CHAPTER - 1 INTRODUCTION

1.1 General Background

The manufacturing and service sector of any country bears significant importance in contributing to economic growth, now and in the future. The manufacturing sector already accounts for most of the country's export. In recent years, the manufacturing sector has faced difficult trading conditions, the result of the global downturn and global competition. However, Nepal has opportunities too. Nepal as a developing country, the access to open and free market is essential. For this reason it is of great importance that the industrialized countries dismantle their agricultural subsidies and open their markets for Third World products and labor. This would increase the possibilities for more employment in developing countries.

In its broadest sense, industry is any work that is undertaken for economic gain and that promotes employment. The word may be applied to a wide range of activities, from farming to manufacturing to tourism. It encompasses production at any scale, from the local to the multinational or transnational. In a more restricted sense, industry refers to the production of goods, especially when that production is accomplished with machines, embodied by the notion of industrialization: the transition to an economy based on the large-scale, machine-assisted production of goods by a concentrated, usually urban, population of workers. The experience of some of the world's oldest and largest industrial economies demonstrates the stages of industrialization. The three customary objects of industrialization policies are to provide work for growing populations to raise the standard of living by increasing the per capita national income and often to improve balance of payment situation (Mount, 1976).

Industrialization is a process of economic development where an increasing proportion of resources are mobilized to establish a technically up-to-date and diversified economic structure in the country. Industrialization today is being the most effective and active sector in the development and modernization of other sector as well. It needs basic infrastructure, huge amount of investments, development of technology. Moreover raw material and the efficient man power, good management and effective product markets etc are the essential factors in the process of industrialization. Among them, aid of capital is the key factor through which the business can be stretched out and diversified according to the need. One of the stumbling locks in industrial development in Nepal is regarded to be the dearth of capital.

A firm finances its investment projects mainly through three sources: debt, external equity, and internally generated funds. Use of equity financing, either external or internal, leads to the loss of tax benefits enjoyed by debt financing. Studying how more profitable firms - those with more internally generated funds - make financing decisions provides a straight test on whether tax benefits are of first order consideration in capital structure decisions. In this sense, profitability is more than just another capital structure determinant; it plays a critical role in a firm's capital structure because it affects internal funds, one of the three main financing sources, in a direct way. The fact that internal funds come to be prior source for capital expenditure further makes it important to master a good understanding of the role played by profitability (Chen and Zhao, 2004).

The few studies on developing countries have not even agreed on the basic facts. Singh and Hamid (1992) and Singh (1995) used data on the largest companies in selected developing countries. They found that firms in developing countries made significantly more use of external finance to finance their growth than is typically the case in the industrialized countries. They also found that firms in developing countries rely more on equity finance than debt finance.

Capital structure is defined as the specific mix of debt and equity a firm uses to finance its operations. Capital structure is clearly a key determinant of the profitability performance of a firm. Enhancing firm profitability is a crucial undertaking of corporate management. However, the effect of capital structure on profitability presents a puzzle. The theory of optimal capital structure suggests that all firms have an optimal capital structure. Moreover, empirical evidence has demonstrated that more profitable firms tend to maintain a higher debt ratio, that is, debt ratio is

positively related to profitability. However, few empirical studies have shown a negative relationship between debt ratio and profitability.

Capital structure decisions are crucial for the financial wellbeing of the firm. Financial distress, liquidation and bankruptcy are the ultimate consequences lay ahead if any major misjudgment occurred following any financing decision of the firm's activity. Thus, firm with high leverage need to allocate an efficient mixture of capital that will finally reduce its cost. One of the strategies a firm should look into is to lower the weighted cost of capital. This will increase net economic return which eventually, increases the firm value. Hence, maximizing firm's value is the focal point for every financing decision made by the management of the company. The management of the firm operating in the very uncertain world has a tough task ahead in achieving the best capital structure. However the key to choose appropriate and acceptable level of financial leverage is still debatable by the top management of a firm. Many theories and empirical evidence in providing optimal capital structure exists in the real world. Yet, there is still cloudy area and with no specific guidelines to assist financial officers in attaining efficient mixture of debt and equity. Thus, only clues and calculated judgment plus some understanding of financial theory are possible tool to be applied in facilitating of how the financing mix does affect the firm's value and its stock price (Mat and Wan, 2008).

A complex set of decisions creates a firm's capital structure. Capital structure dictates the funding sources tapped by company and allocates risks and control rights to various parties. Pursued wisely, capital structure decisions should enhance value in financial markets. Key decisions include the overall mix of debt and equity, the forms, terms, and maturity structure of debt, the allocation of voting control among equity classes, the timing to security issuance, and a host of issues about particular types of financial claims (including hybrids such as convertibles and debt substitutes such as leasing).

Early theory focused on capital structure as a way to carve up a fixed amount of operating cash flow. In this "Fixed Pie" view the key choice was the best split between debt and equity to allocate those operating results. This view originated with the classic contribution of Modigliani and Miller (1958). They showed that in perfect

capital markets, a firm's value is independent of capital structure. That is, any number of different mixed of debt and equity can result in the same firm value. While Modigliani and Miller's policy conclusion is not particularly appealing their work laid an important foundation. In particular, by spelling out the assumptions of perfect capital markets, Modigliani and Miller (MM) pointed the way to factors that the helped to explain financial structure (Chaplinsky and Harris, 1996).

The capital structure of a firm has long been a major subject for academic study in the corporate finance world. As early as Chudson (1945) carried out an extensive research into this area by asking the question:

"In what way does the structure of assets and liabilities of a given concern reflect the kind of industry in which a concern is engaged, the concern's size and level of profitability?" Chudson's research question has implied that there might be a relationship between the capital structures practiced by a firm with its profitability.

Nevertheless government had initiated privatization policy, the financial performance of the industries could not enhance because of the lack of proper management of different sources. Nearly all of the companies in Nepal do not meet the objective of maximizing the wealth position of shareholders and return on equity because they are not using debt in their capital structure and equity is the only source of financing. However, few companies out of various listed companies have included debt in there capital investments. Manufacturing companies are reasonably more in Nepal, whose financial structures are completed with the grouping of debt and equity.

This study attempts to test the effect of capital structure on profitability in selected Nepalese listed industries, which are

- Bottlers Nepal (Terai) Ltd,
- Nepal Bitumen and Barrel Udhyog,
- Nepal Lube Oil Ltd,
- Gorakhakali Rubber Udhyog Ltd.,
- Soltee Hotel Ltd,
- Bishal Bazar Co. Ltd.

1.2 Review of Sample Companies

Bottlers Nepal (Terai) Limited (BNT)

Bottlers Nepal Ltd (Terai) a subsidiary company of Bottlers Nepal Ltd. Balaju was established in 1986 with an installed capacity of the plant of 350 bottling per minute. Bottlers Nepal Limited, a company incorporated in Katmandu, Nepal is the parent company of Bottlers Nepal (Terai) located in Chitwan which holds 90.78 per cent share. The Coca-Cola Sabco (Asia) Ltd, a company incorporated in Dubai, UAE which holds 76.16 per cent shares of Bottlers Nepal Ltd, is the parent company. The principal activity of the company is to manufacture and sell soft drinks under the registered trademarks of The Coca-Cola Company. To stay ahead of the competition, the company continues to invest in the market by way off cold drink equipments, glass and periodic and selective trade promotional activities. New concepts on UTC program were launched during the year which generated very high consumers connect.

As part of their commitment to give back to the society and be the model corporate citizen the company extended its association in the fields of safe drinking water (UN Habitat), nurture football talent (association and ANFA) and Music (Sprite Band Challenge). It has authorized capital Rs.121,000,000, issued capital Rs.121, 000,000 and paid up capital Rs.121,000,000.

Nepal Bitumen and Barrel Udyog Limited (NBBUL)

Nepal Bitumen and Barrel Udyog Ltd., a public limited company established by Nepal Oil Corporation Limited in 1984 is now taken over by Panchakanya Group-a leading industrial and trading house of Nepal, under privatization program of government. Panchakanya Group, with its dynamic management and remarkable performance through the last decade has become reputed for its excellence in product quality and services-be it in consumer durable or construction materials. The Organization, marching ahead with the philosophy "Quality ensures success" is committed to total customer satisfaction and practicing high ethical standards.

Plant and Products

- a) Barrels, Drums and Containers
- b) Bitumen
- c) Bitumen Emulsion

NBBUL is the only industry to supply bitumen. It provides test certificate along with every consignment. It can also arrange site delivery on request. It has authorized capital Rs.70, 000,000, issued capital Rs.30, 000,000 and paid up capital Rs.21, 068,000.

Nepal Lube Oil Limited (NLO)

Nepal Lube Oil Ltd was established in the year 2041 B.S. under the company act 2021 and located at Bara district. NLO is one of the public enterprises in the country, which was established to produce gulf mobil and lubricants in order to met domestic demand for the same. It was financed by Nepal Oil Co-operation. National Trading Ltd., Salt Trading Ltd., Himal Cement Company and Rastriya Bema Sasthan and public investors also have invested their capital. The prime objective of the public under taking company, NLO is to produce and sell the lubricants within the country in fair reasonable price.

Gorakhakali Rubber Udhyog Limited (GRU)

Gorakhakali Rubber Udhyog Limited is only one tire and tube producing industry in Nepal was established as public limited company on 2041 B.S. according to the Company Act 2021 under the technical assistance of China National Chemical Construction co-operation with the normal production capacity of 88,000 set of the tire and tube per year. It is situated at Gorkha district. It collects necessary raw material mainly from India and also from Australia, USA, Germany, Malaysia and Korea. The key market of the industry was India, Srilanka, Bangladesh and own nation Nepal, in early days of production, but now its market is confined within Nepal only. It is jointly owned by Nepalese public and private sector enterprises and the Nepalese public and Asian Development Bank.

Soltee Hotel Limited (SHL)

Soltee Hotel Limited was established in 1968. This hotel is considered as a legendary landmark within the Kathmandu cityscape. SHL is one of the premier hotel of Nepal, which has an authorized capital of Rs.35,00,00,000, issued capital Rs.10,00,00,000 and paid up capital Rs.8,69,69,000. Spread over 11 acres of space and surrounded by manicured gardens and with views of the mountain ranges, the Soltee Crown Plaza offers a resort atmosphere for both business and leisure travelers. It offers 283 Superior, Deluxe and Crown Plaza Club rooms; eight Executive Suites, seven Regal Suites and Non-smoking rooms are also available. Others:

- Unwind in Health Club after a hectic day of sightseeing.
- Plunge into blue water swimming pool, designed in neoclassical architecture.
- Beauty Salon and Barber Shop offer a wide range of beauty treatments.
- Casino Nepal the biggest 24-hours, on-premise casino in Nepal.
- Pick up some souvenirs for memories at Shopping Arcade.
- Enjoy a game of bowling at the in-premise Bowling Alley

Bishal Bazar Company Limited (BBC)

Established in Bishal Bazar Company Ltd 2026 B.S.has authorized capital Rs.50,000,000, issued capital Rs.50,000,000 and paid up capital Rs.27,300,000. Carrying out as a supermarket BBC has following broad objectives/ functioning area.

- Wholesale and retail marketing of food and drink material, machine and equipment, spare parts, ready made garments, thread, herbs, medicine, toys, cotton, hemp.
- Function as agent, dealer, distributor, and shareholder of related national and international organization and also appoint other company to function as BBC's agent, dealer and distributor.
- Provide space for hotel, restaurant, parking and offer indoor, outdoor catering service.
- Import and export agricultural product, dry fruits, mines and curio products.
- Encourage for fruit production then bottled and canned the juice for sell using own label.
- Purchase, hire and rent land, hose and cultural artistic houses.

1.3 Statement of the Problem

Scores of research has implied that there might be a relationship between capital structures practiced by a firm with its profitability. A number of researchers have tested the effects of profitability on firm leverage. Friend and Lang (1988) and Kester (1986) find a significantly negative relation between profitability and debt/asset ratios. Rajan and Zingales (1995), and Wald (1999) also confirm a significantly negative correlation between profitability and leverage.

Fama and French (1998), analyzing the relationship among taxes, financing decisions, and the firm's value, concluded that the debt does not concede tax benefits. Besides, the high leverage degree generates agency problems among shareholders and creditors that predict negative relationships between leverage and profitability. Therefore,

negative information relating debt and profitability obscures the tax benefit of the debt. Booth *et. al.*, (2001) developed a study attempting to relate the capital structure of several companies in countries with extremely different financial markets. They concluded that variables that affect the choice of the capital structure of the companies are similar, in spite of the great differences presented by the financial markets. Besides, they concluded that profitability has an inverse relationship with debt level and size of the firm. Graham (2000) concluded in his work that big and profitable companies present a low debt rate. Mesquita and Lara (2003) found in their study that the relationship between rates of return and debt indicates a negative relationship for long-term financing. However, they found a positive relationship for short-term financing and equity.

Hadlock and James (2002) concluded that companies prefer loan (debt) financing because they anticipate a higher return. Taub (1975) also found significant positive coefficients for four measures of profitability in a regression of these measures against debt ratio. Petersen and Rajan (1994) identified the same association, but for industries. Baker (1973), who worked with a simultaneous equations model and Nerlove (1968) also found the same type of association for industries. Roden and Lewellen (1995) found a significant positive association between profitability and total debt as a percentage of the total buyout-financing package in their study on leveraged buyouts. Champion (1999) suggested that the use of leverage was one way to improve the performance of an organization.

The study on capital structure and profitability has been relatively paid little interest and their academic contribution in capital structure theory can be hardly found, particularly in Nepal. This study will attempt to solve the dearth of research on capital structure, particularly its effect on profitability and will be an aid in academic contribution in capital structure theory in Nepalese context. This study is directed in resolving the following issues.

- 1) What is the existing situation of capital structure practices in Nepalese listed manufacturing companies?
- 2) What is the relationship of capital structure by a firm with its profitability?
- 3) Do profitable firms depend on more debt than equity as their main financing option?

Those are frequently asked questions that are significantly present in the decisory processes related to funds' capitation. Notwithstanding several studies have been developed regarding the subject, there is not a consensus about what would configure an optimum capital structure. Decisions of that type tend to become even more difficult when the economic conditions of the country where the firm operates already are more uncertain. The effects on the companies happen in varied ways, standing out, on one side, the elevation of the cost of the financing and, on the other hand, inhibiting the sales given the fall in the economic activity producing a combined effect of elevation of the degree of uncertainty.

This study is primarily influenced by Joshua Abor's study on the Ghana, but also gathered inspiration from the studies conducted by others.

1.4 Objective of the Study

Before present the model, it becomes essential to evaluate what is the influence of the capital structure over the company's profitability. In this sense, the objectives of the present work are:

- 1) To describe the existing situation of capital structure practices of Nepalese listed manufacturing and service sector industries.
- 2) To investigate the relationship between capital structure and profitability of listed manufacturing and service sector industries of Nepal
- 3) To analyze the dependency on more debt as the main financing option of profitable firm.

1.5 Significance of the Study

Capital structure and profitability of firm are crucial to scrutinize so as to assess the long term financial position of the firm. Capital structure and profitability of the firm would help it to adopt appropriate mix of debt and equity in financing the firm's assets and determine the profitability pattern. On account of these significances, capital structure and profitability of the firm is justified as a specific subject matter for study.

The study of capital structure and profitability analyses the firm's position in essential capital generating process such that the investors can calculate the amount of profit through their investment. Therefore, the study is being geared towards knowing the problems so that investors can decide whether to invest more in these companies which have good financial position.

This study may be of worth for the investors, owners, creditors etc. of the firm as it indicates the effect of the proper financial mix on the profitability. As this study analyzes the profitability pattern of the selected companies, it helps to identify whether the companies are operating smoothly or not.

This study is going to be carried out to know the problems and prospects of some of the listed non financial companies and the future policies to develop their appropriate capital structure. The study also would be beneficial to the other companies in the population.

1.6 Organization of the Study

The present study has been developed into six sections in order to make the study more specific, precise and impressive.

Introduction, the foremost chapter, deals with introduction, including background, statement of problem, and objective of the study.

Literature Review, the next chapter deals with the theoretical models on capital structure and the review of available literature in order to have a fundamental understanding about the capital structure of a company in relation to other relating financial information. It includes review, books, reports, journal, articles, previous thesis etc. The guideline for the study is created in this chapter.

The subsequent chapter, Research methodology will give the methodological procedures of the whole thesis in which it states in detail the processes and methods used in the research. It includes research design, sources of data population and samples, methods of data analysis etc.

The chapter four, Data presentation and analysis as a most important chapter of the study, will present and discuss the results.

Summary, conclusion and Recommendation being final chapter will interweave the final considerations and summaries major conclusions that flow from the study and offers suggestion for further perfection.

The bibliography of the various articles, books and thesis consulted have been shown in this section.

CHAPTER - 2 LITERATURE REVIEW

The literature review is commonly seen as the springboard to the thesis. Literature reviews are not only an integral part of the thesis but demonstrates that the researcher knows the field, justifies the reason for the research and allows to establishing theoretical framework and methodological focus. Literature review does concern with review of related literature includes research and non-research reports, articles, documents, journals books and from websites. The aim of literature review is to extend the knowledge and find out evidence which support research data and provide the basis from which conclusion can be drawn in the study.

A variety of purposes are in the wake of the literature review. The most important of these is to pull together what has been written on the problem area in order to highlight the significance of the research. Likewise, it informs their understanding of the problem space of the research, to substantiate definitions of key terms, or to explain the context of the research. Literature is also important in explaining and justifying the research design. Organizing and reviewing literature is then critical to almost every aspect of the research and writing process.

In order to receive a general notion, several studies, journals, articles, books, and researches carried out by the national and international scholars in the sector of capital structure and profitability are taken into consideration as literature review. Regarding this subject, the reviews of literature are sub-divided into several parts, which it is going to explain respectively.

2.1 Conceptual Framework

Capital structure is often a concept which is perceived differently by researchers. Vasiliou and Daskalakis (2006) give definitions on different academics concept on capital structure; the capital structure can be the mix of long-term source of funds used by the firm or the long-term funds of the firm and debt capital as the all long-term borrowing incurred by the firm. Further they write the capital structure of the firm can be defined as the firm's combination of different securities both short-term

and long-term. Firms are often assumed to use short-term borrowing mainly for financing operating activities and long-term debt to finance their investment activities.

Over the years numerous studies on capital structure theory have appeared. Modigliani and Miller (1958) were the first who theorized the issue by posing their "M&M capital structure irrelevance proposition". By stating the circumstances under which capital structure does not influence firm value, they isolate factors that can explain why daily observations of reality prove the opposite. In a comment that followed five years later Modigliani and Miller (1963) showed how the relaxation of one of their crucial initial assumptions, the absence of corporate taxation, could attribute to the understanding of empirical findings, which typically exhibit negative price reactions on equity offering announcements. These two classical publications triggered a stream of studies and hypotheses over time, which contributed to the clarification of "the capital structure puzzle".

Capital structure could be defined in different ways. Some define capital structure in terms of long-term debt ratio. In a number of countries, particularly the emerging markets, companies employ both short-term and long-term debt for financing their assets, including current assets. It is also common for companies in developing countries to substitute short-term debt for long-term debt and roll over short-term debt. Hence, it is more appropriate and particularly in the context of developing economies, to define capital structure as total debt ratio. Rajan and Zingales (1995) argue that the definition of capital structure would depend on the objective of the analysis For example, for agency-problem related studies, capital structure maybe measured by total debt-to-firm value ratio. Debt could be divided into its various components, and numerator and denominator could be measured in book value and market value terms. In others, the dependent variable-capital structure-as total debt-to-assets (or debt-to-capital employed); it is the most often used measure of capital structure in empirical studies.

Capital structure refers to the mix of securities (long-term debt, common stock or preferred stock) issued by a firm for finance real investment. Researchers often refer to the proportions of debt and equity when studying capital structure. A firm is unlevered when it has no debt in its capital structure, while a firm with debt is said to

be leveraged. Therefore, the value of equity in an unlevered firm is the same as the total value of the firm. In contrast, the value of stock in a levered firm is equal to the value of the firm less the value of its debt (Brealey and Myers, 2003).

The capital structure of the industries and individual companies within an industry is different in terms of mix of debt and equity. Since the capital structure decision of a company depends on a number of factors, the judgment of the person making the capital structure decision plays a crucial part. A totally theoretical model perhaps cannot adequately handle all those factors which affect capital structure decision (Pandey I.M., 1999).

The fundamental objective behind running a business organization is to earn profits by serving the customers. Business organization cannot survive and consider soundless in the absence of its ability to make profit. Profit is essential in order to raise the market price of shares as well as to ensure future supply of capital. As per the self financing principle the management may retained the profits and reinvest it in the business which helps to form appropriate capital structure and minimize cost of capital in long run. Being a determinant factor of the financial position, liquidity and long term solvency of the company, profit serves as a yard-stick for judging the competence and efficiency of the management. Hence, profit is the main financial indicator of business firm which is a necessity to survive and expand the business environment.

Profit is the reward for entrepreneurship for risk taking. It could be defined as the surplus resulting after a defined trading period but must be regarded as the first essential charge upon business, being a reward for engaging resources in conditions of speculative risk for the satisfaction of consumer demand. It furnishes resources to invest in future operations and consequently its absence must result in a decline in effective capital resources and ultimately competitive extinction of the business. The profit and wealth maximization objective of the owners of the business is achieved by alternative designs of capital structure best cut out for the circumstances of a firm. Profit provides yardstick through which the firm measures its economic performance. It provides opportunities to the business firm to undertake the expansion of business

and to overcome the shortage of funds. While, the appropriate mix of debt and equity may lead towards the enhancement of profitability of the firm.

In long run, liquidity may depend on the profitability of a firm, but whether it survives to achieve long run profitability depends to some extent on its capital structure (Kulkarni, 1983). Capital structure is defined as total debt to total assets at book value, influences both the profitability and risky ness of the company (Bos and Fetherston, 1993).

Profitability is an important independent variable that has an influence on capital structure. As per the asymmetric information hypothesis of Myers (1977) and Myers and Majluf (1984), firms irrespective of their market power, would depend on internally generated funds for their expansion since external funds involve higher costs. This suggests a negative relationship between capital structure and profitability, and results of empirical studies support it (Kester, 1986; Friend and Lang, 1988; Titman and Wessels, 1988; Rajan and Zingales, 1995). But the alternative interest-tax shield hypothesis (Modigliani-Miller, 1963) predicts a positive relationship between capital structure and profitability. Jensen (1986) and Williamson (1988) consider debt as a disciplining mechanism to ensure that managers pay out profits rather than building their personal empires. In the Jensen model, firms with free cash flow, or high profitability, will have higher debt. Thus, more profitable firms will employ higher debt and will implement high output strategy. Given these conflicting hypotheses, it is plausible to predict a non-linear relationship between capital structure and profitability. Firms at lower levels of profitability would employ more internal funds since external funds are expensive and non-debt tax shields (such as depreciation) may be more than enough to take advantage of tax benefits (DeAngelo and Masulis, 1980). At higher level of profitability, firms have more profits to shield from taxes as well as they are able to generate more output by employing assets effectively. These firms employ more debt. Thus, it is plausible to predict a quadratic "-U-shaped-" relationship between capital structure and profitability. In fact, the relationship, as shown (in Figure), may be saucer-shaped. There may be some medium range of profitability were firms may not have enough incentive to increase or reduce debt.





Capital structure and profitability of firm are required to analyze so as to assess the long term financial position of the firm. Capital structure and profitability of the firm would help it to adopt appropriate mix of debt and owner's equity in financing the firm's assets and determine the profitability pattern. On account of these significances, capital structure and profitability of the firm is justified as a specific subject matter for study.

2.2 Theories of Capital Structure

Capital structure theory is one of the most puzzling issues in the corporate finance literature. It is the most researched and debated fields within corporate finance and the finance literature. There are several theories which attempt explaining the theory of capital structure, however there are none of them that reign in practice. The contradictive empirical evidence which have been found in previous studies raises questions about the validity of the findings, which have led researchers to focus on factors determining the capital structure in practice and also trying to understand the source of financial decision making (Vasiliou and Daskalakis, 2006).

2.2.1 Modigliani and Miller (MM) Approach

The Modern theory of capital structure began with the celebrated paper of Modigliani and Miller (1958) when they presented their article "*The Cost of Capital, Corporation Finance and the Theory of Investment*". Although for some decades the paper has been the subject of intense scrutiny and often bitter controversy. Most of these controversies can now be regarded as settled: the essential results of the paper have overcome. They demonstrated that the choice between equity and debt financing and as well the value of the firms is irrelevant to its capital structure or they pointed the direction that such theories must take by showing under what conditions capital structure is irrelevant. They also assumed perfect and frictionless capital markets (Myers, 2001). Furthermore, Modigliani and Miller also stated the assumptions of an ideal capital market and developed two important propositions regarding corporate finance decisions about the firm's value and risk of the firms debt and equity securities (Ogden *et. al.*, 2003).

Researchers have since Modigliani and Miller's article discussed how a firm's amount of debt should be determined, how new investment should be financed as well as if firms have an optimal capital structure. This has made a rich theoretical framework to emerge and model the firm's choice of capital structure by using different theoretical frameworks. These theories give possible and complementing explanations to the choice of capital structure of the firms. The theories rely on traditional factors such as tax shield advantages, while other theories incorporate asymmetric information between the owners and the management of the firm and other theories suggest the capital structure can be used for signaling purposes to outsiders (Bancel and Mittoo, 2004).

A firm raises funds to finance its operations by issuing equity and debt. One of the pillars of modern finance is that, aside from tax considerations, it does not matter to a firm's investors how the firm raises it. In other words, if taxes are ignored, the value of the firm is unaffected by its capital structure. This is known as the *Modigliani–Miller (MM) theorem*, denoted by *M*2.

Assumptions

- Investors have identical expectations about firms' future earnings.
- All firms within an industry have the same risk regardless of capital structure.
- No taxes.
- No transaction costs.
- Individuals can borrow as easily and at the same rate of interest as the firm.
- All earnings are paid out as dividends (earnings are constant and there is no growth).
- The average cost of capital is constant.

The article of Modigliani and Miller (1958) laid ground for several studies about capital structure. Their proposition one and two are today well-know and established within the academic field of corporate finance.

- MM Proposition I: "The market value of a firm is constant regardless of the amount of leverage that the firm uses to finance its assets" (Ogden et al., 2003).
- MM Proposition II: "The expected return on a firm's equity is an increasing function of the firm's leverage" (Ogden et. al., 2003).

The first proposition implies that mangers cannot alter the market value of the firm simply by changing the firm's capital structure; this proposition is also called the capital structure irrelevance theorem. The second proposition is derived from the first proposition, but the second proposition shows that leverage does have effects on the capital structure. The risk and expected return of a firm's equity will be affected by increasing or decreasing leverage.

Modigliani and Miller revised their propositions in 1963 in order to account for corporate taxes and interest rate deductibility. By revising the two propositions they showed the effect of tax rates and interest rate deductibility on the capital structure and expected return of the firm's shares. Firms could through interest rate deductibility shift payments from going to the government and instead direct them to the firm's shareholders and creditors by increasing leverage (Modigliani and Miller, 1963).

2.2.2 Traditional Theory / Approach

Traditional Theory is also relevant theory of capital structure. It says that the cost of capital is dependent on the total value of the firm and there will be an optimal capital structure. In other words, the traditional approach to valuation and leverage assumes that there is an optimal capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. The traditional view, which is also known an intermediate approach, is a compromise between the net income approach and the net operating approach (Khan and Jain, 1992).

It suggests that the firm can minimize its cost of capital and raise total value through leverage. According to this view, debt is the relatively cheaper source of fund as compare to equity capital. So, the change in leverage due to an increase in debt replaces the source of capital, which has the highest cost. This process shows the declining overall cost when debt equity ratio is raised. The company becomes financially more risky due to those investors who are punishing the firm by demanding the highest capitalization rate. But the increasing rate of K_e can be maintained by using cheaper debt. The advantage arising out of the used debt is so large that even after allowing for high K_e , the benefit of the use of cheaper source is still available (Horn, 1995).

The statement that the debt funds are cheaper than the equity capital carries the clear implication that the cost of debt plus the increase cost of equity together on a weighted basis will be less than the cost of equity which existed on equity before debt financing. So, traditional position implies that the cost of capital is not independent of the capital structure and that there is an optimal capital structure.

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 rises only gradually up to a certain degree of leverage and rises sharply thereafter.
- 3) The average cost of capital (K_o) as a consequence of above behavior or ' K_e ' and ' K_d '
 - (i) Decreases up to a certain point
 - (ii) Remains more of less unchanged for moderate increase in leverage thereafter and rise beyond a certain point.

The traditional approach to valuation and leverage assumes that there is an optimum capital structure and that the firm can increase the total value of the firm can increase the total value of the firm through the judicious use of leverage. The manner in which the overall cost of capital recast the change in capital structure can be divided into under three stages (Solomon 1969).

First Stage: Increasing Value

First stage of the traditional approach starts with the total capital at which the shareholders capitalize their net income. In this stage the cost of equity, K_e , remains constant or rise slightly with debt. But when it increases, it does not increase fast enough to offset the advantages low cost debt. During this stage, the cost of debt, K_d ,

remains constant or raises negligibly since the market views the use of debt as reasonable policy. As a result, the value of firm increases or overall cost of capital falls with increasing leverage.

Second Stage: Optimal Value

In this stage, once the firm has reached a certain degree of leverage, increases in leverage have a negligible effect on the value, or the cost of capital of the firm. This is so, because this increases in the cost of equity due to added financial risk that offsets the advantage of low cost debt. Within the range or at a specific point, the value of the firm will be maximized or cost of capital will be minimum.

Third Stage: Declining Value

In this stage, after the accepted degree of leverage, the market value of the firm decreases with leverage or overall cost of capital increases with leverage. This happens because investors perceive a high degree of financial risk and demand a high equity capitalization rate, which offsets the advantage of low cost debt. In this stage, the cost of debt and equity will tends to rise as a result of increasing the degree of financial risk that will make to increase in the overall cost of capital. The overall effect of these three stages is to suggest that the cost of capital is the function of leverage. First it declines with leverage and after reaching a minimum point or range, it starts rising. The relationship between cost of capital and leverage can be graphically shown as under:



Figure 2: Traditional Approach: Cost of Capital

Figure 2 assumed that K_e rises at an increasing rate with leverage, whereas K_d assumed to rise only after significantly leverage has occurred. At first, the weighted cost of capital, K_o , declines with leverage because the rise in K_e does not entirely offset the use of cheaper debt funds. As a result, K_o declines with moderate use of leverage. After a point, however, the increase in K_e more than offset the use of cheaper debt funds structure, and K_o begins to rise. The rise in K_o is supported further once K_d begins to rise. The optimal capital structure is point O, thus the traditional position implies that the cost of capital is not independent of capital structure of the firm and that there is an optimal capital structure.

2.2.3 The Life-Cycle Model

The traditional view of the lift cycle of the firm has changed little since its formulation in early finance textbooks, such as Weston and Brigham (1970). Subsequent studies provide evidence for the existence of a capital structure life-cycle in small firms (Petersen and Schulman.1987). Changes in the firm's development are paralleled by changes in its access to finance and changes in its capital structure. According to Timmons (2004), small, young firms tend to draw capital from internal sources, personal sources, informal investment and family and friends (so-called 'f' connections). As the firm ages, outside investors can observe the firm's track record and examine its creditworthiness over time. In developing a reputation firms attenuate the problem of asymmetric information and have improves access to short term sources of funding such as trade credit and bank overdraft facilities (Diamond, 1991). In order to raise sufficient funds to meet capital investment needs, the firm may increasingly source finance from financial institutions, and debt levels increase as the firm gets larger and older. As retained earnings accumulate over time, the firm's borrowing requirements will decline and debt as a percentage of total assets declines.

2.2.4 Net Income Theory /Approach (NI approach)

In relation to NI approach the value of firm depends upon its capital structure. On other words capital structure affects the value of firm. The cost of debt and equity do not change with respect to change in capital structure. When the firm decides to change in capital structure, it affects the Weighted Average cost of capital and which causes change in value of firm. The strict net income approach assumes that k_s and k_d remain constant. It can be demonstrated graphically as

Figure 3: Cost of Capital under NI Approach



According to this approach the average cost of capital (k_o) declines as gearing increases. The cost of shareholders funds (k_s) and the cost of debt (k_d) are independent. Since k_d is usually less than k_s as debt is less risky than equity from the investor's point of view, an increase in gearing should lead to a decrease in k_o . Hence, it suggests that gearing should be maximized.

2.2.5 Net Operating Income Approach (NOI Approach)

NOI approach is completely different from NI approach to capital structure management and valuation of firm. The value of firm is determined by capitalizing the operating profit at overall cost of capital. Along with this approach the cost of debt capital and overall cost of capital will remain constant irrespective of degree of leverage but cost of equity of capital will change what the change in leverage. Accordingly, greater the degree of leverage higher will be the cost of equity capital.

According to this approach, there is no optimal capital structure. The financing mix does not affect the average cost of capital of the company; and the total value of the firm remains unchanged with changes in the gearing i.e. k_0 remains constant. This can be shown graphically as:

Figure 4: Cost of Capital under NOI Approach



All capital structures are optimal. The increase in k_s is exactly sufficient to offset the effect of the increased importance of k_d so k_o is constant.

2.2.6 The Static Trade off Theory

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. The magnitude of this effect should be related to the size of the tax burden. Its rationale is to describe the fact that firms are usually financed with some proportion of debt and equity. It proposed a principle that a firm's target leverage is driven by taxes shield, bankruptcy costs of debt and agency conflicts.

Under *static trade-off theory*, it affirms the advantages of using debt because the firm can gain tax shield with the usage of some proportion of debt in financing the company. Tax shield comes from the interest payment as a tax deductible item, which means that the higher the interest payment on debt employed, the lower the taxes will be paid by the firm. However, as firms decide to use more debt, it will put firms in the position of financial distress due to the possibility of the firm may be default in meeting its liabilities obligations. Financial distress will include bankruptcy and non bankruptcy cost. In conclusion, the trade-off theory suggests that optimal capital structure can be attained. However, firms should take appropriate actions in balancing between the tax benefits of higher debt and the greater possibility of financial distress costs while aiming to optimize its overall value. Early empirical evidence on the trade-off theory by Bradley, Jarrel and Kim (1984) reported mixed result. However, recent studies by Givoly, Hayn, Ofer and Sarig (1992), MacKie-Mason (1990) and Trezevent (1992) provides supporting evidence on trade-off theory.



Figure 5: The static-tradeoff theory of capital structure (Brealey *et al.*, 2003)

The costs of financial distress depends both on the probability of the firm entering into financial distress and the magnitude of costs if distress occur. Financial distress arises when the firm has difficulties fulfilling commitments to creditors, drawn to the extreme it can lead to bankruptcy. Financial distress can be very costly for the firm. As the firm increases its debt level, the tax shield also increases. At moderate debt levels the probability of financial distress costs are small (in Figure) and also the cost of financial distress is trivial and the tax benefits are central. The firm can use the tax shield and the costs of financial distress for determine the optimal debt ratio, called the trade off theory of capital structure (*ibid*).

Static tradeoff theory makes feel comfortable because it sounds plausible and yields an interior optimum debt ratio. It rationalizes "Moderate" borrowing. The theory may be moderate and plausible, but that does not make it right. But there is question whether it explains firms' financing behavior. If it does, fine. If it does not, then a better theory is needed. The static tradeoff theory works to some extent, but it seems to have an unacceptably low R2. Actual debt ratios vary widely across apparently similar firms. Either firms take extended excursions from their targets, or the targets themselves depend on factors not yet recognized or understood. At this point, there is a tactical choice between two research strategies. First, try to expand the static tradeoff theory by introducing adjustment costs, possibly including those stemming from asymmetric information and agency problems. Second, start with a theory based on asymmetric information, and expand it by adding only those elements of the static tradeoff which have clear empirical support.

2.2.7 Pecking-Order Theory

In contrast to the *static trade-off theory*, the pecking order theory assumes firms to not have a target debt ratio (Graham and Harvey, 1999). Myers (1984) first described the pecking-order theory, stating that there is no optimal capital structure. If the firm increases its external finance it will be costly for the firm because managers have more information about the risks, values and the prospect of the firm than the outside investors. These investors are aware of this and recognize it as information asymmetries. This lead to a pecking-order of corporate financing with the following assumptions:

- 1. Firm prefer internal financing to external financing.
- 2. The target dividend payout is adapted to the firm's investment opportunities in order to prevent changes in the firm's dividends policy.
- 3. If the firm only has the choice of external financing, the firm should first issue the safest security, starting with debt, then the hybrid such as convertible and at the last equity (Myers, 1984).

Pecking order theory (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 that are expected to accrue as a result of undertaking such investments.

The pecking order hypothesis is hardly new. For e.g. it comes through loud and clear in Donaldson's (1961) study of the financing practices of a sample of large corporations. He observed that "Management strongly favored internal generation as a source of new funds even to the exclusion of external funds except for occasional unavoidable 'bulges' in the need for funds." These bulges were not generally met by cutting dividends: Reducing the "customary cash dividend payment was unthinkable to most managements except as a defensive measure in a period of extreme financial distress". Given that external finance was needed, managers rarely thought of issuing stock.

2.2.8 Signaling Capital Structure Theory

The irrelevance of capital structure in Modigliani and Miller's theorem implicitly assumes that the market have full information. If managers within a firm possess private information then their incentives will be signaled with the firm's capital structure and information will be given to the market. In a competitive market the inferences drawn from the signals will be confirmed by the market (Ross, 1977). The firm's capital structure and its market value can provide a reward to the managers in the form of capability when signaling their choice of capital structure. Agency costs for the firm can therefore decrease due to shareholders are provided more information (Eldomiaty and Ismail, 2004).

Manager of a firm often have private and better information about the value of the firm than outsiders i.e. shareholders, creditors and the market as a whole. The firms often have to abstain from leaving out information in order to prevent its competitors to get valuable information about the firm, which could lessen the firm's value. Signaling models, suggest that the firm's leverage can be used for signal the value of the firm. The underlying condition is information asymmetries between the firm and the market. The management can differentiate its firm by issuing debt and with this signal that the firm has strength to make interest payments by committing to creditor. Further, can the managers signal confidence in the firm's ability to generate future cash flow (Ogden *et al.*, 2003). However, Pinegar and Wilbricht, (1989) find that most managers do not explicitly signal firm value through adjustments in capital structure.

In the optimal capital structure model, debt is assumed to provide information about the firm's value to investors and at the same time function as a tool to limit management's self-interest activities. Information is provided by contractual payments to debt holders and if the firm enters default the management has to negotiate with the firm's creditors for avoiding liquidation, which provide information to creditors (Ogden *et al.*, 2002).

2.2.9 Agency Cost Theory

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. Sometime, the managers are mainly interested in accomplished their own selfishness. They demand higher salaries, job security and other fringe benefits. Therefore, in tackling the conflict, owners should take prudent steps by periodic monitoring, supervising and controlling the workers and manager and normally is done by independent directors appointed by the board. The use of short-term sources of debt, however, may mitigate the agency problems, as any attempt by shareholders to extract wealth from debt holders is likely to restrict the firms' access to short-term debt in the immediate future.

Debt is an effective tool to lessen the agency costs, and eventually optimal capital structure can be derived from the balance between the costs of debt against the benefits of debt. In viewing the conflicts between shareholders and bondholders, covenants will protect the bondholders' position so that they can mitigate the risk of default payment. However, the agency costs only arise when the risks of defaults payment exists. Even though the agency costs of debt is burdensome, but it is the solutions towards obtaining external funds at lower rate. The choice of capital structure brings signals to outside investors the information of insiders. Ross (1977) assumes that managers/insiders know the true distribution of firm returns, but investors do not. If managers decide to add more debt into capital structure, investors interpret as a signal of high future cash flows and firm is committed towards its contractual obligation. Thus, this will shows higher level of confident the management has towards the firm's prospect in the near future. However, if managers decide to finance the firm by issuing new equity, it signals that management is lack of confident towards future prospect of the firm. Accordingly, he concludes that investors take larger levels of debt as a signal of higher quality and that profitability and leverage are thus positively related.

Agency cost can be divided into two parts, the cost of equity and the cost of debt. The agency costs of outside equity may be reduced by increased leverage, while the opposite may occur for the agency costs of debt if there is a conflict of interest between debt holders and shareholders. High leverage reduces agency cost of equity and increases firm value by encouraging the management to act more in the interest of the shareholders. When the firms amount of debt is high it increases the agency cost of debt in terms of risk shifting or the firms reduced effort to control risk resulting in

higher expected cost of financial distress, bankruptcy or liquidation and thus the firm has to compensate debt holders for their expected losses, leading to higher interest expenses (Berger and Patti, 2004).

2.3 Review of Related Empirical Works

The study of Hung, Albert and Eddie in 2002 has examined the inter-relationship between profitability, cost of capital and capital structure among property developers and contractors in Hong Kong. Whilst major indigenous local developers are among the largest and the most profitable in the world, their contractor counterparts are generally small and nowhere near as profitable. An analysis of financial data suggests that gearing is generally higher among contractors than developers. However, it does not mean that contractors borrow more than developers. Indeed they do not need to borrow as much as developers even if they have the assets to pledge as collateral. Contractors do not have to pay for high land costs, and they obtain project finance from developers through interim payments in lump sum contracts that are widely adopted in the industry. Their high gearing reflects more their low equity base than high level of debts. Their costs of equities are about double the developers probably due to their usually low or negative profit margins. The findings with the regression analysis indicate that capital gearing is positively related with asset but negatively with profit margins. The article concludes with a discussion on implications of such profitability divide between the two sectors on the unequal relationship between developers and contractors and on their competitiveness.

Gu's work in 2006 examines the relationship between capital structure and profitability of the Restaurant Industry. In particular, it examines if medium debt use is optimum for restaurant firms. Sixty-three publicly traded restaurant companies were first categorized by their uses of long-term debt and then by their services. Their profitability ratios were compared and analyzed. Financial leverage or the use of debt has a great impact on the profitability of a firm. The trade-off theory of capital structure holds that there exists an optimal capital structure at which the investors' wealth is maximized. At that point, the marginal benefits of debt equal the marginal costs of debt. The implication is that neither zero debt nor large percentage of debt in capitalization is optimal. The optimal debt use should be in the middle between the two extremes. The results of the analyses show that light use of debt, such as adopted

by fine dining restaurants, may be optimum. Moderate debt use, such as pursued by fast food restaurants, brings higher return but greater risk to investors. Excessive use of debt, which is typical of the economy/family restaurant's capitalization, is detrimental to the profitability by all measures.

The study of Eriotis, Frangouli and Ventoura-Neokosmides constitutes an attempt to investigate the relationship between debt-to equity ratio and firm's profitability, taking into consideration the level of firms' investment and the degree of market power. The use of borrowed capital increases the level of investment undertaken by the firm without causing any additional cost for firm's owners other than interest expenses. This increases the return of invested capital by owners. However, borrowed capital increases the risk for the firms as well as for owners, because borrowed capital creates fixed expenses (i.e. interest), thus a minimum profit level is necessary for financing the level of interest. The study uses panel data on 53 firms from various industries, and covers the period 1995-96. Firm level data was used from various industries and it was found a strong negative impact of the debt-to-equity ratio on firm's profitability. Generally, it means that either the cost of borrowed capital is higher than the benefit from investment or that firms which prefer to finance their investment activities through self-finance are more profitable than firms which finance investment by borrowed capital. In the study, it can be said that the firms that finance their investment activities by retained profits are more profitable than those that finance their activities through borrowed capital. A negative and statistically significant impact of concentration on firm's profitability was found, which means that although firms take into consideration their interdependence they prefer to compete with each other than to cooperate.

Pandey in 1999 provides new insights on the way in which the capital structure and market power and capital structure and profitability are related, using data for 208 Malaysian companies for the period from 1994 to 2000. The estimation method uses fixed firm and time effects model on panel data. They predict and show that capital structure and market power, as measured by Tobin's Q, have a cubic relationship. That is, at lower and higher ranges of Tobin's Q, firms employ higher debt, and reduce their debt at intermediate range. This is due to the complex interaction of the market conditions, agency problems and bankruptcy costs. They also show saucer-shaped relation between capital structure and profitability because of the interplay of

agency costs, costs of external financing and debt tax shield. In addition to Q ratio and profitability, they include other independent variables in the estimation. They find that size and tangibility have a positive and growth, risk (systematic) and ownership have a negative influence on capital structure.

Fosberg and Ghosh (2005) found that NYSE and AMEX firms have somewhat different capital structures. With a large sample of NYSE and AMEX, it was found that there had been a significant reduction in the amount of debt in the capital structures of AMEX over the last twenty years. NYSE firms did not exhibit any noticeable changes in capital structure over the period. At this point it is unclear if this difference in capital structure changes is due to firm size, exchange listing, or some other factor. Additionally, they found that there is a significant inverse relationship between firm profitability and the amount of debt in the firm's capital structure for NYSE firms, but not for AMEX. In this study, they seek to extend previous research by ascertaining if the capital structure and profitability effects noted above extend to firms listed on the AMEX as well. They will also seek to determine what factors are causing these profitability and capital structure effects.

The research study of Mesquita and Lara views that the determination of a company's capital structure constitutes a difficult decision, one that involves several and antagonistic factors, such as risk and profitability. That decision becomes even more difficult, in times when the economic environment in which the company operates presents a high degree of instability. Therefore, the choice among the ideal proportion of debt and equity can affect the value of the company, as much as the return rates can. In the present study, the authors tried to examine the influence of the capital structure of Brazilian companies regarding the factor profitability. The data used in this research corresponds to the financial statements of 70 companies collected in the past seven years. There is, the historical series covers the period immediately after the implantation of *Plano Real*, with its consequences in terms of reduction of inflation rates, increase of interest rates, and instability of the exchange rate politics. The Ordinary Least Squares (OLS) method was employed in estimation of a function relating return on the equity (ROE) with the indexes of long and short-run debts, and also with the total of owner's equity. The results indicate that the return rates present a positive correlation with short-term debt and equity, and an inverse correlation with long-term debt.

Fu's study in 1997 in total of 267 firms listed on the Kuala Gala Lumpur Stock Exchange Main Board was put under study for a period of ten years (1985 - 1994). Two major sets of variables were used to indicate capital structure i.e. Debt/Equity Ratio, Debt Ratio, Financial Leverage Ratio, Funded Capital Ratio, Funded Debt Ratio, Current Debt Ratio, Funded Assets Ratio; and, profitability i.e. Return On Equity, Earnings Per Share, Return On Investment, Profit Before Tax, Net Income. The variables were analyzed using the time-series cross-sectional methodology. In order to generate empirical evidence, the Pearson Product-Moment Correlation, mean and bar chart analysis were employed. The results implied that profitability is significantly related to capital structure. Specifically, profitability was inversely related to the amount of liability in a company's capital structure. Therefore, the more debt a firm incur, the worse its earnings is hurt. This study also found evidence of the existence an optimal capital structure among listed companies. Firms of different sectors were found to adjust their capital structure regularly in order to achieve an optimal combination of debt and equity.

Abor's study in 2005 seeks to investigate the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a fiveyear period (1998-2002). Regression analysis is used in the estimation of functions relating the return on equity (ROE) with measures of capital structure. The results reveal a significantly positive relation between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. With regard to the relationship between total debt and return rates, the results show a significantly positive association between the ratio of total debt to total assets and return on equity. The research bring to light that profitable firms depend more on debt as their main financing option. In the Ghanaian case, a high proportion (85 per cent) of the debt is represented in short-term debt.

Salawu's (2007) study investigates the influence of the capital structure on profitability of quoted companies in Nigeria. The study used secondary data from 1990 to 2004 collected from the Annual Report and Accounts of 50 non-financial quoted companies selected and Fact Books published by the Nigerian Stock Exchange. The Pooled Ordinary Least Squares (OLS) model, Fixed Effect Model (FEM) and Random Effect Model (REM) were used in the analysis. The results

indicate that the impact of capital structure on the profitability is not significant, but profitability presents a positive correlation with short-term debt and equity and an inverse correlation with long-term debt. Furthermore, the results show a negative association between the ratio of total debt to total assets and profitability. The result suggests that firms in Nigeria depend on external financing. In the Nigerian case, a high proportion (60%) of the debt is represented in short-term debt. The participation of equity (PL) in the capital structure is positively correlated with profitability. They view that the firms that finance their investment activities by retained profits, are more profitable than those that finance their activities through borrowed capital. They also found a negative and statistically significant impact of concentration on firm's profitability, which means that although firms take into consideration their interdependence they prefer to compete with each other than to cooperate. The study suggests that the companies should implement an effective and efficient credit policy, which will improve the performance level of the turnover and growth. Finally, the top echelon of company management should take interest in the issue of capital structure and constantly monitor its form and adaptability.

Toy *et al.*, (1974); Kester (1986); Titman and Wessels (1988); Harris and Raviv (1991); Bennett and Donnelly (1993); Rajan and Zingales (1995), and Michaeles *et al.*, (1999); Booth *et al.*, (2001); Bervan and Danbolt (2001) all find gearing to be negatively related to the level of profitability (supporting the pecking-order theory), while Jensen, Solberg and Zorn (1992) find a positive one (supporting the trade-off theory).

2.4 Review of Related Nepalese Studies

Rajopadhya's study in 2007 tried to analyze the capital structure management practices among the Nepalese Enterprises (Public and Private Sectors) with special emphasis on determinates of the capital structure; effect of the leverage in return to shareholders ad market price of share, relationship between capital structure and cost of capital and more. The researcher concluded that the determinants of capital structure, growth rate, liquidity and other variables were found to be negatively correlated with the leverage, profitability and collateral value of assets were found to be positively related to leverage in private sector. The result observed in public sectors firms in respect to profitability; growth rate and other variables vary from the

private sectors. He observed positive relation between leverage and shareholders return in both sectors but found negative relation among leverage and cost of capital. He further concluded the capital structure management in Nepalese firm, both private and public sector seems to be very poor and the skillful use of leverage is yet to be explored.

He recommended the use of proper management of debt capital in the capital structure of the firms in both private and public sectors, the debt capital to be used in optimal level so that the cost of capital could be minimized, the firms should plan to achieve targeted debt ratio, try to reduce leverage by raising funds through equity source to redeem the debt capital. The firms with too much debt capital in its capital structure may choose to delay an equity offering or issue convertibles in order to reduce or avoid the cost of issuing securities that it perceives to be under valued.

The study of Karki 2003 was carried with the objective to assess the long term solvency of the company, to find out relationship between finance structure and profitability, to examine the relation between finance structure and value of the firm and find out the major determinants of structure of the company. The researcher has done her study applying different leverage ratio and statistical tools. The major findings of the study are that the company is using excessive amount of long term in its financial structure. The debt capital of the company is increasing each year. The total assets are financed by debt holder's funds and a very little portion of owner's funds have been used for assets financing. The short term solvency of the firm seems quite satisfactory. The debt servicing capacity of the company is very poor, as interest coverage ratio does not exceed two times in any year during the study period. The calculated overall capitalization rate (K_o) and equity capitation rate (K_e) of the company does not support net income approach and net income approach in all years.

The research work of Tamang in 2001 used mainly secondary data from balance sheet & profit & loss account, & some necessary first hand informant. He has also collected informally from concerned person to meet the study objective. He has used the both financial, statistical tools to analyze the data for the study objective. The study covers 6 years data ranging from FY1994/95 to FY 1999/00 out of various analyses he has attempted to see the long term solvency position. He found satisfactory D/E ratio, which is 24.25% & 98.25% for SHL & YY respectively. He has also reveled

satisfactory debt ratio of both hotels but in comparison between them. Yak & Yeti constitute higher ratio in term of coverage ratio: he has found 5.19 times & 1.89 times of interest average ratio for SHL &YY respectively. It shows that SHL has higher level of interest bearing capacity than YY. The correlation between EBIT & interest reveal significant for SHL & insignificant for YY. The profitability ratio measured in terms of ROE has presented more than 10% return for both hotels, which he found satisfactory.

Parajuli (2001) conducted the work to analyze that the appropriate mix of capital keeps a firm sound and healthy. In the long run, liquidity may depend on the profitability of a firm but to survive to achieve long run profitability, it has to depend on its capital structure to some extent. The analyzer has used hypothesis to measure the significant relationship between debt and equity. The NLL's long term debt seems very high at the time of its establishment .But in fiscal year 2055/056 and 2056/57; there is no long term debt at all. Thus, it can be said that the company's management is reluctant toward employing long-term loans. From, the Du-pont analysis, it is found that the profit margin and equity multiplier are in decreasing trend, which causes continuous decease in ROE. Now it appears that the ROE can be levered up by increasing the amount of debt in the firm. According to different calculation, he has found that performance of NLL is not satisfactory level. He has recommended the maintenance of a proper capital structure by including the long term debt.

2.5 Concluding Remark

Capital structure is a very important element for firm's profitability. Firms may use their debt-to-equity ratio to affect profitability. Some firms choose a high debt-toequity ratio, whereas others prefer to choose a lower one. The successful selection and use of the debt-to-equity ratio is one of the key elements of the firm's financial strategy. Most of the studies undertaken to examine the impact of capital structure on firm's profitability found either a positive or a negative impact on firm's profitability (Eriotis, Frangouli, Ventoura-Neokosmides).

Doukas and Pantzalis (2003) and Mittoo and Zhang (2005) amongst others define leverage or capital structure as long-term debt scaled by total debt plus market value

of equity. Lee and Kwok (1988), Burgman (1996), Chen et al. (1997) and Chkir and Cosset (2001) amongst others define leverage as long-term debt scaled by long-term debt plus market value of equity. More profitable firms use less debt than less profitable firms, although in general leveraged firms tend to be more profitable than unleveraged firms.

Graham (2000) reports that, in contradiction to the trade-off theory, large and profitable companies with liquid assets do not use more debt. Dammon and Senbet (1988) find positive relationship between profitability and financial leverage, showing evidence for the trade-off theory but against the pecking order theory.

Allen (1993) reports that more profitable firms use less debt, which is consistent with the prediction of the pecking order theory but contradicts the prediction of the trade-off theory.

Some empirical evidence from previous studies found a negative relationship between profitability and capital structure like the study of Friend and Lang (1988); Barton *et al.*, (1989); Van der Wijst and Thurik (1993); Chittenden *et al.*, (1996); Jordan *et al.*, (1998); Shyam-Sunder and Myers (1999); Mishra and McConaughy (1999); Michaelas *et al.*, (1999). Cassar and Holmes (2003), Esperança *et al.*, (2003), and Hall *et al.* (2004) also suggest negative relationships between profitability and both long-term debt and short-term debt ratios. Petersen and Rajan (1994), however, found a significantly positive association between profitability and debt ratio.

Although many studies have come along way towards a better understanding of why and how firms choose their capital structure, there are still unresolved issues. First, there is no current model that put all the pieces of theory together in a model that might be suitable for textbook presentation and, hence, presentable to the general public. Thus, students when they enter the job market have no comprehensive model to relate their capital structure decisions to. Second, the empirical evidence is mixed and does not point out a single empirical model as a good explainer of corporate practice. At the same time, everybody understands that borrowing too much is not good for firm's health and not borrowing at all is a waste of precious equity. The academic community's 40 years struggle with the issue since Miller and Modigliani (1958) have in essence found that capital structure is a trade off between many interests and that some times prefer to issue debt and sometimes equity. The root to the problem here is exactly "many interest". The capital structure being a mirror image of the real side of the balance sheet is a too complex fabric to fit into a single model. Academics have not tried to make a single model for how firms should invest or operate; realizing that the environments and circumstances a firm could be operating under is endless. Instead there are several partial models for how firms should operate and invest contingent on the environment and circumstances surrounding the firms. So, one models that suit one type of firm well; other types of firms need other approaches (Chirinko and Singha, 2000).

In the literature the relationship between capital structure and profitability has long been under debate, with unresolved theoretical controversy, and no clear-cut conclusions have been drawn to date. According to the pecking order theory, more profitable firms tend to have less debt as firms prefer internal financing. All things being equal, the more profitable firms are, the more internal financial resources they have, and therefore one would expect a negative relationship between leverage and profitability. But in the trade-off theory framework, an opposite conclusion is expected because expected bankruptcy costs decline when profitability increases and the deductibility of interest payments induces more profitable firms to use more debt. In summary, there is no universal theory of the debt-equity choice. Different views have been put forward regarding the financing choice. The present study investigates the effect of capital structure on profitability of listed non-financial firms at the NEPSE.

CHAPTER - 3 RESEARCH METHODOLOGY

Research is a systematic inquiry for seeking facts and methodology. It is the method of doing research in well manner. So, research methodology means the analysis of specific topic by using proper method. In other words, research method is the way to solve systematically the research problem (Kothari, 2008).

This section presents a discussion on the aspects of the research methodology that is used to collect qualitative and quantitative data for the many subsection such as, research design nature, and source of data, sampling procedure, techniques of data collection, process of data analysis data analysis methods, and hypothesis testing to support the model.

3.1 Research Design

Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variance (Wolff and Pant, 1999). It helps the investor to obtain answer to the questions of research and also helps him to control the experimental, extraneous and error variance of particular research problem under study. So, the formidable problem that follows in task of defining research is reparation of design of the research project popularly known as research.

A combination of descriptive and analytical research design has been employed in course of this study which is considered to be appropriate for the analysis of this type of research work. The research is designed according to the need of the study. Since the study required thorough knowledge about the capital structure and profitability of selected industries, descriptive design was applied to the study that includes quantitative techniques. The problem is analyzed through different statistical and financial analysis method.

3.2 Universe and Sampling

During the study period, the sample is based on the population of non-financial listed companies contained in the NEPSE on data stream till *Asadha* 2066. The panel data are available over the period 2058/59 through 2064/65 from six different industrial
sectors as sample. The sample companies are classified into sectors: Manufacturing and processing- Bottlers Nepal (Terai)Ltd, Nepal Bitumen and Barrel Udhyog, Nepal Lube Oil Ltd, Gorakhakali Rubber Udhyog Ltd.; Hotel - Soltee Hotel Ltd; Trading - Bishal Bazar Co. Ltd.

3.3 Method and Sources of Data

The thesis has been compiled using a secondary data approach attempting to derive a firm view with regard to the established objectives of this study. The research approach was conducted using a variety of sources. The principal sources of information are publications of AGM report of selected companies. Other data and information with regard to capital structure and profitability have been used from the published and unpublished research papers, books, periodicals, journals, articles, reports from available related literature and document from different libraries and institutions, different websites and official sources.

Panel data method is used for the estimation in this study. Panel data involves the pooling of observations on a cross-section of units over several time periods. A panel data approach is more useful than either cross-section or time-series data alone. One advantage of using the panel data set is that, because of the several data points, degrees of freedom are increased and co-linearity among the explanatory variables is reduced, thus the efficiency of economic estimates is improved. Panel data can also control for individual heterogeneity due to hidden factors, which, if neglected in time-series or cross-section estimations leads to biased results (Baltagi, 1995).

3.4 Tools for Analysis

Different measuring tools i.e. financial as well as statistical tools are used for analyzing the effect of capital structure on profitability in Nepalese industrial sector. The instrument which is used to measure financial analysis is known as financial analysis tools. Using these different tools we can reach in a statement which is no enough for the future existence, however, we can not ignore it easily. The information could be a successful and useful decision for the company through analysis and interpretation of the financial position. To make rationale decision in keeping with the objectives of the firm, the financial manger must have analytical tools (Horn, 1995). Data was processed by descriptive statistics containing Mean, S.D and inferential statistics containing Pearson Correlation, ANOVA test using SPSS. After gathering necessary data, they were analyzed by Excel and the variables were calculated. Then the variables entered in SPSS software and then correlation between dependent and independent variables were measured by using Pearson correlation coefficient

3.4.1 Financial Tools

The use of different financial tool depends upon the purpose carried out. Among various tool, Ratio analysis is the most common.

Financial Ratios

Ratio has no single correct value. The value of particular ratio is too high, too low, or just right depends on the perspective of the analyst and on the company's competitive strategy (Higgins, 2004).

Ratio analysis is a well established tool to evaluate an organization's profitability, liquidity and financial stability (Glynn *et al.*, 2003).

Financial ratios are useful indicators of a firm's performance i.e. strengths and weaknesses by detecting financial anomalies and focusing attention on issues of organizational importance. Financial ratios can be used to analyze trends and to compare the firm's financial situation to those of other firms. In some cases, ratio analysis can predict future bankruptcy.

Financial ratios can be classified and calculated from information they provide. The following types of ratios are to be considered in this study.

- A. Liquidity ratios
- B. Financial leverage ratios
- C. Profitability ratios

(A) Liquidity Ratios

Liquidity ratios provide information about a firm's ability to meet its short-term financial obligations and used to assess the risk level. They are of particular interest to those extending short-term credit to the firm.

i) Current Ratio

The current ratio is the ratio of current assets to current liabilities. Normally, the items included in the current assets are cash in hand, cash at bank, marketable securities, bills receivable, sundry debtors, inventory, advance payments etc. And sundry creditors, bills payable, bank overdraft, notes payable, advance from customers, provision for tax, provision for divided, outstanding expenses etc are current liabilities.

 $Current \ Ratio = \frac{Current \ Assets}{Current \ Liabilities}$

High current ratio may not be favorable because- Pile up of stock and show moving stock, Unsatisfactory debt collection and Idle cash balance. Short-term creditors prefer a high current ratio since it reduces their risk. Shareholders may prefer a lower current ratio so that more of the firm's assets are working to grow the business.

ii) Quick Ratio

Liquidity of the firm is indicated by the short-term debt coverage. Thus, the study takes into consideration the relationship between the liquidity of the firm and its capital structure. The quick ratio or *acid test is* an alternative measure of liquidity that does not include inventory in the current assets. The quick ratio is defined as follows:

$$Quick \ Ratio = \frac{Liquid \ Assets}{Current \ Liabilities}$$

Where, Liquid assets = Current assets - Stock - Prepayments

The current assets used in the quick ratio are cash, accounts receivable, and notes receivable. These assets essentially are current assets less inventory and prepayments. The higher the ratios will indicates better position of liquidity a company has. High liquidity will ensure that the firm can meet its short-term obligation. The fact that when a firm uses more current assets, it will means that it can generate internal inflows which can then use to finance its operating and investments activities

iii) Working Capital Ratio

The working capital ratio is an indicator of the efficiency of a company's management of stocks, debtors and creditors. If annual sales increase by Rs.100,000 of then the company will have to invest Rs.20, 000 in working capital to be able to meet this, it is

Working Capital Ratio = $\frac{Working Capital}{Current Liabilities}$ Where, Working Capital = Current asset – Current liabilities

(B) Financial Leverage Ratios/Capital Structure Ratios

Financial leverage ratios provide an indication of the long-term solvency of the firm. Unlike liquidity ratios that are concerned with short-term assets and liabilities, financial leverage ratios measure the extent to which the firm is using long term debt.

These ratios deal with the amount of debt in the firm's capital structure and its ability to meet its legal obligations. It tells the relative proportion of capital contribution by creditors and owners. It also focuses on whether the firm can afford the level of fixed charges associated with its use of non-own-supplied funds.

i) Debt Ratio

The debt ratio is defined as total debt divided by total assets. Total debt contains both long-term and short-term liabilities. Total assets include all fixed assets and current assets. In equation, it can be expressed as below:

$$Debt \ Ratio = \frac{Total \ Debt}{Total \ Asset}$$

A high percentage means that the company is too dependent on the leverage to finance its activity while low percentage represents otherwise. In general, the higher the ratio, the riskier the firm position to be in default payment and subject to face financial distress and eventually bankruptcy.

ii) Debt-Equity Ratio

The debt to equity ratio shows the proportion of debt (both short and long term) to equity (share capital, share premium, reserve and surplus) within the capital structure of the firm. It measures how much money a company should safely be able to borrow over long periods of time. A high ratio generally means that a firm has been aggressive in financing its growth with debtor the riskier the firm will. This can result in volatile earnings as a result of the additional interest expense.

 $Debt - Equity \ Ratio = \frac{Total \ Debt}{Total \ Equity}$

The debt-equity ratio indicates the proportionate claims of the owners and the outsiders against the assets of the firm, In this regard, owners want to higher debt finance to increase their earning per share, whereas the outsiders want that shareholders should invest more. It tells only part of the story with respect to risks associated with debt and does not help the analyst to understand whether the firm's operations can support its debt. Debt carries an obligation to make cash payments for interest and principal. As a result, most analysts would evaluate the debt to equity ratio within the context of the amount cash the company can generate from operating activities.

iii) Times Interest Earned Ratio

The times interest earned ratio indicates how well the firm's earnings can cover the interest payments on its debt. A high ratio indicates an extra margin of protection in case profitability deteriorates. Analysts are particularly interested in a company's ability to meet its required interest payments because failure to do so could result in bankruptcy. This ratio also is known as the interest coverage ratio and is calculated as follows:

Interest Coverage Ratio =
$$\frac{EBIT}{Interest}$$
 Where, $EBIT$ = Earnings before Interest & Taxes

Harris and Raviv (1990) suggest that interest coverage ratio has negative correlation with leverage. They conclude that an increase in debt will increase default probability. Therefore, interest coverage ratio will acts as a proxy of default probability which means that a lower interest coverage ratio indicates a higher debt ratio.

iv) Capital Employed Ratio

Capital employed is the amount entrusted by the owners and long term loan financiers to the firm. It is calculated to know the effectiveness in utilizing the capital employed by dividing sales by capital employed as follows:

Capital Employed Ratio =
$$\frac{Sales}{Capital Employed}$$

Where, Capital Employed = Shareholde r's equity + Long term debutes

It includes the amount of owner's equity and debenture, bond and long term loan. The amount of capital employed represents the net current assets and long term asset of the firm.

(C) Profitability Ratios

Profitability ratios offer several different measures of the success of the firm at generating profits as compared to expenses over a specified time period. It shows the combined effects of liquidity, asset management, and debt management on operating results.

i) Net Profit Margin

The net profit margin ratio indicates profit levels of a business after all costs have been taken into account. It is the relationship between net income (profit) and sales. It shows how many rupees of bottom line net income are generated per rupees of sales. This ratio takes into account all expenses and taxes that the firm has to pay out, as well as all revenues coming in to the company. It is expressed as:

Net Profit Margin =
$$\frac{Net \text{ Profit}}{C}$$

s Sales

The higher a firms profit margin, the better. A low profit margin indicates a low margin of safety: higher risk that a decline in sales will erase profits and result in a net loss. A variation in the ratio from year to year may be due to abnormal conditions or expenses.

ii) Basic Earning Power Ratio (BEP ratio)

The basic earning power ratio shows the earning power of a firm's assets apart from the influence of taxes or financial leverage. This ratio should be examined in conjunction with turnover ratios to help pinpoint potential problems regarding asset management. Earning power of a firm may be defined as the over all profitability of the firm.

Basic Earning Power Ratio =
$$\frac{EBIT}{Total Asset}$$

iii) Return on Asset Ratio

Return on assets (ROA) is a percentage of the after-tax income as compared to the total assets of the company. ROA measures a firm's performance in using assets to generate profits. It judges the effectiveness in using the total fund supplied by the owners and creditors. It is defined as:

 $Retrun on Asset = \frac{Net Income After Tax + Interest}{Total Asset}$

iv) Return on Equity Ratio

Return on equity (ROE) measures profitability related to ownership. It measures a firm's efficiency at generating additional earnings from reinvested amount or how much profit it is able to generate given the resources provided by its stockholders, expressed in percentage. ROE is expected to be high and growing. It is defined as:

Retrun on Equity =
$$\frac{Net \operatorname{Profit}}{Equity}$$

The return on equity could be very high for a company that has borrowed a large amount of debt compared to a company that earned the same return on the same amount of assets but borrowed less money.

3.4.2 Statistical Tools

Following statistical tools are used in order to analyze the collected data.

Arithmetic Mean

It is the most familiar measures of central tendency. The mean is obtained by adding all the values in a population or sample ad dividing by the number of values that are added.

Standard Deviation

The variance represents squared units and, therefore, is not an appropriate measure of dispersion when we wish to express this concept in terms of the original its. To obtain a measure of dispersion in original units, we merely take the square root of the variance. The result is called the standard deviation.

Trend Analysis

Trend analysis enables to compare two or more companies over different period of time and draw important conclusion about them. With the help of trend analysis, analyst knows the direction of movement. It may point to basic changes of the objectives in long term. It provides information about whether the firm's financial position is more likely to improve or deteriorate in the future. A time series analysis of a particular firm's financial statement ratios permits a historical tracking of the trends and variability in the ratios over time. The analyst can study the impact of economic conditions (i.e., recession or inflation), industry conditions (e.g., shift in regulatory status, new technology), and firm-specific conditions (e.g., shift in corporate strategy, new management) on the time pattern of these ratios.

Multiple Correlation Coefficients

Correlation analysis is concerned with measuring the strength of the relationship between variables. While regression analysis is concerned with the form of the relationship between variables, the objective of correlation analysis is to gain insight in to the strength of the relationship. The Multiple Correlation Coefficient is the square root of the coefficient of multiple determinations and consequently, the sample value may be computed by taking the square root of Equation. The calculation is based on the following formula.

$$r = \frac{n\sum XY - \sum X\sum Y}{\sqrt{n\sum X^2 - (\sum X)^2} \sqrt{n\sum Y^2 - (\sum Y)^2}}$$
 Where, n = Number of observation
X, Y= Variables

Here, Karl Pearson's Correlation Coefficient is used. It provides direction and magnitude of the relationship between variables. The magnitude correlation coefficient indicates the degree of linear relationship between two variables. The zero correlation means there is no relationship at all. The correlation coefficient could range between $-1 \le r \le +1$. When the strength of the relationship increases, the value of the correlation coefficient increases toward +1 and -1 shows a perfect linear relationship.

3.4.3 Multiple Linear Regression Model

Regression analysis is a mathematical measure of how the variations in one series are related to variations in another series. It shows how the variables are related and determines the nature and the strength of relationship between two variables or among variables. The known value which is used for prediction is called independent variable and the unknown value which is to be estimated by known value is called dependent variable.

Regression analysis is helpful in ascertaining the probable form of the relationship between variables, and the ultimate objective when this method of analysis is employed usually is to predict or estimate the value of the one variable corresponding to a given value of another variable. Here, the relationship between debt and profitability is estimated in the following regression models:

$$ROE_{i;t} = \beta_0 + \beta_1 SDA_{i;t} + \beta_2 SIZE_{i;t} + \beta_3 SG_{i;t} + \ddot{e}_{i,t}$$
(1)

$$ROE_{i;t} = \beta_0 + \beta_1 LDA_{i;t} + \beta_2 SIZE_{i;t} + \beta_3 SG_{i;t} + e_{i,t}$$
(2)

$$ROE_{i;t} = \beta_0 + \beta_1 DA_{i;t} + \beta_2 SIZE_{i;t} + \beta_3 SG_{i;t} + e_{i,t}$$
(3)

Where:

- . ROE_{i;t} is EBIT divided by equity for firm i in time t;
- . $\text{SDA}_{i;t}$ is short-term debt divided by the total capital for firm i in time t;
- . LDA_{i,t} is long-term debt divided by the total capital for firm i in time t;
- . $DA_{i,t}$ is total debt divided by the total capital for firm i in time t;
- . $SIZE_{i,t}$ is the log of sales for firm i in time t;
- . SGi,t is sales growth for firm i in time t; and
- . $\ddot{e}_{i,t}$ is the error term.

3.5 Limitation of the Study

Every study has its own limitations. This is the study of capital structure with relation to profitability of selected industries and selection is based on the varieties and quick availability of data. The selected industries are generally governed by different rules and practices with regard to financing, and also, their financial reporting differs from that of the non-financial firms .This study holds some methodological and conceptual limitation, which are as follows:

- 1) The entire study is based on secondary data collected from financial statements, reports and other sources for which primary data could also be included.
- 2) The study is confined with in capital structure and profitability that could be extended.
- 3) There is abundant literature in capital structure theory including hundred of empirical studies; this study was not able to review all those literature.
- 4) The samples are selected randomly.
- 5) The data are collected from the listed non-financial industrial sector for seven years period, ranging from 2058/59 to 2064/65 listed on the NEPSE.
- 6) The study shed light on only six sample industries namely Bottlers Nepal (Terai) Ltd, Nepal Bitumen and Barrel Udhyog, Nepal Lube Oil Ltd, Gorakhakali Rubber Udhyog Ltd., Soltee Hotel Ltd, - Bishal Bazar Co. Ltd.
- 7) The study has used panel data that are continuously listed on the NEPSE for seven years (from 2058 to 2065), and for which required financial data are available for all seven years.

CHAPTER - 4

DATA PRESENTATION AND ANALYSIS

4.1 General Background

This chapter includes presentation and analysis of gathered raw data. The main objective behind presentation and interpretation the data is to highlight if capital structure effect on profitability. It covers organizing, tabulating, application of analytical tools and deriving the conclusion. Data of seven year period of the NBBUL, BNT, NLO, GRU SHL, and BBC are analyzed according to using different analytical tool. Consequently, it encourages the management to take necessary action toward strategic management decision.

4.2 Results of Financial Analysis

Ratio analysis is employed in the financial analysis. Ratios measure a firm's crucial relationships by relating inputs (costs) with outputs (benefits) and facilitate comparisons of these relationships over time and across firms.

(i) Current Ratio

The typical value for the current ratio varies by firm and industry however 2:1 is regarded as standard and satisfactory i.e. current asset double the current liabilities. It measures the cushion of working capital that companies maintain to allow for the inevitable unevenness in the flow of funds through the working capital accounts.

Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	1.836834	1.097193	1.250369	0.997420	0.530967	0.274106		
2059/60	1.856634	1.027151	1.167722	0.827713	0.532284	0.223953		
2060/61	2.247711	1.068983	1.268101	0.687644	0.556236	0.337373		
2061/62	1.263794	1.120305	1.260323	0.591975	0.441447	0.457167		
2062/63	1.436380	1.117885	1.231230	0.509347	0.475479	0.440475		
2063/64	1.118860	1.087917	1.267798	0.509952	0.504316	0.709032		
2064/65	1.336448	1.092353	1.294076	0.462559	0.598564	0.568029		
Average	1.585237	1.087398	1.248517	0.590588	0.519899	0.430019		

Table 1 Surrent Ratio Table 1 explains the current ratio of different firms during sample period. Regarding individual company, BNT in the year 2060/61 is highest and in 2063/64 lowest. NBBUL in the year 2062/63 show highest and in 2059/60 lowest. SHL in the year 2064/65 illustrate highest and in 2061/62 lowest. BBC present highest ratio in the year 2063/64 and lowest in 2059/60. NLO in 2064/65 is highest and in 2059/60 lowest. GRU in 2058/59 display highest and in 2064/65 lowest. The average value of current ratio of BNL for the whole sample period is 1.58. Similarly, NBBUL, NLO, GRU, SHL and BBC contains 1.08, 1.24, 0.59, 0.51 and 0.43 respectively. It is mean value.

Comparatively Bottlers in the year 2060/61 only has satisfactory ratio i.e. 2.24 which indicates that the firm is in liquid and has ability to pay its current obligations in time, as and when they become due. None of others are satisfactory. They have almost lower ratio which represents that the liquidity position of the firm is not a good and they will face difficulty in payment of current obligation in time. However, BNT in 58/59, 59/60, 61/62, 62/63 and 64/65 and NLO in 63/64 lead ahead.

(ii) Quick Ratio

The quick ratio is a measure of the safety margin that is available to meet a firm's current liabilities. Quick Ratio 1:1 is considered to be satisfactory one. It is considered that if the quick assets are equal to current liabilities then the firm may be able to meet its short term obligations without any financial difficulties to it. Table 2 is the demonstration of quick ratio of different firm in different year. Like in Current ratio BNT in the year

Quick Ratio								
Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	0.564605	0.664136	0.912996	0.286672	0.227153	0.076389		
2059/60	0.600026	0.635200	0.738026	0.738026 0.303785		0.068320		
2060/61	1.180115	0.731956	0.729333	0.188620	0.274987	0.143539		
2061/62	0.305077	0.892691	0.725848	0.107135	0.209791	0.266304		
2062/63	0.242884	0.898140	0.694907	0.081743	0.258120	0.245550		
2063/64	0.195015	0.807295	0.716367	0.097196	0.299954	0.295882		
2064/65	0.315561	0.651678	0.836051	0.108879	0.334643	0.192207		
Average	0.486183	0.754442	0.764790	0.103077	0.270372	0.184027		

Table 2

2060/61 has satisfactory ratio i.e. 1.18 which indicates that the firm is liquid and has ability to meet to current liquidity in time. Other firms in different year do not have notable ratios. The lower quick ratio denotes the worst liquidity position of firm.

Within the individual firm in different year, BNT in 2060/61 had the highest ratio i.e. 1.18 and in the year 2063/64 lowest i.e. 0.19 for which the average ratio is 0.48. NBBUL covers 0.898 in 62/63 and lowest 0.63 in 59/60. The average value for NBBUL is 0.75. NLO is close to satisfactory level 0.91 in 58/59, lowest value 0.69 in 62/63 and 0.76 is the average value. GRU, SHL and BBC do not present the acceptable values even though the average values are 0.10, 0.27 and 0.18 respectively.

(iii) Working Capital Ratio

Decreases in working capital is sensitive since it suggests a company is becoming overleveraged, is struggling to maintain or grow sales, is paying bills too quickly, or is collecting receivables too slowly. Increases in working capital, while suggest the opposite. Sources of working capital are net income, increase in non-current liabilities, increase in stockholders' equity, and decrease in non-current assets.

working Capital Ratio									
Year	BNL	NBBUL	NLO	GRU	SHL	BBC			
2058/59	0.836834	0.097193	0.250369	-0.002580	-0.469033	-0.725894			
2059/60	0.856634	0.027151	0.167722	-0.172287	-0.467716	-0.776047			
2060/61	1.247711	0.068983	0.268101	-0.312356	-0.443764	-0.662627			
2061/62	0.263794	0.120305	0.260323	-0.408025	-0.558553	-0.542833			
2062/63	0.436380	0.117885	0.231230	-0.943145	-0.524521	-0.559525			
2063/64	0.118860	0.087917	0.267798	-0.490048	-0.495684	-0.290968			
2064/65	0.336448	0.092353	0.294076	-0.537441	-0.401436	-0.431971			
Average	0.585237	0.087398	0.248517	-0.409412	-0.480101	-0.569981			

Table 3 Working Capital Ratio

Table 3 pointed the working capital ratio of selected sample firms. SHL, BBC and GRU has negative working capital ratio in the sample period which means they have used aggressive financing policy by using liabilities in purchasing non current asset. BNL, NBBUL and NLO report the positive ratio. Among them, BNL in the year 58/59, 59/60 and 60/61 has higher ratio i.e. 1.24 respectively. It has the average value of 0.58. NBBUL has almost lower ratio in all fiscal year for which 0.087 is average value. NLO showed normal ratio, however is not satisfactory result.

(iv) Debt Ratio

The debt ratio is employed to explain the amount of leverage being used by a firm. The standard ratio for debt ratio is 1:2. Table 4 represents the debt ratio of BNL, NBBUL, NLO, GRU, SHL and BBC.

Debt Ratio								
Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	0.444360	0.803743	0.668544	1.079612	0.440987	0.046928		
2059/60	0.415937	0.849485	0.735357	1.171957	0.554968	0.603565		
2060/61	0.344552	0.827393	0.661063	1.299073	0.607687	0.558894		
2061/62	0.381859	0.463167	0.687147	1.431103	0.711478	0.580154		
2062/63	0.373462	0.832913	0.726610	2.361261	0.747072	0.591226		
2063/64	0.602343	0.882410	0.705564	1.724141	0.726712	0.377902		
2064/65	0.488542	0.881361	0.703636	1.885768	0.659522	0.300316		
Average	0.435865	0.791496	0.698274	1.564702	0.635489	0.436998		

Table 4 Debt Rati

During sample period, it can be said; GRU has maintained the debt ratio. In 58/59, 59/60, 60/61, 61/62, 63/64 and 64/65, the ratios follow 1.07, 1.17, 1.29, 1.43, 1.72 and 1.88 respectively. But in the year 62/63 it overrates to 2.36. The average ratio for GRU is 1.56. NBBUL has near value 0.882 in 63/64 and average ratio is 0.79. Other firms have managed somehow but not completely. The maintained ratio concludes that creditors have supplied about half the firm's total financing. They might find it difficult to borrow additional funds without first raising more equity capital through a stock issue. The average value of debt ratio of BNL, NLO, SHL and BBC are 0.43, 0.69, 0.63 and 0.43 respectively.

Figure 6 is the graphical demonstration of debt ratio of BNL. It is the trend analysis of given data.



The debt ratio of BNL has decreasing trend up to 60/61 i.e. 0.34, in 61/62 it slightly increases to 0.38 and again decreases to 0.37 in 62/63. But in 63/64 the ratio extremely get high peak to 0.60 and again in 64/65 goes down. It indicates the proportion of debt used in the capital structure.



Figure 7 is the figurative illustration of the debt ratio of NBBUL for seven year. The trend shows the maximum use of debt in the total asset. From the initial year of sample period, the use of debt is 0.80 i.e. 80 percent. The lowest proportion of debt 0.46 i.e. 46 percent is in 61/62. Then the proportion is in increasing trend.



Figure 8 is display of debt ratio of NLO for the sample period. The proportion of debt used in the NLO is fluctuating however it shows more than 60 percent use of debt in the total asset. The lowest is 0.66 i.e. 66 percent in 60/61 while the highest part is 0.73 which is 73 percent in 59/60. The most recent trend is decreasing. The latest figure is 0.70 in 64/65.



Figure 9 Debt Ratio of GRU

Figure 9 is the exhibition of debt ratio of GRU in the different year. The debt ratio for GRU has increased over the past years and it shows the increasing trend. It indicates the increment of debt ratio in the total asset. In year 58/59 the value was 1.07 while increased 1.88 in the year 64/65.



Figure 10 is the representation of chart of the debt ratio of SHL. The debt ratio for SHL has increased over the past few years and falls from the year 64/65. The highest peak is 0.74 in 62/63 which indicates the 74 percent use of debt in the total asset. The lowest portion was 0.44 in 58/59 and the recent value is 0.65 in 64/65.



Figure 11 is the graphical version of debt ratio of BBC in the selected sample year. The value 0.04 in the 58/59 is the lowest value for the BBC. It means just a little proportion use of debt in that year. After that the value increases radically in the year 59/60 i.e. 060. It unstable up to 62/63 and began to fall then. The most current value is 0.30.

(v) Debt Equity Ratio

The accepted standard is 1:1 that shows the soundness of long-term financial policy. Table 5 is the representation of debt equity ratio. NBBUL SHL and NLO have mostly highest than standard. It shows that the owners are putting up relatively less contribution in the capital structure which is danger signal for the creditor. NBBUL has highest debt equity ratio in all years. SHL has lowest value i.e. 0.78 in 58/59. BNL belongs 0.68, 0.51, 0.58 and 0.59 in the year 59/60, 60/61, 61/62 and 62/63 respectively. BBC has lowest ratio in the year 63/64 and 64/65.

Year	Year BNL NBBUL NLO GRU		GRU	SHL	BBC			
2058/59	0.799727	4.095370	1.936912	-13.560850	0.785966	1.075946		
2059/60	0.688533	5.643864	2.655139	2.655139 -6.815405		1.522479		
2060/61	0.512234	4.793503	1.866990	.866990 -4.343668		1.267031		
2061/62	0.589121	4.456000	0 2.143686 -3.319629		2.455562	1.381826		
2062/63	0.592561	4.984918	2.580430	2.726154	2.944360	1.446341		
2063/64	1.506942	7.504111	2.348427	-2.380947	2.655484	0.607463		
2064/65	0.955088	7.428926	2.374230	-2.128964	1.937049	0.429216		
Average	0.806315	5.558099	2.272259	-4.260473	1.936589	1.104329		

Table 5 Debt Equity Ratio

BNT, NBBUL, NLO, GRU, SHL and BBC has average value of debt equity ratio of 0.81, 5.55, 2.27,-4.26, 1.93 and 1.1. They show how the values are centrally located. The highest debt equity ratio of BNL is 1.5 in 63/64 and lowest is 0.51 in 60/61. NLO has highest value 2.65 in 59/60 and lowest 1.86 in 60/61. In the same way the highest ratio for SHL is 2.94 in 62/63 and lowest is 0.78 in 58/59. BBC obtains highest ratio 1.44 in 62/63 and lowest ratio 0.42 in 64/65. A high ratio suggests that a company relies heavily on funds provided by creditors. Heavy reliance on creditors increases the risk that a company may not be able to meet its contractual financial obligations during a business downturn.

GRU reports the negative ratio in all fiscal year due to negative reserve and surplus. It points out that the net worth or shareholder equity of GRU is negative.

(vi) Interest Coverage Ratio

Normally higher Interest Coverage Ratio is better. The standard for this ratios that interest charges for an industrial company should be covered six to seven times. A high times interest earned ratio is viewed more favorably than a low ratio. The ratio shows the amount of resources generated for each dollar of interest expenses.

Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	212.255319	1.225473	3.086457	-0.181256	-8.860569	1155.786954		
2059/60	102.69788	1.976929	2.826225	0.034741	-4.513419	88.476637		
2060/61	2480.10000	1.629912	1.115337	-0.337479	-1.975758	55.331200		
2061/62	87.173516	2.447649	2.639048	-0.224144	-3.546753	*		
2062/63	48.646947	1.559341	1.069633	-0.267873	0.147716	*		
2063/64	1306.31578	1.755666	1.482873	-0.337630	2.164009	*		
2064/65	199.74038	1.598474	1.759460	-0.354960	4.116854	1481.759348		
Average	633.84712	1.741921	1.997005	-0.238371	-1.781132	397.336306		

Table 6Interest Coverage Ratio

* Not available

Table 6 is the arrangement of interest coverage ratio. BBC achieved highest ratio 1155.78 and 1481.75 in 58/59 and 64/65. BNL in 59/60, 60/61, 61/62, 62/63 and 63/64 gained the highest ratios that are 102.69, 2480.10, 87.17, 48.64 and 1306.31 respectively. It means interest payment ability of firm is strong. Also, it indicates the extent to which the profits of the firm may decrease without any way affecting its ability to meet its interest obligations. But highest ratio may imply unused debt capacity of the firm. Regarding individual firm, BNL covers highest ratio 2480.10 in 60/61 where the average value is 633.84. BBC has 1481.75 in 64/65 as highest ratio and 55.33 the lowest ratio in 60/61 in which average value is 397.33. NBBUL and NLO have lowest ratio of all. Almost GRU and SHL have negative ratio. The lowest and negative ratio is danger signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditors.

(vii) Capital Employed Ratio

The capital employed ratio of sample firms are presented in table 7. Table 7 demonstrates the capital employed ratio of selected firms. NBBUL gained the capital employed ratio 5.05, 9.54, 9.30, 8.46, 13.17 and 9.77 in the fiscal year 59/60, 60/61, 61/62 62/63 and 63/64 respectively for which average value is 8.57. GRU in the year 2064/65 reached high ratio i.e. 20.74 & 4.48 is average ratio. Other firms do not have remarkable ratios.

Year	BNL	NBBUL	NLO	GRU	SHL	BBC
2058/59	1.207349	4.726684	3.525989	0.764267	0.727333	1.240112
2059/60	1.176858	5.057673	3.001545	001545 0.975428		1.262299
2060/61	1.122301	9.548955	2.078479	1.066069	0.894733	1.413488
2061/62	1.000364	9.302297	2.896701	1.407214	0.872831	1.583296
2062/63	1.345121	8.463893	3.632832	2.488477	1.360964	1.708450
2063/64	2.317119	13.179939	4.334220	3.971508	1.762944	1.159018
2064/65	2.129350	9.771971	3.740211	20.745531	1.777071	0.873637
Average	1.471209	8.578773	3.315711	4.488356	1.151292	1.320043

Table 7Capital Employed Rat

The average values of BNL, NLO, SHL and BBC are 1.47, 3.31, 1.15 and 1.32 respectively. The higher capital employed ratio indicates the efficient utilization of owner's and long term creditor's fund and vice versa.

(viii) Net Profit Margin

Net profit measures how much of every sale generated the profit during the period. Differences among industries result from the nature of the products or services provided and the intensity of competition. Financial analysts expect well-run businesses to maintain or improve their net profit margin over time. The more net profit margin, the more is accepted. Table 8 is the representation of net profit margin of various firms. GRU in the year 2058/59, 2059/60 and 2060/61 obtained 1.12, 0.46 and 0.38 as higher ratios; BBC all most all year got highest ratio i.e. 0.45, 0.43, 0.37, 0.41, 0.41, 0.37 and 0.35 in the fiscal year 58/59, 59/60, 60/61, 61/62, 62/63, 63/64 and 64/65 respectively which would enable the firm to withstand adverse economic condition.

Net Front Margin								
Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	0.084814	0.009318	0.045671	1.124632	-0.201197	0.454176		
2059/60	0.057062	-0.095896	0.035574	0.465272	-0.125864	0.439066		
2060/61	0.045249	0.017686	0.003609	0.387067	-0.119927	0.376168		
2061/62	0.038934	0.030289	0.025897	0.264368	-0.324706	0.410177		
2062/63	-0.073469	0.012480	0.001176	0.233567	0.044567	0.414150		
2063/64	0.101230	0.011425	0.012811	0.176163	0.044035	0.374271		
2064/65	0.029084	0.011231	0.013891	0.153345	0.094828	0.356663		
Average	0.040415	-0.000495	0.019804	0.400630	-0.084038	0.403525		

Table 8 Net Profit Margin

A rising net profit margin signals more efficient management of sales and expenses. The average ratio of BBC is 0.40. Rests of the firms do not have satisfactory result since either they are lowest value or negative value. Lowest ratio of NBBUL in 2063/64 and 2064/65 and negative ratio of SHL in 2058/59, 2059/60 2060/61 and 2061/62, NBBUL in 2059/60 and BNT in 2062/63 shows low and negative margin that will have opposite implications. The average value are 0.04, -0.0004, 0.01, 0.40 and,-0.08 for BNL, NBBUL, NLO and SHL respectively.

(ix) Return on Equity (ROE)

ROE measures how much the firm earned for each amount of stockholders' investment. It is also used to assess the effectiveness of the firm's overall business strategy.

Keturn on Equity								
Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	0.102401	0.044043	0.161037	1.124632	-0.166270	0.563229		
2059/60	0.067154	-0.485013	0.106778 0.465272		-0.117847	0.554233		
2060/61	0.050783	0.168887	0.168887 0.007502 0.387067		-0.162370	0.531710		
2061/62	0.038948	0.281762	0.075017	0.264368	-0.508802	0.649431		
2062/63	-0.098825	0.105632	0.004271	-0.233567	0.114768	0.707555		
2063/64	0.234561	0.150574	4 0.055524 0.176163		0.123299	0.433787		
2064/65	0.061930	0.109752	0.051956	0.153345	0.238254	0.311594		
Average	0.065279	0.053663	0.066012	0.333897	-0.068424	0.535934		

Table 9 Return on Equit

An increasing ROE can also indicate that a firm is failing to invest in research and development or modernization of plant and equipment. While such a strategy will decrease expenses and thus increase ROE in the short run, it normally results in future declines in ROE as the firm's product or plant and equipment reach the end of their life cycles. As a consequence, experienced decision makers evaluate ROE in the context of a firm's business strategy.

Table 9 exhibits return on equity which encloses selected firms during the sample period. In 58/59 GRU and BBC leads the return on equity i.e.1.12 and 0.56 respectively. Most of all year, BBC goes forward. The return on equity ratios of BBC are 0.55, 0.53, 0.64, 0.70, 0.43 and 0.31 in the corresponding years 59/60, 60/61, 61/62, 62/63, 64/65 and 64/65. The average value is 0.53. SHL in 2058/59, 2059/60 2060/61 2061/62; NBBUL in 2059/60; BNT and GRU in 2062/63 negative ratio. BNL gain higher ratio 0.23 in 63/64. In the same way NBBUL get 0.28 in 61/62 as higher ratio for which average ratio is 0.053. NLO reach to high ratio 0.16 in 58/59 and average value is 0.06. It does not have significant value in following years. SHL was in negative ROE up to 61/62, then started taking momentum and achieve 0.23 in 64/65. Even it has negative average value. BBC catches 0.71 in 62/63 and the lowest value is 0.31 in 64/65. Higher ratio reveals the efficient use of owner's investment and vice versa. The return on equity could be very high for a company that has borrowed a large amount of debt compared to a company that earned the same return on the same amount of assets but borrowed less money.



Figure 12

Figure 12 here is a diagram of return of equity of BNL observed from each year between 58/59 and 64/65. From the beginning of sample period it started to decrease until the negative value in 62/63. Then it jumps to 0.23 in 63/64 and again goes down in the year 64/65 i.e. 0.06. It shows the highly unstable trend of ROE.



Figure 13 is the pictorial illustration of ROE of NBBUL for different time period. The ROE value in the different year does not present the satisfactory one. In the year 58/59 the ROE was 0.04 is the minimum value while the following year it has negative ratio. Then it shows the fluctuating trend at all.



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Figure 14 is the pictographic representation of ROE of NLO from the fiscal year 58/59 to 64/65 respectively that fluctuate over time. It suggests the ROE of NLO vary from year to year between 0.16 and 0.05. The trend line shows that the highest point is 0.16 in the year 58/59. Then the line goes down and started fluctuating.



Figure 15 is graphic illustration of ROE of GRU. The ROE 1.12 in the year 58/59 is the highest value of all. It started to fall down up to negative value in 62/63. The trend goes up in 63/64 i.e. 0.17 and again it has decreasing value.

(x) Basic Earning Power Ratio

Basic earning power ratio as a profitability ratio, the higher is better. Table 10 shows the basic earning power ratio of selected firms in the predefined period. Reasonably NLO reach 0.10 in 58/59. GRU and SHL move to negative ratio in the same year.

Dasie Barning I Ower Katto								
Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	0.072509	0.066949	0.101781	-0.013739	-0.083829	0.033124		
2059/60	0.051922	0.093543	0.059437	0.002880	-0.043223	0.296968		
2060/61	0.043342	0.083926	0.033255	-0.029209	-0.042568	0.321154		
2061/62	0.030846	0.056373	0.050124	-0.020868	-0.114998	0.367008		
2062/63	-0.061030	0.063775	0.023918	-0.042742	0.005047	0.387389		
2063/64	0.047399	0.055523	0.066322	-0.032199	0.062731	0.369396		
2064/65	0.047622	0.047034	0.046182	-0.035583	0.105481	0.299207		
Average	0.033230	0.066732	0.054431	-0.024494	-0.015908	0.296321		

Table 10 Basic Farning Power Ratio

BBC leads in all most all year and average value is 0.296. The ratios are 0.03, 0.29, 0.32, 0.36, 0.38, 0.36 and 0.29 in the subsequent years 59/60, 60/61, 61/62, 62/63, 63/64 and 64/65. But the lowest ratio for the matching years are 0.06 in 58/59 of NBBUL, 0.002 of GRU in 59/60, 0.03 in 60/61 of NLO, 0.03 of BNL in 61/62, 0.02 of NLO in 62/63, BNL 0.04 in 63/64 and NLO 0.046 in 64/65. On the subject of individual firm, most of them have no outstanding ratios. BNL obtain 0.07 in 58/59 and average value is 0.03. NBBUL attain 0.09 in 59/60, lowest ratio 0.04 in 64/65 and average value is 0.06. NLO make 0.10 in 58/59 as highest value, 0.02 as the lowest value in 62/63 and average is 0.05. GRU has only 0.002 as positive value in 59/60, rest of other are negative value. Hence, the average value is also negative i.e. -0.02. SHL has negative value up to 61/62 then started increasing and -0.01 is the average value. Comparatively BBC is in good position.

(xi) Return on Asset

ROA measures how much the firm earned for each amount of investment. It is the broadest measure of profitability and effectiveness, independent of financing strategy. ROA allows investors to compare management's investment performance against alternative investment options. Generally, the higher this number is the more effective the firm is in utilizing its assets. Firms with higher ROA are doing a better job of selecting new investments, all other thins equal.

Keturn on Asset								
Year	BNL	NBBUL	NLO	GRU	SHL	BBC		
2058/59	0.057239	0.063275	0.088560	-0.013739	-0.083829	0.024594		
2059/60	0.041073	-0.025684	0.050603 0.002880		-0.043223	0.223074		
2060/61	0.034176	0.080642	0.032473 -0.029209		-0.042568	0.240344		
2061/62	0.025599	0.052318	0.043039	-0.020868	-0.114998	0.272661		
2062/63	-0.061030	0.058548	0.023564	-0.042742	0.063287	0.289230		
2063/64	0.093793	0.049331	0.061407	-0.032199	0.062731	0.269858		
2064/65	0.031916	0.042445	0.041646	-0.035583	0.106742	0.218219		
Average	0.031824	0.045839	0.048756	-0.024494	-0.007408	0.219712		

Table 11 Return on Asso

Table 11 reports the return on asset. Somewhat nearly all firms do not display noteworthy ratios. Some represent low ratio and others are negative. NLO progress in 58/59 i.e. 0.08, BBC has the lowest value 0.02 for the same year. In 59/60 BBC gain

0.22 as leader where GRU has minimum ratio i.e. 0.002. Then, BBC takes ahead 0.24, 0.27, 0.28, 0.26 and 0.21 in the fiscal year 60/61, 61/62, 62/63, 63/64 and 64/65 in the order. The lower ratio holders are NLO 0.03, 0.02 in 60/61 and 62/63; BNL in 61/62 and 64/65 i.e. 0.02 and 0.03, NBBUL 0.04 in 63/64 and BNL 0.03 in 64/65. In relation to individual firm, BNL reach highest ratio 0.09 in 63/64 and the average value is 0.03. NBBUL arrive at 0.08 in 60/61 and mean value is 0.04. NLO come to 0.08 in 58/59, the down value 0.02 in 62/63 and average is 0.04. In 59/60 only GRU has positive value, rest are in negative. SHL progresses from 62/63. BBC can be considered to have fine arrangement and the average value is 0.21. High ratio shows the use of asset in the business thereby indicating the efficient use of the resources available. Negative ROA is unfavorable in terms of utilizing its resources effectively for enhancement of productivity.

4.3 Analysis of the Empirical Results

This part holds four subparts, mainly focus the statistical analysis of the data resented.

- 1) Descriptive Statistic Analysis of variable
- 2) Correlation Analysis
- 3) Regression Analysis

4.3.1 Analysis of the Results of Descriptive Statistics.

The data present average indicators, which originated from the information collected in the financial statements of each company. The descriptive statistics of all variables are reported in Table 12.The percentile results in descriptive statistics show 25 percent of total observation of ROE is less than 0.0468 and last 25 percent indicates that out of total observation of ROE is more than 0.3854.

Descriptive Statistics of Variables n=42								
	Mean	Standard	Percentiles					
	Deviation		25	50	75			
ROE	.2093674	.28821960	.0468071	.1245392	.3853773			
SDA	.6210603	.42673738	.4127829	.5623089	.7279180			
SG	.0775723	.27905924	0915269	.0042785	.1946022			
LDA	.1650511	.30353763	.0000000	.0000000	.1890555			
DA	.7861114	.52365211	.4821981	.6778451	.8370563			
SIZE	8.3201072	.33083274	8.0548545	8.4627058	8.6032227			

Table 12Descriptive Statistics of Variables n=42

Similarly, the first 25 percent of total observation of SDA is less than 0.4127 and last 25 percent is more than 0.7279. The first 25 percent of total observation of LDA is less than 0.1650 and last 25 percent is more than 0.1890. The first 25 percent of total observation of DA is less than 0.4822 and last 25 percent is more than 0.8370. The standard deviation value of ROE, SDA, LDA and DA are 0.2882, 0.4267, 0.3035 and 0.5236 respectively. Among them ROE shows lower standard deviation whereas DA shows higher standard deviation. Standard deviation is expected to be lower. Higher standard deviation indicates higher data inconsistency. It means the data in DA is more deviated.

The return rate measured by return on equity (ROE) reveals an average of 20.94 percent with median 12.45 percent. This picture suggests a good performance during the period under study. The ROE measures the contribution of net income per rupees invested by the firms' stockholders; a measure of the efficiency of the owners' invested capital. The variable SDA measures the ratio of short-term debt to total capital. The average value of this variable is 0.6210 with median 0.5623. The value 0.5623 indicates that approximately 56 percent of total assets are represented by short-term debts, attesting to the fact that Nepalese firms largely depend on short-term debt for financing their operations due to the difficulty in accessing long-term credit from financial institutions. The ratio of total capital ratio (DA) presents a mean of 0.7861. This suggests that about 78 percent of total assets are financed by debt capital. The above position reveals that the companies are financially leveraged with a large percentage of total debt being short-term.

4.3.2 Analysis of the Correlation Results

The bi-variate correlation coefficients between variables are shown in Table 13. The major concern of work is to analyze the correlation between ROE and other variable since ROE is used to calculate the profitability. The higher the ROE, higher will be the profitability and vice-versa. The correlation coefficient for LDA and ROE is - 0.325. It shows a statistically significant negative correlation at significance level of 0.05. Hence, there is negative correlation between LDA and ROE. It pointed that increment in LDA lessen ROE and vice versa. The correlation coefficient between

Table 15									
		Co	Correlations			(N=42)			
		ROE	SDA	LDA	DA	SIZE	SG		
ROE	Pearson Correlation	1	.078	325*	125	555***	.285		
	Sig. (2-tailed)		.623	.036	.431	.000	.067		
SDA	Pearson Correlation	.078	1	.000	.815**	245	.111		
	Sig. (2-tailed)	.623		.999	.000	.118	.486		
LDA	Pearson Correlation	325*	.000	1	$.580^{**}$.406**	156		
	Sig. (2-tailed)	.036	.999		.000	.008	.324		
DA	Pearson Correlation	125	.815**	.580**	1	.035	.000		
	Sig. (2-tailed)	.431	.000	.000		.824	.998		
SIZE	Pearson Correlation	555***	245	.406**	.035	1	.065		
	Sig. (2-tailed)	.000	.118	.008	.824		.682		
SG	Pearson Correlation	.285	.111	156	.000	.065	1		
	Sig. (2-tailed)	.067	.486	.324	.998	.682			
*. Correlation is significant at the 0.05 level (2-tailed).									
**. Correlation is significant at the 0.01 level (2-tailed).									

Table 12

DA and SDA is 0.815. The result shows a statistically significant and positive correlation between DA and SDA at significant level of 0.01. It indicates they are strongly positively correlated. The correlation coefficient between DA and LDA is 0.580. It is strongly correlated at significance level of 0.01. It signifies that they have high magnitude of the correlation coefficients. Similarly, the correlation coefficient between Size and ROE is -0.555. It registers significantly correlation at level of 0.01.So it can be said that the correlation between them is significantly negatively correlated. It means that increase in size decreases ROE and vice versa. The correlation coefficient of Size variable and LDA is 0.406. They are strongly positively correlated at significance level of 0.01. It means that they are strongly positively correlated and proportionate change in size variable also changes in LDA.

4.3.3 Analysis of the Regression Results

The results of the analysis of the regression estimated to evaluate the influence of the capital structure on the profitability i.e. Ordinary least squares (OLS) regression results are presented in Table 14. Regression analysis is used to investigate the relationship between capital structure and profitability measured by ROE.

Regression Results									
	Model-1	Model-2	Model-3						
Variables	Dependent variable	Dependent variable	Dependent variable						
	ROE	ROE	ROE						
Constant	4.599** (0.000)	4.213** (0.000)	4.377** (0.000)						
SDA(Sig.)	-0.072 (0.411)								
LDA (Sig.)		-0.049 (0.715)							
DA (Sig.)			-0.057 (0.403)						
SIZE (Sig.)	-0.525** (0.000)	-0.483** (0.000)	-0.499** (0.000)						
SG (Sig.)	0.347** (0.010)	0.323* (0.018)	0.333* (0.013)						
R^2	0.422	0.414	0.423						
F(Sig.)	9.256 (0.000)	8.941 (0.000)	9.269 (0.000)						
D.W.	1.266	1.290	1.265						
*. Significant at the 0.05 level (2-tailed).									
**. Significant at the 0.01 level (2-tailed).									

Table 14Regression Result

The results from the regression models (1), (2), and (3) denote that the independent variables explain the determination coefficient (\mathbb{R}^2) or the debt ratio determinations of the firms at 42.2, 41.4, and 42.3 percent, respectively of the variations of the return rate (ROE). The F-statistics [(9.256(0.000), 8.941(0.000), 9.269 (0.000)] prove the validity of the estimated models.

The results in regression (1) reveal a significantly negative relationship between SDA and profitability. This suggests that short-term debt tends to be expensive, and therefore increasing short-term debt with a relatively low interest rate will lead to decrease in profit levels. The results also show that profitability increases with the control variable sales growth and decreases with the control variable size.

Regression (2) shows a significantly negative association between LDA and profitability. The negative LDA indicates an inverse relationship. This implies that an increase in the long-term debt position is associated with a decrease in profitability. In other words, the larger the debt, the lower is the profitability. This is explained by the fact that long-term debts are relatively more expensive, and therefore employing high proportions of them could lead to low profitability. The results are in conformity with the conclusions of Miller (1977), Fama and French (1998), Graham (2000) and Booth et al. (2001). Again, Firm size is negatively and sales growth is positively related to

profitability. On the other hand, the initial propositions of Modigliani and Miller (1958 and 1963) don't find back up for in the results now discussed.

The results from regression (3) indicate a significantly negative association between DA and profitability. The significantly negative regression coefficient for total debt implies that an increase in the debt position is associated with decrease in profitability, thus, the higher the debt, the lower the profitability. Again, this also concludes that profitable firms do not depend more on debt as their main financing option.

4.4 Major Findings

The major findings of this thesis are carried out on the basis of the data presented and analysed.

- 1. During the sample period GRU showed the highest debt ratio. The highest ratio was in the fiscal year is 2062/63 i.e. 2.36. It means GRU is in riskier position.
- Similarly, among six industries, GRU and BBC succeed to lead for ROE. In the year 58/59 GRU and BBC obtained ROE 1.12 and 0.56 respectively. It indicates GRU and BBC are able to generate additional earnings from the resources provided.
- 3. Descriptive statistics shows the mean value of ROE is 20.94 per cent with the median of 12.45 per cent which is taken as good performance.
- 4. The descriptive statistics demonstrate the evidence that approximately 56 per cent of total assets are represented by short-term debts where about 78 per cent of total assets are financed by debt. It also constitutes that Nepalese industrial firm have relatively high proportion of debt in their capital structure. It means debt financing dwarfs equity financing.

- 5. Correlation coefficient shows the negative relationship of ROE with LDA, DA and Size variable. It indicates that they have inverse relationship, i.e. increase in DA will decrease ROE. The correlation of DA is positively related with SDA and LDA show positive correlation.
- 6. As the regression coefficient is not statistically significant for SDA, LDA and DA, the ROE is not significantly affected by any type of debt. The result indicates that the profitability of sample companies is not significantly affected by the debt. It reveals that the impact of capital structure on the profitability is not significant.
- 7. The model shows that growth is positively associated with profitability. It indicates that growing firms show higher profit.
- 8. Model 1 reports sales and profit has inverse relationship. It means when sales increase, the profit will decrease which is completely unusual result. Thus, the present findings represent unique characteristics of Nepalese firms.
- 9. The negative significant coefficient of size variable indicates that the firms with higher size have lower profitability (ROE). The regression result highlighted that the firm with higher size are reporting lower profitability in Nepalese context.

CHAPTER - 5

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is subdivided into three parts viz. Summary, Conclusion and Recommendations. Summary cover up the concise explanation to all the chapters of this study and explain the actual facts that have been taken from the analytical section. Analysis is executed with the help of financial and statistical tools. Conclusions are based on the major findings of the study. Recommendations are offered in the form of suggestions which are geared up on the basis of empirical findings.

5.1 Summary

The capital structure decision is crucial for any business organization. The decision is important because of the need to maximize returns to various organizational constituencies, and also because of the impact such a decision has on an organization's ability to deal with its competitive environment. This study evaluated the relationship between capital structure and profitability of listed firms on the NEPSE during a six-year period (2058-2064).

Capital structure is defined as the relative amount of debt and equity used to finance a firm. Theories explaining capital structure and the variation of debt ratios across firms range from the irrelevance of capital structure. A capital structure concerns the composition of the liability of the company, or more specifically, which is the relative participation of the several financing sources in the composition of the total obligations. Debt and equity are the two different sources of funds for a company. As both involve costs to the company, there is a need for the company to choose the right option that minimizes its costs and in most cases, companies tend choose to create the right combination of debt and equity that might result in the lowest costs. Thus, the use of debt and equity proportions are the measurement tools for capital structure. Capital structure concerns the relative proportions of debt and equity financing that helps companies to minimize their overall financing cost.

Modigliani and Miller (1958) initiate the theory of capital structure in their influential seminal work on the effects of capital structure on the firm value. They demonstrate and finally conclude that the "capital structure is irrelevance" in a perfect financial

market, considering no-tax case in the "pie model", which literally means that of the pie does not depend on how it is sliced but depends only on the level and risk of its future cash flows. Modigliani and Miller (1963) even illustrate how firms should utilize 'all' debt financing because interest is deductible for tax purpose. This "tax shield" allows firms to pay lower taxes than they should if equity financing is used, thus attaining optimal capital structure through tax saving. As time moved and with recent development in corporate world, the academic contribution of Modigliani and Miller (1958; 1963) paved way for the development of alternative theories in which more researches have examined deeper the concept of capital structure (the trade-off theory, the pecking order theory, asymmetric information theory and the agency theory) and a series of empirical research on capital structure including controversy.

The systematic and scientific analysis proceeds through research methodology. It brings in suitable course of action for the further series. The used data correspond to the secondary in nature of 6 industrial and service firms (non-financial firms) - operating in the Nepalese economic market, covering the 7 year period that includes the fiscal years 2058/59-2064/65 listed on the NEPSE, summing up a total of 42 observations. Different measuring tools viz. financial analysis tool and statistical tool are used for analyzing the effect of capital structure on profitability. The information could be a successful and useful decision for the firm through the analysis and interpretation. These proceed through ratio analysis, trend analysis, regression analysis, correlation analysis.

The detailed data presentation, analysis and interpretation are presented in the chapter Data Presentation and Analysis. Here, all the data are documented properly and tools such as correlation coefficient, descriptive statistics and regression analysis are used in order to draw the major conclusion that the data provide. Appendix is also given after fifth chapter to support detail calculation.

In the final chapter, the summary and conclusion of evidences are pointed out with support of data analysis. Accordingly, proper recommendations are also given.

5.2 Conclusion

In this chapter, the conclusions are presented from the empirical findings. The capital structure of a company is an important element influencing on its profitability and stability. While a high proportion of debt may make a company highly profitable as it is growing, it also increases the probability of bankruptcy and ruin, especially if that growth slows down or temporarily becomes negative.

Descriptive statistics shows the mean value of ROE is 20.94 percent with the median of 12.45 percent which is taken as good performance. Approximately 56 percent of total assets are represented by short-term debts; stand for the fact that SDA is a common practice among the Nepalese industrial firms for financing their operations, considered to fulfil the necessary working capital.

Correlation coefficient demonstrates the negative association of ROE with LDA, DA and Size variable. It indicates that they have inverse relationship. The correlation of DA is positively related with SDA and LDA show positive correlation.

The regression result points that firm size is negatively related with SDA, LDA and DA. The regression result also demonstrates that the negative relationship of profitability with capital structure or leverage, which signifies that more profitable firm demand less debt. The result of a negative relationship between debt ratio and firm profitability contradicts the predictions of the trade-off theory and the agency cost theory but is consistent with the signaling theory.

Regression coefficient is not statistically significant with SDA, LDA and DA which point out that the ROE is not significantly affected by any type of debt. The result indicates that the profitability of sample companies is not significantly affected by the debt. Model 1 is the testimony that sales and profit has inverse relationship. It signifies when the sales increase, the profit will decrease. The negative significant coefficient of size variable indicates that the firms with higher size have lower profitability (ROE). The regression result highlighted that the firm with higher size are reporting lower profitability in Nepalese context.

5.3 Recommendation

Capital structure decisions are crucial for the financial wellbeing of the firm. The theoretical framework which has been used in this study cannot fully explain all the findings and aspects of the data, indicating that the existing theories in the academic field need to evolve in order to fully capture the complex situation of determining capital structure.

- 1. Since this study is based on secondary data, related to capital structure and profitability but the opinion survey has been ignored in the study. A recommendation for future studies is to investigate more thoroughly Nepalese managers' incentives behind capital structure decisions and it's impact on profitability this by incorporating more describing questions in the questionnaire and use other different theories. An idea is also to incorporate questions regarding equity and have separate question concerning short-term and long-term debt.
- 2. Another alternative of study is to use both a regression and a survey in order to investigate what determines Nepalese firms' capital structure. The regression will then consist of accounting data and the survey should be sent to managers in the firms, this to get a broad picture.
- 3. As evidence shows that the debt has no impact on the firm's profitability, the Nepalese manager should not use more debt in the capital structure.
- 4. The size variable indicated negative relationship with profitability reports that the firms with higher size have lower profitability (ROE). Thus, Nepalese firm should reduce their size to earn more profit.
- 5. The Nepalese firms are mainly running with poor performance because of high overhead cost and high capital investment without proper market forecast for the sale of their product and services. It has been the cause of their low profitability. Therefore, the Nepalese firms should pay more attention to control the overhead and to dispose ideal capital assets and refund their debt.

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- Nepal Bitumen and Barrel Udhyog, 2058/59 2064/65
- o Nepal Lube Oil Ltd, 2058/59 2064/65
- o Gorakhakali Rubber Udhyog Ltd., 2058/59 2064/65
- o Soltee Hotel Ltd, 2058/59 2064/65
- o Bishal Bazar Co. Ltd. 2058/59 2064/65

			Short Term		Long Term			10 log of
Year	EBIT	Equity	Debt	Total Asset	Debt	Total Debt	Sales	Sales
2058/59	49,880,000	382,234,000	305,683,000	687,917,000	-	305,683,000	461,490,000	
2059/60	33,993,000	395,493,000	272,310,000	654,691,000	-	272,310,000	465,439,000	8.667862771
2060/61	24,801,000	384,896,000	197,157,000	572,213,000	-	197,157,000	431,969,000	8.635452581
2061/62	19091 000	401,174,000	236,340,000	618,920,000	-	236,340,000	401,320,000	8.603490804
2062/63	(25,491,000)	263,244,000	155,988,000	417,681,000	-	155,988,000	354,095,000	8.549119794
2063/64	24,820,000	209,306,000	315,412,000	523,642,000	-	315,412,000	484,987,000	8.685730098
2064/65	20,773,000	223,124,000	213,103,000	436,202,000	-	213,103,000	475,109,000	8.676793257

Appendix - 1 Bottlers Nepal (Terai) Ltd

Appendix - 2 Nepal Bitumen and Barrel Udhyog

			Short Term		Long Term			10 log of
Year	EBIT	Equity	Debt	Total Asset	Debt	Total Debt	Sales	Sales
2058/59	7,260,869	21,284,908	87,169,566	108,454,474	-	87,169,566	100,607,031	8.002628333
2059/60	(2,445,838)	14,333,150	80,894,355	95,227,505	-	80,894,355	72,492,383	7.860292376
2060/61	8,385,311	17,245,736	82,667,493	99,913,229	-	82,667,493	164,678,755	8.216637575
2061/62	13,022,404	24,011,162	106,993,740	231,004,902	-	106,993,740	223,358,972	8.349003402
2062/63	9,078,327	23,784,755	118,565,047	142,349,802	-	118,565,047	201,311,621	8.303868846
2063/64	12,050,239	25,520,721	191,510,327	217,031,048	-	191,510,327	336,361,547	8.526806341
2064/65	9,646,942	24,333,386	180,770,926	2,051,004,312	-	180,770,926	237,785,132	8.376184696

			Short Term		Long Term			10 log of
Year	EBIT	Equity	Debt	Total Asset	Debt	Total Debt	Sales	Sales
2058/59	11,388,442	38,600,276	74,765,334	111,833,142	-	74,765,334	136,104,136	8.133871323
2059/60	8,519,148	39,696,607	105,400,027	143,331,844	-	105,400,027	119,151,146	8.076098224
2060/61	3,827,920	40,757,037	76,092,996	115,107,008	-	76,092,996	84,712,633	7.92794818
2061/62	6,375,503	40,771,762	87,401,867	127,195,361	-	87,401,867	118,103,607	8.072263162
2062/63	3,478,068	40,946,657	105,660,001	145,415,058	-	105,660,001	148,752,321	8.172463751
2063/64	9,381,161	42,496,995	99,801,104	141,448,685	-	99,801,104	184,191,344	8.265269217
2064/65	6,985,216	44,825,960	106,427,159	151,253,119	-	106,427,159	167,658,550	8.224425706

Appendix - 3 Nepal Lube Oil Ltd

Appendix - 4 Gorakhakali Rubber Udhyog Ltd.

			Short Term		Long Term			10 log of
Year	EBIT	Equity	Debt	Total Asset	Debt	Total Debt	Sales	Sales
2058/59	(11,157,381)	(64,655,159)	313,391,089	812,123,730	563,387,800	876,778,889	381,164,976	8.581112988
2059/60	2,024,776	(120,912,219)	292,062,362	703,153,580	532,003,437	824,065,799	400,989,822	8.603133349
2060/61	(19,266,492)	(197,268,199)	329,770,237	659,599,403	527,097,365	856,867,602	351,620,808	8.546074568
2061/62	(12,980,744)	(268,161,469)	379,645,272	622,035,175	510,551,372	890,196,644	341,094,345	8.532874519
2062/63	(17,265,756)	(349,882,350)	441,996,899	603,950,718	511,836,169	953,833,068	403,018,359	8.60532483
2063/64	(18,884,213)	(424,698,322)	494,834,784	586,486,003	516,349,541	1,011,184,325	363,993,566	8.561093707
2064/65	(20,151,016)	(501,619,122)	551,579,500	566,309,929	516,349,541	1,067,929,041	305,590,363	8.485139654

			Short Term		Long Term			10 log of
Year	EBIT	Equity	Debt	Total Asset	Debt	Total Debt	Sales	Sales
2058/59	(53,571,000)	385,556,000	232,975,000	639,050,000	48,838,000	281,813,000	296,311,000	
2059/60	(30,944,000)	320,756,000	265,206,000	715,923,000	132,108,000	397,314,000	300,325,000	8.477591486
2060/61	(29,504,000)	273,677,000	280,744,000	693,110,000	140,450,000	421,194,000	370,533,000	8.568826893
2061/62	(71,992,000)	181,387,000	301,157,000	626,031,000	144,250,000	445,407,000	284,226,000	8.453663803
2062/63	3,205,000	161,125,000	330,660,000	635,026,000	143,750,000	474,410,000	414,924,000	8.617968556
2063/64	42,473,000	185,289,000	383,032,000	677,066,000	109,000,000	492,032,000	518,815,000	8.715012524
2064/65	71,448,000	230,624,000	351,291,000	677,354,000	95,439,000	446,730,000	579,437,000	8.763006224

Appendix - 5 Soltee Hotel Ltd.

Appendix - 6 Bishal Bazar Co. Ltd.

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			Short Term		Long Term			10 log of
Year	EBIT	Equity	Debt	Total Asset	Debt	Total Debt	Sales	Sales
2058/59	29,501,462	38,845,724	41,795,885	80,641,609	-	41,795,885	48,173,067	7.682804297
2059/60	30,777,837	41,086,596	62,553,490	103,640,086	-	62,553,490	51,863,551	7.714862249
2060/61	27,801,106	381,848,581	48,381,397	86,566,248	-	48,381,397	53,973,835	7.732183277
2061/62	33,948,840	38,836,475	53,665,258	925,041,733	-	53,665,258	61,489,634	7.788801908
2062/63	37,384,548	39,448,300	57,055,696	96,503,996	-	57,055,696	67,395,457	7.828630623
2063/64	35,643,716	60,027,450	36,464,477	96,491,927	-	36,464,477	69,572,923	7.84244025
2064/65	37,288,474	87,197,772	374,267,410	124,624,482	-	374,267,410	76,179,163	7.881836197

			Appendix - 7	7						
	Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson					
1	.650 ^a	.422	.377	.22756537	1.266					
a. Predio	a. Predictors: (Constant), SG, SIZE, SDA									
b. Deper	ndent Va	riable: ROE	3							

		A	NOVA	b		
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.438	3	.479	9.256	.000 ^a
	Residual	1.968	38	.052		
	Total	3.406	41			
a.	Predictors: (Cons	tant), SG, SIZE, SI	DA			
b.	Dependent Varial	ble: ROE				

				Coefficients ^a				
	Model	Unsta Coe	indardized	Standardized Coefficients	t	Sig.	Collinearity	v Statistics
		В	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.599	.941		4.887	.000		
	SDA	072	.087	107	832	.411	.924	1.082
	SIZE	525	.111	603	-4.720	.000	.931	1.074
	SG	.347	.129	.336	2.696	.010	.979	1.022
a .]	Dependent V	/ariable	: ROE					

Appendix - 8 Model Summary ^b

Model	R	R Square Adjusted R Square		Std. Error of the Estimate	Durbin-Watson
1	1 .643 ^a .414 .36		.368	.22922046	1.290
a. Predic	tors: (Co	onstant), LD	A, SG, SIZE		
b. Deper	ndent Vai	riable: ROE	, ,		

ANOVA^b

	Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	1.409	3	.470	8.941	.000 ^a	
	Residual	1.997	38	.053			
	Total	3.406	41				
a.	Predictors: (Cons	tant), LDA, SG, S	IZE				
b. Dependent Variable: ROE							

				Coefficients ^a				
	Model	Unsta Coe	ndardized fficients	Standardized Coefficients	t	Sig.	Collinearity	Statistics
		В	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.213	.985		4.276	.000		
	SIZE	483	.120	555	-4.041	.000	.819	1.222
	SG	.323	.131	.313	2.465	.018	.956	1.046
	LDA	049	.132	051	368	.715	.802	1.247
a. I	Dependent V	ariable:	ROE					

Appendix - 9 Model Summary ^b

Model	del R R Square Adjuste		Adjusted R Square	Std. Error of the Estimate	Durbin-Watson		
1	.650 ^a .423 .377 .		.22750086	1.265			
a. Predictors: (Constant), DA, SG, SIZE							
b. Dependent Variable: ROE							

ANOVA	b

M	odel	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	Regression 1.439		.480	9.269	.000 ^a	
	Residual	1.967	38	.052			
	Total	3.406	41				
a. Predictors: (Constant), DA, SG, SIZE							
b.	b. Dependent Variable: ROE						

	<u> </u>							
		Unstar	ndardized	Standardized				
Model		Coefficients		Coefficients	t	Sig. Collinearity Sta		Statistics
		В	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.377	.896		4.887	.000		
	SIZE	499	.108	572	-4.630	.000	.995	1.006
	SG	.333	.128	.322	2.608	.013	.996	1.004
	DA	057	.068	104	845	.403	.999	1.001
a.	a. Dependent Variable: ROE							