CHAPTER ONE
INTRODUCTION

1.1Background

Concept of capital structure

When the Modigliani-Miller theorem (henceforth MMT), emerged in 1958AD, it not only created a new wave in finance but also created a new discipline 'capital structure' from the premises of finance. The capital structure of a firm describes the way in which a firm raised capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm maintained resulting from the firm's financing decisions.

MMT claims that in perfect financial market, the value of a company is independent of its financing choice However, it is generally viewed (Niu, 2008 :133) as a purely theoretical result since it disregards many important factors in the capital structure decision. The theorem states that, in a perfect market, how a firm is financed is irrelevant to its value. This result provides the base with which to examine real world reasons why capital structure is relevant, that is, a company's value is affected by the capital structure it employs. Some other reasons include bankruptcy costs, agency costs, taxes, and information asymmetry. This analysis can then be extended to look at whether there is in fact an optimal capital structure: the one which maximizes the value of the firm.

Following on from the pioneering work of Modigliani and Miller (1958) on capital structure, three conflicting theories of capital structure have been developed. They are namely: static trade-off, pecking order, and agency cost theories.

The static trade-off theory of capital structure (also referred to as the tax based theory) states that optimal capital structure is obtained where the net tax advantage of debt financing balances leverage related costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant (e.g., Baxter, 1967 and Altman 1984, 2002). In view of this theory, issuing equity means moving away from the optimum and should therefore be considered bad news. According to Myers (1984), firms adopting this theory could be regarded as setting a target debt-to-value ratio with a gradual attempt to achieve it. Myers (1984), however, suggests that managers will be reluctant to issue equity if they feel it is undervalued in the market. The

consequence is that investors perceive equity issues to only occur if equity is either fairly priced or overpriced. As a result investors tend to react negatively to an equity issue and management are reluctant to issue equity.

Pecking order theory (also referred to as the information asymmetry theory) proposed by Myers states that firms prefer to finance new investment, first internally with retained earnings, then with debt, and finally with an issue of new equity. Myers argues that an optimal capital structure is difficult to define as equity appears at the top and the bottom of the 'pecking order'. Internal funds incur no flotation costs and require no disclosure of the firm's proprietary financial information that may include firm's potential investment opportunities and gains result of undertaking such investments.

The agency cost theory of capital structure states that an optimal capital structure will be determined by minimizing the costs arising from conflicts between the parties involved. Jensen and Meckling (1976) argue that agency costs play an important role in financing decisions due to the conflict that may exist between shareholders and debt holders. If companies are approaching financial distress, shareholders can encourage management to take decisions, which, in effect, expropriate funds from debt holders to equity holders. Sophisticated debt holders will then require a higher return for their funds if there is potential for this transfer of wealth. Debt and the accompanying interest payments, however, may reduce the agency conflict between shareholders and managers. Debt holders have legal redress if management fails to make interest payments when they are due, hence managers concerned about potential loss of job, will be more likely to operate the firm as efficiently as possible in order to meet the interest payments, thus aligning their behavior closer to shareholder wealth maximization.

Finance managers are more aware and cautious of the business financing and the funding of capital structure due to the increasing pressure on today's competitive environment. This phenomenon would encourage these managers to change the capital components of business organization in such a way that maximizes the firm's overall value.

Capital structure choice has inspired and fascinated many researchers. Countless studies investigated into the explanations of firms' capital structure choice, both theoretical studies and empirical ones. There still remains no clear answer to Myers (1984:575) 20 years old question "How do firms choose their capital structure?" Different theories answer this question from different point of view. For instance, traditional trade-off theory postulates the existing of an optimal capital structure, which indicates the optimal choice of capital structure by firms is a balance of corporate tax shield against the bankruptcy cost and agency cost. However pecking order theory throws doubt on the existence of target capital structure, suggesting that firms use debt only when the internal financing is not available. Previous studies concluded that firms' leverage ratio closely related to firm-level characteristics. For an instance, Harris and Raviv (1991) summarize that "leverage increases with fixed assets, non-debt tax shields, investment opportunities and firm size and decreases with volatility, advertising expenditure, the probability of bankruptcy, profitability and uniqueness of the product." Most of previous empirical evidences were based on US firms with few notable exceptions. However, the experience of a single country may cover the effects of different financial system and economic tradition on capital structure choice. Cross-country comparisons are essential for the understanding of the difference in leverage choices across countries. And also cross-country comparison can be used to suggest linkages between institutional differences and empirical results about capital structure.

Among the notable exceptions, Rajan and Zingales (1995) investigated the leverage ratios and capital structure determinants in G-7 countries. They found that although belonging to different financial systems, the firms are levered similarly across G-7 countries at the aggregate level with only U.K and Germany being less levered. And the factors related to leverage identified by studies in the United States seems similarly related to the leverage choice in G-7 countries as well.

Booth et al. (2001: 91) have found that 'data from developed economies have many institutional similarities. It is important to note that different countries have different institutional arrangements, mainly with respect to their tax and bankruptcy codes, the existing market for corporate control, and the roles banks and securities markets play. The historical attempt to building theory of capital structure began with the presentation of a paper by MM (1958). They

revealed the situations under what conditions that the CS is relevant or irrelevant to the financial performance of the listed companies.

Capital structure's history indicates that useful theoretical developments have not been uniform across all areas of financial decision-making. In some areas, these developments are many and varied, while in other areas they are only a few. Since the fifties, there has been a concerted effort by theoretical economists to analyse the financial decision of business firms within the context of equilibrium models of financial markets.

Firms in developing countries rely more on equity finance than debt finance. These findings seem surprising given that stock markets in developing countries are invariably less well developed than those in the industrial countries, especially for equities. However, in an Indian study, Cobham and Subramaniam (1998) used a sample of larger firms and found that Indian firms use substantially lower external and equity financing. In a study of large companies in ten developing countries, Booth et al. (2001) also found that debt ratios varied substantially across developing countries, but overall were not out of line with comparable data for industrial countries. It is not yet known in the context of Nepal, how do debt ratios compare with the other developing countries and hence the importance of this study.

1.2. Statement of the Problem

Theoretically MM model (1963) of capital structure based on tax balancing and asymmetric information, and more recently, on product-market and corporate control considerations (Harris and Raviv, 1981), has managed to shed some light on the financing behaviour of corporations. Many researchers have tested the validity of the modern theory of finance. Numerous studies have also investigated the capital structure of firms in various sectors of the economy.

Since the capital structure of firm is determined by firm specific variables as well as external macroeconomic variable, most of the studies are based on firm specific variables. Based on the capital structure theories tax shield, assets structure, profitability, firm size, growth, risk, liquidity, industry class and product uniqueness are the firm specific key attributes which determine the capital structure. Therefore, as referenced by Gajurel (2004:5) the leverage of the

firm is the function of tax shield, assets structure, profitability, firm size, growth, risk, and product.

Leverage = *f* (assets, liquidity, growth, tax, profitability, risk, size)

The literature on the determinants on capital structure has been growing steadily since Stewart Myers' article on the 'determinants of corporate borrowing' (Myers, 1977). Most initial studies (Taggart, 1977; Marsh, 1982; Bradley *et al.*, 1984; Jalilv and Harris, 1984; Titman and Wessels, 1988) examined the case of U.S. companies and found that debt ratio is determined by non-debt tax shield, assets structure, profitability, growth, industry classification and product uniqueness. In their extensive survey of existing empirical studies, Harris and Raviv (1991) pointed out that the leverage increase with fixed cost, non-debt tax shield, investment opportunities (growth) and firm size, and decreases with volatility, advertising expenses, probability of bankruptcy, profitability, and uniqueness of the product.

The cross section analysis by Rajan and Zingales (1995) is one of the first attempts to test for the G7 countries the theoretical and empirical lessons learnt from the U.S. studies. These authors find similar levels of leverage across countries, thus refuting the idea that firms in bank-oriented countries are more leveraged than those in market-oriented countries. However, they recognize that this distinction is useful in analyzing the various sources of financing. Rajan and Zingales (1995) find that the determinants of capital structure that have been reported for the U.S. (size, growth, profitability, and tangible assets) are important in other countries as well. They show that a good understanding of the relevant institutional context (bankruptcy law, fiscal treatment, ownership concentration, and accounting standards) is required when identifying the fundamental determinants of capital structure. The analysis by Booth *et al*. (2001) suggests that the same determinants of capital structure prevail in ten developing countries. They found that developing countries have substantially lower amount of long-term debt.

The existing researches on the capital structure have been largely confined to the US and few other developed countries. Although the capital structure issue has received great importance in these countries, it has remained neglected in developing countries due to different economic and legal constraints. However the economic liberalization and reformation processes since 1980's in

developing countries now have less institutional barriers. Research in this field will contribute to signify the importance of capital structure to value maximization objective of the firm. This study attempts to shed some light on the capital structure issues in Nepalese context. It is a case of capital structure in less developed countries.

A study conducted by Sbeiti (2010:75) on database of firms listed in three Gulf Countries Council stock markets in order examine the determinants of their capital structure during the period 1998-2005. The data shows that the leverage ratio in the GCC markets is still below that found in developed countries. The empirical results indicate that the financing decisions of these companies can be explained by the determinants suggested by much of extant the empirical literature. Specifically, it is found that liquidity, tangibility and profitability are negatively and significantly related to the leverage ratios; while firm size is positively and significantly related to leverage ratio of firms operating in the countries investigated. Finally, growth opportunities are positively related to book leverage and negatively related to market leverage in all three countries. The findings of the paper show that tax considerations are of less importance, since the investigation was carried out in markets where there is no taxation. Thus factors other than taxes influence the capital structure decisions of firms.

Lima Mahabuba (u d, 11) found Agency cost of equity and bankruptcy risk is negatively related with leverage whereas growth rate, operating leverage, tangibility and debt service capacity of the firms are positively correlated. Important observations of this study is that both agency cost model and static trade-off model help describe the capital structure pattern of the pharmaceutical companies as because most of the determinants have shown desired sign as predicted by these two theories. Another important finding of this paper is that the factors working on firms' capital structure in other countries also work in a similar fashion in Bangladesh

Pratheepkanth (2011:180),studied business companies in Sri Lanka and found Correlation analysis explains, there is a weak positive relationship between gross profit and capital structure at the same time, there is a negative relationship between net profit and capital structure. it reflects the high financial cost among the firms. ROI and ROA also has negative relationship with capital structure at -0.104, -0.196 respectively. The empirical results shown that there is a

insignificant negative relationship between the capital structure and firm's financial performance measured by performance measures such as ROA , ROI ,Net profit margin and etc

A study conducted by Gajurel (2005:1) found that Nepalese firms are highly levered, however the long-term debt ratio is significantly low. Assets structure and size are observed positively related to leverage where as liquidity, risk, growth, non-debt tax shield are negatively related to leverage. The signs of estimates suggest that both pecking order and tradeoff theories are at work in explaining capital structure of Nepalese companies. Also, the macroeconomic factors like GDP, inflation and capital market influence in firm's capital structure decisions. Opinion survey analysis has shown that Nepalese managers prefer internal financing first followed bank loan financing.

Though there are these studies, their reliability and validity are not known. Those studies have become old and there have been many significant changes taken place in Nepal. No study has been conducted yet that compares debt ratios with developing countries. More specifically, this study deals with following issues:

- What types of capital structure policies the Nepalese companies have followed?
- Are Nepalese firms lowly levered or highly levered as compared to developing countries?
- What is the relationship of leverage with different financial indicators (ratios)?
- What are the determinants of capital structure choice in Nepalese context?
- What are the impacts of assets structure, profitability and firm size on debt equity choice?
- Do the higher proportion of collateral assets, higher profitability and larger firm size lead to higher debt ratio?
- What are the effects of non-debt tax shield, earning volatility and growth opportunity on leverage ratio? Do the higher non-debt tax shield, more earning volatility and higher growth opportunity drive to use lower debt?
- To what extent the capital structure theories can explain capital structure choice of Nepalese firms?
- To what extent finding of developed and other developing countries are portable in Nepalese context?

- What are the views and opinions of Nepalese finance executives on capital structure decisions?

Hypotheses

This study has tested the following null hypotheses on relation between the defined variables and capital structure of listed companies:

H01: There is no significant relation between return on assets (ROA) and financial leverage in the Nepalese business firms.

H02: There is no significant relation between the firm size (Size) and financial leverage in the Nepalese business firms.

H03: There is no significant relation between the asset tangibility (AS) and financial leverage in the Nepalese business firms.

H04: There is no significant relation between the firm growth (GW) and financial leverage in the Nepalese business firms.

H05: There is no significant relation between the business risk (BR) and financial leverage

H06: There is no significant relation between the current ratio (CR) and financial leverage in the Nepalese business firms.

1.3. Objective and Scope of the Study

Of interest in this study is the area of capital structure choice, which generally encompasses issue of debt-equity choice to finance firm's long-term capital requirement. The major objective is to compare Nepalese debt ratios with that of developing countries and examine determinants of the capital structure choice in Nepalese context. The specific objectives are as follows:

1. To determine structure pattern of the capital structure of Nepalese firm.
2. To examine the relationship of leverage with different financial indicators (ratios).
3. To compare the debt ratio between Nepalese firms and international firms.
4. To investigate the extent to which the capital structure theories can explain capital structure choice by firms.
5. To examine managements' views on various aspects of the capital structure.

This study is perhaps the first of its kind in Nepal, which explores structure and pattern and determinants of capital structure using Nepalese data. Following the MM Propositions, prominent empirical models and methodologies are followed.

Financial institutions are excluded from the study and publicly available accounting data of the all listed companies have been used along with survey of managers' opinion. Also, as it is an econometric study, the assumptions and limitations of econometrics are inherent.

1.4. Organization of the Study

This study has been organized into five chapters as prescribed by the University.

Chapter One: Introduction

Chapter Two: Review of Literature

Chapter Three: Research Methodology

Chapter Four: Presentation and Analysis of Data

Chapter Five: Summary and Conclusion

Chapter One contains general background of the study, statement of the research problem and objectives and scope of the study. This chapter signifies the rational Chapter Two is devoted to theoretical foundation of capital structure including hypothesis development, and review of empirical works.

Chapter Three consists of methodological approach employed in this study.

Particularly, it focuses on nature and sources of data, sampling techniques, survey method, econometric modeling, description of variables, the proxies of those variables, and methodological limitations of the study. This chapter is very important in case of empirical study because the consistencies of the findings are solely based on empirical methodology it has employed.

Chapter Four consists of presentation and analysis of data with different financial and econometric tools. An analysis of survey of the respondents' opinion on various aspects of capital structure management has been also presented.

Chapter Five consists of the summary and major findings of this study and recommendation for further research.

CHAPTER-TWO
REVIEW OF LITERATURE

This chapter briefly reviews the literature, which provides basic foundations to this study. The various approaches employed in this study are derived from different literature surveyed in this chapter. In this chapter, it covers the review of literature. Review of literature means reviewing research studies of other relevant proposition in the related area of the study so that all the past studies, their conclusion and deficiencies may be known and further search can be conducted.

It will be known about the capital structure management as a brief to find out previous condition of the manufacturing company, which gives the proper equipments to forecast the future of the manufacturing companies. So, the review of literature is the most necessary chapter. Review of literature can be studied by dividing it in the following ways:

1) Conceptual Framework
2) Review of Related Studies

2.1 Conceptual Framework

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

2.1.1 Concept of Capital Structure

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

“Capital Structure is made up of debt and equity securities which comprise a firm's finance of its assets. It is the permanent financing of a firm, represented by long term debt plus preferred stock plus net worth’’. A distinction is usually made between financial structure and capital structure. Financial structure refers to all sources i.e. (both short term and long term) that are used to finance the entire assets of a firm where as capital structure is taken as the capitalization part of

firm's total financing which include only the long term sources such as long term debt and equity. Thus the capital structure is a part of financial structure. The composition of capital structure could differ from company to company, which is directly guided and controlled by the management of the company. However a reasonable satisfactory capital structure can be determined considering relevant factors and analyzing the impact of alternative financing proposals on the earning per share (Bearly, Stewart and Myers, 1985:397).

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

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

2.1.2 Optimum Capital Structure

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

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

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

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

- Static View
- The Comparative Static View
- Dynamic view

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

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

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

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

- The debt-equity ratio does note exceeds 2:1.
- For large capital intensive projects a higher debt-equity ratio of 4:1 or even 6:1 may be allowed. (Debt for this purpose is defined long term debt plus preference capital, which is redeemable after 12 years).

- The ratio of preference capital to equity does not exceed 1:3
- Promoters hold at least 25% of the equity capital.

2.1.3 Factors Affecting Capital Structure

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

1. Stability of Sales and Growth Rate

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

2. Cost of Capital

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

3. Asset Structure

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

4. Management Attitudes

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

5. Lender Attitudes

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

6. Operating Leverage

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

7. Taxes

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

8. Profitability

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

9. Interest Rates

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

10. Control

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

use equity if the firm's financial situation is so weak that the use of debt might subject risk of default because, if the firm goes into default, the managers will almost surely lose their jobs. However, if too little debt is used, management runs the risk of a takeover. Thus, control considerations could lead to the use of either debt or equity.

11. Flexibility

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

12. Nature and Size of the Firm

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

2.1.4 The Capital Structure Decision

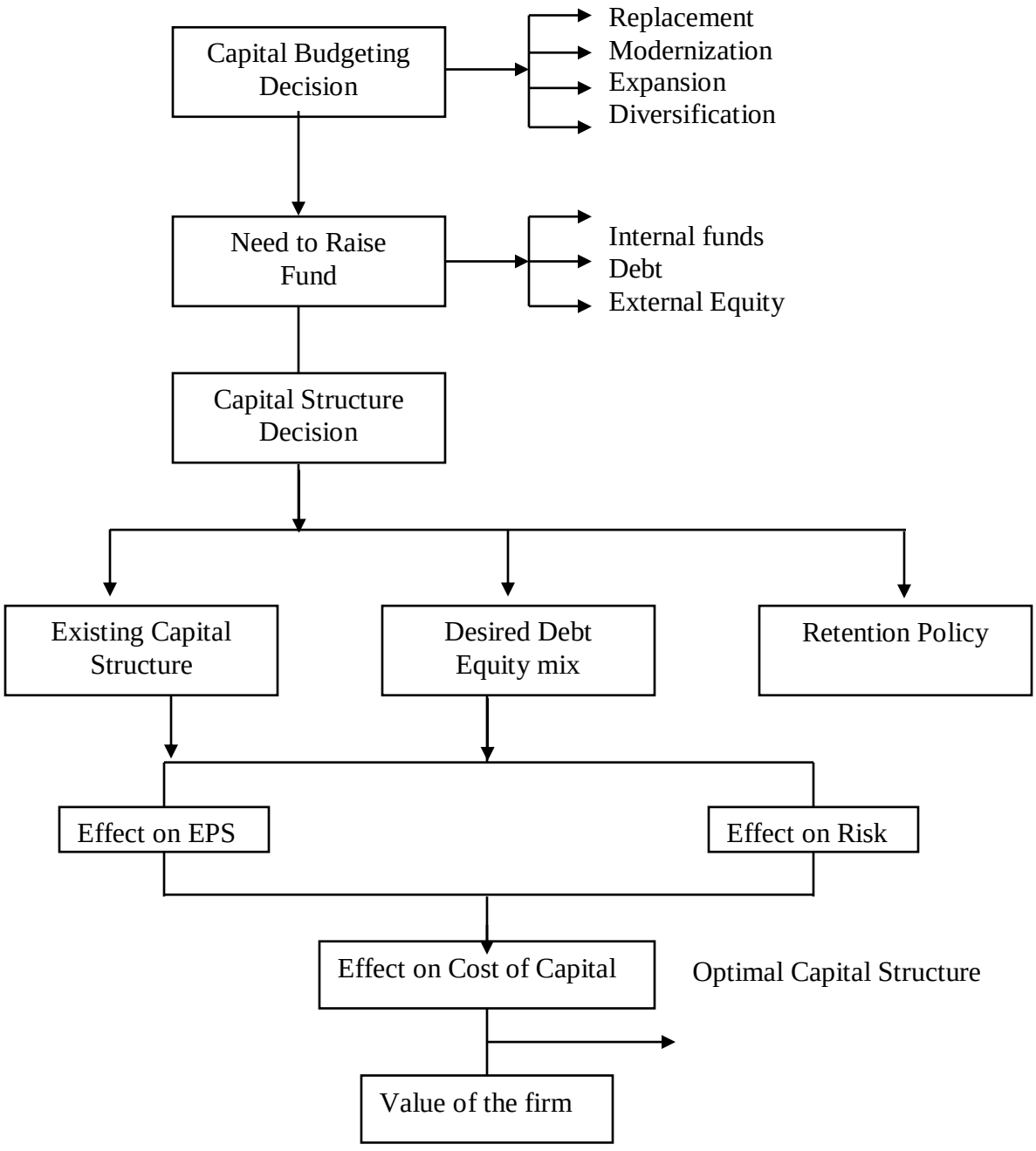
Capital is a scarce resources and much more essential to maintain smooth operation of any firm. The available capital and financial resources should be utilized so efficiently that it could generate maximum return.

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

Capital structure decision can be identified into existing capital structure, desired debt equity mix and payout policy out of which existing capital structure and desired debt equity mix will directly effects on risk and return in the firm and also effects on cost of capital. Capital structure

decision ultimately increases the value of the firm if the decision on the management of the capital is maintained properly and gives result to the optimum capital structure.

Figure 2.1: Capital budgeting decision



(Sources: Lamichhane, 2008)

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

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

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

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

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

1) Taxes

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

2) Bankruptcy Cost

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

3) Assets Type

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

4) Financial Slack

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

2.1.5 Capital Structure Theory

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

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

These theories are:

- Net income (NI) approach.
- Net operating income (NOI) approach.
- Traditional approach; and
- Modigliani-Miller (M-M) theory

- Without tax
- With tax

Common Assumptions of Capital Structure Theory:

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

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

B= Total market value of debt.

S= Total market value of stock.

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

K_e= Equity capitalization rate.

K_d= Cost of debt/Yield on the debt.

K_o=Overall capitalization rate.

I= Total amount of annual interest.

EBIT= Earning before interest & taxes.

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

b. Cost of equity = $\frac{\text{EBIT -I}}{\text{S}}$ or $\frac{\text{NOI-I}}{\text{S}}$

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

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

Or,

$K_o = K_d (B/V) + K_e (S/V)$

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

2.1.5.1 Net Income (Ni) Approach

Net Income Approaches focuses the increase in total valuation of the firm through the reduction in the cost of capital leading to an increase in the cost of capital leading to an increase in the degree of leverage. It is also known as dependent hypothesis of capital structure. The essence of this approach is that the firm can reduce its cost of capital by using debt. "The approach is based on the crucial assumption that the use of debt does not change the risk perception of the investors. Consequently, the interest rate on debt (K_d) and the equity capitalization rate (K_e) remains constant to debt" (I.M Pandey; 1992: 47).

Figure 2.2: NI Approach (Cost)

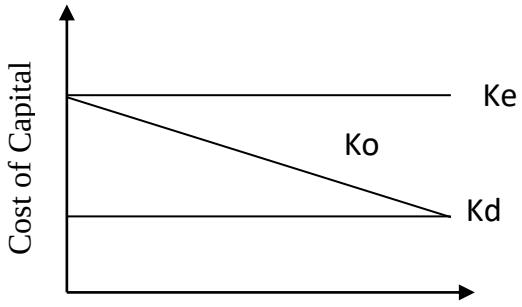
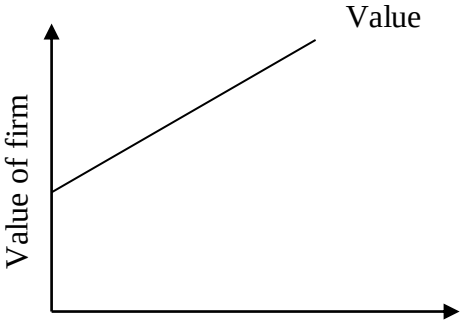


Figure 2.3: NI Approach (Value)



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

Market value of stock by Net Income (NI) Approach

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

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

This chapter has been organized into two sections. The theoretical framework has been dealt in Section 1 and review of empirical studies is carried out in Section 2.

2.1.5.2. Net Operating Income (NOI) Approach

The second behavioral approach to capital structure is the Net Operating Income Approach, which is slightly different from the NI approach. It is an independent hypothesis of capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm and market price of share, as the overall cost of capital is independent of the degree of leverage" (Khan and Jain; 1990:495). The NOI approach assumes that the equity holders feel higher degree of financial risk and demand higher rate of return for higher debt to

equity ratio. Further more, this approach says that the cost of equity increases with the level of debt, and the higher cost of equity offsets the benefit of cheaper debt financing consequently no effect at all on K_o, in other word overall capitalization rate 'K_o' as well as the cost of debt 'K_d' remain constant regardless of the degree of leverage.

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

The critical assumption of NOI Approach are: (Pandey; 1992: 47).

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

"Under NOI approach the capital structure selected is a more details since the value of the firm is dependent of the firms' capital structure. If the firm increases its use of financial leverage by employing more debt this is directly offset by an increase in the cost of capital.It can be expressed by the following figures:

Figure 2.4: NOI approach (Cost)

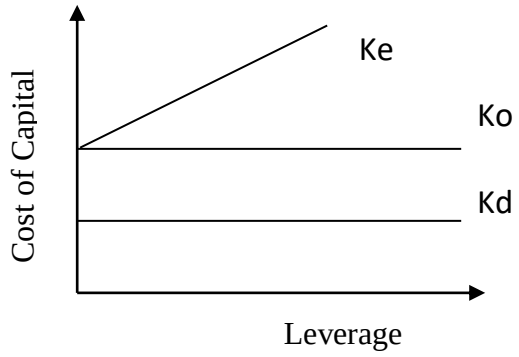
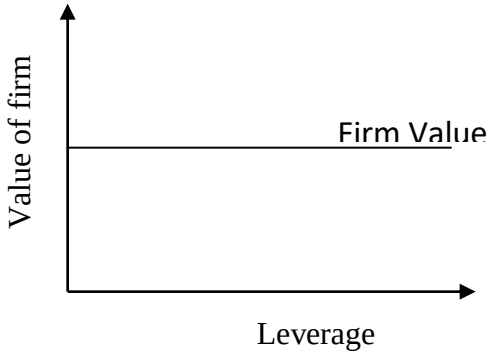


Figure 2.5: NOI approach (Value)



The above figures show that 'K_o' and 'K_d' are constant and 'K_e' increases with leverage. As 'K_o' is constant, leverage is optimal. "At the extreme degree of financial leverage hidden cost becomes very high hence, the firms cost of capital and its market value are not influenced by the use of additional cheap debt fund"

Which can be expressed as:

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

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

Market value of stock by Net Operating Income (NOI) Approach

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

2.1.5.3. Traditional Approach

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

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

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

The crucial assumptions of the traditional approach are:

- The cost of debt (K_d) remains more or less constant up to a certain degree of leverage but rises thereafter at an increasing rate.
- The cost of equity (K_e) remains more or less constant or less only gradually up to a certain degree of leverage and rises sharply there after.
- The average cost of capital (K_o) as a consequence of above behaviour or 'K_e' and 'K_d' (i) decreases up to a certain point (ii) remains more or less unchanged for moderate increases in leverage thereafter and rise beyond a certain point.
- According to the traditional position, the manner in which the overall cost of capital reacts to change in capital structure can be divided into three-stages.

Stage-1:-Increasing Value

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

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

$$V = S+B$$

$$= \frac{O-K_d.B}{K_e} + \frac{K_d.B}{K_d}$$

$$= \frac{O-K_d.B}{K_e} + B$$

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

Thus, so long as 'K_e' and 'K_d' are constant the value of the firm 'V' increases at a constant rate.

Stage-2:-Optimum Value

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

Stage-3:-Declining Value

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

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

This fact is illustrated in the following figures:

Figure 2.6: Declining value (Cost)

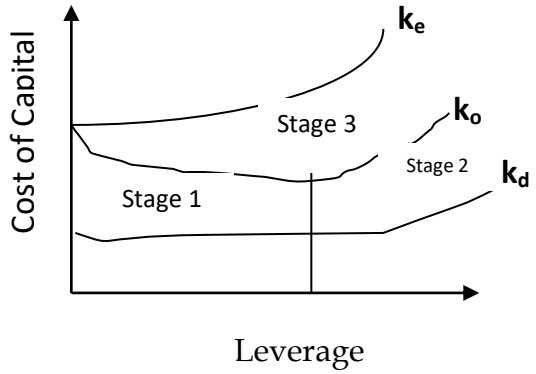
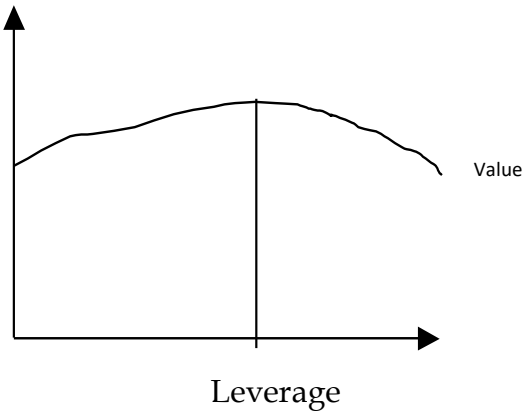


Figure 2.7: Declining value (Value)



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

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

Market value of stock by Traditional Approach

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

2.2. Reviews on Theories of Capital Structure

Though the topic has been extensively researched, there is no single formula or theory that conclusively provides the optimal capital structure for all firms. Some of these theories are given below.

The Net Income (henceforth NI) approach to an optimal capital structure states that the total value of the firm changes with a change in the financial leverage. The NI approach holds true under certain assumptions. For example, the NI approach assumes that the cost of debt is lower than the cost of equity. Therefore, an increase in the proportion of debt in the capital structure would result in a decrease in the firm's average cost of capital. A lower cost of capital would result in an increase in the value of the firm. The NI approach can be used to determine a firm's optimum capital structure where the value of the firm is highest and the cost of the capital is lowest.

The Net Operating Income (NOI) approach states that the proportion of debt and equity in the firm's structure does not have any impact on the firm's value or its cost of capital. The NOI approach assumes that while the cost of debt is constant for all levels of leverage, the cost of equity increases linearly with financial leverage. This increase is explained by the increase in the financial risk to the firm as it increases the proportion of debt in its capital structure. Cost of equity increases because the shareholders expect a higher rate of return to cover the risk of increase in leverage. Therefore, according to the NOI approach, there cannot be any optimum capital structure for a firm.

The MMT is perhaps the most widely accepted capital structure theory. It should be noted that these capital structuring theories operate under various assumptions, such as no taxes, rational investors, perfect competition etc. However, the actual marketplace is quite different. Besides impacting the financials of the firm, capital structure of a firm also has intangible effects, particularly regarding investors' perceptions of the firm. Still, the knowledge of these basic capital structuring concepts will help a manager utilize the market conditions to the firm's advantage.

The static tradeoff theory and pecking order theory are the two most prominent capital structure theories that is well explained in relation to financing behaviors of managers. The trade off theory is a capital structure theory that focuses on the balance between the benefits of interest tax shield and the costs of issuing debts to determine the optimum level of debts that a firm ought to

issue to maximize its interests. The optimum point of the tradeoff can be achieved when the marginal value of benefits include the tax shield from debt financing are just equalize the incremental present value of costs associated with issuing more debts. Therefore, a manager, who represents the value maximize of shareholders, should borrow up to the extent where the benefits of debts that result from shielding cash flows from taxes exactly offset the costs of financial distress associated with the debt issue. On the other hand, the pecking order theory is another capital structure theory that concentrates on the preference of firm to finance its investment with internally generated funds such as retained earnings rather than external financing with issuing debts and equity. This theory gives us an idea that managers will tend to have the priority to fund projects by using retained earnings, and issue debts when that earnings are exhausted, and lastly they will only turn to the issuance of equity when it is not sensible to issue any more debts. On one side, the pecking order theory assumes that high profitable firms will have a tendency of finance its investment with internal funding and thus they will have a lower level of debt ratio. On the other hand, the static tradeoff theory predicts a positive correlation between leverage and profitability as higher profitability infers more income to shield from taxes with leverage. In short, it is clear that the tradeoff theory is usually established as a contestant theory to the pecking order theory.

Here, Theories of Capital Structure as per chronology of their emergence are reviewed from MM to trade-off, and pecking order will be reviewed.

According to Baral (2004:2) MM model 1958 was corrected in 1963 by incorporated the effect of tax on value and cost of the capital of the firm and in 1976, Miller propounded the next version of irrelevancy theory of capital structure, furthermore he pleaded capital structure decisions of firms with both corporate and personal taxes are irrelevant .

MMT (1959) was originally proven under the assumption of no taxes. It is made up of two propositions which can also be extended to a situation with taxes.

Let two firms which are identical except for their financial structures. The first (Firm U) is unlevered: that is, it is financed by equity only. The other (Firm L) is levered: it is financed partly by equity, and partly by debt. The MMT states that the value of the two firms is the same.

Without taxes

Proposition I: $V_U = V_L$ where *V_U is the value of an unlevered firm* = price of buying a firm composed only of equity, and *V_L is the value of a levered firm* = price of buying a firm that is

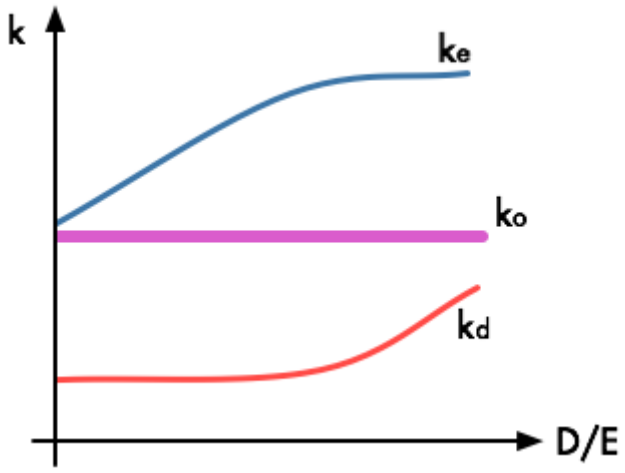
composed of some mix of debt and equity. Another word for levered is *geared*, which has the same meaning.

To see why this should be true, we can suppose an investor is considering buying one of the two firms U or L. Instead of purchasing the shares of the levered firm L, he could purchase the shares of firm U and borrow the same amount of money B that firm L does. The eventual returns to either of these investments would be the same. Therefore the price of L must be the same as the price of U minus the money borrowed B, which is the value of L's debt.

This discussion also clarifies the role of some of the theorem's assumptions. We have implicitly assumed that the investor's cost of borrowing money is the same as that of the firm, which need not be true in the presence of asymmetric information, in the absence of efficient markets, or if the investor has a different risk profile to the firm.

Proposition II:

Figure 2.8: Proposition II of MMT



Proposition II with risky debt, As leverage (D/E) increases, the WACC (k0) stays constant.

$$k_e = k_0 + \frac{D}{E}(k_0 - k_d)$$

k_e is the required rate of return on equity, or cost of equity.

k_0 is the company unlevered cost of capital (ie assume no leverage).

k_d is the required rate of return on borrowings, or cost of debt.

D / E is the debt-to-equity ratio.

A higher debt-to-equity ratio leads to a higher required return on equity, because of the higher risk involved for equity-holders in a company with debt. The formula is derived from the theory of weighted average cost of capital (WACC).

These propositions are true assuming the following assumptions:

No taxes exist, no transaction costs exist, and individuals and corporations borrow at the same rates.

These results might seem irrelevant (after all, none of the conditions are met in the real world), but the theorem is still taught and studied because it tells something very important. That is, capital structure matters precisely because one or more of these assumptions is violated. It tells where to look for determinants of optimal capital structure and how those factors might affect optimal capital structure.

With taxes

Proposition I:

$V_L = V_U + T_C D$

Where

V_L is the value of a levered firm.

V_U is the value of an unlevered firm.

$T_C D$ is the tax rate (T_C) x the value of debt (D) the term $T_C D$ assumes debt is perpetual

This means that there are advantages for firms to be levered, since corporations can deduct interest payments. Therefore leverage lowers tax payments. Dividend payments are non-deductible.

Proposition II:

$$r_E = r_0 + \frac{D}{E}(r_0 - r_D)(1 - T_C)$$

Where, r_E is the required rate of return on equity, or cost of levered equity = unlevered equity + financing premium.

r_0 is the company cost of equity capital with no leverage(unlevered cost of equity, or return on assets with D/E = 0).

r_D is the required rate of return on borrowings, or cost of debt.

D / E is the debt-to-equity ratio.

T_c is the tax rate.

The same relationship as earlier described stating that the cost of equity rises with leverage, because the risk to equity rises, still holds. The formula however has implications for the difference with the WACC. Their second attempt on capital structure included taxes has identified that as the level of gearing increases by replacing equity with cheap debt the level of the WACC drops and an optimal capital structure does indeed exist at a point where debt is 100%

The following assumptions are made in the propositions with taxes: corporations are taxed at the rate T_C on earnings after interest, no transaction costs exist, and individuals and corporations borrow at the same rate.

Miller and Modigliani published a number of follow-up papers discussing some of these issues.

The theorem was first proposed by F. Modigliani and M. Miller in 1958.

Economic consequences

While it is difficult to determine the exact extent to which the MM theorem has impacted the capital markets, the argument can be made that it has been used to promote and expand the use of leverage.

When misinterpreted in practice, the theorem can be used to justify near limitless financial leverage while not properly accounting for the increased risk, especially bankruptcy risk, that excessive leverage ratios bring. Since the value of the theorem primarily lies in understanding the violation of the assumptions in practice, rather than the result itself, its application should be focused on understanding the implications that the relaxation of those assumptions bring.

The main problem with the theorem is that they assume shareholders are the owners of the public corporations. This assumption has been refuted by legal scholars since Berle and Means (1932). Shareholders are neither the owners, residual claimants (i.e. owners of the profit), or the investors as 99.9% are in the secondary market.

The formula's use of EBIT / Cost of Capital to calculate a company's value is extremely limiting. It also uses the weighted average cost of capital formula, which calculates the value based on E + D, where E = the value of equity and D = the value of debt. Modigliani and Miller are equating two different formulas to arrive at a number which maximizes a firm's value. It is inappropriate to say that a firm's value is maximized when these two different formulas cross each other

because of their striking differences. The formula essentially says a firm's value is maximized when a company has earnings the discount rate multiple = book value. MM equate E + D = EBIT / Cost of Capital. This seems to over-simplify the firm's valuation.

Consider the situation of a newly married couple. They have some savings but also have substantial credit card outstanding. They are planning to buy an apartment. How should they go about it? Should they pay off a portion of credit card outstanding first and then go for a low interest home loan? If they decide to go for a home loan immediately, would they be able to repay their debt in a timely manner? Can they finance their credit card outstanding with a lower cost source of capital? Each of these decisions will affect the capital structure—the mix of debt and equity—of the couple.

Ensuring an optimal capital structure and securing the financing sources with the least cost of capital is as important, if not more, for corporate entities as it is for individuals**.** The ability of an organization to perform well in the market depends on the efficiency of its capital structure. In simple terms, the composition of the total capital of a company constitutes its capital structure. Here, total capital is the net funds available to the company after it fulfils its current liabilities.

Debt and equity are two major components of the total capital of companies. Debt is the amount owed for borrowed funds from sources such as individuals, banks, or other financial institutions. Equity is the ownership interest in a firm including equity share capital, share premium, preference share capital, free reserves, and surplus profits. The proportion of debt and equity (leverage) in the capital structure differs across companies. The capital structure also varies according to the industry and the market situation that the company is operating in. For example, the average capital structure of European firms is significantly different than that of the American firms.

So, how can a firm optimize its capital structure? The basic aim of optimizing capital structure is to select that proportion of various forms of debts and equities that maximizes the firm’s value while minimizing the average cost of capital.

However, In 1974, Myers and Pogue developed three theories-the lenders chickens out first, the managers chickens out first, and the shareholders chickens out first-of debt capacity. The third theory-the shareholders chickens out first-pleads the optimal capital structure.

Baral (2004:3) added, Jensen and Meckling developed the capital structure theory based on the agency costs in 1976. Firm incurs two types of agency costs-cost associated with the outside equity holders and cost associated with the presence of debt in capital structure. Total agency cost first decreases and after certain level of outside equity capital in capital structure, it increases. The total agency cost becomes minimal at certain level of outside equity capital. Thus, this theory pleads the concept of optimal capital structure.

Two sets of capital structure theories were developed during the latter half of the 1970s and first half of the 1980s. Ross developed one set of capital structure theories based on the asymmetric information in 1977 -The first set pleads that the choice of firm's capital structure signals to outside investors the information of insiders, and the second set contends that capital structure is designed to mitigate the inefficiency in the investment decision caused by the information asymmetry, and Myers and Majluf developed the next set in 1984.

Bas et al (2009:3) stated, the Trade-off theory (Scott, 1977) claims that a firm's optimal debt ratio is determined by a trade-off between the bankruptcy cost and tax advantage of borrowing. Higher profitability decreases the expected costs of distress and let firms increase their tax benefits by raising leverage. Firms would prefer debt over equity until the point where the probability of financial distress starts to be important. The type of assets that a firm has determines the cost of financial distress. For instance, if a firm invests largely in land, equipment and other tangible assets, it will have smaller costs of financial distress than a firm relies on intangible assets. So for debt financing, both small and large firms must provide some kind of guarantees materialized in collateral....we expect collateral (asset tangibility) to be positively related to leverage for both small and large companies; whereas, tax has a positive relation with leverage for large firms, while no relation with small firms.

Bas added, Pecking Order Theory, Myers and Majluf (1984), states that capital structure is driven by firm's desire to finance new investments, first internally, then with low-risk debt, and finally if all fails, with equity. Therefore, the firms prefer internal financing to external financing. This theory is applicable for large firms as well as small firms. Since small firms are opaque and have important adverse selection problems that are explained by credit rationing; they bear high information costs (Psillaki 1995). Also, Pettit and Singer (1985) discuss that since the quality of

small firms financial statements vary; small firms usually have higher levels of asymmetric information. Even though investors may prefer audited financial statements, small firms may want to avoid these costs. Therefore, when issuing new capital, those costs are very high, but for internal funds, costs can be considered as none. For debt, the costs are in an intermediate position between equity and internal funds. As a result, firms prefer first internal financing (retained earnings), then debt and they choose equity as a last resort. We expect negative relation between profitability and leverage for both small and large firms.

Further, Agency theory focuses on the costs which are created due to conflicts of interest between shareholders, managers and debt holders (Jensen et al., 1976). For small firms, agency conflicts between shareholders and lenders may be particularly severe (Ang 1992). Small firms are likely to have more concentrated ownership and generally, the shareholders often run the firm which decrease the conflict of interest between shareholders and managers. Therefore, no or few agency problem will be exist. As a result of that the lower the agency problem, the less debt the small firms have in their capital structure. Firm size could be an inverse proxy for the probability of the bankruptcy costs according to tradeoff theory. Pecking order theory also expects this positive relation.

In the course of the development of capital structure theory, Myers elaborated and brought out the Pecking order theory in 1984 originally developed by Donaldson in 1961. According to this theory, management strongly favors internal generation as a source of new funds even to the exclusion of external sources except for occasional unavoidable bulge in the need for funds (Donaldson 1961). This theory explains the negative relation between profitability and debt ratio and contends that there is no target debt-equity ratio. In financing, first, management prefers the internal equity financing, and then debt financing and finally external equity financing (Martin and others 1988). Thus, this theory explains the financing behavior of management.
Theories of capital structure have been well documented in the finance literature.

Static Trade-Off Theory

Static Trade-off theory, centers on the repayment and costs of issuing debt, predicts that an attractive target debt ratio is to make the paramount value of the company. The best point can be accomplishes when the marginal value of the payback is linked with debt concerns exactly offsets the raise in the present value of the costs correlated by handing out more debt (Myers, 2001). The main benefit of debt is the tax deductibility of interest payments. The tax deduction of corporate interest payments favors the application of debt. It will be more with the existence of personal taxes (Miller, 1977) and non-debt tax protection (DeAngelo and Masulis, 1980).

Static Trade-Off Model

$\Delta Dit = \beta 0 + \beta 1\ DEF + \beta 2\ NDTSit\text{-}1 + \beta 3\ SIZEit\text{-}1 + \beta 48\ STRUCTUREit\text{-}1 + \beta 5\ GROWTHit\text{-}1 + \varepsilon it$

Where,

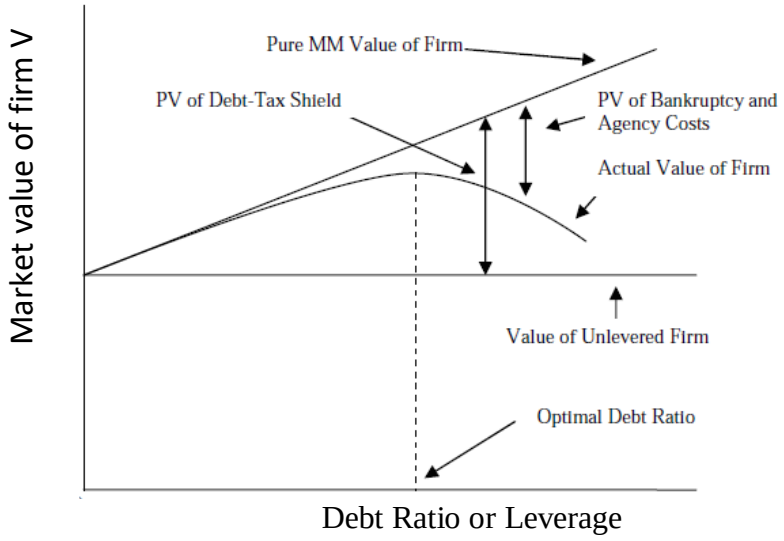
NDTS is the Non Debt Tax Shield (NDTS) measured by $NDTST = \frac{\text{Deprecation}}{\text{Total Asset}}$

Firm having more NDTS may employ less debt

An alternative benefit of debt is that it the manager-shareholder firms' disparity. Corporate managers have the incentive to misuse free cash flow on perquisites and bad investment. Debt financing confines the free cash flow available to managers and by this means to control these firms' difficulties. The costs associated with issuing debt are the costs of financial distress (Modigliani and Miller, 1963) and the firm costs is triggered by conflicts between shareholders and debtors which was indicated by Jensen and Meckling, 1976). Taggart, (1977); Jalilvand and Harris, (1984); Ozkan, (2001), indicated that costs of financial distress will arise when a firm uses many unnecessary debt and is powerless to meet the interest and principal payments. The trade-off theory entails a target adjustment model. In the model, firms contain a target debt ratio in which they slowly adjust. The debt is adjusted by comparing the ratio of debt in the preceding period with the predetermined target debt ratio. The adjustment, though, is only partial because of the market imperfections such as transaction costs highlighted by Marsh, (1982) and adjustment costs and constraints as indicated by Jalilv and and Harris (1984). If firms are as above the target debt ratio the worth of the firm is not the best because financial distress and company costs go beyond the benefits of debt. Therefore, we expect firms that are higher than their target debt ratio, to reduce their debt. Firms that have a debt

ratio below the target debt ratio increase the value of the firm because marginal value of the benefits of debt is still greater than the costs connected with the use of the debt. Durinck. L, Van H and Vandenbroucke, (1998), highlighted that the cost and benefits of debt made the corporations target debt ratio to exploit their debt in the best effort and firms that are above the target debt ratio reduced its debt, although the speed of these adjustments fluctuated. The Trade off theory can be shown in Figure as follow:

Figure 2.9:Trade-off Theory of Capital Structure



Pecking Order Theory

Pecking order theory of capital structure stated that firms have a perfect hierarchy for financing decisions. The best first choice is to use internal financing which are retained earnings and the effects of depreciation, before resorting to external funds. Internal funds incur no flotation costs and require no supplementary confession of proprietary financial information that could show the way to more strict market regulation and possible losses of great competitive advantage. Myers, (1984) indicated that firms must use external funds. The first choice is to use the financing sources such as debt, convertible securities, preferred stock, and common stock. Hawawini and Viallet (1999) indicated that the motivations of the financial managers are to maintain the control

of the firm. Since common stock has a "voice" in management, minimize the company costs of equity, and prevent the seemingly inevitable negative market reaction to an announcement of a new equity issued.

Pecking Order Model $\Delta Dit = \beta 0 + \beta 1\ DIVit + \beta 2\ Rit + \beta 3\ WCit + \beta 4\ Xit + \beta 5\ CFOit$

Entrenched in the pecking order theory is the asymmetric information, or the likelihood that a firm's managers know more about the company's financial condition and future growth opportunities than do outside investors. There are strong needs to keep such information aptly. The use of internal funds prevents managers from having to make public disclosures about the company's investment opportunities and potential revenue to be realized from investing into them. The second postulation is that managers will proceed in the welfare of the company's existing shareholders. The managers may still give up or reject a positive-NPV project. Consequently, it would require the issue of new equity or a large amount of capital, since this would give much of the project's value to new shareholders at the expense based on research done by Myers & Majluf in year 1984.

Pecking Order Theory

The pecking order theory is usually based on the idea of asymmetric information between managers and outside investors regarding the future cash flows of the firm. This discrepancy of information about the firm will lead to under-pricing of the firm's equity in the market, so undervalue the wealth of existing shareholders. In response to the dilution of investors' wealth, many firms tend to issue secure debt to the public as a substitute for equity because it can help these firms to lessen the inefficiencies in their investment decisions that caused by the information asymmetry.

In reality, the behavior of pecking order theory is due to the existence of transaction costs. The transaction costs are commonly related with the raising of external funds in the form of debt or equity that will result in "financing hierarchy" in which the cheapest funds will be used first. There are two main parts of transaction costs which are the compensation for dealer who handle the issue and other legal and administrative costs. According to Securities and Exchange Commission (SEC) data, "the transaction costs consumed nearly 19% of the gross proceeds of small stock issues and about 14% of the proceeds of small debt issues, implying that the transaction costs are especially high for small issues". As a result, small firms are more prone to

follow the pecking order theory as compared with large firms as the transactions cost made up of a significant financing hierarchy for them.

The alternative costs that would also affect the behavior of pecking order theory is the agency costs between stakeholders of firms. Agency theory often deals with the incentive problems that happen because of manager-shareholder-bondholder conflicts. This problem is arising from the increasing costs of external funding and consequently driving firms toward the internal created funds to reduce the agency costs. These costs may force the firms to give up its profitable projects, reducing their profitability and thereby its value. Therefore, firms with higher agency costs will have greater tendency of rely on internally generated funds rather than external financial support.

The Critical Assessment of Pecking Order Theory

Sometimes, the pecking order theory is criticized by others on the areas of its underlying arguments and suggestions. In 1998, Adedeji had opposed the suggestion of pecking order theory that internal fund is the only factor that induces firms to exploit more external debt or equity. This is due to the fact that it may overlooks other theories and other factors that might affect the decision of firms in choosing financing tools such as the level of interest rate and government intervention. For example, government intervention during the financial crisis may make the cost of borrowing cheaper than the cost of internal funds and consequently encourage firms to use more debt than retained earnings.

Moreover, the fundamental argument of the theory about the transaction and information costs that motivates firms to prioritize on internal funds instead of external financing, has been denied by Baskin (1989), Allen (1993) and Adediji (1998). They argue that these costs are not the sole factor that might disapprove the use of external funds, especially for equity. Also, they said that firms are unwilling to issue equity as it may affect the existing balance of control on the behavior of managers in their investment decision making.

Besides that, Fama and French (2005) point out that these firms can actually keep away from the information costs or adverse selection problem by issuing equities to employees and existing stockholders. This is because this type of issues does not influence the ownership structure and thus maintain the existing balance of control. In consequence, the need for issuing debt to fund new potential projects can be reduced.

Nonetheless, the stock option plans for employees may be issued for other purposes besides of reducing the information costs. This is mainly due to the non-tax shield nature of the stock option plans so that firms can claim for option deduction. In addition, the stock options plans also minimize the manager-shareholder agency costs by encourage manager to work harder for the interest of shareholders.

The distinction of tradeoff theory and pecking order theory can be explained via a few explanatory variables that determine the optimal leverage ratio. One of the determinants is the firm's profitability level. Tradeoff theory suggests that profitable firms tend to issue more debts to reduce their taxable income from their debt tax shield. Whereas pecking order model argues that profitable firms are anticipated to have less level of debt in accordance with the rules of using internal funds first, and only switch to external financing when retained earnings are inadequate. In a nutshell, the static tradeoff theory assumes the positive correlation between profitability and leverage for profitable firms, while the pecking order theory concludes that profitable firms will have negative relationship between profitability and leverage.

Additionally, other determinant that determines the capital structure choice of firms is the effective tax rate. In respect of the static tradeoff theory, firms with higher taxable income should borrow more debt to take advantage of interest tax-shield. In consequence, the effective tax rate and level of debt is positively correlated for money-making firms. Whilst from the perspective of pecking order theory, higher effective tax rate also reduce the internal funds of profitable firms, and subsequently increase its cost of capital. As a result, an expectation for the negative relationship between the effective tax rate and leverage ratio is created within the framework of pecking order model.

The firm size, another variable that play an important role in the determination of a firm's capital structure decision. On one side, the static tradeoff theory implies that the size of a firm is positively associated with the level of leverage. This is because large firms are more diversified and less vulnerable to bankruptcy costs; hence enable them to borrow at lower interest rate along with higher level of leverage. On the other side, the pecking order theory states that a negative correlation is existed between the size of firms and leverage level. This is due to the fact that large firms are less subject to manager-investor information asymmetry and thus borrow at a lower cost.

In conclusion, numerous factors have profound impacts on the firm's choice of capital structure. So, in order to develop an optimal capital structure, finance managers have to consider those factors that arise from the market imperfections such as corporate taxes, costs of financial distress, and agency costs.

First and foremost, the financial managers have to ensure the fully utilization of corporate taxes to shield taxable income as much as possible. By doing so, they could enable firms to avoid a certain amount of corporate taxes. As a result, it will make these firms better off as they have more money to pay for investors and hence enhance their own value.

Besides that, they should also make sure that the interest tax shield of debts is equivalent to the costs of financial distress. More importantly, since most of the financial distress costs are hard to measure accurately and whereby it may bring on other significant costs that would cut down the value of firms. Therefore, the need of balance the tax benefits of debt against the cost of financial distress is indispensable for the diminishing of these momentous costs.

Furthermore, these managers ought to think on short-term debt in place of long-term debt for external financing when agency costs are fairly large in amount. This is because short-term debts would tighten up the availability of cash and avoid managers to take on wasteful investment. Thereby, managers will be motivated to operate the firm more efficiently.

Ultimately, no matter whatever the capital structures of firms are, whether it is depend on the static tradeoff theory or pecking order model, each of the theories should be response accordingly to the imperfection of markets with the aim of attaining the most favorable capital structure in which the value of firms is maximized. Information asymmetry does imply that 'insiders' will always have a greater knowledge bucket in comparison to external investors of a company, and therefore examining the different methods of capital structure does help to strike a balance in the vicinity of par towards those external to a company.

The static tradeoff theory refers to the concept indicated how much of debt and equity that a company would choose to issue with the purpose of attaining the most favorable capital structure. It is also known that the target levels of capital structure are defined by the tradeoff between the costs of debt and its benefits. This theory incorporates the bankruptcy and agency costs along with the tax saving benefits in the balance.

According to the theory, the total value of a firm, if levered would be equals to the value of the firm without any leverage plus the present value of generated tax savings from debt and less the present value of financial distress costs. Subsequently, the tradeoff theory also showed that the firms should increase their leverage until the presence of bankruptcy and agency costs from debt are merely compensating its tax benefits. At this juncture, the marginal benefits that result from every unit of debt are equivalent to its marginal costs.

In order to determine the financing decisions of firms, the static tradeoff theory will address to this issue by comparing the costs and benefits of debt that is derived from the the optimal capital structure such as the tax advantage of debt, the alleviation of free cash flow agency costs, the costs of financial distress as well as the agency costs of stakeholders:

Agency Theory Overview:

Table 2.1: Agency Theory Overview

Key idea	Principal-agent relationships should reflect efficient organization of information and risk bearing costs
Unit of analysis	Contract between principal and agent
Human assumptions	Self interest , Bounded rationality, Risk aversion
Organizational assumptions	Partial goal conflict among participants, Efficiency as the effectiveness criterion, Information asymmetry between principal and agent
Information Assumption	Information as a purchasable commodity
Contracting problem	Agency (moral hazard and adverse selection), Risk sharing
Problem domain	Relationships in which the principal and agent have partly differing goals and risk preferences (e.g. compensation, regulation, leadership, impression management, whistle blowing, vertical integration, transfer pricing)

Benefits of Debt

Tax Advantage of Debt

The most significant reason that prompt firms to raise debts are due to the tax shield that results from the tax savings generated by making interest payments on debt. As a result, by using debt,

estimated tax liability of firms could be deducted and thus increase its after-tax cash flow, causing more lucrative business to utilize higher level of debt for the sake of increasing their debt tax shield.

The firm's tax shield from debt is the present value of tax savings created by paying tax deductible interest payment on debt instead of dividend payments made to shareholders. This present value generally is computed with a discount rate equal to the firm's cost of debt capital. In other words, it is derived from the point in which the risk associated with the tax shield is the same as the risk of debt that generates the tax shield.

Nevertheless, the effect of interest tax shield is depending on the nature of the tax system implemented by each country to determine the permissibility of loss to be carried forward or carried backward or sometimes both to allow tax deduction on the previous or future year's taxable income.

Research by Ashton (1989) and Adedeji (1998) revealed that "the tax system in UK does not encourage firms to use debt as much the classical tax system does in US. Compared with the UK tax regimen, the US tax system allows firms to sustain a loss for the year to carry-back or carry-forward such losses".

Furthermore, the determination of debt would be influenced by the existence of other non-debt tax shields such as depreciation, allowances for research and development expenses and investment tax credit. According to DeAnglo and Masulis (1980), indicated that "firms with tax deductions for depreciation and investment tax credits can consider these deductions as a substitute for the tax shield.

They concluded that the positive tax shield alternate suggests that the anticipated marginal corporate tax advantage declined as leverage is added to the capital structure". Since the incremental tax savings from an extra unit of debt decreased with increasing non-debt tax savings, thus debt will be more costly for a firm with high level non-debt tax shield. Consequently, it would affect the behavior of managers to raise less debt when the company employed a considerable amount non-debt tax shield. From here, the study revealed that there is a negative connection between debt and non-debt tax shield.

Diminution of Free Cash Flow Agency Costs

Besides the tax advantage of debt, the company also used debt for the reason of mitigating the agency costs that elevated when there are conflicts of interest between managers and

shareholders. The agency costs in terms of interest conflicts between stakeholders could deal with the incentive problems that could arise from the separation of ownership and control. This separation of power may present managers with an inducement to maximize their wealth at the expense of shareholders. Sometimes, the conflict of interest between managers and shareholders would become worse when managers possess control over free cash. Consequently, managers may possibly have the inducement to invest in unprofitable project given that they have more than enough amount of free cash accessible for profitable projects.

Fortunately, the booking in of more debt instead of equity can help solving the problems that arise from agency costs. This is for the reason that the nature of debt will force the firm to pay out cash to meet interest and principal payments, and subsequently, this will reduce the funds available to managers engaged in unprofitable projects which may harm the value of the shareholders. As a result, debt financing will motivate managers to monitor the firm more efficiently and effectively. In other words, leverage creates a motivation for managers to work harder and make better investment decisions. Hence, it is obvious to notice that debt actually plays an important role as the disciplining tool of the behavior of managers.

Other than mitigating the agency cost of free cash flow, debt also provides the benefit of maintaining control to management whereby the high control benefit triggers shareholders to issue debt instead of equity for balancing control considerations. More precisely, by issuing debt rather than to raise funds with equity, the ownership of the company may remain more concentrated and will help improve the monitoring of management.

Costs of Debt

Costs of Financial Distress

Although a firm can maximize its value by issuing as much debts as possible, but if the firm is using too much debt in its capital structure, there is a higher possibility that the firm cannot meet its interest and principal payment and will default on its debt obligations. More specifically, a firm that has difficulty and trouble meeting its debt obligations is in financial distress.

According to Warner in 1977 and Barclay in 1995, financial distress is consists of both direct and indirect costs. The direct costs of financial distress are incurred in bankruptcy and reorganization such as the direct legal and administrative costs of bankruptcy, the costs that associated with selling the liquidated assets and the costs of shutting down operations. As a

consequence, the assets of a firm and its overall value will be clear off when the firm goes to bankrupt. Likewise, the chance of bankruptcy in the future may cause shareholders to undertake risky projects to transfer wealth from the bondholder of the firm.

Apart from the direct costs of financial distress, there are many other indirect costs that associated with financial distress. One of the indirect costs for distressed firms is the cost of losing customers. This is because bankruptcy may permit firms neglect their future commitment toward customers and thus most of those customers may lose confidence on the firms' products whose value based on the future service and support of the firm. Besides that, another indirect costs incurred is the distress cost of losing suppliers in which those suppliers are reluctant to provide raw materials to those firms who suffer bankruptcy or having prospect of go into bankruptcy as they afraid they might not be able to paid for the supplying of raw materials. The most important indirect cost of financial distress is the cost of retaining employees. Normally, most of firms may be unable to provide job security to its employees during bankruptcy, consequently, the morale of employees diminish and so higher compensation is required for a firm to retain its key employees.

Agency Costs of Debt

As stated above, even though the introduction of debt can reduce the agency costs between managers and shareholders, yet as the amount of debt increase, it will bring about the shareholder-bondholder agency costs. By publishing a large amount of debts over certain limit, the agency costs between shareholder and bondholder will exceed the owner-manager agency cost savings. So, a firm has to be very careful and prudent of how much debt it should issue as the conflict between shareholders and debt holders will become worse when the firm keep on borrowing money from creditors.

This agency problem is mainly due to the behavior of shareholders in using existing debt funds to over-invest in risky projects and it will cause the problem of overinvestment. By doing so, they can extract value and transfer wealth from debt holders to them. The reasons for those shareholders of doing so is due to the fact that they have limited liability that gives them greater value by invest in high risky projects and the large potential of gaining profits from these projects at the expense of larger potential losses that will be absorbed by bond holders. Consequently, creditors may ask for higher reward by increase the cost of debts.

On the other hand, if the bondholders have higher advantages over the shareholders in terms of benefits received from investment opportunity, the shareholders will not invest in positive NPV projects when the firm is in financial distress and hence, an underinvestment problem is created. This is because by engage in positive NPV projects during the period of financial distress, those shareholders will receive less benefits than bondholders as they only have the rights in the claiming of the value of a firm after the debt is paid.

In fact, these underinvestment problems can be solved in two ways. Firstly, the firm who want to commence on positive NPV projects should finance its investment with equity rather than debt.

Secondly, this sort of problems can also be alleviated by issuing short term debt instead of long term debt.

Niu (2008:138), Summarized the determinants of capital structure, and their definitions and theoretical predicted signs as follows:

Table 2.2: Determinants of Capital Structure

Proxy (Abbreviation)	**Definitions**	**Theoretical Predicted Signs**
Tangibility (TANG	Book value of plants and equipment -total net (PPENT) scaled by total assets.	+
Tax (TAX)	Effective tax rate	+/-
Size (SIZE)	Natural logarithm of total sales	+
Profitability (ROA)	Earnings before interest and tax divided	+/-
Growth opportunities (MTB)	Market value of assets over book value of assets	-
Volatility (BR)	Standard deviation of ROA	-
Liquidity (CR)	Current assets divided by current liabilities	-

Note: "+" means that leverage increases with the factor.

"-" means that leverage decreases with the factor.

"+/-"means that both positive and negative relations between leverage and the factor are possible.

2.3 Empirical Evidences and Theories Comparison

Most capital structure studies to date are based on data from developed countries. For example, Rajan and Zingales (1995) use data from the G-7 countries, Bevan and Danbolt (2000 and 2002) utilize data from the UK, Antoniou et al, (2002) analyse data from the UK, Germany, and France and Hall et al, (2004) used data from European SMEs. There are few studies that provide evidence from developing countries, for example Booth et al, (2001) analyse data from ten developing countries (Brazil, Mexico, India, South Korea, Jordan, Malaysia, Pakistan, Thailand, Turkey and Zimbabwe), Pandey (2001) uses data from Malaysia, Chen (2004) utilise data from China, Omet and Nobanee (2001) use data from Jordan and Al-Sakran (2001) analyses data from Saudi Arabia.

Graham and Harvey (2001) and Drobetz and Fix (2004) conduct a survey on a group of US and Swiss firms respectively. They document that managers seek a target debt-equity ratio. The main objective in setting capital structure policy is not to minimize a firm weighted average cost of capital but rather to keep financial flexibility in the context of a pecking order theory. They also find evidence that firms may temporarily deviate from their optimal capital structure.

According to Rajagopal (2010:1), 'The interest in the financial management practices among businesses in less developed countries and emerging markets is growing (e.g. Booth et al.,2001; Aivazian et al., 2003; Delcoure, 2007)'. This departure from the traditional focus on developed economies is valuable because, among other things, it allows us to see how variations in factors such as the extent of capital market development, quality of accounting practices, institutional setting, and corporate governance influence “optimal” financing policy. He added, In the context of developed economies, the value of contrasting capital structure determinants across countries can be seen in Wald, 1999, for instance, who compares the financing behavior of firms in the U.S., Germany, France, the U.K., and Japan, and whose findings suggest that legal and institutional differences do influence the choice of financing mix.

The present study seeks to investigate whether, in developing countries in nascent market-oriented setting, capital structure choice can be explained by mainstream Western models (Ibid,2) such as Bhaduri, 2002; Booth et al., 2001.

The study conducted by Rajagopal (2010:1), he said, distinguishes itself in several ways from the limited amount of existing work on the subject (e.g.,). First, it provides a more powerful test of capital structure hypotheses by including a much larger sample of 1163 firms and data from the process of financial liberalization in India began in earnest only in the early 1990s, a fact that suggests the need for the study of a more recent time period. Finally, the study explicitly employs the explanatory factors and methodology used in the typical context of developed economies so as to facilitate a direct comparison between the Indian corporate sector and an advanced economy such as the U.S.

Thus, this study provides strong evidence that capital structure theory is potentially portable across developed and developing countries, and that traditional theory is quite certainly applicable to an emerging market like India, which has experienced significant economic liberalization in the last decade and a half.

More specifically, the results of that study (Ibid, 13) confirm the theme observed in the study of developing countries conducted by Booth et al, 2001: the profitability of a firm has a consistently negative relationship with financial leverage. In all six models estimated in this study, profitability (PROF) enters as highly significant, and with a negative coefficient. The fact that the variable maintains a negative effect in total, long-term, and short-term debt ratios suggests to us that there is a preference for internal over external financing, a finding that supports the pecking order theory of capital structure choice.

I want to summarize the major finding of research till now in comparative form:

Table 2.3: Major Finding of Research on Capital Structure Variables

Variable	Johnson (1997)	Wald (1999)	Booth (2001)	Goyal et al (2002)	Gajurel (2005)	Rajgopal (2010)
Tangible Assets	+	+	+	0		+
Size	-	+	0	+		-
Profitability	-	-	-	-		-
Growth Options	-	-	+	-		+
Non-Debt Tax Shields	-	-	n/a	n/a		-
Business Risk	0	-	+	n/a		-

Jong et al (2005:1) found that the conventional firm-specific factors explain leverage relatively well in both developed and developing countries. They tried to test the importance of firm-specific and country-specific factors in explaining the leverage choice of firms from 42 countries around the world. In analyzing international data, most contemporary studies implicitly assume that the impact of firm-specific factors is the same across countries i.e. nature of the firm is prime. The basic statistical tests reject this implicit assumption.

Besides documenting the direct impact of country-specific variables on the capital structure, we also document an indirect impact, because country-specific factors influence a country's firm specific determinants. Although they confirm the incremental contribution of country-specific variables, that analysis shows that firm-specific factors continue to be the dominant determinants of corporate capital structure.

Song Han-Suck (2005:1) analyzed the explanatory power of some of the theories to explain variations in capital structures across firms. In particular, the study investigates capital structure determinants of Swedish firms based on a panel data set from 1992 to 2000 comprising about 6000 companies. Swedish firms are on average very highly leveraged, and furthermore, short-term debt comprises a considerable part of Swedish firms' total debt. An analysis of determinants of leverage based on total debt ratios may mask significant differences in the determinants of long and short-term forms of debt. Therefore, the study focused on determinants of total debt ratios as well as determinants of short-term and long-term debt ratios.
Most of the determinants of capital structure suggested by capital structure theories appear to be relevant for Swedish firms. But It also was found that significant differences in the determinants of long and short-term forms of debt. The results suggest that future analysis of capital choice decisions should be based on a more detailed level.

A study conducted by Maghyereh (2005:1) extends the empirical work on capital structure, it used a dynamic model which sheds light on the dynamic nature of the capital structure adjustment process by firms. And the study, employed a panel data analysis and Generalized Method of Moments estimation techniques that control for unobserved firm-specific effects and the endogeneity problem. The findings, Jordanian firms had target leverage ratios and they adjust

to them relatively fast. Consistent with the predictions of capital structure theories, and the findings of the empirical literature, the results of this paper suggest that size, tangibility, profitability, growth opportunity, and earnings volatility exert significant effects on the capital structure choice of Jordanian firms.

Niu (2008) analyzed three theories on capital structure and compare them on seven determined factors from practical aspects and discussed on the correlations among these factors and the choice of capital structure. He took the references of all the significant empirical studies before him on theoretical fitting. Capital structure is the mixture of debt and equity financing. Its choice and determinants related to many different factors. This thesis firstly present several traditional theories discussed on capital structure, such as trade-off theory, agency cost theory and theory of pecking-order.

The leverage ratio in the GCC markets is still below that found in developed countries (Sbeiti and Waffa,2010: 75-76). They utilizes a new database of firms listed in three GCC stock markets in order examine the determinants of their capital structure during the period 1998-2005.. The empirical results indicate that the financing decisions of these companies can be explained by the determinants suggested by much of extant the empirical literature. Specifically, it is found that liquidity, tangibility and profitability are negatively and significantly related to the leverage ratios; while firm size is positively and significantly related to leverage ratio of firms operating in the countries investigated. Finally, growth opportunities are positively related to book leverage and negatively related to market leverage in all three countries. The findings of the paper show that tax considerations are of less importance, since the investigation was carried out in markets where there is no taxation. Thus factors other than taxes influence the capital structure decisions of firms.

Unlike most previous capital structure studies on the determinants of capital structure, the paper employs a dynamic adjustment model to shed light on whether firms move towards a target leverage ratio and the speed at which they do so. Results presented confirm the presence of dynamism in the capital structure decision of firms operating in the three countries. Firms adjust their leverage ratio in order to achieve their target level. In fact, the dynamic model is found to provide more insights into the behaviour of companies than the simple static model and increases

the explanatory power of the model significantly. While the determinants of the target leverage ratio in the three countries are broadly similar, Omani firms are found to adjust faster to their target leverage ratio than their corresponding Kuwaiti and Saudi firms. Equally important, the paper also investigates the relationship between stock market developments and firms' financing choices. Results show that stock market indicators are negatively and significantly related to the leverage ratios in both Kuwait and Saudi Arabia, implying that as equity markets in these countries become more developed and their liquidity improves their importance as tools for corporate financing increase by allowing firms to issue more equity and reduce their reliance on debt. This finding strengthens the argument that he capital structure decisions of firm are not only determined by their own characteristics, but are also influenced by the external environment in which they operate. Thus, the investigation of the GCC countries helps improve our understanding of how firms operate in different market settings and environments.

Macroeconomic Influence in Capital Structure

Fund is the most important criteria to operate any kind of business or organization. It can be raised by two sources i.e. Equity Capital and Debt Capital. These two sources of capital comprise the total capital structure. Capital Structure refers to the composition of all source and amount of funds collected to use or invest in business. In other words Capital structure refers to the capital and long-term liabilities of balance sheet. Therefore, it includes shareholder's fund and long term loans.

It is different from financial structure as financial structure includes both long term and short term source of financing while capital structure includes only long term source of financing. Thus, a firm's capital structure is only a part of its financial structure. Thus, the financial structure shows the true picture of organization. It reflects out the short-term obligation and long term sources of fund of the company. Different factor such as sale stability, assets structure, operating leverage, growth rate, profitability, taxes, management attitude, lender attitude, market condition, legal requirement etc should be taken into consideration while designing the capital structure. The highly levered firms are more likely to keep away from profitable investment opportunities". (Myer, 1977: 147-175).

In the study five macroeconomic variables are controlled: GDP per capita, growth rate of GDP, inflation rate, interest rate and tax rate. The coefficient estimate of GDP per capita is positive for leverage indicating that as countries become richer, more funds become available and firms can borrow more. GDP growth has a positive coefficient estimate. In countries with relatively higher rate of economic growth, firms are eager to take higher levels of debt to finance new investment. The coefficient estimate for inflation is negative implying that firms borrow less as inflation increases. The impact of interest on leverage is positive suggesting that firms continue to borrow despite the increases in the cost of interest. The coefficient estimate for tax is positive for leverage. As tax increases, firms borrow less because of the high bankruptcy and financial distress costs.

Determinants of Capital Structure- Firm size, growth rate, business risk, profitability, Dividend payout, debt service capacity, operation leverage are micro factors of business firm.
Capital structure of a firm is determined by various internal and external factors. The macro variables of the economy of a country like tax policy of government, inflation rate, capital market condition, are the major external factors that affect the capital structure of a firm. The characteristics of an individual firm, which are termed here as micro factors (internal), also affect the capital structure of enterprises. This section presents how the micro-factors affect the capital structure of a firm with reference to the relevant capital structure theories stated earlier.

According to capital structure theory, the importance of firm level variables, such as tangibility and profitability is confirmed. According to the results, private, small, medium and large firms follow the maturity matching principle and pecking order on their debt financing decisions. But listed firms prefer equity financing to long term debt financing. Moreover, internal funds do not have an impact on the debt financing decisions.

Another major finding is the size effect. We see different responses from small and large firms towards debt financing. As firms become larger, they become more diversified and risk of failure is reduced as a result of that they can have higher leverage. Based on our results, small and large companies have different debt policies. Due to the information asymmetries, small firms have limited access to finance; therefore, they face higher interest rate costs. Also, they are financially more risky compared to large firms. As a result of that, small companies have restricted access to

debt financing which may influence their growth. Economic environment of the countries have influenced the debt decisions of firms differently.

Taxation: Taxation has been scrupulously investigated as a factor that determines the capital structure of the firms. The key feature of the taxation is that interest is a tax-deductible expense. A firm that pays taxes receives a partially offsetting interest 'tax-shield' in the form of lower taxes paid. Therefore, as Modigliani and Miller (1963) propose, firms should use as much debt capital as possible in order to maximize their value. Along with corporate taxation, researchers were also interested in analyzing the case of personal taxes imposed on individuals. Miller (1977), based on the tax legislation of the U.S., discerns three tax rates that determine the total value of the firm. These are the corporate tax rate, the tax rate imposed on the income of the dividends and the tax rate imposed on the income of interest inflows. According to Miller, the value of the firm depends on the relative height of each tax rate, compared with the other two. DeAngelo and Masulis (1980) present a model of optimal capital structure that incorporates the impact of corporate taxes, personal taxes and non-debt tax shields. They advocate that tax deductions for depreciation and investment tax credit are substitutes for the tax benefits for debt financing. Therefore, the firms with large non-debt tax shields relative to their expected cash flow include less debt in their capital structures.

Asset Structures: Titman and Wessels (1988), Rajan and Zingales (1995) and Fama and French (2000) argue that the ratio of fixed to total tangible assets should be an important factor for leverage. The tangibility of assets represents the effect of the collateral value of assets of the firm's gearing level. Scott (1976) argues that a firm determining the optimal capital structure will issue as much as secured debt as possible, because the agency costs of secured debt are lower than unsecured debt. By the same token, the degree to which the firm's assets are tangible and generic should result in the firm having a greater liquidation value (Titman and Wessels, 1988). This will reduce the magnitude of financial loss incurred by financiers should the company default. Hence, the trade-off theory predicts a positive relationship between leverage and the proportion of tangible assets. From the pecking order theory perspective, the firms with few tangible assets are more sensitive to information asymmetries and these firms will thus use debt financing rather than equity financing for their external capital requirement (Harris and Raviv, 1991). Therefore the positive between tangible asset and leverage is expected. Profitability: One

of the main theoretical controversies concerns the relationship between leverage and profitability of the firm. From the trade-off theory perspective, when the firms are profitable, they prefer debt because the expected bankruptcy cost declines with increasing profitability as well as the interest taxshield will drive for higher profitability. Jensen and Meckling (1976), Easterbrook (1984), and Jensen (1986) suggest that higher leverage helps to control agency problems by forcing managers to pay out more of the firm's excess cash. Under pecking order theory, firms prefer using internal sources of financing first then debt and finally external equity (Myers and Majluf, 1984). Due to information asymmetries between the firm and outsiders, the firms have a preference for inside financing over outside financing, as the cost for outside capital should be greater for the firm. Therefore, profitable firms, which have access to retained earnings, can use these for firm financing rather than accessing outside sources (Cassar and Holmes, 2003, p. 128). Firms with very high ROEs use relatively little debt (Brigham et al., 1999, p. 609).

Size: The size of the firm is also an important factor to determine the leverage or the capital structure of the firm. Warner (1977) and Ang et at. (1982) suggest that bankruptcy costs are relatively higher for smaller firms. In a similar vein, Titman and Wessels (1988) argue that larger firms tend to be more diversified and fail less often. Accordingly, the trade-off theory predicts an inverse relationship between size and the probability of bankruptcy, that is, a positive relationship between size and leverage. Jensen (1986) and Easternbrook (1986) agree that the size has a positive impact on the supply of debt. On the other hand, size can be regarded as a notion for information asymmetry between firm insiders and the capital markets. Large firms are more closely observed by analysts and should therefore be more capable of issuing informationally more sensitive equity, and have lower debt. Accordingly, the pecking order theory of the capital structure predicts a negative relationship between leverage and size, with larger firms exhibiting increasing preference for equity relative to debt.

Growth: Firms with a high proportion of non-collateralizable assets (such asgrowth opportunities) could find it more expensive to obtain credit because of the asset substitution effect (Titman and Wessels, 1988). Similarly, firms in growing industries may have greater flexibility in their choice of investments, allowing equity holders to capture wealth from bondholders. Either way, firms with important growth opportunities are likely to face high agency costs of debt and hence are likely to rely more on equity funds. For companies with

growth opportunities, the use of debt is limited as in the case of bankruptcy, the value of growth opportunities will be close to zero (Gaud et al., 2005, p. 53). Hence, the trade-off model predicts that firms with more investment opportunities have less leverage. By contrast, firms with high collateralizable assets could face lower costs of debt. Myers (1984) noted that cost associated with agency relationship is likely to be higher for such growing firms however it can be mitigated if the firm issues short term rather than long-term. Therefore, these firms should look to short-term debt than long-term debt for their financing requirements. This should lead to firm with relatively higher growth having more leverage (Cassar and Holmes, 2003, p. 129).

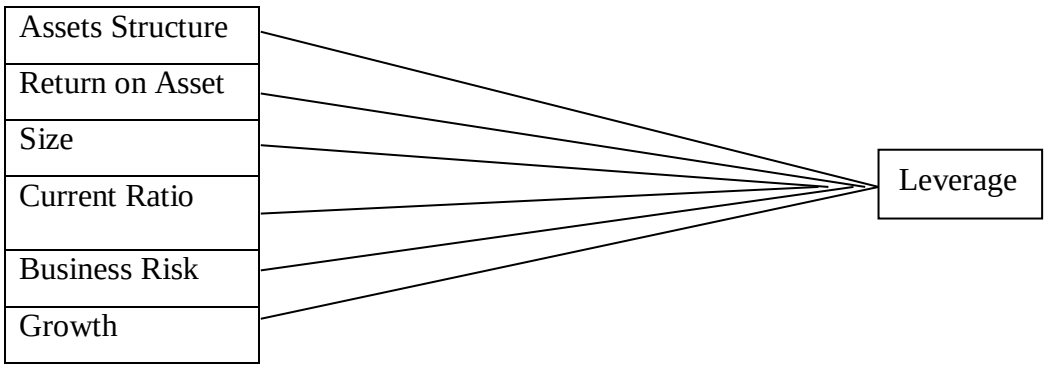
Volatility: One firm variable which impacts upon this exposure is firm operating risk, in that more volatile firm earnings streams, the greater the chance of the firm defaulting and being exposed to such cost. Consequently, these firms with relatively higher operating risk will have incentives to have lower leverage than other more stable earning. Myers (1977) suggests that underinvestment problem increases with the volatility of the firm's cash flow because firm with high volatility of cash flow tries to accumulate cash. Firms with stable cash flows should suffer from overinvestment problems and these firms have more leverage (Easterbrook, 1984; Jensen, 1986). Hence, trade-off theory predicts negative relationship between leverage and volatility of cash flows. Furthermore, DeAngelo and Masulis (1980) argue that for firms, which have variability in their earnings, investors' prediction of firm's earning will be lower. The market will demand a premium to provide debt. This drives up the cost of debt. Also, to lower the chance of issuing new risky equity or being unable to realize profitable investments when cash flows are low, firms with more volatile cash flows tend to keep low leverage. Accordingly, the pecking order model predicts a negative relationship between leverage and the volatility of the firm's cash flows.

Liquidity: Liquidity may have mixed impact on the capital structure decision. First firms with higher liquidity ratios might support a relatively higher debt ratio due to greater ability to meet short-term obligations when they fall due. This would imply a positive relationship between a firm's liquidity position and its debt ratio. On the other hand, firm with greater liquid assets may use these assets to finance their investments. Prowse (1990) argues that the liquidity of the company's assets can be used to show the extent to which these assets can be manipulated by

shareholders at the expenses of bondholders. Ozkan (2001) finds that liquidity is inversely related to leverage.

Since large and listed firms can have easily access to both the domestic and the international financial markets, their financing decisions are not influenced by the economic conditions of the country as much as the small, medium and private firms. For instance, large firms do not consider most of the macroeconomic factors for their long term debt financing decisions. The environment is important for short term borrowing.

Figure 2.10: Schematic Diagram of the Theoretical Framework



2.4. Determinants of Capital Structure

Firms can use either debt or equity to finance their assets. Is one form better than the other? If so, should firms be financed either with all equity or all debt? Or, if the best choice is some mix of equity and debt, what is the optimal mix? What sort of capital structure maintains balance between risk and profitability (return)? In respect to these issues of capital structure several theories have been proposed which suggest that firms select capital structures depending on attributes that determine the various costs and benefits associated with debt and equity financing. Different capital structure models yield a numbers of insights. Here, the attributes that different theories of capital structure suggest may affect the firm's debt-equity choice have been described. The firm-specific variables or attributes, viz.; tax shields, asset structure, profitability, size, growth, volatility, liquidity and product uniqueness are considered as the key determinants of capital structure decisions.

The attributes and their relation to determine capital structure choice are discussed below (Titman and Wessels, 1988).

Taxation: Taxation has been scrupulously investigated as a factor that determines the capital structure of the firms. The key feature of the taxation is that interest is a tax-deductible expense. A firm that pays taxes receives a partially offsetting interest 'tax-shield' in the form of lower taxes paid. Therefore, as Modigliani and Miller (1963) propose, firms should use as much debt capital as possible in order to maximize their value. Along with corporate taxation, researchers were also interested in analyzing the case of personal taxes imposed on individuals. Miller (1977), based on the tax legislation of the U.S., discerns three tax rates that determine the total value of the firm. These are the corporate tax rate, the tax rate imposed on the income of the dividends and the tax rate imposed on the income of interest inflows. According to Miller, the value of the firm depends on the relative height of each tax rate, compared with the other two. DeAngelo and Masulis (1980) present a model of optimal capital structure that incorporates the impact of corporate taxes, personal taxes and non-debt tax shields. They advocate that tax deductions for depreciation and investment tax credit are substitutes for the tax benefits for debt financing. Therefore, the firms with large non-debt tax shields relative to their expected cash flow include less debt in their capital structures.

Asset Structures: Titman and Wessels (1988), Rajan and Zingales (1995) and Fama and French (2000) argue that the ratio of fixed to total tangible assets should be an important factor for leverage. The tangibility of assets represents the effect of the collateral value of assets of the firm's gearing level. Scott (1976) argues that a firm determining the optimal capital structure will issue as much as secured debt as possible, because the agency costs of secured debt are lower than unsecured debt. By the same token, the degree to which the firm's assets are tangible and generic should result in the firm having a greater liquidation value (Titman and Wessels, 1988). This will reduce the magnitude of financial loss incurred by financiers should the company default. Hence, the trade-off theory predicts a positive relationship between leverage and the proportion of tangible assets. From the pecking order theory perspective, the firms with few tangible assets are more sensitive to information asymmetries and these firms will thus use debt financing rather than equity financing for their external capital requirement (Harris and Raviv, 1991). Therefore the positive between tangible asset and leverage is expected.

Profitability: One of the main theoretical controversies concerns the relationship between leverage and profitability of the firm. From the trade-off theory perspective, when the firms are profitable, they prefer debt because the expected bankruptcy cost declines with increasing profitability as well as the interest taxshield will drive for higher profitability. Jensen and Meckling (1976), Easterbrook (1984), and Jensen (1986) suggest that higher leverage helps to control agency problems by forcing managers to pay out more of the firm's excess cash. Under pecking order theory, firms prefer using internal sources of financing first then debt and finally external equity (Myers and Majluf, 1984). Due to information asymmetries between the firm and outsiders, the firms have a preference for inside financing over outside financing, as the cost for outside capital should be greater for the firm. Therefore, profitable firms, which have access to retained earnings, can use these for firm financing rather than accessing outside sources (Cassar and Holmes, 2003, p. 128). Firms with very high ROEs use relatively little debt (Brigham et al., 1999, p. 609).

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shareholders at the expenses of bondholders. Ozkan (2001) finds that liquidity is inversely related to leverage.

2.5 Review of Empirical Studies in Nepal

There is scarcity of studies in Nepalese context. Most of the early studies were clustered around capital structure pattern of public enterprises. Shrestha (1985) in his study, by applying ratio analysis, observed that there were low capital gearing and even unbalance pattern of capital structure in PEs. Shrestha (1993) in her study of listed companies found that most of the companies were more levered however the profitability was negative and interest payment on debt was serious issue. She, further, concluded that most of the PEs have no transparent capital structure and companies adhockly determined their capital structure without realistic parameters.
Pradhan and Ang (1994), in their study, surveyed 78 major enterprises, including 24 public enterprises of Nepal, focusing on finance functions, sources and types of financing, effects of taxes on capital structure decision, financial distress and dividend policy. In their extensive survey of top level executives, the authors observed that working capital function was most important followed by capital structure decision function, whereas, the agency relation function was least important. They further observed that bank loan and retained earning were the two most widely used sources of financing. The retained earning was most preferred source of financing because of its lower cost. This evidence is inline with pecking order hypothesis (Myers and Majluf, 1984). The average debt ratio was observed 38%. The authors also observed that there was no definite time to borrow and issue stock; however the enterprises preferred for bank loan at lower level of debt because of flexible in interest rate and loan covenant. The authors further observed that enterprise would increase the debt level in response to increase in tax rate.
The respondents in their study signaled for target debt ratio. Bank loan was found as major sources of financing in case of shortage of cash. The default probability of the enterprises was found 14%.

Pradhan (1994), in his study of financial distress in Nepalese organizations observed that government policy, problem of raw materials, power, skilled labor and poor management were the major causes of financial distress. In his study, the signals of financial distress as perceived by the respondents were decline in capacity utilization, and decline in quality of products and services. The author further observed that persistent shortage of cash and default in payments to

suppliers, employees; banks etc. were important symptoms of financial distress. The author suggested taking various steps such as to provide soft loan to industries under financial distress, to merge units under financial distress into healthy ones, to change management, and to make various institutional arrangements for industries under financial distress.

In the same regard, the study by Pradhan *et al.* (2002) was analysis of financial distress cost in Nepalese public sector. The authors collected data from 1997 to 1999 and used portfolio analysis and econometric analysis. The authors observed that more than 50% public enterprises were in loss; labor productivity and debt coverage ratios were deteriorated by increased financial distress; the profitability and liquidity were lower in financially distressed enterprises; and the return on equity, liquidity, labor productivity and debt capacity were also lower in financially distressed enterprises. The authors further found that there was lack of legal frameworks to corporate restructuring.

However, these studies were focused on financial distress (bankruptcy) aspect of capital structure, other aspects of capital structure remained unexplored.

K.C. (1994) in his study of 37 large and medium size joint stock companies found significant positive relationship of long-term debt with growth, assets structure and age of incorporation (cit. from Baral, 1999, p. 112). Poudel (1994), in his study of 15 listed companies and 20 PEs for 1983-1992, concluded that size, profitability, growth, assets structure and cashflow variability have the influence on the capital structure (cit. from Baral, 1999, pp. 112-113). He observed that size and growth were positively related to leverage and risk, profitability and assets structure were negatively related to leverage for both listed companies and PEs. Baral (1996) in his study of capital structure and cost of capital of PEs, by using Pearson's correlation analysis, found positive relationship of leverage with growth opportunities, profitability, non-debt tax shield (statistically not significant), interest coverage ratio, and operating cash flows; and negative relationship of leverage with business risk. He further concluded that the capital structures of public enterprises are not sound; debt capital has not been raised to reap advantages of leverage.

Besides this, some authors have examined the relationship of capital structure and cost of capital, by using econometric models, of particular firm or comparative study across the firms or the

industries. Among others, in comparative study between trading and manufacturing sector and banking and financial sector,

Ghimire (1999) observed negative relationship of average cost of capital with leverage, size, growth, payout ratio and positive relationship with earning variability and liquidity in trading and manufacturing sector. However, he further observed positive relationship of average cost with leverage, growth, earning variability and liquidity and negative relation with size and payout ratio in banking and financial section. Surprisingly, none of his estimates was statistically significant. Though there are these findings, their relevance is yet to be seen in the context of Nepal.

CHAPTER-THREE
RESEARCH METHODOLOGY

Research methodology is important to carry out a research, which describes the entire methodological approaches employed in the study. Mostly, in the case of the empirical studies, the consistencies of the findings are solely based on empirical methodologies it has employed. Therefore, this chapter focuses on research design, nature and sources of data, selection of samples, method of analysis and the methodological limitations of this study and described in consecutive sections.

3.1. Research Design

The research design adopted in this study is descriptive and causal comparative. This study deals with fact finding by describing the phenomenon and hence descriptive research design is adopted. This study also examines the relationships between different variables and also the cause-effect relationships and hence it adopts causal comparative research designs.

3.2. Nature and Sources of Data

This study is based on accounting data of firms listed in Nepal Stock Exchange Limited (NEPSE) for the period of 2004-2008. The required data have been extracted from annual reports and financial statements of the firms available in Securities Board of Nepal (SEBON) database and NEPSE database. Hence, this study mainly relies on secondary data. However some data have also been collected from primary sources i.e. the opinions of financial managers, company secretaries, middle level business executives and directors have been surveyed by using direct personal interview schedule and questionnaire. The interview was conducted during June-July2011 in Kathmandu. The preformed of interview schedule and questionnaire has been presented in Appendix B.

3.3 Selection of Firms

Among the firms listed in NEPSE for the period of 2004-2008, banks, finance companies and insurance companies are excluded from the sample. This is motivated by the fact that such firms

do not provide a good platform for the study of capital structure. Also those firms have to omply with very stringent legal requirements pertaining to their financing (Ozkan, 2001; Gaud *et al.*, 2005). Similarly the companies whose both Profit and Loss account and balance sheet are complete, provided by SEBON were taken.

Table 3.1: Sample Selections

S.N. Name of listed companies	Sample period	No. of obs.
1. BOTTLERS NEPAL	(2004-2008)	5
2. NEPAL LUB OIL LTD.	(2004-2008)	5
3. NEPAL BANASPATI GHEE UDYOG LTD.	(2004-2008)	5
4. BOTTLERS NEPAL (TERAI) LIMITED.	(2004-2008)	5
5. SHREE ARUN BANASPATI UDYOG LTD.	(2004-2008)	5
6. UNILEVER NEPAL LIMITED.	(2004-2008)	5
7. KHADYA UDYOG LIMITED.	(2004-2008)	5
8. SRI BRIKUTI PULP AND PAPER NEPAL LIMITED.	(2004-2008)	5
9. GORAKHKALI RUBBER UDHYOG LIMITED.	(2004-2008)	5
10. FLUER HIMALAYAN LIMITED	(2004-2008)	5
11. NEPAL BITUMEN & BARREL UDYOG LIMITED	(2004-2008)	5
12. BISHAL BAZAAR CO. LTD.	(2004-2008)	5
13. CHILIME HYDROPOWER CO.	(2004-2008)	5
14. BUTAWOL HYDROPOWER CO. LTD.	(2004-2008)	5
15. NATIONAL HYDROPOWER CO.	(2004-2008)	5

Total number of observations from 2004 -2008 =75

Therefore, the sample contains manufacturing, commercial and service firms. Firms are then chosen which have data for at least three continuous years during the sample period. As a result, this study is based on 15 firms and 75 observations. Table 3.1 summarizes the sample firms, sample duration and the number of observations.

3. 4. Variables and Measures

Variables (dependent and independent) used in this study are described in following paragraphs. Table 3.2 summarizes the variables used in this study and their appropriate proxies.

Leverage: Following the Rajan and Zingales (1995:1429), the ratio of book value of total debt to total assets is defined as leverage ratio and it is 'more appropriate definition of financial leverage'. Other two proxies are also considered in this study to analyze the debt composition (i.e. decompositional study) on total capital structure viz.; the second proxy refers to the ratio of long-term debt to total assets; and the third proxy refers to the ratio of short-term debt to total assets.

Therefore, leverage ratio (DR):

Total debt ratio (TD) = Total debt (short-term + long-term) / Total assets

Long-term debt ratio (LTD) = Total long-term / Total assets

Short-term debt ratio (STD) = Total current liabilities / Total assets

Table 3.2: Variables and Their Proxies.

Variables	**Proxy Measures**
Leverage Ratio	Total debt ratio = Total debt/Total assets
	Long-term debt ratio = Long-term debt/Total assets
	Short-term debt ratio = Short-term debt/Total assets
Asset Tangibility	Fixed Assets/Total Assets
Return on Assets	EBT/Total Assets
Size	Natural log(Sales)
Growth	Percentage change in sales i.e. (St - St-1) / St-1
Business Risk	Standard deviation of ROA.
Current Ratio	Current Assets/Current Liabilities

"/" signifies division

Assets Tangibility: As suggested by Booth et al (2001:102), have measured Asset Tangibility by total assets less current assets divided by total assets.

Assets Tangibility (AST) = (total Assets - current asset) / Total assets

ROA: As suggested by Booth et al (2001:102), have measured this ratio by earning before tax EBT divided by total assets.

ROA= EBT/ Total assets

Size: As suggested by Booth et al (2001:102), have measured natural logarithm of sales as indicator of size. The net sales based on Rs. million have been transferred into natural log. Therefore,

Size (SIZE) = Ln(Sales)

Growth: Many researchers have used ratio of book-to-market equity as proxy forthe growth (Ozkan, 2001; and Gaud *et al.*, 2005) but in this study due to the market value of equity is not available to most of the sample firms therefore as suggested by Titman and Wessels (1988), the growth rate of sales is considered as the proxy for growth. And it is simple arithmetic growth rate. Therefore,

Growth (GW) = $(St - St_1) / St_1$

where,

St = Current year sales

St-1 = Previous year sales

Current Ratio: As suggested by Ozkan (2001), the ratio of current assets to current liabilities has been chosen as proxy for liquidity. Therefore,

Liquidity (CR) = Current Assets/Current Liabilities

Business Risk: As suggested by Titman and Wessels (1988), the proxy to the volatility is the standard deviation of the percentage change in operating income and 'it is the single value for the all years' (Booth et al., 2001, p. 101). Therefore,

Volatility (BR) = Standard Deviation of ROA

Besides above variables, some other variables have also been used and they are described under respective method of analysis in section 5 below.

3. 5. Method of Analysis

The method of analysis employed in this study includes, (i) ratio analysis, (ii)

decompositional analysis, (iii) properties of portfolio analysis, and (iv) econometric analysis, all of which are described in the following paragraphs.

I. Ratio Analysis

In this study, the different ratios related to assess capital structure have been used and analyzed. It has served as auxiliary on other different methods of analysis. In this study, among others, following ratios has been used:

Return on Assets = Net profit after tax/Total Assets

Time-Interest Earned Ratio = EBIT/Interest

Current Ratio = Current assets/Current liabilities

Assets turnover ratio = Total sales/Total Assets

II. Decompositional Analysis

Under the decompositional analysis, the analysis has been done by decomposing total debt ratio into long-term debt ratio and short-term debt ratio. The relations and effects among theses debt ratios have been analyzed. For the decompositional study the sample period is restricted to 5years from 2004-2008, which encompasses total 75 observations.

III. Properties of Portfolio Analysis

In this study, for properties of portfolio analysis, three portfolios have been constructed based on total debt ratio (leverage). Portfolio I, which is regarded as less levered portfolio having total debt ratio 0-40%.

The portfolio II, which is regarded as moderately levered having total debt ratio 40-60%. Finally, the portfolio III, which is also regarded as highly levered portfolio having total debt ratio more than 60%. The properties of portfolios have been analyzed with different financial ratios.

IV. Econometric Analysis:

In this study, econometric models have been used to describe the capital structure determinants. The econometric models used in this study are based on theoretical foundation suggested by capital structure theories as follows:

The debt-equity choice of the firm is depend on proportion of collateral assets, profitability of the firm, and size of the firm, firm's growth opportunities, and liquidity.

As a first approximation to the theory, the function may be written as

Leverage = *f* (, assets tangibility, profitability, size, growth, liquidity, risk) … (3.1)

.

Cross-Section Pooled Data Econometric Model: Based on equation (3.1) the following empirical model has been used to analyze capital structure determinants.

$DRi, t = a + b\,1ASi, t + b\,2CRi, t + b\,3GWi\,, t + b\,4PROi\,, t + b\,5RISKi\,, t + b\,6SIZEi, t + ei, t$ … (3.2)

Where *i* denotes firm and *t* denotes the time, a is y-intercept, b is coefficient of each variables in this regression model and e*i* is error term.

The dependent variable(s) and independent variables are as defined in section 4 **Variables and Measures.**

3.6. Limitations of the Study

This study holds some methodological and conceptual limitations, which are as follows:

- The data are collected from listed companies, which have data available for at least 3 consecutive years during the sample period from 2004 to 2008.

This time frame is considered as sufficient time frame to study the determinants of capital structure.

- This study mainly relies on the secondary data, which are collected from annual financial statements. Hence the study suffers from all those limitations that are associated with annual financial statements.
- The accounting year is read in form of AD calendar, for example, accounting year 2060/061 BS as 2004 AD.
- The assumptions and limitations of the econometrics are inherent in econometric modeling. In first-difference model, risk has been excluded from the study because of the same value for all the time series.
- For quantitative analysis, SPSS 11.0 software programs have been used. Hence the limitations of these programs are also inherent.
- There is abundant literature in capital structure theories including hundreds of empirical studies; this study was not able to review all those literature.

- This study is focused on determinants of capital structure and capital structure patterns. This study does not shed light on cost of capital, which is another most important parameter of capital structure theory.

3.7. Definition of Key Terms

The "Annual Report" of the firms is in specific standard accounting format and some accounting conceptual differences are there in annual reports across the firms. However, the database of NEPSE has its own specific format. Therefore, it is better to define accounting key terms used in this study to avoid misunderstanding.

Sales: Sales means trading sales only and it does not incorporate miscellaneous income or income from other sources. In case of service firms, sales means income from specific service they are stand mainly to provide that particular service.

EBT: This variable is earning before Tax, which simply measures the operating cash flow.

Fixed Assets: The fixed assets of the firms consist of ordinary fixed assets like land and building, plant and machinery, fixture and furniture etc. It is the net fixed asset that is fixed assets after depreciation adjustment. The fixed assets used in this study excludes the investment and under construction capital expenditure.

Total Assets: Total Assets is the sum of Total fixed assets including investment and capital expenditure and current assets. The current assets incorporate general accounting variables inventories, receivables, cash and marketable securities and miscellaneous current assets.

Long-term Debt*:* Long-term debt means secured and unsecured mid-term and long-term loan i.e. loan having more than one is term period. It includes bank loan and debentures. Long-term debt is also denoted as deferred liabilities.

Short-term Debt: In this study, the total current liability is used as short-term debt, which includes loan and advances, creditors, misc. short-term liabilities and provision for taxation.

Total Debt: In this study total debt is sum of long-term debt and short-term debt as described above.

CHAPTER- FOUR
PRESENTATION AND ANALYSIS OF DATA

Capital structure decision involves the choice of optimal mix of debt and equity, which optimize the value of the firm under the context. However, firms may follow different approaches while managing capital structure, the capital structure theories provide basic guidelines in this respect even though, a particular theory will not sufficient to deal with these issues. Empirical studies have proved that macroeconomic scenario plays significant role, while the internal firm specific factors are prime. This chapter is fully devoted to analyzing various issues of the study in the context of Nepalese enterprises. The first issues raised in this chapter relates to assessing the patterns and policies of capital structure in Nepalese enterprises and the next issue dealt with in this chapter relates to capital structure determinants.

The empirical analysis in this chapter has been organized in four sections. In section 1, pattern of capital structure in Nepalese enterprises has been analyzed by using decompositional analysis and properties of portfolio formed based on leverage ratio. Furthermore, the average debt ratios of Nepalese enterprises have been compared with some developed and developing countries. In section 2, firm specific capital structure determinants have been identified and analyzed by using econometric models. The microeconomic influences on firms' capital structure have been studied under section 3. Finally, in section 4, various aspects of the capital structure management has been analyzed from managerial perspective.

4.1 Analysis of Capital Structure Pattern

The problem of how firms choose and adjust their strategic mix of debt-equity has called a great deal of attention and debate among corporate financial economists and practitioners. Actually, the analysis of how firms choose their financing mix has been primarily a practical issue. The tradeoff theory says that firms seek debt levels that balance the tax advantages of additional debt against the costs of possible financial distress.

According to, Brounen and Eichholtz (2001:3), the most popular capital structure model is the static trade-off theory, which claims that tax shield benefits of debt financing need to be adjusted for financial distress costs that rise with increasing debt levels, creating an optimal capital

structure that balances both forces. Issuing equity means moving away from that optimum and should therefore be interpreted as bad news. The magnitude of this effect should be related to the size of the tax burden. Given the diversity of corporate tax rates in our sample we can test whether the size of the price reaction is related to the corporate tax regime.

Since relatively large issues imply more severe cash flow changes we expect equity offerings of relatively large size to be associated with more severe price reactions than issues of more modest magnitudes. Myers and Majluf (Ibid, 4) assumed that firm managers have superior information about the true value of the company. Managers will therefore time a new equity issue if the market price exceeds their own assessment of the stock value – if the stocks are overvalued by the market. Since investors are aware of the existence of the information asymmetry they will interpret the announcement of an equity issue as a signal that the listed stocks are overvalued, which subsequently will cause a negative price reaction. The tradeoff theory predicts moderate borrowing by tax-paying firms (Myers, 2001: 81). The pecking order theory says that firms will borrow, rather than issuing equity, when internal cash flow is not sufficient to fund investment projects. In addition, Booth *et al.* (2001) state that factors influencing capital structure in advanced countries are equally applicable in developing countries, however the developing countries have substantially lower long-term debt and institutional constraints are important. In this section, the patterns of capital structure on Nepalese firms have been analyzed by using decompositional and portfolio analysis.

4.1.1 Financial Ratios

From the review of literature determinants of capital structure were identified and the determinants were calculated from Nepalese firms as listed below and data of each cell are mean of their five years data. The firm wise ratio analysis will be later discussed in micro analysis and the next table 4.2 where Year wise analysis is presented will be later discussed in macro analysis.

Table 4.1: Key Financial Variables Used in the Study Classified by Firms

Firms	TDR	LDR	STDR	AT	CR	Size	ROA	GW	BR
1	0.3984	0.0772	0.3511	0.4049	0.5951	16.0474	-1.9724	0.0695	48.6364
2	0.6918	0.0000	0.6918	0.1182	0.8818	14.5950	0.0173	0.1360	0.0144
3	0.3293	0.0394	0.3027	0.2652	0.7348	8.2066	0.0133	-0.5087	0.2866
4	0.4342	0.0000	0.4342	0.3703	0.6297	15.6231	36.8239	0.0402	55.5144
5	0.9524	1.1522	0.5580	0.1616	0.8384	15.2794	-0.0373	-0.8003	0.0388
6	0.6173	0.0000	0.6173	0.1090	0.6910	16.9826	0.5046	0.0967	0.0679
7	0.3250	0.0262	0.3053	0.5694	0.4306	8.4571	-0.1165	-0.5864	0.0779
8	0.7568	0.6759	0.2493	0.3152	0.6848	16.1455	-0.0212	-0.0482	0.0298
9	1.5853	9.5104	0.7307	0.6103	0.3897	15.4296	-0.1029	-0.0252	0.0094
10	0.8337	0.0000	0.8337	0.1748	0.4252	13.2260	-0.0101	0.1879	0.0172
11	0.6848	0.0000	0.6848	0.0523	0.7477	15.2118	0.0487	-0.2931	0.0732
12	0.5038	0.0000	0.5038	0.4452	0.5548	13.7457	0.4072	0.0806	0.0777
13	0.4106	0.3083	0.1524	0.8644	0.1356	16.2088	5.9753	0.0409	3.0159
14	0.2789	0.0780	0.2176	0.4285	0.6634	15.4249	0.0122	0.4718	0.0242
15	0.6340	0.5845	0.1203	0.3883	0.6117	14.8714	0.2280	0.1066	0.0345
Average	0.6291	0.8301	0.4502	0.3518	0.6010	14.3637	2.7847	-0.0688	7.1946
SD	0.3321	2.4253	0.2278	0.2197	0.1923	2.6249	9.5610	0.3352	18.2837

Source: Calculated from raw data of SEBON.

Firms: 1. Bottlers Nepal, 2. Nepal Lub Oil Ltd. , 3. Nepal Banaspati Ghee Udyog Ltd., 4. Bottlers Nepal (Terai) Limited, 5. Shree Arun Banaspati Udyog Ltd., 6. Unilever Nepal Limited, 7. Khadya Udyog Limited, 8. Sri Brikuti Pulp And Paper Nepal Limited, 9. Gorakhkali Rubber Udhyog Limited,

10. Fluer Himalayan Limited, 11. Nepal Bitumen & Barrel Udyog Limited, 12. Bishal Bazaar Co. Ltd., 13. Chilime Hydropower Co., 14. Butawol Hydropower Co. Ltd. , 15. National Hydropower Co.

As determinants of capital structure were identified, the determinants were calculated from Nepalese firms as listed in table 4.1. The data of each cell are the calculated mean from the data of 15 firms.

Table 4.2: Average Financial Ratios for the Selected Years

Year	TDR	LDR	STDR	AS	CR	Size	ROA	GW	BR
2060/061	0.6470	0.4501	0.4969	0.3805	0.6524	15.2304	4.2186	0.1292	22.3953
2061/062	0.5218	0.3220	0.3411	0.3399	0.6071	14.2365	8.2523	-0.1059	23.5257
2062/063	0.5842	0.3835	0.4062	0.3245	0.6535	14.3088	-1.6258	0.0586	20.8495
2063/064	0.6477	0.5233	0.4881	0.3775	0.6225	13.8423	0.9556	-0.0502	21.4690
2064/065	0.7447	2.5017	0.5518	0.3621	0.6373	14.3475	2.0890	-0.0923	17.1884
Average	0.6291	0.8361	0.4568	0.3569	0.6346	14.3637	2.7779	-0.0121	7.1946
SD	0.0830	0.9341	0.0830	0.0242	0.0199	0.5095	3.7159	0.1020	2.4011

This table presents descriptive statistics for the variables used in this study. The data are from NEPSE database and SEBO database. The sample contains 15 non-financial firms listed in the NEPSE and data from the financial statement of these firms in period of 2004-2008 were taken. Total Debt Ratio is the ratio of total debt to total assets where the total debt is measured long-term debt plus total current liabilities. Long Term Debt Ratio is the ratio of long-term debt to total assets. Short Term Debt Ratio is ratio of total current liabilities to total assets. Assets Tangibility is the ratio of fixed assets to total assets. Current Ratio is the ratio of current assets to current liabilities. Size is natural logarithm of current sales. Return on Assets is EBT divided by total assets. TA is arithmetic growth rate of total assets. Growth is the percentage change in sales in respect to previous year. Business Risk is the standard deviation of ROA.

Debt ratios in Table 4.2 shows that Nepalese firms are tend to have higher portion of debt capital in their capital structure. The contribution of short-term debt is significantly low on total debt than long-term debt. The short-term debt has been used by all the firms but long-term debt by few; however the mean of long term debt ratio is higher than of the short term. In this sense short-term debt has the high contribution over long-term debt ratio. Over total leverage show the importance of short-term financing over long-term financing for Nepalese firms the profitability

measures are low. The return on asset is only 0.2% .The AS, defined as ratio of fixed to total assets, statistic shows that the firms have on an average 35% collateral assets. When the firms are needed to use borrowing capital (bank loans, etc.), the collateral assets can be pledged. The average sales growth rate, GW has been observed to be negative, however the median statistic shows that the growth rate is normal -0.0121%.. The variability of mean statistics indicates the inconsistency of mean estimate.

To present the Descriptive Statistics by analyzing the 5 years data from 15 business firms i.e. number of observations are 15*5=75.The data of each firm (among 15 firms) was mean of five years data, that was entered in SPSS 11.

Table 4.3: Descriptive Statistics

	N	Minimum	Maximum	Mean	SD	Kurtosis	Skewness
TDR	15	0.2790	1.5853	0.6291	0.3321	4.2499	1.7759
LTDR	15	0.0000	9.5104	0.8301	2.4253	14.2773	3.7474
STDR	15	0.1203	0.8338	0.4502	0.2278	-1.3010	0.1488
AS	15	0.0523	0.8644	0.3518	0.2197	0.6046	0.7509
CR	15	0.1357	0.8818	0.6010	0.1923	1.1280	-0.9030
Size	15	8.2066	16.9827	14.3637	2.6249	4.3822	-1.9278
ROA	15	-1.9725	36.8239	2.7847	9.5610	13.9024	3.6894
GW	15	-0.8003	0.4718	-0.0686	0.3353	1.8532	-1.4993
BR	15	0.0094	55.5144	7.1946	18.2837	4.5225	2.4213

This table 4.4 presents the Pearson correlation coefficients for the variables (dependents and independents) used in this study. The data are from NEPSE database and SEBO database.

The sample contains 15 non-financial firms listed in the NEPSE and data from the financial statement of these firms in period of 2004-2008 were taken. TDR is the ratio of total debt to total assets where the total debt is measured long-term debt plus total current liabilities. LTDR is the ratio of long-term debt to total assets. STDR is ratio of total current liabilities to total assets. AT is the ratio of fixed assets to total assets. CR is the ratio of current assets to current liabilities.

Size is natural logarithm of current sales. ROA is EBT divided by total assets. TA is arithmetic growth rate of total assets. GW is the percentage change in sales in respect to previous year. BR is the standard deviation of ROA.

Table 4.4: Pearson Correlation Coefficients between Variables

		TDR	LTDR	STDR	AT	CR	Size	ROA	GW	BR
TDR	Pearson Correlation	1	.836(**)	.599(*)	-.088	-.037	.299	-.184	-.087	-.268
	Sig. (2-tailed)	.	.000	.018	.754	.897	.278	.512	.757	.334
	N	15	15	15	15	15	15	15	15	15
LTDR	Pearson Correlation	.836(**)	1	.302	.323	-.277	.147	-.104	-.023	-.136
	Sig. (2-tailed)	.000	.	.274	.241	.317	.602	.711	.936	.628
	N	15	15	15	15	15	15	15	15	15
STDR	Pearson Correlation	.599(*)	.302	1	-.539(*)	.200	.105	-.070	-.029	-.114
	Sig. (2-tailed)	.018	.274	.	.038	.475	.711	.803	.918	.686
	N	15	15	15	15	15	15	15	15	15
AT	Pearson Correlation	-.088	.323	-.539(*)	1	-.827(**)	-.044	.119	.131	.091
	Sig. (2-tailed)	.754	.241	.038	.	.000	.875	.673	.641	.748
	N	15	15	15	15	15	15	15	15	15
CR	Pearson Correlation	-.037	-.277	.200	-.827(**)	1	.031	-.063	-.196	-.001
	Sig. (2-tailed)	.897	.317	.475	.000	.	.914	.822	.483	.998
	N	15	15	15	15	15	15	15	15	15
Size	Pearson Correlation	.299	.147	.105	-.044	.031	1	.159	.514	.231
	Sig. (2-tailed)	.278	.602	.711	.875	.914	.	.572	.050	.407
	N	15	15	15	15	15	15	15	15	15
ROA	Pearson Correlation	-.184	-.104	-.070	.119	-.063	.159	1	.104	.681(**)
	Sig. (2-tailed)	.512	.711	.803	.673	.822	.572	.	.714	.005
	N	15	15	15	15	15	15	15	15	15
GW	Pearson Correlation	-.087	-.023	-.029	.131	-.196	.514	.104	1	.151
	Sig. (2-tailed)	.757	.936	.918	.641	.483	.050	.714	.	.592
	N	15	15	15	15	15	15	15	15	15
BR	Pearson Correlation	-.268	-.136	-.114	.091	-.001	.231	.681(**)	.151	1
	Sig. (2-tailed)	.334	.628	.686	.748	.998	.407	.005	.592	.
	N	15	15	15	15	15	15	15	15	15
** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).										

Source: The Correlation was calculated from the data of Table 4.1

All the correlations are in (2-tailed). The correlation between TDR and LTDR is .836 which is significant at the 0.01 level. The correlation between asset tangibility and current ratio is -.827 which is significant at the 0.01 level i.e. negatively correlated. The correlation between return of asset and business risk is .681 which is significant at the 0.01 level i.e. positively correlated. The correlation between STDR and asset tangibility is .681 which is significant at the 0.05 level i.e. negatively correlated. And correlations among all other variables are insignificant.

Relationship of leverage with different financial indicators (ratios):

One of the objectives of the study is- "to examine the relationship of leverage with different financial indicators (ratios)". And from the same objective, six null hypotheses are formulated, which are as follows:

H01: There is no significant relation between return on assets (ROA) and financial leverage in the Nepalese business firms.

H02: There is no significant relation between the firm size (Size) and financial leverage in the Nepalese business firms.

H03: There is no significant relation between the asset tangibility (AS) and financial leverage in the Nepalese business firms.

H04: There is no significant relation between the firm growth (GW) and financial leverage in the Nepalese business firms.

H05: There is no significant relation between the business risk (BR) and financial leverage

H06: There is no significant relation between the current ratio (CR) and financial leverage in the Nepalese business firms.

The formulated hypotheses were tested through analyzing data by entering the financial ratios as calculated in Table 4.1 in SPSS 11, which produced the below output.

Table 4.5: Relationship of Leverage with different Financial Indicators

	TDR or Proxy of Financial Leverage	
AS	Pearson Correlation	-.088
	Sig. (2-tailed)	.754
	N	15
CR	Pearson Correlation	-.037
	Sig. (2-tailed)	.897
	N	15
Size	Pearson Correlation	.299
	Sig. (2-tailed)	.278

	N	15
ROA	Pearson Correlation	-.184
	Sig. (2-tailed)	.512
	N	15
GW	Pearson Correlation	-.087
	Sig. (2-tailed)	.757
	N	15
BR	Pearson Correlation	-.268
	Sig. (2-tailed)	.334
	N	15

H01: There is no significant relation between return on assets (ROA) and financial leverage in the Nepalese business firms.

H01 is accepted.

H02: There is no significant relation between the firm size and financial leverage in the Nepalese business firms.

H02 is rejected.

H03: There is no significant relation between the asset structure (tangibility) and financial leverage in the Nepalese business firms.

H03 is accepted.

H04: There is no significant relation between the current ratio (liquidity) and financial leverage in the Nepalese business firms

H04 is accepted.

H05: There is no significant relation between the firm growth and financial leverage in the Nepalese business firms.

H05 is accepted.

H06: There is no significant relation between the business risk and financial leverage.

H06 is accepted.

4.1.2 Decompositional Analysis

The total debt is the composite frame of both long-term debt and short-term debt. These two variables directly affect leverage ratio in same direction and on one-to one manner. Obviously, an increase in long-term debt or short term debt increases the leverage ratio and vice-versa.

However, it is not necessary that increase in long-term debt increases or decreases short-term debt. To some extent, long-term debt and short-term debt do not hold direct relation. The debt ratios decompostional study helps to scrutinize the relationship among total debt.

In this section, the total debt ratio and its decompositional (long-term and short-term debt ratio) figures have been presented and analyzed for the 2004-2008, 5-years period. The yearly mean, median and standard deviation (SD) figures for the three different debt ratios are presented in Table 4.6. The yearly average statistics are the derived from yearly observations.

The table shows figures of different annual cross-sectional debt ratios for non-financial listed Nepalese companies from 2004-2008 (though, Nepalese date of fiscal year have been used) by using panel data set. Total debt ratio is measured as total long-term liabilities plus current liabilities divided by total assets. Long-term debt ratio is measured as long-term liabilities divided by total assets. The ratio of current liabilities to total assets is measured as short-term debt ratio.

Table 4.6: Debt Ratios

Year	Total Debt Ratio			Long Term Debt Ratio			Short Term Debt Ratio		
	Mean	Median	SD	Mean	Median	SD	mean	median	SD
2004	0.6470	0.6728	0.4264	0.4501	0.0700	0.7461	0.4969	0.3314	0.4163
2005	0.5218	0.5802	0.3807	0.3220	0.0500	0.5684	0.3411	0.2513	0.2655
2006	0.5842	0.5912	0.3775	0.3835	0.0200	0.8169	0.4062	0.3224	0.2664
2007	0.6477	0.6036	0.3701	0.5233	0.0100	1.4413	0.4881	0.5118	0.2535
2008	0.7447	0.5949	0.5357	2.5017	0.0000	9.0099	0.5518	0.4268	0.4865
Average	0.6291	0.6085	0.4181	0.8361	0.0300	2.5165	0.4568	0.3687	0.6291

Source: Calculated From Table 4.1

Table 4.6 shows that the total debt ratio is low over the 5-year period. The 2004 cross-sectional average is 74% and the statistic for 2008 is 64%, however, the trend is not unidirectional to interpret. Since the trend will be further clear with the graphical presentation.

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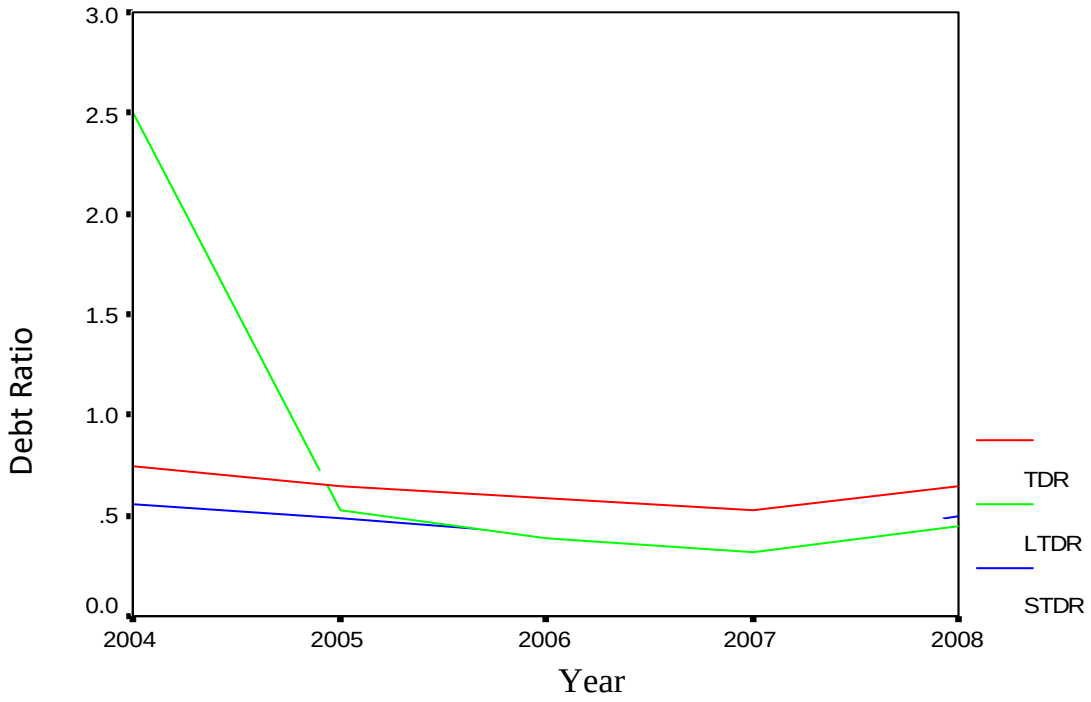
Figure 4.1: Graphical Presentation of trends of Debt Ratios



By 2007, slopes of all the debts are declining with different angle (but not calculated) as seen in figure then elevating. The contribution of short-term debt over total debt ratio is significantly higher. The short-term debt ratio has followed the same direction as total debt ratio, which is increasing over the periods. The pace of changes in short-term debt ratio over the 5-year period can also be observed from Figure 4.4. The correlation coefficient between total debt ratio and short-term debt ratio, as shown in Table 4.4 is 0.599. It signifies that, under bivariate analysis, approximately 35% variation in total debt ratio is explained by short-term debt ratio. Interestingly, the relationship between short term debt and long-term debt has been observed very low. The correlation coefficient between long-term debt and short-term debt is 0.302. Similarly the relationship between total debt and long-term debt has been observed 0.836. It signifies that, under bivariate analysis, approximately 69 % variation in total debt ratio is explained by short-term debt ratio.

From the above decompositional analysis, it has been observed that the total debt ratio is high (63%) and the trend is increasing in later stage. This evidence shows that Nepalese firms finance their financing requirement mostly from debt capital, particularly from long-term debt (83%).

This evidence can also be interpreted as Nepalese firm rely more on long-term debt than short-term debt (46%). From the sample, it is also observed that there are practices of long-term debt securities among sample firms.

It is found that the firms having majority government ownership are more levered. This finding is consistent with Rajan and Zingales (1995) and Booth *et al.*(2001).

4.1.3. Debt Ratios: An International Comparison

Some early studies in international sphere stated that firms in developed countries are more levered than firms in developing countries and the major difference between developing countries and developed countries is that developing countries have substantially lower amount of long-term debt (Rajan and Zingales, 1995; Demirguc-Kunt and Maksimovic, 1999; Booth *et. al.*, 2001). These findings motivated to make a brief comparison on debt ratios of Nepalese firms with findings of Rajan and Zingales (1995) and Booth *et al.* (2005). In this international comparison, the statistic estimates come from different time period, therefore, it is assumed that the estimates may suffer from threats on generalization across time.

The leverage statistics presented in Table 4.1 and Table 4.4 not only denied early findings in international studies (Rajan and Zingales, 1995; Booth *et. al.*, 2001) but also knock to rethink on early assumption. The median statistics of total debt ratio and long-term debt ratio of Nepal along with G-7 countries (Rajan and Zingales, 1995) and 10-developing countries (Booth et al., 2001) are presented in

International Comparison of Debt Ratios in Table 4.7

This table presents mean debt ratios for Nepal, 10 developing countries and G-7 countries over different time period. Total debt ratio is defined as total liabilities (nonequity) divided by total assets. Long-term debt ratio is defined as total long-term debt to total assets. Data are from 15 non-financial firms listed in NEPSE. Data for 10-developing countries are from Booth *et al.* (2001, Table I) and their estimate for long term debt ratio excludes current liabilities from total assets. Data for G-7 countries are from Rajan and Zingales (1995, Table III a) and their estimate for long-term debt ratio includes all nonequity liabilities.

Table 4.7: An International Comparison of Debt Ratios

Name Of Country	No. Of Firms	Time Period	TDR (%)	LTDR (%)	LTMDR (%)
Nepal	15	2004-2008	62.91	83.01	N/A
Other Developing Countries					
Brazil	49	1985-1991	30.3	9.7	N/A
Maxico	99	1984-1990	34.7	13.8	N/A
India	99	1980-1990	67.1	34	34.7
South Korea	93	1980-1990	73.4	49.4	64.3
Jordan	38	1983-1990	47	11.5	18.6
Malaysia	96	1983-1990	41.8	13.1	7.1
Pakistan	96	1980-1987	65.6	26	18.9
Thailand	64	1983-1990	49.4	N/A	N/A
Turkey	45	1983-1990	59.1	24.2	10.8
Zimbabwe	48	1980-1988	41.5	13	26.3
G7 Countries					
United States	2580	1991	58	37	28
Japan	514	1991	69	53	29
Germany	191	1991	73	38	23
France	225	1991	71	48	41
Italy	118	1991	70	47	46
United Kingdom	608	1991	54	28	19
Canada	318	1991	56	39	35

N/A: Not Available.
Source: G-7 countries from Rajan and Zingales (1995), developing countries from Booth *et. al*, (2001) and for Nepal calculated from SEBON data.

However the data of Nepalese firms are fairly latest, since Nepal has TDR 62.91(%) above the mean of developing countries and LTDR 83.01 (%) which is highest among both developing and G-7 countries.

The mean statistics of total debt ratio and long-term debt ratio of Nepal along with G-7 countries (Rajan and Zingales, 1995) and 10-developing countries (Booth et al., 2001) are presented in Table 4.7. However, this estimate is higher than seven developing countries, viz.; Brazil, Mexico, Jordan, Malaysia, Thailand, Zimbabwe and Turkey and lower than India, South Korea and Pakistan. South Korea has the highest median total leverage, which is 73.4%, and the Brazil has the lowest total leverage, which is 30.3%. And lower than G-7 countries expect United States, United Kingdom and Canada. It may give a prediction (a hypothesis), that Nepalese firms are less levered. Paradoxically Nepalese firms are highly levered i.e. 63%. Similarly, the mean statistics of long-term debt ratio is comparatively higher than in G-7 countries, South

Korea, Pakistan and Turkey. It implies that the Nepalese firms have employed highest long-term debt (83%) in their capital structure and rely less on short-term financing, which is above all the G-7 and other developing countries. This statistics also supports the hypothesis that Nepalese firms have low long-term debt.

4.1.4. Analysis of Properties of Portfolios

The theory and practice of corporate finance suggests that the debt ratio is not constant within a sector or an industry, but depends on certain firm characteristics. In this section, financial ratios are used as firms' characteristics. Financial ratios are the most commonly used measures in the analysis of a firm's financial performance. They provide a meaningful and unbiased quantitative representation of the results of internal decisions and external conditions. In this study, different measures of financial indicators are presented and analyzed by forming portfolios on the basis of leverage ratio over the sample period of 2004-2008. The debt ratio below 40% has been considered as less leveraged and studies under portfolio I; debt ratio from 40 % to 60% is considered as moderately levered and studied under portfolio II; and debt ratio higher than 60% is considered as highly levered and studied under portfolio III.

Financial Indicators of Different Portfolios

The following table presents different financial indicators (ratios). The data are from NEPSE database and SEBO database. The sample contains 15 non-financial firms listed on the NEPSE. Each firm's data of 5 years were collected and average was calculated, then these average ratios were grouped into three categories. The portfolios are constructed based on leverage ratio. Portfolio I contains total debt ratio less than 0.4 or 40%. Portfolio II contains total debt ratio ranging from 0.4 to 0.6. Portfolio III contains debt ratio more than 0.60 or 60%. TD is the ratio of total debt to total assets where the total debt is measured as long-term debt plus total current liabilities. LTD is the ratio of long-term debt to total assets. STD is ratio of total current liabilities to total assets. AS is the proportion of collateral assets to total assets.

Table 4.8: Financial Indicators of Different Portfolios

Financial Indicators (Ratios)	TD<0.40			0.40≤TD≥0.60			TD>0.60		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
TDR	0.3329	0.3271	0.0493	0.4495	0.4342	0.0485	0.8770	0.7568	0.3301

LTD	0.0481	0.0000	0.0916	0.5845	0.5845	-	3.7795	1.1522	4.9688
STD	0.2427	0.2493	0.0848	0.4987	0.5038	0.0620	0.7117	0.6918	0.0795
AS	0.2172	0.1748	0.1216	0.4620	0.4368	0.0735	0.7373	0.7373	0.1796

Source: Table 4.1

Table 4.8 presents important financial indictors separately for three portfolios formed, which, among others reveals as follows:

At the lower level of capital gearing, firms tend to employ more short term debt than long-term debt and firms gradually shift on long-term borrowing in respect to increasing leverage. In portfolio I, the proportion of short-term debt on total debt is 0.73% (0.2427 ÷0. 0.3329) and it increased to 1.11% (0.4987÷ 0.4495) in portfolio II and decreased to 0.81% (0.7117÷0.8770) in portfolio III. In portfolio I, the proportion of long-term debt on total debt is 0.15% (0.0481÷0. 0.3329) and it increased 1.30% (0.5845÷ 0.4495) in portfolio II and 4.309578 (3.7795÷0.8770) in portfolio.

Relationship between Leverage and ROA

The tradeoff theory states that the increasing debt capital increases the debt-tax shield but at lower level of leverage, the bankruptcy cost, agency costs and financial distress cost may not exist, even if exist it will be mitigated by the debt tax shield but after certain level of debt ratio, the cost function of debt capital increases faster than tax-shield benefit function. Hence, this empirical evidence is consistent with tradeoff theory and signifies the notion of 'optimal capital structure'. In nutshell, from the above analysis, it has been observed that higher the leverage ratio, initially, tends to increase the profit after certain level (say, moderate level) it declines; highly levered firms are larger in size and higher in sales growth rate than moderately and less levered firms, however, poor to maintain liquidity position; and the size and sales of Nepalese firms are, on an average equal, however the sales growth rate is higher than. To know what will be relationship between leverage and ROA, the graph was drawn with the data .

Table 4.9: Leverage and ROA

TDR	ROA
0.6470	4.2186
0.5218	8.2523
0.5842	-1.6258
0.6477	0.9556
0.7447	2.0890

0.6291	2.7779
0.0830	3.7159

Source: Table 4.1.

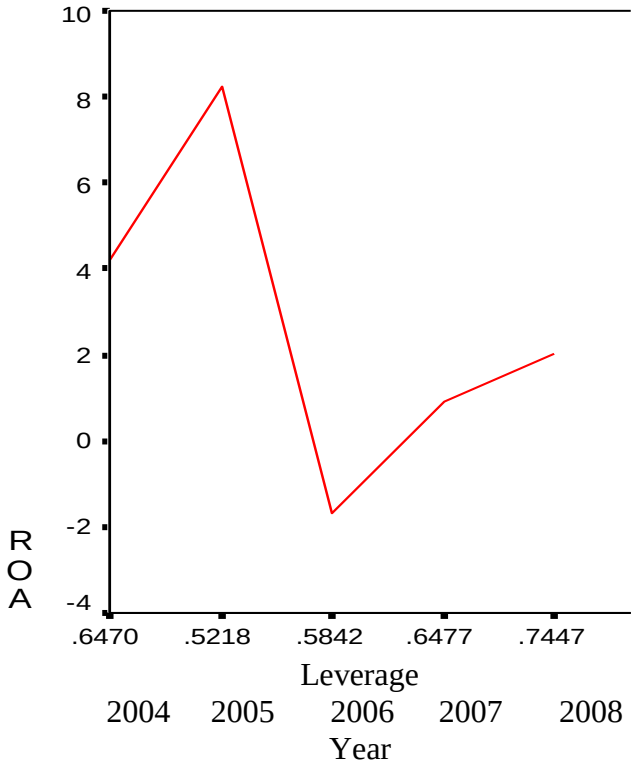
Leverage was increased or decreased by firms as per the ease, its effect has been seen in ROA, which was calculated by SPSS11.

Table 4.10: Correlation between Leverage and ROA

		Leverage	ROA
Leverage	Pearson Correlation	1	-.387
	Sig. (2-tailed)	.	.520
	N	5	5
ROA	Pearson Correlation	-.387	1
	Sig. (2-tailed)	.520	.
	N	5	5

The correlation has been calculated as above table while data have been plotted in graph to see the trend of relationship, the figure can be seen as below:

Figure 4.2: Relationship between Leverage and ROA.



The relationship between leverage and profitability, the return on assets, ROA curve is developed by splitting leverage ratio less or equals to one into five classes and taking mean ROA of each class, which is shown in Figure 4.2. The graph plots return on assets over leverage. The X-axis reports leverage ratio and Y-axis reports return on assets. In Figure 4.2, the ROA curve

initially increases rapidly with decrease in leverage ratio; however, it fall faster than increase in leverage. In increase of leverage, around 58- 74% level, the ROA curve rise smoothly.

Among the 15- firms 9 firms have used both STD and LTD and 6 firms have used only STD. what is the effect of them on ROA, has been analyzed as follow:

Table 4.11: Comparison of LTD and STD on ROA

SN	ROA of both STD and LTD User	ROA of Only STD User
1.	7.755	0.020
2.	0.071	55.514
3.	0.039	0.017
4.	0.0779	0.073
5.	0.0298	0.078
6.	-0.1010	0.035
7.	3.0159	
8.	0.0242	
9.	0.0345	
Average	**1.216**	**9.290**
SD	**2.644**	**22.645**

Source: Table 4.1.

IN table no.4.11, we can see that no 'only STD User' firm has negative ROA, while 'both STD and LTD User' firm has. The average ROA is higher in 'only STD User' firm but their SD is very high. It shows that they have more risk. To control BR LTD can be a one measure.

4.2. Analysis of Capital Structure Determinants

Interest in the study of the capital structure determinants in Nepalese context has been stimulated by the empirical works in the same regard in international sphere where since 1970s lots of researches have been conducting to investigate empirically how capital structure is determined. Modigliani and

Miller (1963) in their second paper noted that the debt has tax shield value; therefore, tax rate is important determinant of capital structure. DeAngelo and Masulis (1980) state that depreciation

tax-shield could be the substitute for debt-tax shield. Rajan and Zingales (1995) support that the collateralizable assets backup to increase debt and the firm size has positive impact on investors. From the pecking order theory perspective Myers (1984) suggests that the higher profitability signals for lower debt requirement because internal financing is the first preference of managers. Titman and Wessels (1988) state that the growth opportunities and risk are some other factors, which influence capital structure decisions. Ozkan (2001) further states that liquidity is also an important firm specific attributes that influence on capital structure.

The notion of optimal capital structure shows the dynamic nature of capital structure i.e. firm holds the target level of debt ratio and moves toward it. Some of the early the works are done based on static concept of capital structure and the recent works are done based on dynamic concept of capital structure. Due to the methodological limitation, the study relies on static concept of capital structure. In this section what firm specific factors determines the capital structure have been dealt with stronger econometric estimation techniques.

4.2.1. Econometric Analysis

Econometric analysis is one of the most importance tools in economic studies, which measure the functional relationship of dependent and independent economic variables at the same time. And the econometric analysis is very commonly used technique to study capital structure determinants (Rajan and Zingales, 1995; Booth et al.,2001). This section analyzes the relationship of dependent variable with independent variables as stated in theoretical framework in Chapter 2, the choosing of explanatory variables in the analysis of capital structure is fraught with difficulty. Following the developed literatures seven key independent variables viz.; assets structure, current ratio, growth opportunities, non-debt tax shield, profitability, risk and size are adopted for the study.

$$DRi,t = \alpha + \beta\,1ASi,t + \beta\,2CRi,t + \beta\,3GWi,t + \beta\,4ROAi,t + \beta\,5BRi,t + \beta\,6SIZEi,t + \varepsilon i,t$$

The equation it is assumed that the y-intercept, is constant over the period and across the firms and it is not correlated with error term, The results from OLS in Table 4.6 denote that the independent variables explain 21.2% variability in total debt ratio, 42% variability in the long-term debt ratio and 18.4% variability in short-term debt ratio measured by adjusted

Table 4.6
OLS Estimates of Capital Structure Determinants

Here in this table, estimates from Ordinary Least Square (OLS) are presented. The data are from NEPSE and SEBO database and the sample contain 15 non-financial firms listed on the NEPSE for the period 2004-2008. TD is the ratio of total debt to total assets where the total debt is measured long term debt plus total current liabilities. LTD is the ratio of long-term debt to total assets. STD is ratio of total current liabilities to total assets. AS is the ratio of fixed assets to total assets. CR is the ratio of current assets to current liabilities. GW is the percentage change in sales in respect to previous year. ROA is ratio of EBT to total assets. BR is the standard deviation of ROA. SIZE is the natural logarithm of sales.

Standard errors are displayed in parentheses below the coefficients.

$$DRi,\ t = \alpha + \beta\ 1ASi,\ t + \beta\ 2CRi,\ t + \beta\ 3GWi,\ t + \beta\ 4NDTi,\ t + \beta\ 5PROi,\ t + \beta\ 6RISKi,\ t + \beta\ 7SIZEi,\ t + \varepsilon i,\ t$$

$$DRi,\ t = .165 + -.286ASi,\ t + -.362CRi,\ t + -.35\ GWi,\ t + -.015\ ROAi,\ t + -.307\ BRi,\ t + .555\ SIZEi,\ t + .341$$

In the above model the intercept (constant) and coefficient β are calculated from the data of table 4.1 and data was entered into SPSS 11, with command of Regression then Linear Model, the output was copied and pasted in the equation 1.

4.3. Analysis of Macroeconomic Influences on Capital Structure

The macroeconomic variables play significant role in firms' capital structure decision. The fiscal policy and monetary policy are major macroeconomic directives in this regard. An increase in corporate tax rate raises the leverage ratio because of debt tax shield and vice versa (Modigliani and Miller, 1963; and Miller, 1977). In the same manner, the monetary policy determines the interest rate (Friedman, 1959), which ultimately influence on debt-equity choice. The development of capital market also influences on capital structure (Booth *et al.*, 2001). In aggregate, the economic development of the country influence on firms' capital structure decision (Rajan and Zingales, 1995; Booth et al., 2001). Therefore, in macro economic perspective, the debt ratio of the firm is the function of economic growth rate, inflation rate, capital market development, liquid liabilities and Miller's tax advantage (Booth *et al.*, 2001).

This section provides some macroeconomic information on the financing choice of Nepalese enterprises and the interest in the study has been stimulated by Booth *et al.* (2001). The authors, in their cross-sectional study, observed negative influences of stock market ratio (on GDP) and inflation rate on total debt ratio and long-term debt ratio; and the positive influences of GDP growth rate, Miller's tax advantage and liquid liabilities/GDP ratio. Table 4.9 provides information about some basic institutional information on macroeconomic variables of Nepal.

4.3.1.Macro Financial Data

This table presents some macro financial data for Nepal from 2004 to 2008. Data are extracted from different sources such as Economic Survey Reports, SEBON Annual Reports. Articles published in SEBON Journal III, and Internet search through titles. The GDP figure is GDP at factor cost. Inflation rate is based on annual percentage change in consumer price index. The Market Capitalization to GDP is measured as total market capitalization amount divided by total gross domestic product at factor cost. The Average figure is the arithmetic mean over the 5 years.

Table 4.12 Macro Financial Data

Year	GDP Growth Rate (%)	Inflation rate (%)	Market Capitalization (Rs. Million)	Market Capitalization to GDP (%)	NEPSE Index	No. of Listed Companies
2004	4.6	4.0	41425	8.77	222.04	114
2005	3.7	4.5	61365.9	12.06	286.67	125
2006	3.3	8.0	96813.7	17.35	386.56	135
2007	3.4	6.4	126000	21.05	683.95	135
2008	6.1	7.7	343000	24.25	963.36	144
average	4.2	6.1	133720.9	16.7	508.5	130.6

Source: Securities Board of Nepal Annual Report.

Nepal has experienced highest GDP growth rate in 2008 during last 5 years and it is lowest in 2006, which is 3.3%. The GDP growth rate is increasing; the latest statistic is around 2%. The 10-year average statistic of GDP growth rate is 3.8%, which is nominal in case of developing countries.

The inflation rate for 2006 is the highest during last 5 years and the 5-year average statistic is 6.1%. The ratio of stock market capitalization to GDP is, on an average, 16.7 %. It is higher than 10-developing countries except Jordan and Malaysia (Booth *et al.*, 2001, Table II). NEPSE is

only one stock market in Nepal. The stock market index in 2008 is the highest during last 5 years. However the index is gradually increasing over the years.

From the time series data from 2004 to 2008, Table 4.12 shows the result of the time series regressions in which the dependent variables are the three debt ratios, viz.; total debt ratio, long-term debt ratio and short-term debt ratio. The independent variables are GDP growth, inflation rate and ratio of stock market capitalization to GDP.

The obvious caveat to the results in Table 4.12 is that with only 5 years, the standard errors of the coefficients are too large for the coefficients to be judged significant at normal level. However, coefficient of inflation and the market capitalization to GDP are significant at 10% level in long-term model. All three models are significant at 10% level. The data from table 4.12 was analyzed with SPSS11, where the correlation between GDP and inflation shown 0.12 very low or insignificant.

Table 4.13: Pearson Correlations in Macroeconomic Influences

		TDR	LTDR	STDR
GDP	Pearson Correlation	.788	.898(*)	.708
	Sig. (2-tailed)	.113	.038	.181
	N	5	5	5
Inflation	Pearson Correlation	.396	.492	.275
	Sig. (2-tailed)	.509	.400	.654
	N	5	5	5
MCGDP	Pearson Correlation	.608	.691	.494
	Sig. (2-tailed)	.276	.196	.398
	N	5	5	5
* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed				

With some econometric limitations, the results show some interesting generalizations in Nepalese context. The Correlation coefficient between of GDP to TDR, LTDR and STDR are 0.788, 0.898 (significant at the 0.05 level) and 0.708 respectively. Similarly Inflation to TDR, LTDR and STDR are total debt ratio and short-term debt ratio. It is positively related to long-term debt ratio. The higher economic growth tends to cause to use more long-term debt and less short-term debt. Since the contribution of short-term debt on total leverage is significantly high, the evidence is obvious. However, the institutional data and econometric analysis offers

tantalizing glimpses of what macroeconomic factors really mean, rigorous study in this regard is inevitable.

This evidence implies that the Nepalese companies prefer long-term debt securities and rely less on short-term borrowing when the economic growth is higher. The inflation rate is negatively related to total debt ratio and short-term debt ratio, whereas, it is positively related to long-term debt ratio. It implies that increasing inflation supports to increase long-term debt and decrease short-term debt. To some extent, in short-run, the higher inflation decreases the interest rate, which could foster long-term borrowing. Finally, both debt ratios vary positively with market capitalization. It implies that as capital markets become more developed, they become a viable option for corporate financing.

In long-term model, long-term debt ratio is dependent variable and measured as ratio long-term debt to total assets. In short-term model, the dependent variable is short-term debt ratio. GDP growth is measured at factor cost. Inflation is based on annual percentage change is consumer price index. MCGDP is the ratio of market capitalization to GDP. The estimated basic model is:

$$DRt = \alpha + \beta\ 1GDPt + \beta\ 2INFLt + \beta\ 3MCGDPt + \varepsilon t,$$

$$DR_l = \alpha + \beta\ 1GDPl + \beta\ 2INFLl + \beta\ 3MCGDPl + \varepsilon l,$$

$$DRs = \alpha + \beta\ 1GDPs + \beta\ 2INFLs + \beta\ 3MCGDPt + \varepsilon s$$

Table 4.14: Model Summary

	TD Model		LTD Model		STD Model	
Independent Variables	β	SE	β	SE	β	SE
Intercept	.353	.204	-2.93	.437	.233	.269
GDP	.650	.038	.767	.081	.583	.050
Inflation	-.070	.042	.076	.091	-.187	.056
MCGDP	.461	.013	.383	.027	.466	.017
R	.875		.996		.769	
R^2	.765		.991		.591	
Adjusted R^2	.060		.966		-.635	
S.E. Estimate	.081		.172		.106	
n	5		5		5	

4.4 Analysis of Survey of Capital Structure: A Managerial Perspective

The purpose of conducting a field research is to shed some lights on how managers perceive about capital structure decisions. This study is motivated by (Gajurel, 2005: 87) the works of Allen (1991), and Pradhan and Ang (1994). In their extensive survey of financial managers, Allen (1991) found that internal financing was the most preferred source of financing. In Nepalese context, Pradhan and Ang (1994) found the results similar to Allen (1991).

This section is devoted to analyzing the results of the opinion survey on major aspects of capital structure management in Nepalese enterprises. The opinion survey consists of interviewing 30 respondents. Of the total 30 respondents interviewed, 6six were company secretaries, 8eight were middle level business executives, 4four was financial managers, and 12 were directors/executive directors. The performance of interview schedule is presented in Appendix B.

For the purpose of the study, the personal interview was conducted during Sept-Oct, 2011 in Gorkha, Chitwan and Kathmandu. The interview schedule mainly contained questions on background information on respondents, sources of financing used, capital structure pattern and debt ratios, financing alternatives, effect of taxes, and firm specific attributes influencing capital structure decisions.

This section is organized into four parts. Part 1 describes the respondents' opinion about capital structure pattern and debt ratios while part 2 deals with capital structure policy. The analysis of responses on tax effect on capital structure has been undertaken in part 3. Finally, part 4 deals with firm specific attributes influencing leverage ratio.

4.4.1. Capital Structure Pattern and Debt Ratios

When the respondents were asked about the pattern of capital structure employed by them, it is revealed that that they prefer a mixed type of capital structure. They are not in favor of using equity alone in capital structure. They prefer a mix of different types of capital. They have used short-term debt, and equity. Surprisingly, none of them have used long-term debt and hybrid securities, e.g., debenture, preferred stock, or debt with warrants attached or convertibles yet. About the debt capital, the majority of the respondents (65%) answered that they have moderate level of debt ratio (ranging from 40-60%). However, a 30% of respondent indicated that they have employed a very high debt ratio (something above 60%).

Since, debt is a cheaper type of capital and interest payments are tax deductible, a great majority of companies would like to use as much of debt as possible. Hence one of the fundamental issues

in capital structure management is to find out if there is a limit on debt. In this connection, a majority of respondents opined that (about 85%) there is a limit on what they can borrow. Of them, 55% reported that they are at or very near the debt limit.

The respondents were also asked if they have any definite preference for any debt level or a leverage ratio. The discussion revealed that the majority of respondents (about 60 percent) have a preference for 60 % debt, that is, 60 % of total assets should be financed by debt. Thus they not opined that there exists optimal capital structure but they also opined that the optimal capital structure means 60 % debt to total assets ratio. In other words, the acceptance of optimal capital structure means rejection of pecking order hypothesis in Nepalese enterprises.

4.4.2. Capital Structure Policy

One of the fundamental issues in capital structure management is whether the companies have a written or formal capital structure policy as such. During the survey, it was however revealed that there is nothing like capital structure policy in Nepalese enterprises. They do not have any formal or written policy as such as far as the use of debt in capital structure is concerned.

The next aspect of survey dealt with respondents' most preferred source of financing. Table 4.12 clearly shows that the most preferred source of financing has been the retained earning, followed by bank loan. The external equity and other sources such as trade credit are not preferred source of financing. The respondents have no preference for hybrid securities at all. This result is very surprising because through out the world hybrid type of financing has received much more attention in recent years.

Table 4.15: Respondents' Preference over Financing Alternatives

	Preferences Rank				
	1	**2**	**3**	**4**	**5**
Bank Loan	7	10	3	0	0
Retained Earning	11	7	1	0	1
Debt and Hybrid Securities	0	0	5	6	9
External Equity	1	1	2	8	8
Others (Trade Credit, etc.)	1	2	9	6	2

In other words, when the respondents were asked to rank different sources/types of financing, they gave the first priority to retained earning; the second priority to bank loan; the third priority to other sources, like trade credit; the forth priority to external equity; and the last priority to the debt and hybrid securities.

Tax Effects

One of the important issues in capital structure management is the tax effects, that is, the tax deductibility of interest payments on debt. About 60% of respondents opined that tax has an important influence on their capital structure decisions. Of them, the majority of respondents (about 75%) are in favor of increasing debt in capital structure from the present level but there are 15% of respondents who are not willing to increase the present debt level. According to DeAngelo and Masulis (1980), higher non-debt tax shields, for example, depreciation expenses and investment tax credit may lead to lower leverage.

Influence of Firm Specific Attributes on Leverage

The majority of respondents believe that assets structure and firm size have positive influence on leverage; and profitability and business risk have negative influence on leverage. The asset structure refers to whether the firm has more of long-term assets or more of short-term assets. If the firm has more of long term assets, it would employ more leverage, other things remaining the same or vice versa. As regards the firm size, greater the size of the firms, greater is the capacity to take risks and higher would be the leverage. As regards the profitability, higher the profitability, lower would be the leverage, other things remaining the same or vice versa. Similarly, if the business risk is on higher side, the firms tend to use less debt in the capital structure. The various factors affecting the debt level are presented in Table 4.13. As regards non-debt tax shield, a great majority of respondents are not very familiar with it. However some 15 percent of respondents opined that that non-debt tax shield has negative influence on leverage, that is, if the non-debt tax shield is higher, the lower would be the debt. They would not interest in debt tax shield and hence would use lower level debt. Thus the debt level depends on the extent to which the firm has non-debt tax shield. The respondents also opined that growth has positive impact on leverage. The higher the growth, more funds would be required for financing the growth and higher would be the debt ratios.

Table 4.16: Influence of Firm Specific Attributes on Leverage.

Firm Specific Attributes	Positive Influence	Negative Influence	Don't Know/Undecided
Non-Debt Tax Shield	.....	15%	85%
Assets Structure	65%	5%	30%
Profitability	25%	70%	5%
Firm Size	70%	....	30%
Growth	45%	15%	40%
Liquidity	25%	45%	30%
Business Risk	.....	55%	45%

Regarding the influence of liquidity on leverage, a great majority of respondents (about 45 percent) opined that liquidity has negatively influence on leverage. As against this, some 25 % of respondents revealed that there is positive influence. The survey respondents also believed that leverage ratio depends on the product market and industry classification.

The above analysis revealed some further facts, which were not revealed by the analysis of secondary data. The Nepalese financial executives believe that there exists optimal capital structure. This finding is important which indicates the need for further research in the area of optimal capital structure.

4.4.3. Concluding Remarks: The empirical analysis in this chapter has been organized in four sections. In section 1, pattern of capital structure in Nepalese enterprises has been analyzed by using decompositional analysis and properties of portfolio formed based on leverage ratio. The ratios of key financial indicators of were calculated for this purpose. The influence determinant of leverage were measured with Pearson correlation technique, however, the coefficients are low. Furthermore, the average debt ratios of Nepalese enterprises have been found high in comparison of some developed and developing countries.

In section 2, firm specific capital structure determinants have been identified and analyzed by using econometric models where, the intercept (constant) and coefficient β of the model has been calculated from the data of table by using SPSS 11, in Linear Model of Regression.

The microeconomic influences on firms' capital structure have been studied under section 3, where the correlation coefficient between of GDP to TDR, LTDR and STDR are 0.788, 0.898 (significant at the 0.05 level) and 0.708 respectively have been seen. The higher economic growth tends to cause to use more long-term debt and less short-term debt. Since the contribution

of short-term debt on total leverage is significantly high, the evidence is obvious. However, the institutional data and econometric analysis offers tantalizing glimpses of what macroeconomic factors really mean, rigorous study in this regard is inevitable.

Finally, in section 4, various aspects of the capital structure management has been analyzed from managerial perspective, which shows that Nepalese financial executives believe that there exists optimal capital structure. This finding is important which indicates the need for further research in the area of optimal capital structure.

CHAPTER- FIVE

SUMMARY AND CONCLUSION

5.1. Summary

Following the pioneering work of Modigliani and Miller on capital structure, which assumption was tax free business, three conflicting theories static trade-off, pecking order, and agency cost of capital structure have been developed. The static trade-off theory of capital structure (also referred to as the tax based theory) states that optimal capital structure is obtained where the net tax advantage of debt financing balances leverage related costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant. Pecking order theory (also referred to as the information asymmetry theory) proposed that firms prefer to finance new investment, first internally with retained earnings, then with debt, and finally with an issue of new equity. The agency cost theory of capital structure states that an optimal capital structure will be determined by minimizing the costs arising from conflicts between the parties involved. The agency costs play an important role in financing decisions due to the conflict that may exist between shareholders and debt holders.

Many researchers are testing the generalizability of the above theories in firm specific and country specific forms with investigation of the capital structure of firms in various sectors of the economy. Since the capital structure of firm is determined by firm specific variables as well as external macroeconomic variable, most of the studies are based on firm specific variables. Based on the capital structure theories tax shield, assets structure, profitability, firm size, growth, risk, liquidity, industry class and product uniqueness are the firm specific key attributes which determine the capital structure. Therefore, the leverage of the firm is the function of tax shield, assets structure, profitability, firm size, growth, risk, and product.

Leverage = *f* (assets, liquidity, growth, tax, profitability, risk, size)

Finance managers are more aware and cautious of the business financing and the funding of capital structure due to the increasing pressure on today's competitive environment. This phenomenon would encourage these managers to change the capital components of business organization in such a way that maximizes the firm's overall value.

This study mainly aims at examining the pattern and determinants of capital structure in Nepalese firms. Its specific objectives are: (1) to determine structure and pattern of the capital structure; (2) to examine the relationship of leverage with different financial indicators (ratios); (3) To compare the debt ratio between Nepalese firms and international firms; (4) to investigate the extent to which capital structure theories can explain capital structure choice of Nepalese firms; and (5) to examine managements' views on various aspects of the capital structure.

The research design adopted in this study is descriptive and causal comparative. This study deals with fact finding by describing the phenomenon and hence descriptive research design is adopted. This study also examines the relationships between different variables and also the cause-effect relationships and hence it adopts causal comparative research designs.
This study covers 15-non financial firms listed in NEPSE for the period 2004 to 2008. For the purpose of the study, the necessary data were collected from NEPSE database from SEBON databank. The opinions of managers were collected by direct interview. This study has used ratio analysis to accomplish some of the objectives. More specifically, it has employed decompositional analysis and properties of portfolio analysis to assess the pattern of capital structure of the firms. Econometric models have been employed to analyze the capital structure determinants both at micro and macro level.

5.2. Findings

The major findings of the study may be summarized as under:

- Nepalese firms are found highly levered. The decompositional analysis shows that, on an average, the total debt ratio is 63%. The median statistics is 60%. The mean of long-term debt is found significantly high that is 83% while median is 3%. The trend of long-term debt is increasing since 2005. The short-term debt in total capital is significantly lower. The mean and median statistics of short term debt ratio are 45% and 36.

-The short-term debt is fluctuating in every year in the period of 2004 to 2008. The short-term debt has been used by all the firms but long-term debt by few, however the mean of long term debt ratio is higher than of the short term. In this sense short-term debt has the high contribution

over long-term debt ratio. Over total leverage show the importance of short-term financing over long-term financing for Nepalese firms. The trend of total debt ratio supported by short-term debt ratio is increasing. It might be the cause of economic (business) cycle. The debt ratio tends to increase during recessions and fall during expansionary periods (Booth *et al.*, 2001, p. 91).

- Based on the average value of leverage, Nepalese firms are found less levered than the G-7 countries except USA, UK and Canada (Rajan and Zingales, 1995) and four developing countries viz.; India, South Korea and Pakistan. South Korea has the highest median total leverage, which is 73.4%. However, Nepalese firms have higher leverage than other 7 developing countries, viz.; Brazil, Mexico, Jordan, Malaysia, Thailand , Zimbabwe and Turky. The Brazil, among all, has the lowest total leverage ratio, which is 30.3%. Similarly, the Nepal has highest long term debt ratio, which is83%, and Brazil has the lowest debt ratio, which is 10%.

- The study of properties of the portfolio shows that at the lower level of capital gearing, firms tend to employ more short term debt than long-term debt and firms gradually shift on long-term borrowing in respect to increasing leverage. In portfolio I, the proportion of short-term debt on total debt is 0.73% (0.2427 ÷0. 0.3329) and it increased to 1.11% (0.4987÷ 0.4495) in portfolio II and decreased to 0.81% (0.7117÷0.8770) in portfolio III. In portfolio I, the proportion of long-term debt on total debt is 0.15% (0.0481÷0. 0.3329) and it increased 1.30% (0.5845÷ 0.4495) in portfolio II and 4.309578 (3.7795÷0.8770) in portfolio.

- The econometric analysis has shown that assets structure, liquidity, growth opportunities, profitability, risk and size are the major firm specific determinants of the capital structure decision. The coefficient of estimated parameters of the assets structure and size are positive; and liquidity, growth opportunities, non-debt tax shield, and profitability are negative. Therefore, there is positive influence of assets structure and size and negative influence of the liquidity, growth opportunities, non-debt tax shield, and profitability on leverage. The coefficient of RISK is approximately zero, which implies that there is no relationship between leverage and business risk, however it might be the consequences of problem in measurement of risk factor. All the estimates are statistically significant at 1% and 5% significance except growth estimate. The findings support the capital structure theories and early findings. The signs of estimates suggest

that both the pecking order and tradeoff theories are at work in explaining capital structure of Nepalese firms.

- The analysis of macroeconomic influences on capital structure shows that economic growth, inflation and capital market are macroeconomic determinants of firms' capital structures. The economic growth rate and inflation rate negatively influence on total debt ratio and short-term debt ratio, but positively influence on long-term debt ratio. The development of capital market has positive influence on all three debt ratios.

-With some econometric limitations, the results show some interesting generalizations in Nepalese context. The GDP growth rate, inflation rate and MCGDP all are positively, whether significant or insignificant related to total debt ratio and short-term debt ratio. The higher economic growth tends to cause to use more long-term debt and less short-term debt (it is found in our Table 4.11). Since the contribution of short-term debt on total leverage is significantly high, the evidence is obvious. However, the institutional data and econometric analysis offers tantalizing glimpses of what macroeconomic factors really mean, rigorous study in this regard is inevitable.

- The analysis of opinions of respondents on various aspects of capital structure shows that in Nepalese context, managers prefer moderate to high or around 60% level of debt, which is regarded as optimal capital structure by them. During the survey, it was however revealed that there is nothing like capital structure policy in Nepalese enterprises. The retained earning followed by bank loan is the most preferred financing alternative. Tax, product market or industry class, assets structure, profitability, size, growth, risk and liquidity are perceived by managers as the major firm specific attributes influencing leverage.

From above, it can be concluded that Nepalese firms are highly levered and rely more on short-term debt. The trend of debt ratio (total and short-term) is increasing over the period. It might be the consequences of the regressive (recession) economic scenario, which results in to lower profitability and higher leverage (Booth *et al.*, 2001). Similarly, the decreasing or negative profitability increases the payables, which ultimately increases the short-term debt. It would be the cause to increase the short-term debt ratio of the firm since 2004. The high debt ratio could not result into profitability because the marginal analysis for debt function is concave. The

optimal level of debt-equity combination results in profitability and optimal value of the firm. Both the firm specific and macroeconomic factors also play important in firms' capital structure decisions. The retained earning and the bank loads are the most preferred sources of financing among Nepalese practitioners.

- Among the observed 15 firms, 7 firms are unlevered i.e. these firms have used pecking order theory and 8 firms are levered i.e. these firms have used tradeoff theory. From this finding we

5.3. Conclusion

The major conclusion of this study is that Nepalese firms are highly levered and are practicing both trade off and pecking order theories. From the pattern of using long and short term debt we can conclude that Nepalese firms rely on short term debt rather than long term in spite of some rely heavily on long term. It might be the consequences of the regressive (recession) economic scenario, which results in to lower profitability and higher leverage (Booth *et al.*, 2001). The high debt ratio could not result into profitability because the marginal analysis for debt function is concave. The optimal level of debt-equity combination results in profitability and optimal value of the firm. Both the firm specific and macroeconomic factors also play important in firms' capital structure decisions. The retained earning and the bank loads are the most preferred sources of financing among Nepalese practitioners.

The study also concludes that among the six financial indicators only size shows the relationship to leverage but other show very low. It concludes that either Nepalese business firms do not follow the established theories on determinants of capital structure or no significant result is found from relatively low data (n=75).

5.4. Recommendation

It is observed that majority of the firms in sample have debt ratio more than 60% of total assets. It is also observed that moderate level (range of 40-60%) of debt ratio yielded optimal profitability. Therefore, the firms can be benefited by employing moderate level of debt rather than low or extremely high. The heavy reliance on short-term debt may not be the positive signal for the profitability and liquidity, which may result into bankruptcy because of default.

The recommendations of this study are as follows:

– Before designing capital structure of any company, a careful attention should be paid on appropriate features of capital structure and various determinants of capital structure. It is observed that more executives or practitioners do not pay attention to their capital structure.

– Capital structure of the firm should be compared to similar other firms or with industry debt. Government of Nepal should come up with the policy of industry data or debt ratios. It will enable the firm to compare with industry data.

– One can increase the sample size to obtain more reliable and valid conclusions. Also, a study extending the survey regarding optimal capital structure is anticipated.

– A study similar to this should be conducted from time to time. The long term stability of results needs to be reviewed from time to time. Also, the determinants of capital structure may vary from one period to another period, from one firm to another firm and from one industry to another industry. Hence, a study of capital structure determinants in individual firm, particular industry should be conducted.

– The pecking order theory is easier to explain than optimal capital structure because it is more concerned with behavioral aspect of management. One can extend research from pecking order theory perspective too. In My study some firms are highly adopted pecking order while some have fully denied, why it is happening so, is a matter of query, research problem for further research.

– A rigorous study of capital structure from macroeconomic perspective is also expected. Since the capital structure is one of the most controversial issues in corporate finance, there is room for study from different perspectives. Even, one can develop his or her own methodological approach to study various aspects of capital structure.

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Appendix A

Income Statement

Year	GP	OC	AOI	TE	OI	DP	EBIT	I	EBT	TA	ROA
1. Bottlers Nepal											
2008	291448000	1317000	292765000	243537000	49228000	65415000	-16187000	21821000	-38008000	1190173	-31.9349
2007	244932000	1092000	246024000	207816000	38208000	97899000	-59691000	9407000	-69098000	1256005	-55.0141
2006	270747000	859000	271606000	172618000	98988000	64165000	34823000	1832000	32991000	1052053	31.3587
2005	257389000	1161000	258550000	157197000	101353000	49175000	52178000	6867000	45311000	990880	45.7280
2004											
2. NEPAL LUB OIL LTD.											
2008	53332177	1554675	54886852	45786566	9100286	1603732	7496554	3970090	3526464	151253119	0.0233
2007	51121180	948353	52069533	40445259	11624274	1725045	9899229	6326343	3572886	142298099.1	0.0251
2006	36181357	3089766	39271123	33872900	5398223	1881756	3516467	3251645	264822	146606658	0.0018
2005	35121365	5296054	40417419	31238866	9178553	2131527	7047026	2415834	4631192	128173647	0.0361
2004											
3. NEPAL BANASPATI GHEE UDYOG LTD.											
2008	20304	8131206	8151510	1267791	6883719	1566785	5316934	10216286	-4899352	109074149.4	-0.0449
2007	-1153274	4869964	3716690	1544691	2171999	1797512	374487	12227005	-11852518	109566260.9	-0.1082
2006	-2018182	311657	-1706525	5174742	-6881267	2083279	-8964546	14706659	-23671205	110577790.6	-0.2141
2005	-1819293	74548508	72729215	1905624	70823591	2585371	68238220	17404973	50833247	117217892.6	0.4337
2004											
4. BOTTLERS NEPAL (TERAI) LIMITED											
2008	224306000	25072000	249378000	185073000	64305000	39752000	24553000	104000	24449000	436227	56.0465
2007	225059000	18324000	243383000	169085000	74298000	44046000	30252000	19000	30233000	524718	57.6176
2006	166379000	7815000	174194000	141507000	32687000	58072000	-25385000	524000	-25909000	419232	-61.8011
2005	209361000	8139000	217500000	171063000	46437000	0	46437000	219000	46218000	637514	72.4972
2004	223980000	4022000	228002000	170277000	57725000	22932000	34793000	10000	34783000	582053	59.7592
5. SHREE ARUN BANASPATI UDYOG LTD.											

2008	12023975	32694	12056669	10750085	1306584	9063186	-7756602	25483760	-33240362	575161883	-0.0578
2007	-6507936	1153472	-5354464	14409735	-19764199	9070325	-28834524	32927627	-61762151	683882301	-0.0903
2006			0		0		0		0	637916244	0.0000
2005			0		0		0		0	673044118	0.0000
2004	44073627	12177090	56250717	24921933	31328784	19234739	12094045	33029686	-20935641	545345333	-0.0384
6. UNILEVER NEPAL LIMITED											
2008	774377586	54389596	828767182	185226341	643540841		643540841	129055	643411786	1085253976	0.5929
2007	536907493	87779312	624686805	176797836	447888969		447888969	1059458	446829511	1002552401	0.4457
2006	494705842	77118331	571824173	64379005	507445168		507445168	1789825	505655343	967146584	0.5228
2005	547076911	41286893	588363804	84210634	504153170		504153170	1765167	502388003	1098955828	0.4572
2004	555792235	27551752	583343987	90680705	492663282		492663282	1787341	490875941		
7. KHADYA UDYOG LIMITED											
2008	-1428991	137880	-1291111	3052467	-4343578	956121	-5299699	1160447	-6460146	54360347.21	-0.1188
2007	-680022	708319	28297	7756888	-7728591	1176237	-8904828	1152097	-10056925	47728549.46	-0.2107
2006	-583191	2550722	1967531	2123646	-156115	1398848	-1554963	1265607	-2820570	56101325.68	-0.0503
2005	-170121	4182097	4011976	2459329	1552647	1835677	-283030	1495166	-1778196	61776019	-0.0288
2004	-2810690	1910493	-900197	4641763	-5541960	2666852	-8208812	3954697	-12163509	69964158	-0.1739
8. SRI BRIKUTI PULP AND PAPER NEPAL LIMITED											
2008	66085020	2,038,464	68,123,484	59628155	8,495,329	70937002	(62,441,673)	72855521	(135,297,194)	2148474307	-0.0630
2007	104806480	14,615,914	119,422,394	56392434	63,029,960	71410552	(8,380,592)	81338719	(89,719,311)	2096208265	-0.0428
2006										2102678217	0.0000
2005										2043445399	0.0000
2004										1972729193	0.0000
9. GORAKHKALI RUBBER UDHYOG LIMITED											
2008	77968178	17666772	95634950	92402523	3232427	23383443	-20151016	56769775	-76920791	566309928.5	-0.1358
2007	98672049	3083310	101755359	93727583	8027776	26911989	-18884213	55931759	-74815972	586486003	-0.1276
2006	111433957	5652986	117086943	105441966	11644977	28910733	-17265756	64455125	-81720881	603950718	-0.1353
2005	104849291	2758332	107607623	88388559	19219064	32199808	-12980744	57912526	-70893270	612303584	-0.1158
2004											

10. FLUER HIMALAYAN LIMITED											
2008	13195817		13195817	10695180	2500637	99150	2401487	3441999	-1040512	64705849.7	-0.0161
2007	5143716		5143716	10570277	-5426561	100679	-5527240	2446623	-7973863	232045935.4	-0.0344
2006										0	
2005										0	
2004										58,583,097.70	
11. NEPAL BITUMEN & BARREL UDYOG LIMITED											
2008	20,346,935.00	9,464.00	20,356,399.00	9769054	10,587,345.00	376484	10,210,861	376484	9,834,377	124624482	0.0789
2007	22,432,925.00	6,314.00	22,439,239.00	8961610	13,477,629.00	594912	12,882,717	594912	12,287,805	74651927	0.1646
2006										96503996	0.0000
2005										92501733	0.0000
2004										86566248	0.0000
12. BISHAL BAZAAR CO. LTD.											
2008	62684867	1369281	64054148	19835607	44218541	3203736	41014805	25165	40989640	124624482	0.3289
2007	56068816	1187326	57256142	15289648	41966494	2758407	39208087	0	39208087	74651927	0.5252
2006	54815342	1018090	55833432	11976608	43856824	2733821	41123003	0	41123003	96503996	0.4261
2005	49308119	944885	50253004	9598557	40654447	2734727	37919720	0	37919720	92501733	0.4099
2004	43233429	877511	44110940	10642349	33468591	3020178	30448413	502449	29945964	86566248	0.3459
13. CHILIME HYDROPOWER CO.											
2008	870014527	14669916.34	884684443.3	-96442374.01	788242069.3		788242069.3		788242069.3	124624482	6.3249
2007	903540792.5	715444.58	904256237	-87967486.13	816288750.9		816288750.9		816288750.9	74651927	10.9346
2006	821994027.6	2579187.97	824573215.6	-314235315	510337900.6		510337900.6		510337900.6	96503996	5.2883
2005	692366222.5	339649.74	692705872.2	-306922833.4	385783038.8		385783038.8		385783038.8	92501733	4.1705
2004	593843086	307295.57	594150381.6	-320747882.6	273402499		273402499		273402499	86566248	3.1583
14. BUTAWOL HYDROPOWER CO. LTD.											
2008	446731779	199007201	645738980	572001654	73737326				73737326	1991691212	0.0370
2007	392938345	96032117	488970462	496880989	-7910527				-7910527	1882269908	-0.0042
2006	375270672	118440096	493710768	467758176	25952592				25952592	1744577219	0.0149
2005	335494089	70440423	405934512	434330257	-28395745				-28395745	1439239407	-0.0197

2004	294858296	239373312	534231608	482431820	51799788				51799788	1579194862	0.0328
15. NATIONAL HYDROPOWER CO.											
2008	195581475.6	909491.34	196490966.9	281479089.5	477970056.4				477970056.4	1741736629	0.2744
2007	219890890.5	30982302.1	250873192.6	201829302.6	452702495.2				452702495.2	1784379657	0.2537
2006	213661625.9	0	213661625.9	154213139	367874764.8				367874764.8	1833742713	0.2006
2005	199471785.5	0	199471785.5	189301910	388773695.5				388773695.5	1799026359	0.2161
2004	186432231.5	0	186432231.5	159102681	345534912.5				345534912.5	1768405090	0.1954

Balance Sheet

Year	T E	LTD	CL	TL	TLE	FA	CA	TA	AT	TBR	LTBD	STBD	Dpr	NDTS
1. BOTTLERS NEPAL														
2008	482177	200000	507996	707996	1190173	558538	631635	1190173	0.4693	0.5949	0.2932	0.4268	65415000	54.9626
2007	448762	0	807243	807243	1256005	593868	662137	1256005	0.4728	0.6427	0.0000	0.6427	97899000	77.9448
2006	704570	72000	275483	347483	1052053	323573	728480	1052053	0.3076	0.3303	0.0927	0.2619	64165000	60.9903
2005	761889	0	228991	228991	990880	409427	581453	990880	0.4132	0.2311	0.0000	0.2311	49175000	49.6276
2004	727154	0	174022	174022	901176	326096	575080	901176	0.3619	0.1931	0.0000	0.1931		0
	2. NEPAL LUB OIL LTD.													
2008	44825959.56		106427159.4	106427159.4	151253119	13528238	137724881	151253119	0.0894	0.7036	0	0.7036	1603732	0.0106
2007	42496995.1		99801103.95	99801103.95	142298099.1	14921047.17	127377051.9	142298099.1	0.1049	0.7014	0	0.7014	1725045	0.0121
2006	40946657		105660001	105660001	146606658	15323263	131283395	146606658	0.1045	0.7207	0	0.7207	1881756	0.0128
2005	40771762		87401885	87401885	128173647	17040802	111132845	128173647	0.1330	0.6819	0	0.6819	2131527	0.0166
2004	40757037		76092996	76092996	116850033	18613431	98236602	116850033	0.1593	0.6512	0	0.6512		0
3. NEPAL BANASPATI GHEE UDYOG LTD.														
2008	80011827.74		29062321.66	29062321.66	109074149.4	26413942.38	82660207.02	109074149.4	0.242165	0.2664	0	0.2664	1566785	0.0144
2007	80011827.74		29554433.18	29554433.18	109566260.9	27855727.49	81710533.43	109566260.9	0.2542364	0.2697	0	0.2697	1797512	0.0164
2006	73175000	1750000	35652790.57	37402790.57	110577790.6	29426166.47	81151624.1	110577790.6	0.2661128	0.3382	0.0233567	0.3224	2083279	0.0188
2005	73175000	5250000	38792892.64	44042892.64	117217892.6	32297109.18	84920783.46	117217892.6	0.2755305	0.3757	0.0669429	0.3309	2585371	0.0221
2004	73175000	8750000	39274098.18	48024098.18	121199098.2	34882479.93	86316618.25	121199098.2	0.2878114	0.3962	0.106805	0.3240		0.0000

4. BOTTLERS NEPAL (TERAI) LIMITED														
2008	223,124		213,103	213,103	436227	149939	286288	436227	0.3437178	0.49	-	0.49	39752000	91.1269
2007	209,306		315,412	315,412	524718	168848	355870	524718	0.3217881	0.60	-	0.60	44046000	83.9422
2006	263,244		155,988	155,988	419232	193623	225609	419232	0.4618517	0.37	-	0.37	58072000	138.5200
2005	401,174		236,340	236,340	637514	320235	317279	637514	0.5023184	0.37	-	0.37	17567000	27.5555
2004	384,896		197,157	197,157	582053	129061	452992	582053	0.2217341	0.34	-	0.34	22932000	39.3985
5. SHREE ARUN BANASPATI UDYOG LTD.														
2008	55585168	443150852	76425863	519576715	575161883	87165346	487996537	575161883	0.1515492	0.9034	0.8885	0.1329	9063186	0.0158
2007	55585168	261320070	366977063	628297133	683882301	96858713	587023588	683882301	0.1416307	0.9187	0.8246	0.5366	9070325	0.0133
2006	55585168	254265807	328065269	582331076	637916244	105531544	532384700	637916244	0.1654317	0.9129	0.8206	0.5143		0.0000
2005	55585168	159883333	457575617	617458950	673044118	101515606	571528512	673044118	0.1508305	0.9174	0.7420	0.6799		0.0000
2004	-59762033	100000000	505107366	605107366	545345333	108147766	437197567	545345333	0.1983106	1.1096	2.4852	0.9262	19234739	0.0353
6. UNILEVER NEPAL LIMITED														
2008	270681380		814572596	814572596	1085253976	140217839	945036137	1085253976	0.1292028	0.7506	0	0.7506		
2007	234787141		767765260	767765260	1002552401	148934100	853618301	1002552401	0.1485549	0.7658	0	0.7658		
2006	224914802		742231782	742231782	967146584	145776135	821370449	967146584	0.1507281	0.7674	0	0.7674		
2005	216933296		882022532	882022532	1098955828	127776972	971178856	1098955828	0.1162713	0.8026	0	0.8026		
2004														
7. KHADYA UDYOG LIMITED														
2008	26335115.9	0	28025231.31	28025231.31	54360347.21	28972079.25	25388267.96	54360347.21	0.5330	0.5155	0	0.5155	956121	0.0176
2007	32795262.71	652660.77	14280625.98	14933286.75	47728549.46	30077187.22	17651362.24	47728549.46	0.6302	0.3129	0.0195	0.2992	1176237	0.0246
2006	42822146.59	1142156.3	12137022.75	13279179.09	56101325.68	31287859.88	24813465.8	56101325.68	0.5577	0.2367	0.0260	0.2163	1398848	0.0249
2005	45642716	1794817	14338486	16133303	61776019	36086708	25689311	61776019	0.5842	0.2612	0.0378	0.2321	1835677	0.0297
2004	49080373	2447478	18436307	20883785	69964158	37918885	32045273	69964158	0.5420	0.2985	0.0475	0.2635	2666852	0.0381
8. SRI BRIKUTI PULP AND PAPER NEPAL LIMITED														
2008	518112913	1.084E+09	546647502	1630361394	2148474307	516526829	1631947478	2148474307	0.2404156	0.7588461	0.6765487	0.2544352	70937002	0.0330174
2007	518112913	1.081E+09	496873460	1578095352	2096208265	572238738	1523969527	2096208265	0.2729875	0.7528333	0.6760447	0.2370344	71410552	0.0340665
2006	518112913	1.032E+09	552110679	1584565304	2102678217	642401053	1460277164	2102678217	0.3055156	0.7535938	0.665856	0.262575		0
2005	518112913	1.012E+09	513443861	1525332486	2043445399	722965788	1320479611	2043445399	0.3537975	0.7464513	0.6613644	0.2512638		0

2004	449408325	1.047E+09	476041243	1523320868	1972729193	795948523	1176780670	1972729193	0.4034758	0.7721896	0.6997314	0.241311		0
9. GORAKHKALI RUBBER UDHYOG LIMITED (Unadited)														
2008	-501619112.3	516349541	551579499.6	1067929041	566309928.5	311171841.5	255138087	566309928.5	0.5494727	1.8857678	35.053259	0.9739888	23383443	0.0412909
2007	-424698322	516349541	494834784	1011184325	586486003	334144154	252341849	586486003	0.5697393	1.7241406	5.6338535	0.8437282	26911989	0.0458868
2006	-349882350	511836169	441996899	953833068	603950718	378820773	225129945	603950718	0.6272379	1.5793227	3.1603834	0.7318427	28910733	0.0478694
2005	-268161469	510551372	369913681	880465053	612303584	397294620	215008964	612303584	0.6488524	1.4379551	2.1063228	0.6041344		0
2004	-197268199	527097365	329770237	856867602	659599403	432834837	226764566	659599403	0.6562087	1.2990727	1.598092	0.4999553		0
10. FLUER HIMALAYAN LIMITED														
2008	-65295238.96		130001088.7	130001088.7	64705849.7	22409090.16	42296759.54	64705849.7	0.3463	2.0091	0.0000	2.0091	99150	0.0015
2007	113294029.9		118751905.6	118751905.6	232045935.4	21160845.91	210885089.5	232045935.4	0.0912	0.5118	0.0000	0.5118	100679	0.0004
2006			0	0	0		0	0	0.0000	0.0000	0.0000	0.0000		0.0000
2005			0	0	0		0	0	0.0000	0.0000	0.0000	0.0000		0.0000
2004	-37954025.81		96537123.51	96537123.51	58583097.7	25571270.19	33011827.51	58583097.7	0.4365	1.6479	0.0000	1.6479		0.0000
11. NEPAL BITUMEN & BARREL UDYOG LIMITED														
2008	24333386		180770926	180770926	205104312	7638706	197465606	205104312	0.037243	0.8813609	0	0.8813609	376484	0.0018356
2007	25520721		191510327	191510327	217031048	8683795	208347253	217031048	0.0400118	0.8824098	0	0.8824098	594912	0.0027411
2006	23784754.78		118565047.5	118565047.5	142349802.3	9807691.6	132542110.7	142349802.3	0.0688985	0.8329133	0	0.8329133		0
2005			0	0	0		0	0		0	0	0		0
2004	17245736		82667493	82667493	99913229	11543096	88370133	99913229	0.1155312	0.8273929	0	0.8273929		0
12. BISHAL BAZAAR CO. LTD.														
2008	87197772		37426710	37426710	124624482	50492009	74132473	124624482	0.4052	0.3003	0.0000	0.3003		0.0000
2007	38187450		36464477	36464477	74651927	40037453	34614474	74651927	0.5363	0.4885	0.0000	0.4885		0.0000
2006	39448300		57055696	57055696	96503996	40772373	55731623	96503996	0.4225	0.5912	0.0000	0.5912		0.0000
2005	38836475		53665258	53665258	92501733	37367744	55133989	92501733	0.4040	0.5802	0.0000	0.5802	3873130	0.0419
2004	38184851		48381397	48381397	86566248	39643686	46922562	86566248	0.4580	0.5589	0.0000	0.5589	3628563	0.0419
13. CHILIME HYDROPOWER CO.														
2008	2366278884	0	504088622.3	504088622.3	2870367506	2011857938	858509567.9	2870367506	0.7009	0.1756	0.0000	0.1756		
2007	1942259661	168500000	268860116	437360116	2379619777	2114371306	265248470.5	2379619777	0.8885	0.1838	0.0798	0.1130		
2006	1493470847	591000000	327475630.3	918475630.3	2411946477	2189252247	222694230.2	2411946477	0.9077	0.3808	0.2835	0.1358		

2005	1003798434	1.125E+09	328135676	1453604447	2457402881	2246081698	211321183	2457402881	0.9140	0.5915	0.5286	0.1335		
2004	716800541.7	1.33E+09	525083044.4	1854650417	2571450958	2341713108	229737850.5	2571450958	0.9107	0.7212	0.6497	0.2042		
14. BUTAWOL POWE HYDROPOWER CO. LTD.														
2008	1294154494	101665425	595871293	697536718	1991691212	725742379	1247797886	1991691212	0.3644	0.3502	0.0728	0.2992		
2007	1210562766	84299727	587407415	671707142	1882269908	743893326	1138665333	1882269908	0.3952	0.3569	0.0651	0.3121		
2006	1209889076	123981020	410707123	534688143	1744577219	743604575	1030560486	1744577219	0.4262	0.3065	0.0929	0.2354		
2005	1173242833	110339399	155657175	265996574	1439239407	714016733	711899945	1439239407	0.4961	0.1848	0.0860	0.1082		
2004	1269103929	99939400	210151533	310090933	1579194862	727339462	#REF!	1579194862	0.4606	0.1964	0.0730	0.1331		
15. NATIONAL HYDROPOWER CO.														
2008	720458618.6	849128222	172149787.9	1021278010	1741736629	1445202122	296534506.8	1741736629	0.8297	0.5864	0.5410	0.0988	69464730	0.0399
2007	707265982.8	868262637	208851037.9	1077113675	1784379657	1417300671	367078986.3	1784379657	0.7943	0.6036	0.5511	0.1170		0
2006	659597423.2	939358045	234787245.5	1174145290	1833742713	176457418.6	1657285295	1833742713	0.0962	0.6403	0.5875	0.1280		0
2005	638086716.3	962650394	198289248.7	1160939643	1799026359	190947380.8	1608078979	1799026359	0.1061	0.6453	0.6014	0.1102		0
2004	540496157.1	967164698	260744234.5	1227908933	1768405090	203672761.3	1564732329	1768405090	0.1152	0.6944	0.6415	0.1474		0

APPENDIX B

Interview Schedule

Name: …… Position: ……

Organization: …… Address: ……

Date: ……..

1. Currently, what type of capital you have employed?

    a. Equity Shares

    b. Debt and Hybrid Securities

    c. Bank Loans

    d. Retained Earning

    e. Others (If any, specify) ……..

2. Roughly, what is your current ratio of debt to total assets?

3. Is there a limit on what you can borrow (debts)?

4. Are you at or very near the limit?

5. What is your preferred leverage ratio?

    a. Below 40%

    b. 40-60%

    c. Above 60%

6. Do you have a formal or written capital structure policy?

    a. Yes

    b. No

7. What are your preferred financing alternatives (types and sources)? (Please rank 1 to most preferred and 5 for least preferred).

    a. External Equity

    b. Debt and Hybrid Securities

c. Bank Loans (Short and Long)

d. Retained Earning

e. Others (if any, specify)

8. Do tax issues have major influence on your financing decision?

a. Yes

b. No

9. If tax rate increases by 20%, what will be your response?

a. Increase debt

b. Decrease debt

c. No changes

10. In your opinion, how the following firm specific attributes affects on leverage ratio?

Firm Specific Attributes	Positive Influence	Negative Influence	Don't now/Undecided
Non-Debt Tax Shield			
Assets Structure			
Profitability			
Firm Size			
Growth			
Liquidity			
Business Risk			

11. Do you think that product market and/or industry class also influence the Leverage ratio?

a. Yes b. No c. Don't Know/Undecided