturing sectors.

3.6 Description of Variables

The model itself does not give clear cut information about the relationship of these variables. The concept and measurement of variables takes significance to know and analyze the relationship clearly. Thus this section deals with description of the variables used in above models.

3.6.1 The ratio of market value and book value (total assets)

It is the dependent variable taken as the ratio of the company's market value and the book value (total asset) of the company to eliminate the variation on the market value due to the different size. The market value of the company is numerator and of the dependent variable calculated by taking the sum of total liability (excluding equity capital) and market price per share times the number of equity share. It can be shown in equation:

V=TL + MPPS *n

Where,

TL = Total liability

MPPS = Market price per share

N= number of equity shares

The total asset of the company is the denumerator of the dependent variable taken the totally of the assets side of the balance sheet.

3.6.2 Leverage (L)

The most important variable which affects the market value of the company is leverage, It is calculated by dividing the long term debt by sum of long term debt and net worth of the company which is shown below:

L = LTD:(LTD + NW)

Where,

L=Leverage

LTD= Long term debt

NW= Net Worth

We exclude the short term debt while calculating the leverage because the present value of expected tax shield on short term debt is not reasonably significant and difficult to calculate due to the data problem. The net worth amount is the accumulated loss adjusted amount.

3.6.3 Size (Log S)

The natural logarithm of capital employed at the balance sheet value is used as a measure of the company's size. The capital employed comprises of net worth plus long term debt. Most of the investors prefer

to invest in large companies because the large size companies can manage the risk efficiently, they have recognition in the capital market, they use the assets efficiently and they proved wide market ability of shares. The preference of investors for large size companies makes a positive correlation between valuation and size of the company.

3.6.4 Growth (G)

Generally investors prefer growing companies to invest. The growing companies indicate the optimum utilization of assets and managerial excellence. So, the growth rate so correlated with the market value of the company. The expected growth is measured by following education:

$G = (A_t - A_{t-1})$

G = Growth rate

A_t = total assets in crossection year

S_{t-1} = total assets in one year before

3.6.5 Dividend Pay out Ratio (DPR)

A widely held belief is that the share holders give more weight age to dividend than that to retain the earnings. The dividend is positively correlated with value of the firm. The dividend pay out ratio is calculated by dividing the dividend per share by earning per share which is shown below

DPR = DPS :EPS

Where,

DPR= Dividend pay out ratio

DPS= Dividend per share

EPS = Earning per share

3.6.6 Earning Variability (EV)

Earning Variability is a kind of business risk affects the value of the firm. Investors prefer less risky business that has stable earning. So, the value of the firm is negatively correlated with earning variability. The measure of earning variability is a ratio of standard deviation and mean of net operation income. Thus, this ratio is the coefficient of variation of net operation income.

3.6.7 Liquidity (Liq)

Liquidity measures the short-term risk in the company. High liquidity affects the earning adversely and low liquidity is more risky. Liquidity also affects the market value of the company through the earnings and risk. Since we take liquidity as the short-term risk, it correlates positively with the value of the company. It is calculated dividing the current sets by current liabilities

CHAPTER- IV

PRESENTATION AND ANALYSIS OF DATA

The previous three chapters including Introduction, Review of Literature and Research Methodology have already provided an explanation to justify the study of this kind to show how capital structure or the proportion of debt used in Capital Structure can affect the market value of the firm. For testing the impact of capital structure on the value of the Nepalese listed Companies. Data taken from the different two sectors have been empirically analyzed. They are manufacturing sector and non- manufacturing sector include hotels and trading companies. As mentioned in third chapter Correlation and regression models have been applied to analyze data.

4.1 Value of Variables along with Means and Standard Deviation

Under this topic we have to calculate the mean and standard deviation of the variables for manufacturing and non manufacturing sector.

The mean is the average rate of return of the variables for manufacturing and Non manufacturing sector which can be obtained by using the following fromula

$$\text{Mean}(\overset{z}{X})\ X\frac{X}{N}$$

Where,

X = The sum of variables

N= No. of periods.

The standard deviation is the tool which measures the risk of individual manufacturing and non manufacturing sector. The smaller the variance, the lower the friskiness of the stock and vice versa. The standard deviation is calculated with this equation.

$$\text{Standard deviation } (\exists) \quad X\sqrt{\frac{(X - \bar{X})^2}{N}}$$

The means and Standard Deviation of the all variables used are presented table 4.1 and table 4.2 respectively for manufacturing sector and non manufacturing sector i.e. hotel and trading sectors.

Table 4.1

Means and Standard Deviations of the Variables for manufacturing sector

Variables	N	Mean	Standard deviation
$\frac{\text{market Value}}{\text{Book Value}}$ $\frac{MV}{BV}$	37	1.099	0.5625
$\frac{\text{Market Value Ztax Shied}}{\text{BookValue}}$ $\frac{MV\ ZtD}{BV}$	37	1.015	0.3238
Leverage (L)	37	0.737	0.7748
Size (Log S)	37	8.098	0.9834
Growth (G)	37	0.055	0.2948
Dividend pay out ratio (DPR)	37	0.041	0.1464
Earning Variability (EV)	37	0.894	3.5635
Liquidity (LIQ)	37	1.867	1.91

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

Table 4.2

Means and Standard Deviations of the Variables for Non Manufacturing Sector

Variables	N	Mean	Standard deviation
$\frac{\text{market Value}}{\text{Book Value}}$ $\frac{MV}{BV}$	24	2.03	1.2319
$\frac{\text{Market Value ZTax Shied}}{\text{BookValue}}$ $\frac{MV\ ZtD}{BV}$	24	1.421	0.8624
Leverage (L)	24	0.492	0.2329
Size (Log S)	24	8.502	0.8375
Growth (G)	24	0.062	0.3064
Dividend pay out ratio (DPR)	24	0.23	0.3811
Earning Variability (EV)	24	0.521	2.084
Liquidity (Liq)	24	2.405	2.3288

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

The above tables 4.1 and 4.2 clearly shows that the market value of the selected listed companies in the manufacturing sectors is 1.099 times its book value and its standard deviation or is 56.25 whereas market value of selected listed companies in non manufacturing sector is 2.03 times which is quite higher than that of the manufacturing sectors and its standard deviation is 123.19 which indicates that the variables in the market value of non manufacturing sector is more variable than that of the manufacturing sector. Like wise the tax adjusted market value of manufacturing sector is 1.015 times the book value where as it is 1.2421 times of book value for non manufacturing sector and its standard deviations are 32.38 and 86.24 for both manufacturing and non manufacturing sectors respectively. The average leverage in

manufacturing sector is 73.70 and its scatterness is 77.48. For non manufacturing sector the average value and scatternes sis 49.20 and 23.29 respectively. The average leverage of manufacturing sector is much more (i.e. 1.498 times) than the average leverage of non manufacturing sector. The above results shows that low levered company has higher market value. The average size of the company in manufacturing sector is log 8.098 (Rs 149.11 million) which is less than the aveage of non manufacturing sector i.e Log (Rs 234.34 million) and the standard deviation of the size of manufacturing sector is also less than that of non manufacturing sector (i.e.0.7851<0.8375).

Similarly the average growth rate of manufacturing sector (i.e. 1.6%) is less than the average growth rate of on manufacturing sector (i.e 6.2%) However the standard deviation of growth rate in manufacturing sector (31.75%) is higher than that of on manufacturing sector (30.64%). In case of dividend payout ratio, the non manufacturing sector pays the higher dividend of 23% whereas manufacturing sector pays only 4.1% but the variability of non manufacturing sector is also greater than that of manufacturing sector (i.e 38.11%>14.64). The average earning variability, which measures the business risk, is more 8.94% in manufacturing sector and less 5.21% in non-manufacturing sector. The standard deviations are 3.5635 and 2.084 for manufacturing sector and non manufacturing sector respectively. Likewise the average liquidity position on manufacturing sector is 1.867 times and 2.405 times for non manufacturing sector which is much better than the liquidity position of manufacturing sector and standard deviation also shows less variability in non manufacturing sector (23.288%) than that of manufacturing sector. (1.91%). Finally the average market value of the company in non

manufacturing moiré is more than the market value of manufacturing sector. Probably it is due to large size high dividend and high growth rate.

4.2 Capital Structure and Value of the firm

In this section, we analyze the value of firm relating with leverage or amount of debt used in capital structure and together with other explanatory variables without any tax effect. For this we make the correlation analysis, simple regression and multiple regression analysis for both manufacturing and non manufacturing sector.

4.2.1 Correlation Analysis

Correlation is a statistical tool which studies the relationship between two variables and correlation analysis involves various methods and techniques used for studying and measuring the extent of the relationship between the two variables. Correlation is the analysis of the co-variation between two or more variables. The correlation coefficient can be calculated mathematically as follows,

Where, $r\ X \frac{N \quad xy\ Z f \quad x A f \quad y A}{\sqrt{N\phi X^2\ Z(\phi X^2)} \mid \sqrt{N\phi Y^2\ Z(\phi y)^2}}$

r= Correlation coefficient between two variables x and y

x= First variables

Y= Second variable

N= No of observation

The correlation coefficients between different variables are shown in below table 4.3 and 4.4 respectively for the manufacturing and non manufacturing sectors.

Table 4.3

Correlation Coefficients between Variables for Manufacturing Sector

Variables	L	Los S	G	DPR	EV	Liq
V:TA	-0.2482	-0.3283	0.08221	0.3698	0.069201	0.12434
L	1	-0.06132	-0.06132	-0.1258	-0.47064	-0.1116
Log S		1	-0.0577	-0.08429	0.3998	-0.1061
G			1	0.16252	0.11439	0.2317
DPR				1	-0.00525	-0.0683
EV					1	0.07496

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

The above table 4.3 shows that the ratio of market value to the book value of the company for the manufacturing sector which is negatively correlated with leverage and indicates that the value of investors expectation on increased return due to increasing leverage is less than the value of risk perception of the investors for the leverage. In other words the value of firm does no increase with increases in debt proportion in capital structure. This is against our expectation which may be caused by poor performance of the company is negatively correlated with size which means, investors does not prefer to invest in large size company. The correlation coefficient between value and Growth rate is positive. It indicates that growth is taken as favorably in the market and investors prefer growing companies for investment. There is a positive

correlation coefficient between value of the company and dividend pay out ratio that means the companies which pays more dividends are preferred by investors to invest which increase the value of that company. The positive correlation between earning variability and the value of the company conveys that the company having fluctuated operating earnings have more market value which is against our expectation. The market value of the company is also positively correlated with the liquidity, which indicates that the company having higher liquidity ratio have also higher market value.

Leverage is negatively correlated with all the variables; they are size of the company, growth rate, dividend payout ratio, earning variability and liquidity. Likewise size of the company is also negatively correlated with growth, dividend payout ratio and liquidity which means the large size companies have lower growth rate, liquidity ratio and do not pay dividend. The size is positively correlated with earning variability. It indicates that the large size companies have higher earning variability. The growth rate is positiviely correlated with dividend payout ratio, earning variability and liquidity. When we see dividend payout ratio, it is negatively correlated with earning variability and liquidity which shows that the company having fluctuated with earning variability and liquidity which shows that the company having fluctuated earning pays less dividends and the company, having more current assets pays out more dividends. The earnings variability is positively correlated with liquidity that means these companies earnings are less variable which have high liquidity ratio.

Table 4.4

Correlation coefficient between variables for Non Manufacturing sector

Variables	L	Los S	G	DPR	EV	Liq
V:TA	-0.599	0.2021	-0.6131	-0.2764	-0.403	-0.5678
L	1	0.1251	0.3741	0.3401	0.4429	0.34027
Log S		1	-0.2328	-0. 15634	0.1359	-0.716
G			1	0.04139	0.2131	0.49714
DPR				1	0.141	0.27589
EV					1	0.07047

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

In the above table 4.4 in case of non -manufacturing sector, the value of the company is also negatively correlated with leverage. It shows that investors avers to the financial risk so they prefer the unleveled company to invest. So we can say that highly our expectation as before. It may be caused by poor performance of the company and as well as the effect of other external environmental factors including political instability. The positive correlation coefficient of the size to the value of the company which indicates that investors prefer the big size of company and the value of those companies are also high. The growth rate is negatively correlated with value. That means growth rate is not a matter for investors to invest. The value of the company and dividend pay out ratio is also negatively correlated with each other which indicates that the companies paying more of its earning as dividend have negative impact on the market value of the company and negative correlation of value of company with earning variability indicates that the company

having less fluctuated operating earning have greater market value. The liquidity has negative correlation with the value of the company shows that the high liquidity ratio has negative impact on its market value it may be caused by financing of net working capital by cost bearing capital which affects adversely on the profitability.

The leverage is positively correlated with all variables except value. The positive correlation with size and the growth rate of the company indicate that the large size companies use more debt and have high growth rate. Likewise positive correlation with dividend pay out ratio, earning variability and liquidity indicates that levered companies pay more dividends. They have greater fluctuations in operating profits and also high liquidity. The size is negatively correlated with growth, dividend pay out ratio and liquidity and positively correlated with earning variability. It indicates that the big size companies have low growth and pays less dividends. They have low liquidity and greater fluctuation in operating earnings. Likewise growth is positively correlated with dividend pay out ratio liquidity and earning variability. It shows that the growing companies pay more dividends and they have high liquidity and earning fluctuations. The dividend pay out ratio is positively correlated with earning variability and liquidity which conveys that the companies which have high earning fluctuation and high liquidity pay more dividends. The earning variability is positively correlated with liquidity indicates that the companies with high liquidity have less earning fluctuations.

4.2.2. Simple regressions of the Variables

To examine the impact of each variable on the market value of the company separately, we use simple regression models. The below tables 4.5 and 4.6 shows the regression results for both manufacturing and non manufacturing sectors.

Table 4.5

Results of Simple Regression Analysis for Manufacturing Sector (Model-I)

Models	n	Constant	Beta Coefficient	R^2	S E	t-Value
V:TA=a+b_1L	37	1.2290	-0.1816	0.0623	0.1190	-1.5255
V:TA=a+b_2 Logs	37	3.2702	-0.2706	0.1427	0.1121	-2.4132
V:TA=a+b_3G	37	1.0929	0.3654	0.0425	0.2930	1.2467
V:TA+ab_4DPR	37	1.0403	1.4205	0.1368	0.6032	2.3548
V:TA=a+b_5EV	37	1.0890	0.0109	0.0048	0.0266	0.4104
V:TA+a+b_6 Liq	37	1.0304	0.0366	0.0155	0.0494	0.7414

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

For the manufacturing sector, the regression coefficient of leverage against the ratio of market value to book value is negative which shows that the use of debt in the capital structure decreases the market value of the company. The coefficient of multiple determinations is 0,0623 which indicates that 6.23% variation in the market value of the company is defined by leverage. As far as we concern with t-value, the beta coefficient is statistically significant at 5% level of significance. Therefore this result is against our expectation. The regression coefficient of size is also negative and the coefficient of multiple determinations is

very small (i.e 0.1427), which defines that only 14.27% of variation in market value of company and the t-value is significant. Hence we can say that the size has negative impact on the value of company. The beta coefficient of growth is positive but not significant and coefficient of multiple determination small i.e. 0.0425. So we cannot conclude that only 4.25% fluctuation in market value is determined by growth factor. The regression coefficient of multiple determination shows 13.68% variation in market value of the company is explained by dividend payouttation . The deta coefficient of earning variability is positive but not significant and multiple determination value indicates very little i.e. 0.48% variation in market value of the company is due to the earning variability. The regression coefficient of liquidity is positive but not significant and multiple determination value is also very low i.e 0.0155.

Table 4.6

Results of Simple Regressioin Analysis for Non Manufacturing Sector (Model-I)

Models	N	Constant	Beta Coefficient	R^2	S E	t-value
V:TA=a+b_1L	24	3.5891	-3.1691	0.3590	0.9028	-3.5102
V:TA=a+b_2 Logs	24	-0.4976	0.2973	0.0408	0.3071	0.9679
V:TA=a+b_3G	24	2.1827	-2.4647	0.3759	0.6771	-3.6399
V:TA+ab_4DPR	24	2.2358	-0.8936	0.0764	0.6624	-1.3490
V:TA=a+b_5EV	24	2.1538	-0.2380	0.1621	0.1154	-2.0630
V:TA+a+b_6 Liq	24	2.7523	-0.3004	0.3224	0.0928	-3.2353

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

In case of the non manufacturing sector, the regression coefficient of leverage is also negative as in manufacturing sector which means the relation of market value to book value of levered company will be less by 3.1691 times of debt proportion in capital structure. The t-value is significant at 1% level of significance which supports that the conclusion. The coefficient of multiple determination indicates that 35.90% of variation in the value of company is explained by leverage. The relationship between market value of the company and leverage is again against our expectation as before in manufacturing sector and that may be due to the fact that most of the levered listed companies are operation mostly in loss.

The beta coefficient of size is positive and significant at 5% level of significance. The coefficient of multiple determination is 0.0408 which explains that 4.08% of fluctuations in the market value if the company is determined by size factor. Therefore we can say that the investors pay more for the stock of large size, which aggress with our expectation. The beta coefficient of growth is negative. But the t-value is significant at 5% level of significance. The coefficient of multiple determinations indicates that 37.59% fluctuation in market value of the company is determined by growth rate. This result is against our expectation. Again the regression coefficient for dividend pay ratio is negative but not significant. Therefore the conclusion of R^2 value i.e. 7.64% variation in market value of the company due to the dividend pay out ratio is not supported. The beta coefficient of earning variability is also negative and not significant but the r2 value indicates that there is 16.21% variability in market value of the company due to the earning variability, which cannot be accepted. The beta coefficient of liquidity is negative and significant at 1% level of significance and 32.24% market value is determined by liquidity.

The important point to be noted here that the negative and significant result of regression coefficient for leverage against the ratio of market value to book value of the company in both manufacturing and non manufacturing sectors do not agree with any capital structure theories which we have learned. This result may be caused by data inconsistency or poor performance of the listed companies.

4.2.3 Multiple Regression Analysis

The multiple regression coefficient of value of the firm on leverage and other explanatory variables i.e. size, growth, dividend payout ratio, earning variability and liquidity and shown in below table 4.7 and 4.8 for both manufacturing and non manufacturing sectors respectively including their t-values and coefficient of multiple determination.

Table 4.7

Result of Multiple Regression for Manufacturing Sector (Model - II)

Equation : V:TA=a+b_1 L+b_2 Log S + b3 G+ b4 DPR + b5 EV + b6 Liq.

	coefficients	S E	T-value
Multiple Determination (R^2)	0.3288	-	-
Intercept (a)	3.3326	-	-
Leverage (L)	-0.0860	0.1332	-0.6454
Size (Log S)	-0.2849	0.1177	-2.4205
Growth (G)	0.0992	0.3148	0.3153
Dividend payout Ratio (DPR)	1.2307	0.5943	2.0707
Earning Variability (EV)	0.0211	0.0292	0.7240
Liquidity (Liq)	0.0231	0.0466	0.4954

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

For the manufacturing sector, the regression result shows that the coefficient of multiple determination (R^2) is 0.3288 which indicates that 32.88% variation in market value of the company is determine by the explanatory variables undertaken in this study. The beta coefficient of leverage is negative and t-value is statistically significant at 10% level of significance which indicates that the market value of the company is decreased by the use of debt in capital structure. The result is totally out of our expectations. Again, the beta coefficient of size is negative and significant at 5% level of confidence which shows that the investors pay less for the stock of large size companies. The result is also against our expectation. The reason for not preferring the large size companies to invest may be the large size companies do not have the growth opportunity. The beta coefficient for growth is positive but not significant. The beta coefficient of dividend payout ratio is positive which agree our expectation. The t- value is also significant at 10% level of significance. It indicates the investors pay more for the stock of those companies, which pays more dividends. The beta coefficient of earning variability is positive i.e. against our expectation but not significant. Finally, the beta coefficient of liquidity is positive but not statically significant.

Table 4.8

Result of Multiple Regression for Manufacturing Sector

(Model - II)

Equation: V:TA=a+b1 L+b_2 Log S + b3 G+ b4 DPR + b5 EV + b6 Liq.

	coefficients	S E	T-value
Multiple Determination (R^2)	0.6196	-	-
Intercept (a)	4.2408	-	-
Leverage (L)	-1.3099	1.1528	-1.1363
Size (Log S)	-0.1107	0.3842	-0.2881
Growth (G)	-1.3118	0.7360	-1.7824
Dividend payout Ratio (DPR)	-.2280	0.5364	-0.4250
Earning Variability (EV)	-0.2280	0.0997	-1.0614
Liquidity (Liq)	-0.1815	0.1534	-1.1835

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

In case of the non manufacturing sector, the coefficient of multiple determination is 0.6196, which indicates that 61.96% variation in the market value of the company is explained by the variables undertaken in the study. The beta coefficient of leverage is again negative as before in non-manufacturing sector. As concerning the t-value, it is also significant at 1% level of significance. It indicates that the market value of the company is decreased by increasing the amount of debt in capital structure. This result does not match with any capital structure theories which we have learned. The beta coefficient of size is negative and significant at 5% level of significance. It also does not support our expectation which explains that investors pay more for the stocks of small size companies. Likewise the beta coefficient of growth is negative and

not significant. So we cannot say that investors do not prefer growing companies to invest. The beta coefficient of dividend pay out ratio is negative which also statistically significant. Again the beta coefficient of earning variability is negative which shows that investors prefer for those companies whose earnings are less variable, but the t-value does not fully support this. Finally the beta coefficient of liquidity is negative and statistically significant.

From the above regression results, we find that the coefficient of leverage is negative in both manufacturing and non manufacturing sectors and the t-value is also statistically significant in both sectors. We must say that the use of debt in capital structure decreases the value of the company. The result is quite unexpected but this is a fact in context of Nepalese listed companies.

4.3 Corporate tax and Value of the firm.

In this section, we analyze the effect of tax rate (in debt capital) on the value of the firm. For this, we regressed the ratio of tax adjusted market value of the company to book value with the leverage and other explanatory variables as explained by Modillion and Miller in their corrected version in 1963. The below 4.9 and 4.10 shows the regression results of both manufacturing and non manufacturing sectors respectively.

Table 4.9

Multiple Regression Results for Manufacturing Sector (Model-III)

Equation: (V-tD) :TA= a+b1 L+b2 Log S + b3 G+ b4 DPR + b5 EV +b6 Liq

	Coefficients	S E	T-value
Multiple Determination (R^2)	0.5929	-	-
Intercept (a)	3.1196	-	-
Leverage (L)	0.0142	0.0597	0.2376
Size (Log S)	-0.2644	0.0528	-5.0097
Growth (G)	0.0653	0.1411	0.4627
Dividend payout Ratio (DPR)	0.7645	0.2664	2.8694
Earning Variability (EV)	-0.0043	0.0131	-0.3319
Liquidity (Liq)	-0.0115	0.0209	-0.5498

(Sources: Nepal Stock Exchange and Securities Board of Nepal)

The above table 4.9 clearly shows that the coefficient of multiple determination for manufacturing sector is 0.5929 which indicates that 59.29% fluctuation in the market value to book value of the company is determined by the variables take for the study. The beta coefficient of leverage is negative and significant at 1% level of significance, which indicates that use of debt in capital structure decreases the value of the company. Likewise the beta coefficient of size is negative and also significant at 10% level of significance. It shows that investors are not willing to pay more for the stocks of large size companies. The beta coefficients of growth, Dividend payout ratio, earning variability are positive but not statistically significant.

Table 4.10

Multiple Regression Results for Non Manufacturing Sector (Model - III)

Equation : (V-tD)/TA=a+b_1L+b2Logs b3 G+ b4 DPR + b5 EV + b6 Liq.

	Coefficients	S E	T-value
Multiple Determination (R^2)	0.6196	-	-
Intercept (a)	2.9686	-	-
Leverage (L)	-0.9196	0.8070	-1.1363
Size (Log S)	-0.0775	0.2686	-0.2881
Growth (G)	-0.9182	0.5152	-1.7824
Dividend payout Ratio (DPR)	-0.1596	0.3755	-0.4250
Earning Variability (EV)	-0.0714	0.0698	-1.0614
Liquidity (Liq)	-0.1271	0.1074	-1.1835

(Source: Nepal Stock Exchange and Securities Board of Nepal)

The coefficient of multiple determination as shown in table 4.10 for non manufacturing sector indicates that 61.96% variation in the ratio of tax adjusted market value to book value of company is due to the taken variables. The beta coefficient is again negative and significant at 1% level of significance which again shows that the use of debt in capital structure is not profitable. It causes the reduction in market value of the company. The beta coefficient of size is negative and significant at 5% level of significance. It indicates that investors pay more for the stocks of large size companies than that of small size companies. Likewise the beta coefficient of growth, earning variability and liquidity are negative but not statistically significant. The dividend payout ratio is also not significant although the beta coefficient is positive.

4.4 Major Findings of the Study

From, the analysis of above we get the following findings:

i. The correlation coefficients between the ratio of market value to book value of the company and leverage are negative for both manufacturing a non-manufacturing sectors. Which means that the value of firm does not increase with increase in debt proportion in capital structure. It shows that investors aware's to the financial risk so they prefer the unleveled company to invest. So we can say that highly levered companies have lower market value, which may be caused by poor performance of the company.

ii. The simple regression model (Model-I) shows that the beta coefficient of leverage is also negative and statistically significant at 5% and 1% level of significance for both manufacturing sector and non-manufacturing sector respectively. Which means the use of debt in the capital structure decreases the marked value of the company.

iii. The multiple regression model (Model-II) also shows the negative relationship of leverage with value of the firm in both manufacturing and non-manufacturing sectors and also significant at 10% and 1% of significance. Which indicates that the market value of the company is decreased by the use of debt in capital structure.

iv. Again the multiple regression model (Model-III) shows that the beta coefficient s of leverage is negative and significant at 1% level of significance for both manufacturing and non

manufacturing sectors. Which indicates that the use of debt in capital structure decreases the value of the company.

v. As concerned with the relation of market value of the company with size, growth, variability and liquidity, the simple regression model (Model-I) for manufacturing sectors shows that there exist negative relationship between market value and size but not significant. Hence we can say that the size has negative impact on the value of the company. Likewise there exist positive relationship between growth, earning variability an liquidity which is also not significant. So we can say that multiple determination value indicates very little variation in market value of the company is due to the growth, earning variability and liquidity. The beta coefficient of dividend payout ratio is positive and significant at 1% level of significance. That means the companies which pays more dividends are preformed by investors to invest which increase the value of the company.

vi. For non-manufacturing sector, the regression coefficient (Model-I) of size is positive and significant. However the coefficient of earning variability is also positive but not significant. Likewise the coefficients of growth dividend payout ratio and liquidity are negative. But the dividend payout ratio is not significant. So we can say that investors do not prefer growing company to invest which snows that investors prefer for those companies which earning are less variable increase the value of that company, earning variability of the company conveys that the company having fluctuated operating earning have more market value. Liquidity which indicates that the company having higher liquidity ratio have also higher market value.

vii. The multiple regression Coefficients (model-II) of size for manufacturing sector is negative and significant at 5% level of significance. The coefficients of growth, dividend payout ratio, earning variability and liquidity are positive but only dividend payout ratio is significant at 5% level of significance. Which means that investors prefer growing companies for investment, dividend payout ratio that means the companies which pays more dividends are preferred by investors to invest.

viii. In case of non-manufacturing sector, the regression coefficients (Model-II) of size and dividend payout ratio are positive but dividend payout ratio is non significant. Again, the coefficients of growth, earning variability and liquidity are negative but not significant. Which means that investors do not prefer growing company to invest which shows that investors prefer for those companies whose earning are less variable.

ix. The multiple regression for manufacturing sector (Model-III) shows that the beta coefficient of size is negative and significant at 10% level of significance. But the coefficients of growth, divided payout ratio, earning variability and liquidity are positive and not significant. Which means that investors are not willing to pay more for the stocks large size companies.

x. The beta coefficients of size and dividend payout ratio are negative and non significant at 5% level of significance for non-manufacturing sector. Likewise the coefficients of growth, earning variability and liquidity are negative and not significant.

CHAPTER- V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Tee concept and review of capital structure theories as well as empirical studies have been presented in chapter one and chapter two respectively. Likewise research methodology and, presentation and analysis of data from selected listed companies are also have been streamlined in the chapters three and four respectively. Now, a brief reviews and the findings as well as recommendations are presented in this chapter.

"Whether or not the capital structure of the company affects its market value?" This is the serious matter for the companies in least developed capital markets like Nepal's. So, this study is maimed to be small step towards this direction. The main objective of this study is to test the relationship between capital structure and value of the firm. In respect of the relationship between capital structure and its impact on the value of the firm Modigliani and Miller, in their first position argued that value of the firm is independent of its capital structure in the world with out taxes. In their second study, they considered the corporate taxes and concluded that the market value of the levered company excess only by the present value of tax shield than the market value of unleveled company. But in contradiction of M-M opinion, traditionalist conclude that the use of debt in capital structure firstly increase the market value of the company and after a point when the use of debt becomes extreme, the market value of the company decrease. Beside these, various studies have been conducted till now, in respect of leverage and value of the firm. Among them, some supports to the M-M approach and other some to the traditional approach.

As already stated that, the main objective of this study is to examine the relationship between leverage and market value of the company in respect of least developed capital market like Nepal's all together eleven levered companies are selected among one hundred and fifteen companies listed in Nepal stock exchange Ltd. To have a homogeneous risk class, we have categorized them into two sectors. They are manufacturing sector and non-manufacturing sectors. The manufacturing sector contains Nepal Lube oil ltd., Bottlers Nepal Terai Ltd. Arun Vanaspati Udhyog Ltd., Nepal Bitumen and Barrel Udhyog Ltd., Raghupati Jute Mills Ltd., and Jyoti Spining Mills Ltd. Likewise the companies under non-manufacturing sector are: Salt Trading Corporation Ltd., Nepal Trading Company Ltd., Yak and Yeti Hotel and Soaltee Hotel Ltd. For the purpose of data analysis, we have used correlation and regression model's as an analytical tools and all together 61 observations are used. (i.e. 37 for manufacturing sector and 24 for non manufacturing sector). From, the analysis of above we get the following findings:

i. The correlation coefficients between the ratio of market value to book value of the company and leverage are negative for both manufacturing an non manufacturing sectors.
ii. The simple regression model (model-I) shows that the beta coefficient of leverage is also negative and statistically significant at 5% and 1% level of significance for both manufacturing sector and non manufacturing sector respectively.
iii. The multiple regression model (Model-II) also shows the negative relationship of leverage with value of the firm in both manufacturing and non manufacturing sectors and also significant at 10% and 1% of significance.

iv. Again the multiple regression model (Model-III) shows that the beta coefficient s of leverage are negative and significant at 1% level of significances for both manufacturing and non manufacturing factors.

v. As concerned with the relation of market value of the company with size, growth, variability and liquidity, the simple regression model (Model-I) for manufacturing sectors shows that there exist negative relationship between market value and size but not significant. Likewise there exist positive relationship between growth, earning variability and liquidity, which is also not significant. The beta coefficient of dividend payout ratio is positive and significant at 1% level of significance.

vi. For non-manufacturing sector, the regression coefficient (Model-I) of size is positive and significant. However the coefficient of earning variability is also positive but not significant. Likewise the coefficients of growth dividend payout ratio and liquidity are negative. But the dividend payout ratio is not significant.

vii. The multiple regression Coefficients (model-II) of size for manufacturing sector is negative and significant at 5% level of significance. The coefficients of growth, dividend payout ratio, earning variability and liquidity are positive but only dividend payout ratio is significant at 5% level of significance.

viii. In case of non-manufacturing sector, the regression coefficients (Model-II) of size and dividend payout ratio are positive but dividend payout ratio is not significant. Again, the coefficients of growth, earning variability and liquidity are negative but not significant.

ix. The multiple regression for manufacturing sector (Model-III) shows that the beta coefficient of size is negative and significant at

10% level of significance. But the coefficients of growth, divided payout ratio, earning variability and liquidity are positive and not significant.

x. The beta coefficients of size and dividend payout ratio are negative and not significant at 5% level of significance for non-manufacturing sector. Likewise the coefficients of growth, earning variability and liquidity are negative and not significant.

5.2 Conclusion

From the above findings, it is clear that the correlation coefficient, simple and multiple regression coefficients for both tax ignoring and tax adjusted, gives the negative relation of leverage with market value of the company in both manufacturing and non manufacturing sectors. The t-values are also statistically significant which indicates that the use of debt in capital structure minimizes or reduces the market value of the company.

The result is totally out our expectation and it dies not match with any capital structure approaches i.e. Net Income Approach, Net Operation Income Approach, M-M approach and Traditional approach but this is a fact in context of Nepalese listed companies.

The result of showing negative impact of leverage in the market value of the company may be caused by the data inconsistency and poor performance of the companies. Among the sampled companies, some are suffering from loss and have negative earning per share.

The leverage has further contributed for lowering the earning per share on the selected listed companies because they mostly have less return on assets than the interest rate on debt use. A part from these, the

ideal capacity, more expenses in managerial emoluments, lack of modern eccrinology, lack of professionalism in management and accountability of management towards investors etc. Are may be the causes for poor performance of the companies. Even board members and management do not take consideration in their own commitment. Neither investors non management evaluate the performance of the company in terms of prospectus and also the investors have irrational judgment or they do not evaluate the stocks in terms of expectation of earning streams. The irrational judgment of investors may be due to inadequate information about capital market and actual position of the company. Beside these the present political situation is also responsible for poor performance of the Nepalese listed companies to same extend.

In most of the companies, managements are neither paying their attention to improve operational efficiency nor do they finance the capital by evaluating the implication of debt capital. Debt financing is made not to grow the company but to substitute loss. The listed companies become failure to meet the interest obligation. Thus, bankruptcy becomes a vital problem. The use of debt will save the tax if there would be earning. But in reality of Nepalese companies, there is no earning, to tax and no tax saving.

5.3 Recommendations

After identifying the issues and constraints as derived from findings some practicable recommendations have been suggested. These guidelines would helps in taking prompt decisions in relating to capital structure and value of the firm to meet the above constraints. The suggestions are presented below.

i. The companies should maintain optimal capital structure:

Nepalese listed companies lack practical knowledge regarding capital structure and value of the firm. The company should properly analyze and evaluate the capital mix decisions. If the company uses the debt capital by evaluation its cost effectiveness and possibility of bankruptcy, the use of leverage will increase the value of the company. So, it is recommended that the company should design appropriate capital structure in order to maximize the value of the company.

ii. Investors should be aware of their rights and capital market:

Now a day, investors are becoming aware bout the capital market and are interested to invest in different companies. Thus, if investors are made further aware about their right and capital market behaviors by educating them, they will compel the management to take decisions in the favor of investors, and the management would be accountable towards the investors. Once the management's morality and accountability towards the investors improved they will take the excellent decisions to improve the performance of company.

iii. The companies should improve their operational efficiency:

In most of the companies, management is not paying attention to improve operational efficiency, It can be improved by developing professionalism in management. Professional management will concern more on operational, efficiency by introducing modern technologies rather than enjoy excess facility. If professionalism in management is improved the excess amount of expense in

managerial emolument is reduced, the operational profit will be increased that would result to increase the market value of the company.

iv. To the researchers

There is a need the regular analysis and evaluation of capital structure and value of firm. This will help to possible alternatives and a venues available reap benefits.

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Annex-I

Variables for Manufacturing Sector

S.N	Name of Company	N	Yr	L	Log S	Growth	DPR
1	Nepal lube oil	1	2057/058	0.396	7.774	34.886	0.566
		2	2058/059	0.303	7.767	-1.677	0.315
		3	2059/060	0.464	7.866	25.500	0.645
		4	2060/061	0.494	7.866	0.034	0.000
2	Bottlers Nepal Terai Ltd	1	2057/058	0.001	5.408	0.0000	0.000
		2	2058/059	0.000	5.281	34.000	0.000
3	Arun Vanaspati udhyog	1	2057/058	0.771	8.382	0.000	0.000
		2	2058/059	0.768	8.374	1.688	0.000
		3	2059/060	3.118	7.552	57.078	0.000
		4	2060/061	3.062	7.555	-90.342	0.000
		5	2061/062	2.381	7.644	24.316	0.000
		6	2062/063	2.502	7.602	-10.507	0.000
		7	2063/064	0.371	8.431	0.692	0.000
4	Bituman &Barrel Uddhyog	1	2057/058	0.625	7.688	0.000	0.000
		2	2058/059	0.735	7.864	49.995	0.000
		3	2059/060	0.701	7.821	-9.451	0.000
5	Khadhye uddhyog ltd.	1	2058/059	0.707	7.939	3.260	0.000
		2	2059/060	0.610	7.816	-25.822	0.000
		3	2060/061	0.747	8.013	67.197	0.000
		4	2061/062	0.504	8.209	58.482	0.000
		5	2062/063	0.025	7.865	-55.050	0.000
		6	2063/064	0.047	7.712	-35.336	0.000
		7	2064/65	0.038	7.676	8.623	0.000
6	Reghupati Jute Mills Ltd	1	2058/059	0.181	8.344	4.736	0.000
		2	2059/060	0.181	8.344	-1.941	0.000
		3	2060/061	0.265	8.391	-0.071	0.000
		4	2061/062	0.279	8.399	-2.192	0.000
		5	2062/063	0.282	8.392	0.253	0.000
		6	2063/064	0.231	8.374	-3.966	0.000
		7	2064/065	0.217	8.382	3.884	0.000
7	Jyoti Spinning mills Ltd.	1	2058/059	0.689	8.795	3.921	0.000
		2	2059/060	0.678	8.780	-43.827	0.000
		3	2060/061	0.763	8.912	35.596	0.000
		4	2061/062	1.000	11.724	-11.533	0.000
		5	2062/063	0.747	8.885	6.208	0.000
		6	2063/064	0.751	8.891	0.988	0.000
		7	2064/065	0.763	8.906	4.278	0.000

SUMMARY OUTPUT OF V/TA=a+b1L

Regression Statistics	
Multiple R	0.2497
Adjusted R	0.0623
Square	0.0356
Standard Error	0.5524
Observations	37
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	0.7101	0.7101	2.3272	0.1361
Residual	35	10.6804	0.3052		
Total	36	11.3906			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	1.2290	0.1246	9.8609	0.0000	0.9760	1.4821	0.8895	1.5685
Leverage	-0.1816	0.1190	-1.5255	0.1361	-0.4232	0.0601	-0.5058	0.1426

SUMMARY OUTPUT OF V/TA=a+b2 Log S

Regression Statistics	
Multiple R	0.3777
R Square	0. 1427
Adjusted R	
Square	0. 1182
Standard Error	0.5282
Observations	37
ANOVA	

					Significance
	df	SS	MS	F	F
Regression	1	1.6249	1.6249	5.8236	0.0212
Residual	35	9.7657	0.2790		
Total	36	11.3906			

Coefficients		Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper
Intercept	3.2702	0.9040	3.6176	0.0009	1.4350	5.1053	0.8080	5.7324
Leverage	-0.2706	0.1121	-2.4132	0.0212	-0.4982	-0.0430	-0.5760	0.0348

Summary output of V/TA= a+ b3 G

Regression Statistics	
Multiple R	0.2062
R Square	0. 0425
Adjusted R	
Square	0. 0.0152
Standard Error	0.0.5582
Observations	37
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	0.4843	0.1.4843	1.5543	0.2208
Residual	35	10.3906	0.3.116		
Total	36	11.3906			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	1.0929	0.0919	11.8935	0.0000	0.9064	1.2795	0.8426	1.3432
Leverage	0.3654	0.2930	1.2467	0.2208	-0.2296	0.9603	-0.4329	1.1636

Summary output of V/TA= a+ b4 G

Regression Statistics	
Multiple R	0.3698
R Square	0.1368
Adjusted R	
Square	0.1121
Standard Error	0.5300
Observations	37
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	1.5578	1.5578	5.5450	0.0243
Residual	35	9.8328	0.2809		
Total	36	11.3906			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	1.0403	0.0906	11.4799	0.0000	0.8563	1.2242	0.7934	1.2871
Leverage	1.4205	0.6032	2.3548	0.0243	0.1956	2.6451	-0.2226	3.0636

Summary output of V/TA= a+ b5 G

Regression Statistics	
Multiple R	0.0692
R Square	0.0048
Adjusted R	
Square	-0.0236
Standard Error	0.5691

Observations	37
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	0.0545	0.0545	0.1684	0.6840
Residual	35	11.3360	0.3239		
Total	36	11.3906			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%
Intercept	1.0890	0.0965	11.0810	0.0000	0.8931	1.2850
Leverage	0.0109	0.0266	0.4104	0.6840	-0.0431	0.0650

Summary output of V/TA= a+ b6 G

Regression Statistics	
Multiple R	0.1243
R Square	0.0155
Adjusted R Square	-0.0127
Standard Error	0.5661
Observations	37
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	0.1761	0.1761	0.5496	0.4634
Residual	35	11.2145	0.3204		
Total	36	11.3906			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	1.0304	0.1310	7.8655	0.0000	0.7645	1.2964	0.6736	1.387
Leverage	0.0366	0.0494	0.7414	0.4634	-0.0637	0.1369	-0.0979	0.171

Summary output of V/TA= a+ b1L + b2log S+ b3 G+ b4DPR + b3EV+ b6Liq

Regression Statistics	
Multiple R	0.5734
R Square	0.3288
Adjusted R Square	0.1946
Standard Error	0.5048
Observations	37

ANOVA

	df	SS	MS	F	Significance F
Regression	6	3.7453	0.6242	2.4494	0.0478
Residual	30	7.6453	0.2548		
Total	36	11.3906			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95
Intercept	3.3326	0.9424	3.5364	0.0013	1.4080	5.2572
Leverage	-0.0860	0.1332	0.6454	0.5236	-0.3581	0.1861
Log S	-0.2849	0.1177	2.4205	0.0218	-0.5254	-0.0445
Growth	0.0992	0.3148	0.3153	0.7547	-0.5436	0.7420
DPR	1.2307	0.5943	2.0707	0.0471	0.0169	2.0000
Eaming Variability	0.0211	0.0292	0.7242	0.4747	-0.0385	0.0808
Liquidity	0.0231	0.0466	0.4954	0.6239	-0.0722	0.1184

Summary output of (V-td) /TA= a+ b1L + b2log S+ b3 G+ b4DPR + b3EV+ b6Liq

Regression Statistics	
Multiple R	0.7700
R Square	0.5929
Adjusted R Square	0.5114
Standard Error	0.2263
Observations	37
ANOVA	

					Significance	
	df	SS	MS	F	F	
Regression	6	2.2373	0.3729	7.2806	0.0001	
Residual	30	1.5365	0.0512			
Total	36	3.7737				
	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95
Intercept	3.1196	0.4225	7.3842	0.0000	2.2568	3.9824
Leverage	0.0142	0.0597	0.2376	0.8138	-0.1078	0.1362
Log S	-0.2644	0.0528	5.0097	0.0000	-0.3722	-0.1566
Growth	0.0653	0.1411	0.4621	0.6469	-0.2229	0.3535
DPR	0.7645	0.2664	2.8694	0.0075	0.2204	1.3086
Eaming Variability	-0.0043	0.0131	0.3319	0.7423	-0.0311	0.0224
Liquidity	-0.0115	0.0209	0.5498	0.5865	-0.0542	0.0312

SUMMARY OUTPUT OF V/TA=a+b1L

Regression Statistics	
Multiple R	0.5992
R Square	0.3590
Adjusted R Square	0.3299
Standard Error	1.0085
Observations	24

ANOVA

	df	SS	MS	F	Significance F
Regression	1	12.5318	12.5318	12.3218	0.0020
Residual	22	22.3749	1.0170		
Total	23	34.9067			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	3.5891	0.4896	7.3311	0.0000	2.5738	4.6044	2.2091	4.9691
Leverage	-3.1691	0.9028	-3.5102	0.0020	-5.0414	-1.2968	-5.7139	-0.6243

SUMMARY OUTPUT OF V/TA=a+b2Log S

Regression Statistics	
Multiple R	0.2021
Adjusted R	0.0408

Square	-0.0028
Standard Error	1.2336
Observations	24
ANOVA	

	df	SS	MS	F	Significance F
Regression	1	1.4257	1.4257	0.9368	0.3436
Residual	22	33.4810	1.5219		
Total	23	34.9067			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	-0.4976	2.6234	-0.1897	0.8513	-5.9381	4.9430	-7.8922	6.8971
Leverage	0.2973	0.3071	0.9679	0.3436	-3397	0.9342	-0.5685	1.1630

SUMMARY OUTPUT OF V/TA=a+b3G

Regression Statistics	
Multiple R	0.6131
Adjusted R	0.3759
Square	0.3475
Standard Error	0.9951

Observations	24				
ANOVA					
					Significance
	Df	SS	MS	F	F
Regression	1	13.1204	13.1204	13.2490	0.0014
Residual	22	21.7863	0.9903		
Total	23	34.9067			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	2.1827	0.2074	10.5228	0.0000	1.7525	2.6128	1.5980	2.7674
Leverage	-2.4647	0.6771	-3.6399	0.0014	-3.8690	-1.0604	-4.3734	-05560

SUMMARY OUTPUT OF V/TA=a+b4LDPR

Regression Statistics	
Multiple R	0.2764
Adjusted R	0.0764
Square	0.0344
Standard Error	1.2106
Observations	24
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	2.6667	2.6667	1.8197	0.1911
Residual	22	32.2399	1.4655		

Total	23	34.9067						
	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	2.2358	0.2904	7.6978	0.0000	1.6334	2.8381	1.4171	3.0544
Leverage	-0.8936	0.6624	-1.3490	0.1911	-2.2673	0.4802	-2.7607	0.9736

SUMMARY OUTPUT OF V/TA=a+b5 EV

Regression Statistics	
Multiple R	0.4026
Adjusted R	0.1621
Square	0.1240
Standard Error	1.1530
Observations	24
ANOVA	

					Significance
	Df	SS	MS	F	F
Regression	1	5.6585	5.6584	4.2561	0.0511
Residual	22	29.2583	1.3295		
Total	23	34.9067			

Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%

Intercept	2.1538	0.2429	8.8668	0.0000	1.6500	2.6576	1.4691	2.8385
Leverage	-0.2380	0.1154	-2.0630	0.0511	-0.4773	0.0012	-0.5632	0.0872

SUMMARY OUTPUT OF V/TA=a+b6L

Regression Statistics	
Multiple R	0.5678
Adjusted R	0.3224
Square	0.2916
Standard Error	1.0369
Observations	24
ANOVA	

					Significance
	df	SS	MS	F	F
Regression	1	11.2537	11.2537	10.4673	0.0038
Residual	22	23.6529	1.0751		
Total	23	34.9067			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	2.7523	0.3077	8.9456	0.0000	2.1143	3.3904	1.8851	3.6196
Leverage	-0.3004	0.0928	-3.0353	0.0038	-0.4929	-0.1078	-0.5621	-0.0387

Summary output of V/TA= a+ b1L + b2log S+ b3 G+ b4DPR + b3EV+ b6Liq

Regression Statistics	
Multiple R	0.7872
Adjusted R	0.6196
Square	0.4854
Standard Error	0.838
Observations	24
ANOVA	

					Significance
	df	SS	MS	F	F
Regression	1	21.6289	3.6048	4.6154	0.0059
Residual	17	13.2778	0.7810		
Total	23	34.9067			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 9
Intercept	4.2408	3.3108	1.2809	0.2174	-2.7442	11.225
Leverage	-1.3099	1.1528	1.1363	0.2716	-3.7422	1.1224
Log S	-0.1107	0.3842	0.2881	0.7768	-0.9212	0.6999
Growth	-1.3118	0.7360	1.7824	0.0926	-2.8645	0.2410
DPR	-0.2280	0.5364	0.4280	0.6761	-1.3596	0.9036
Eaming Variability	-0.1058	0.0997	1.0614	0.3034	-0.3162	0.1045
Liquidity	-0.1815	0.1534	1.1835	0.2529	-0.5051	0.1421

Summary output of (V-td) /TA= a+ b1L + b2log S+ b3 G+ b4DPR + b3EV+ b6Liq

Regression Statistics	
Multiple R	0.7872
Adjusted R	0.6196
Square	0.4854
Standard Error	0.6186
Observations	24
ANOVA	

					Significance
	df	SS	MS	F	F
Regression	1	10.5982	1.7664	4.6154	0.0059
Residual	17	6.5061	0.3827		
Total	23	17.1043			

	Coefficients	Standard Error	T Stat	P-Value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	2.9686	2.3175	1.2809	0.2174	-1.9210	7.8581	-3.7481	9.6853
Leverage	0.9169	“	1.1363	0.2716	-2.6195	0.7856	-3.2558	1.4219
Log S	-0.0775	0.2689	0.2881	0.7768	-0.6449	0.4899	-0.8569	0.7020
Growth	-0.9182	0.5152	1.7824	0.0926	-2.0052	0.1687	-2.4113	0.5749
DPR	-0.1596	0.3755	0.4250	0.6761	-0.9517	0.6325	-1.0477	0.9286
Eaming Variability	-0.0741	0.0698	1.0614	0.3034	-0.2213	0.0732	-0.2764	0.1282
Liquidity	-0.1271	0.1074	1.1835	0.2529	-0.3536	0.0994	-0.4382	0.1841

Annex-II

Variables for Non Manufacturing Sector

S.N	Name of Company	N	Yr	L	Log S	Growth	DPR	EV
1	Nepal Trading Ltd.	1	2057/058	0.558	6.949	80.694	0.000	0.624
		2	2058/059	0.265	6.728	-32.433	0.379	0.624
		3	2059/060	0.553	6.948	68.909	0.000	0.624
		4	2060/061	0.587	7.097	31.316	1.545	0.624
		5	2061/062	0.483	7.058	-11.880	0.000	0.624
2	Salt Trading Corp. Ltd	1	2058/059	0.915	8.879	9.977	0.938	1.076
		2	2059/060	0.899	8.944	16.348	0.000	1.076
		3	2060/061	0.904	8.986	10.001	0.279	1.076
		4	2061/062	0.644	9.147	44.845	0.109	1.076
		5	2062/063	0.715	9.279	35.726	0.165	1.076
		6	2063/064	0.660	9.254	-5.732	0.094	1.076
		7	2064/065	0.188	9.286	7.842	0.576	2.545
3	Yak Yeti Hotel Ltd.	1	2058/059	0.523	8.944	11.117	0.556	2.545
		2	2059/060	0.582	9.028	21.439	0.000	2.545
		3	2060/061	0.444	8.936	-19.259	0.000	2.545
		4	2061/062	0.460	8.926	-2.068	0.000	2.545
		5	2062/063	0.481	8.935	2.075	0.000	2.545
		6	2063/064	0.423	8.883	-11.296	0.000	2.545
		7	2064/065	0.300	8.785	-20.174	0.000	2.545
4	Soaltee Hotel Ltd.	1	2060/061	0.031	8.663	-2.723	0.302	-3.194
		2	2061/062	0.120	8.610	-7.075	0.000	-3.194
		3	2062/063	0.292	8.656	11.161	0.000	-3.194
		4	2063/064	0.345	8.610	-68.986	0.000	-3.194
		5	2064/065	0.436	8.508	2.706	0.000	-3.194