The Study on Effect of Capital Structure on Hetauda Cement Industry Limited

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DECLARATION

I hereby declare that the work reported in this thesis entitled "The Study on Effect of Capital Structure on Hetauda Cement Industry Limited" submitted to office of Dean, Faculty of Management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement of Master Degree in Business Studies (M.B.S.) under the guidance and supervision of Mr. Hiranya Prasad Gautam, Degree Campus.

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ABBREVIATION

A/C	⇒	Account
B.S.	⇒	Bikram Sambat
BSM	⇒	Balaju Spinning Mills
CET	⇒	Capital Employed Turnover
DER	⇒	Debt Equity Ratio
EBT	⇒	Earning Before Tax
F/Y	⇒	Fiscal Year
G.D.P.	⇒	Gross Domestic Product
GRUL	⇒	Gorakhkali Rubber Udhyog Limited
HCIL	⇒	Hetauda Cement Industry Limited
i.e.	⇒	That is
JSM	⇒	Jyoti Spinning Mills
Ltd.	⇒	Limited
M.B.S.	⇒	Master of Business Studies
MM	⇒	Modigliani and Millers
NI	⇒	Net Income
NOI	⇒	Net Operating Income
PE_S	⇒	Public Enterprises
Pvt.	⇒	Private
ROCE	⇒	Return on Capital Employed
ROSE	⇒	Return on Shareholder’s Fund
Rs.	⇒	Rupees
SEC	⇒	Stock Exchange Centre
USA	⇒	United State of America
UK	⇒	United Kingdom

CHAPTER – ONE
INTRODUCTION

1. GENERAL BACKGROUND OF THE STUDY

It seems that the corporate sector is excessively important for developing country like Nepal. There is no controversy as to whether this sector should be developed or not. As in other developing countries, development of the corporate sector has been accorded high priority in the process of planned economic development. It has been recognized as a leading sector because the development of this sector will lead to the development of all the other sectors.

It is obvious that every business firm needs capital to operate the business enterprise. No organization can be operated without capital. Every enterprise whether they are government owned or privately owned has to make pertinent structure of the various sources of capital. The major sources of capital are shares, debentures, public deposits, bank loans, etc. Thus the financial manager has to take decision about the sources and the combination of sources of financing.

Capital structure refers to the way by which firm's assets are financed. Capital structure of the firm is the long term financing represented by a long term debt, preferred stock and common stock. It reflects both the 'liabilities' and 'equities' side of Balance sheet. Therefore, capital structure is only the composition of sources of financing for a business.

The study of capital structure attempts to explain the mix of securities and financing sources used by corporation to finance real investment. (Myers: 2001, P81).

Generally, the funds for the organization are acquired in two ways-equity capital and borrowed capital. Equity capital provides the ownership of firms to the shareholders and borrowed capital has a fixed charge as interest periodically to the borrowed capital provider.

The development of corporate sector is a key factor in the economic development of developing countries for a country like Nepal. Development of corporate sector is to be considered as a fundamental change affecting social and economic growth.

Historians view that the Rana Regime was responsible for this because the Ranas did not make development efforts and kept the country virtually isolated from contacts with the outside world. As a result corporate sector in Nepal is presently at an infant stage.

After the advent of democracy in 1951, Nepal has restored to National Economic Planning since 1956 in order to provide a sense of direction to its development efforts. A number of Industry have come up there after which include among other sugar, soap, leather,

plastic product, cement, cigarette, shoes, tea, matches, Jute, liquor, textiles, bricks and biscuits, polythene products and so on over a period of time. There has been a growth and development of these various Industry. A number of financial institutions have also come up to finance these Industry for their establishment, development and modernization.

At present the corporate sector consists of three different types of enterprise in Nepal namely government owned public enterprises, public limited companies whose shares have been listed in Stock Exchange Centre (SEC) and trade in the stock market and the private enterprises which are mostly family owned business and whose shares are not floated in the market. As regards government owned enterprises about 60% are in manufacturing, 16% are in wholesale and trading and 6% each are in construction sector; transport, storage and communication sector; community services sector and electricity and water supply sectors.

In context of Nepal, the business firms were financed by a few wealthy individuals before the development of broad financial market. One of the economic contributions of investment banking was to bring the general public into such financing by assembling smaller amount of funds from large number of sources and making the total availability to business firms by the 1930s. Then after large pools of funds has been accumulated in insurance companies, pension fund, citizen investment fund and commercial banks, this resulted in and increase in direct financing that by passed to some degree the use of investment banking.

The history also presents several theories on capital structure. These theories examine the relationship that whether there exist a relationship between the debt-equity ratio and the market value of the firm. The issue of capital structure was first raised by David Durand (1952) who provided three behavioral theories of capital structure. He examined the relationship between the cost of capital and the financial leverage under various assumptions.

In 1958 Modigliani and Miller (MM) questioned the link between the debt-equity ratio and the market value of the firm. If there is a link, then there exists optimal capital structure that maximizes the value. On the other hand, if there is no link the optimal capital structure does not exist and the capital structure is irrelevant in which case, financial managers are free to use any combination and proposition of capital sources (R.S. Pradhan's, Basic of Financial management, P79)

The theoretical and empirical research shows that the capital structure decisions are affected by among other things, agency costs, information's symmetry, industry condition and taxes. The financing decision of a firm involves the choice of an appropriate mix of different sources financing namely owner's funds and outsider's funds. The selection of the capital

structure will obviously depends on the bearing that it has on the firm's wealth. The capital structure concept has an important role in the theory of financial analysis and planning. The term financial structure refers to the way by which firm's assets are financed. It is the right financing of the firm, represented primarily by long term debt, preference share and equity shares but excluding all the short term credits. Thus a firm's capital structure is only a part of financial structure.

Capital structure of the firm is the long term financing represented by long term debt, preferred stock and shareholder's equity. Thus a firm's capital structure is only a part of its financial structure (Weston & Brigham: 1978). A sound capital structure is required to operate business smoothly and achieve the business goal. Capital structure is concerned with analyzing the capital composition of the company (Rajan and Zingales: 1995).

The success and failure of the corporate sector mainly depends upon the ability of top level management to make appropriate capital structure decision. One of the most confusing issues facing by the manager is the relationship between capital structure and stock price. However debt financing as opposed to equity financing should a firm use? Should different Industry and different firms within Industry, have different capital structure and if so what are the factors that lead to these differences? [Bringham et al: 1999]

The studied capital structure which lead to the following conclusion:

a) There does exist an optimal capital structure or least on optimal range of structure for every firm.
b) However financial Theory is not powerful enough at this point to locate a firm optimal capital structure with precision.
c) The optional capital structure is not set in isolation, Rather it depends on a set of factors which includes the firm's dividend policy, its capital investment opportunities and investor preference for different types of securities at each point in time.

The sources of financing and investment policies directly affect a company's cost of capital. Availing and using of capital out of any source need some cost. Such costs occur in the firm of annual interest payment, payment of dividend, and premium paid on the repayment of debt. It also includes discount, brokerage, commission, underwriting commission, printing expenses, floatation charge etc. connected with issue of shares and debentures.

The concept of cost of capital is significant not only as investment criteria but can also be used to evaluate the financing performance of the firm. In addition, the cost of capital

concept helps the management in moving towards its target capital structure or an optimal capital structure provided there exists a relationship between two (Ghimire: 1990).

The cost of capital refers to the discount rate that would be used in determining the present value of the estimated future cash proceeds and eventually deciding whether the projects worth undertaking or not (Berges: 1963). It is determined at least partially, by corporate decisions unrelated to its product markets decisions (Easily & O'Hara: 2004).

The capital structure is closely related concept of linked to cost of capital and therefore, it is important for capital budgeting decision. The cost of capital can be minimized and value of firm can be maximized by the use of Judicious mixture of the different component of capital structure changes in leverage result in change in level of return and associate risk. Generally increase in leverage results increase in return and risk, where as decrease in leverage results decrease in return and risk. Because of its effect on value, the financial manager must understand how to measure and evaluate leverage when attempting to create the best capital structure.

The concept of capital structure has an important place in the theory of management. The financing decision of a firm is concerned with the capital structure of leverage. Since interest payment to the lenders usually are fully deductable from taxable income, while dividend payments to shareholders are not. The tax system typically encourages the use of debt rather than equity [Desai Foley & Hines: 2004].

Thus financing decision of a firm relates to the choice of appropriate proportion of debt and equity capital to finance the investment requirements. A proper balance between debt and equity is necessary to ensure a trade off between risk and return to the shareholders. A capital structure with reasonable proportion of debt and equity capital is called optimal capital structure. However, it can be expected that if the capital structure decision affects total value of the firm, a firm should select such a financing mix which maximizes shareholders wealth.

The cost of capital and capital structure are closely related themselves. In the optimal capital structure, the cost of capital can be minimized and the value of an enterprise maximized. In building up the optimal capital structure over a period of time, a firm depends on that line of financing during a given time having minimum cost. The capital structure and cost of capital, both are important in maximizing the wealth of shareholders, so, a good manager should try his/her best effort to minimize the overall cost of capital by optimizing the capital structure. Therefore, this study is directly analyzing the cross sectional relationship

between capital structure and cost of capital in context of Nepalese manufacturing enterprise by taking a sample study of Hetauda Cement Industry limited (***HCIL***).

2. SIGNIFICANCE OF STUDY

Capital structure is very essential for every enterprise because it is impossible to think of an establishment as well as operation of an enterprise without it. It is also a vital source of launching a business. It is mix of firm's permanent finance represented by debt, preferred stock and common stock. It refers to the composition of its capitalization including all long term capital resources like loans, reserves, shares, bonds in context of the company.

In addition to it, the major significance of the study can be highlighted from the following points:-

- Most of Nepalese manufacturing public enterprise has excess capital which shows unutilized amount of fund. The study is important to highlight the capital structure of Hetauda Cement Industry Limited (HCIL) and the effects of capital arrangement.
- This study helps to know the capital structure with reasonable proportion of debt and equity capital of HCIL.
- This study helps in decision making, identifying weakness regarding financial administration.
- This study also helps to examine the effectiveness of using financial resources as well as problems and prospects of financial policies.
- This study also helps HCIL to take necessary correction to improve financial health by exploring the environmental opportunities avoiding treats.
- It also helps to measure the firms' ability to meet long term obligation.
- Thus, it is most important to improve source of capital and profit performance public enterprises.

3. BACKGROUND OF HCIL

Among the various public enterprises (PEs), cement industry is one of the basic agro-based PEs industries. Cement is a fundamental construction material for strong and durable construction works. The consumption rate of cement has been increasing and demand of cement is fulfilled by internal and external suppliers at present. The main external source is India. Among the internal sources, Himal Cement Industry, Udaypur Cement Industry, Hetauda Cement Industry Limited, Maruti Cement Industry, Annapurana Cement Industry and Tribeni Cement Industry are major manufacturers and suppliers of cement.

The present study will states the effect of capital structure and examine the application of capital structure of Nepalese manufacturing enterprises with a case study of Hetuada Cement Industry Limited. Here we have taken Hetauda Cement Industry Limited (*HCIL*) as a sample of as government owned public enterprises.

Hetauda Cement Industry Limited was incorporated under the company Act 2021 B.S. with the share investment of Nepal government and loan assistance of Asian Development Bank. Late king Birendra Bir Bikaram Shah Dev on 13 Ashoj 2033 B.S. launched *HCIL* in the first year planning period (1975-1980).

It is located at Lamsure at the bank of sasauni brook, in fornt of the industrial district of Hetauda at Hetauda of Makwanpur district of Narayani zone in central development region of Nepal. HCIL is situated nearly 140 km south of Kathmandu and has occupied 299 Bigha of land of which 150 Bigha for the lime stone in bhaise and 149 Bigha for industry in Hetauda Muncipality.

Cement is a fundamental construction material for strong and durable construction work. As a country develops economically cement will be required in even larger quantities because development requires more construction which means more use of cement.

After the initiations of first five year plan in 2013 B.S. the country seems to have the development activities in a planned way. Since then, need of the most important construction material cement has been realized. In most of the 8 five year development plan shortage of cement hampered the construction very seriously. The demand of cement is increasing (and will be increasing) more and more day by day due to its durability and its property of binding material likes; clay and mortar. The internal sources and external sources fulfill the demand of cement in Nepal. The major external source is India and the internal sources are as follows.

1.	Udaypur Cement Industry	-	271,200 MT
2.	Hetauda Cement Industry Limited	-	260,000 MT
3.	Himal Cement Industry	-	108,400 MT
4.	Maruti Cement Industry	-	16,500 MT
5.	Annapurana Cement Industry	-	9,000 MT
6.	Tribeni Cement Industry	-	9,000 MT

Among these, the major cement producers are Udaypur Cement Industry and Hetauda Cement Industry Limited. *HCIL* produces 260,000 metric tones, which consists of 5,200,000 bags of 50 Kg. per year. *HCIL* utilizes following raw materials in following proportions for producing 260,000 MT or 5,200,000 bags in a year.

Lime Stone	-	396,000 MT
Clay	-	6,000 MT
Coal	-	50,000 MT
Gypsum	-	10,000 MT
Iron ore	-	6,000 MT
Bags	-	5,200,000 units
Electricity	-	6, 000 (NO)
Water	-	1,500 CM per day

The major raw material required for providing cement is acquired from the Bhaise Limestone quarry. Similarly preliminary works on exploring Okhare Danda where a proven resource of high grade limestone is provided a source of raw material. Clay is available in adjoining Lamsure Hillock. Other raw materials like Iron ore gypsum and coal are imported form the neighboring countries like India and Bhuttan.

HCIL provides direct employment opportunities 879 persons among than 604 personnel are technical and 275 personnel are administrative. *HCIL* has been providing regular business through three government agency namely National Trading Limited, Sajha Bandar and Tara Gaon Development Committee and 62 private dealers. At present about 270 dealers are engaged in sales and distribution of cement.

The government of Nepal has provided the mark of Nepal standard to *HCIL*. The main market of cement of *HCIL* is various Cities like Kathmandu, Pokhara, Tansen, Butwal, Bairahwa, Birgunj, Surkhet, Dhankuta, Dharan, Biratnagar, Janakpur, etc. Now; *HCIL* can fulfill above 30% of the total demand of the Nation. There are scientific mechanical lab, quality assurance department and other facilities in the industry. *HCIL* has staff quarter and it also has a health section for the provision of medical facilities staffed by qualified doctor and experienced assistant. It has provided dust allowance, medical allowance, incentive, bonus, house rent and life insurance facilities for the administrators and employees. The factory has constructed a road and plantation work around the industry.

4. ORGANIZATIONAL STRUCTURE OF THE HCIL

The organizational structure of HCIL consists of board of directors having a chairman, two appointed government officials, a political representative of government and general manager himself as a secretary general. The HCIL is run as per objective under the supervision of general manager. To regulate and manage organizational tasks smoothly; he formulates plans and policies within the limitation of organizational policies. He appoints 3

subordinates as deputy general managers for getting assistance in regular functioning of organization with a view to accomplish the organizational goal.

The 1st deputy general manager is appointed to look after the administrative division and finance division while another two are appointed for mines division and factory division respectively. Several departments are opened and managed considering the nature of works to run the organization smoothly. The general manager also organizes an internal audit department for internal audit of daily financial records of organization.

5. STATEMENT OF PROBLEMS

The deep study of an effect of capital structure is almost not fully existent in Nepal. In a developed capital market, a number of studies have been conducted on the development of models that are useful for prediction of effect of capital structure. These models have identified useful financial variables that ate helpful resolving much business issue relating to capital structure. However prediction of effect of capital structure is a judgment task too.

The major problem of manufacturing public enterprises in Nepal is lack of proper utilization of their available resources. Unless available resources are utilized effectively public enterprises can not achieve its' objective. Success of any business enterprise is measured by capacity of surplus generation but the performance of manufacturing public enterprise of Nepal is quite dismal and has not able to contribute towards the generation of surplus. The public enterprises have more investment in socio-cultural development, produce required goods in the country, save the national funds, save the national funds, create employment opportunity increase government revenue and contribute significantly in the national development.

Even though, most of the public enterprise in Nepal are big and they are almost in monopoly positions, they are not able to generate profit due to lack of delegation of authority and communication of objectives and goals from top to lower level of management so, many public enterprises could not achieve their pre established objectives and goals.

The capital structure and cost of capital has been the subject of controversy since the publication of Modigliani and Miller's classic paper in 1958. There are many empirical works regarding the capital structure supporting and resulting the M-M view and traditional view. The study by Barge (1963), Weston (1981) and Pandey (1981) rejected the M-M hypothesis while Hamada (1972), and Stiglitz (1974) Supported the MM hypothesis.

Sharma and Rao (1968) study MM's Tax correction hypothesis and their findings showed that debt has no tax advantages and investors prefer corporate to personal leverage.

Similarly, I.M. Pandey (1981) computed multiple regression equation to test the validity of MM proposition and his result concluded that cost of capital is the function of capital structure.

There are some studies conducted in capital structure management of different companies in Nepal. Adhikari (1991), Ghimire (1999) and Khatri (1989) were tested MM hypothesis on listed companies at Nepal stock Exchange. They use the multiple regression model to test MM proposition and found that the result support the traditional views.

On the other hand, Hooder and Senbet (in 1990) extended the logic of miller equilibrium to an international setting to suggest that, in an integrated world of capital market, all firm will locate debt in the most tax advantaged jurisdiction. Haris and Raviv (1991) found that leverage increases with fixed assets, non-debt tax shields, investment opportunities and firm's size and decrease with volatility, advertising expenditure, the probability of bankruptcy profitability and uniqueness of the product.

Similarly Graham and Roger (in 2002) conducted study of 855 firms from electronic data gathering and retrieved database from Moreh through December 1995 and found:

a) That firms hedge to increase debt capacity and interest deduction i.e. tax benefits resulting from hedging add approximately 1.1% to firm's value and
b) That there is no evidence reducing expected tax liability when their tax functions are convex.

From the above study, capital structure and cost of capital are the touch stone of financing and investment decision and ex-post evaluation of financial performance of an enterprise. However, in context of our country Nepal, it has received a scan attention on the problem of capital structure. Hence, to sum us, the present study deals with the following issue:

- What is the capital structure of HCIL for the analysis?
- What are the determinants of capital structure of HCIL?
- What are the financial ratios that are helpful in predicting affect of capital structure of HCIL?
- Is there any consensus among decision makers on the use of financial ratios?
- Does the enterprises having higher debt equity ratio have sound financial position?
- What is the debt equity trend of HCIL?
- What is the total debt to capital trend of HCIL?
- What is the Situation of capital gearing of HCIL?

- What is the proprietary ratio of HCIL?
- What is the trend of capital employed turnover of HCIL?
- What is debt service trend of HCIL?
- What is the result of employed capital in term of profit?

6. OBJECTIVES OF STUDY

The Thesis is nothing more than a systematic analysis of topic selected. It is not an end in itself rather it is a means to achieve some desired objectives. The major objective of the study is to fulfill the Partial requirement of Master in Business study (M.B.S) degree. The study is especially conducted to analyze the effect of capital structure on the profitability in cement industry of Nepal. In addition to above, the other specific objectives this study are listed before:

1. To examine the relationship between capital structure and cost of capital of HCIL.
2. To find out debt Ratio, debt to total capital Ratio and cost of capital of HCIL.
3. To test the relationship of capital structure with cost of equity in HCIL.
4. To test the relationships of capital structure with the cost of debt in HCIL.
5. To find out capital gearing of HCIL.
6. To predict the effect of capital structure through various financial ratio.
7. To analyze the debt and equity trend of cement industry.

7. ORGANIZATION OF STUDY

The thesis work comprises of a numbers of tasks carried out in various steps. These activates and steps have to be co-ordinate in orders to provide maximum efficiency and accuracy. Organization refers to the identification of various activities, grouping similar activities and established relationship between them.

The organization of study is the frame work for the thesis to perform the necessary functions effectively. It involves the creation of various chapters and established the standards for chapters of similar activities for achievements of purpose of study. This leads to the creation of structure of a this thesis report. This thesis report has organization into five chapters, each chapter devoted to some aspects of the study on "Effect of capital structure of Nepalese Manufacturing enterprises."

The included chapter first to five conveys the following tittles:

Chapter - I Introduction

Chapter - II Review of Literature.

Chapter - III Research Methodology

Chapter - IV Data presentation and Analysis.

Chapter - V Summery, Conclusions and Recommendation.

The rationale behind this kind of organization is to follow a simple research methodology approach. The contents of each of the chapter of the study are briefly mentioned below:

Chapter: - I

Chapter I include introductory part of the study. It deals with the study showing the focus of capital Structure and its effects in content of selected manufacturing companies from Nepal stock Exchange. As already mentioned; this chapter describes the major issues to be investigated along with the general background, problem and objectives of the study and organization of the study.

Chapter: - II

Chapter II includes conceptual frame work of the study. It is directed towards review of the major empirical works as well as review of Nepalese study. It contains review of books, Journal & articles too. The conceptual considerations and review of related literature conducted in the chapter prove a frame work with help of which the study has been accomplished.

Chapter: - III

Chapter III refer to the research methodology employed in the study. It deals with research design, nature and source of data, selection of enterprises method of analysis, limitations of the study and definitions of Key terms. It also includes population sample, period of data and statistical and financial tools used in the study.

Chapter: - IV

Chapter IV refers to the data presentation and analysis. It deals with empirical analysis of the study. It consists of two sections. The first section presents the overall sample of primary and secondary data while the second section analysis various secondary data through various ratios. Relationship of various components of capital has been discussed respectively in this section too. It also describes the effect of capital structure on profitability.

Chapter: - V

The chapter V refers to the summary, conclusion and recommendation of the study. This chapter presents the major finding and compares them with the empirical evidences to the extent as possible. It also offers recommendations and several directions for future research.

CHAPTER – TWO
REVIEW OF LITERATURE

1. CONCEPT OF REVIEW OF LITERATURE

Simply review of literature means stock taking of available literature on the field of research work. It provides the frame work for concluding research to a researcher. It is the study of pre - written material, magazines, journals, news, papers, books etc. It also provides the insight and general knowledge about the topic selected for research work.

In context of this thesis works, different materials concerned with the selected topics are studied to collect or gather the information about the topics. It provides guide lines for conducting the procedure of thesis writing. This part of the thesis writing called 'Review of Literature'. It consists of five sections. Section first represents a "Discussion on Conceptual Framework". Similarly "Discussion on Theories of Capital Structure", "Review of Empirical Works", "Review of Dissertation" has been presentation in the section second, third and fourth respectively. Finally the fifth section is devoted to "Concluding Remarks."

1.1. CONCEPTUAL FRAME WORK

It is said that the failure is the opposite of success. The path to Business is not an easy one and as such failure of Business firm are not uncommon in the Business world. Over a hundred new companies are registered every year in Nepal and a little less than hundred are liquidated to worse capital structure. The continued annual entrance and exit of hundred of Business keeps the nations economics structure in a state of dynamic flux.

Capital structure is the mix of a firm's long term financing represented by debt, preferred stock and common equity. Capital structure should not be confused with capitalization. Capitalization is equal to total all types of long term capital, but capital structure is equal to proportions of all types of long term capital and financial structure is equal to proportion of all types of long term and short term capital (Upadhya-1985 P. 799). Capital structure of a company refers to the composition or make up of its capitalization and it includes all long term capital resource like loans, reserves, Shares and bonds (Gerestonbery: 1996, P. 72).

On the other hand the capital structure is affected by cost of capital which is the rate of return required for the capital investment. The term cost of capital is the minimum required rate of return on the investment project that keeps the present wealth of share holds unchanged. Thus the term cost of capital means the overall composite cost of capital as weighted overall cost of each specific type of funds (Known Jain: 1997). The concept of the

cost of capital is lying at the heart of the body of financial theory (Gitman & Mercurio: 1982, P. 21). It represents the critical link between management's financial decision and value of the company (Arthur J. Keoun et.:1986, P.426). It is the rate of return on the investment to be eared in order to satisfy the investor (John Childs: 1976, P. 315).

1.2. THEORIES OF CAPITAL STRUCTURE

The theory of capital structure is the composition of debt and equity securities that comprise a firm's financial of its assets. Both debt and equity securities are used on most large corporation. The choice of amount of debt and equity is made after comparison of certain characteristics of each kind of securities of internal factors related to firm's operation and external factor that can affect the firm (Hampton:1989).

Through capital structure theory decision are classified in different ways. But here they are not classified, only discussed in chronological order of their development. These theories are discussed as follows:

1.2.1 Net income Approach

1.2.2 Net Operating Approach

1.2.3 Traditional Approach

1.2.4 M-M Approach

1.2.1 Net Income Approach

Net Income approach shows that there exits optional capital structure in every enterprise. It can be said that the firm can increase its value or lower the overall cost of capital. This approach is propounded by David Durand in1952. The basic assumptions of this approach are stated as follows:-

i. The cost of equity remains consist to the acceptable range of leverage.

ii. The cost of debt remains constant to the acceptable range of leverage.

iii. The debt capitalization rate is less than the equity capitalization rate.

iv. The corporate income taxes do not exit and

v. The increasing leverage bring about no deterioration in the quality of net earning so long as borrowing is confined to the amount below the acceptable limit.

From the above assumptions, the overall asst of capital can be expressed as follows:-

$$K_o = K_d \left(\frac{B}{B+S}\right) + K_e \left(\frac{S}{B+S}\right)$$

Where,

K_o : - Overall Cost of capital

K_d : - The cost of debt capital

K_e : - The cost of equity capital

B+S : - The market value of the firm

B : - The market value of the debt

S : - The market value of the equity.

This approach can also be simplified by using following table:-

Table No. 1

Net Income Approach

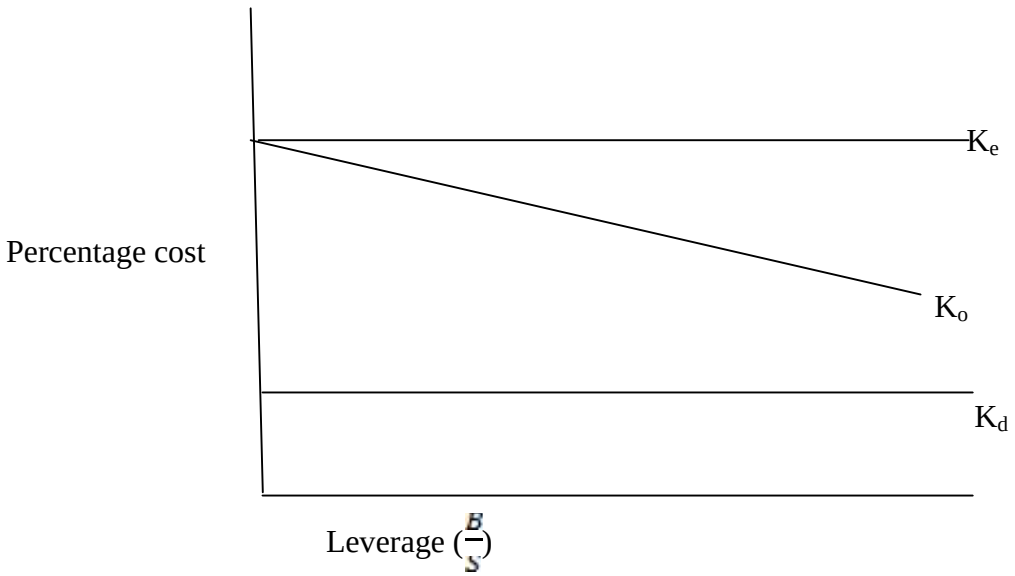
"O"	Net Income	XX
"F"	Total investment /market value of debt	XX
"E"	Earning Available to common stockholder (O-F)	XX
"K_e"	Equity capitalization rate	XX
"S"	Total market value of equity ($E/_{Ke}$)	XX
"B"	Total market value of debt	XX
"V"	Total market value of the firm (S+B)	XX
"K_o"	Overall capitalization rate (O/V)	XX

According to this approach, the cost of capital can be defined as the average cost of equity and cost of debt. The cost of debt capital (K_d) and the cost of equity capital (K_e) remains unchanged when the degree of leverage (B/S) varies. The constancy of K_d and K_e with represent to B/S means that the average cost of capital (K_o) declines as B/S increases. This happens because when B/S increase, K_d which it lower than K_e, receives a higher weight in the calculation of K_o (Prasana Chandra: 1999, P.255).

This approach can also be shown graphically as follows:-

Figure No. 1

Net Income Approach



In the figure 1, the degree of leverage (B/S) is plotted on the abscissa (x-axis), and K_e, K_d and K_o are plotted on the ordinate (y-axis). The behaviors of average cost of equity, cost of debt and overall cost of capital can be clarified from the above graph. According to this graph, it is clear that as B/S increases; K_o decreases because the proportion of debt, the cheaper source of finance, increases in the capital structure.

1.2.2 Net Operating Income Approach

The second approach of capital structure is the net operating income approach which is slightly different from net income approach with respect to the assumption of the behavior of equity holders and debenture holders. The NOI approach assumes that the equity holders fell higher degree of financial risk and demand, higher rate of return for higher debt equity ratio. Under this approach, the cost of equity is assumed to increase linearly leverage cost of capital remains constant as leverage is changed (Brigham and Johnson: 1976, P.256). Further more, this approach says that the cost of equity increase with debt level. In argues, the overall cost of capital (K_O) is the overall capitalization rate and dependent on the business risk of the firm. It is independent of leverage. The critical assumption of this approaches are:-

i. The cost of debt is constant

ii. The overall cost of capital also remains constant.

iii. The market capitalization the value of form as a whole

iv. The use of cheaper debt not increases the value if the firm and the advance increase in debt exactly offset by the increase in the cost of equity.

v. Overall capitalization rate depends upon the business risk and it is independent of the capital structure.

From the above assumption the overall cost of capital can be expressed as follows:-

$$K_o = K_d \left(\frac{B}{B+S}\right) + K_e \left(\frac{S}{B+S}\right) \text{ ..... (i)}$$

$$K_e = K_o + (K_o - K_d)\, B/S \text{ ..... (ii)}$$

Where,

B/S = Degree of Leverage

K_o = Overall Capitalization Ratio

K_d = Debt Capitalization Ratio

K_e =Equity Capitalization Ratio

This approach can also be simplified be using following table:-

Table No. 2

Net Operating Income Approach

O	Net operation income	XX
K_o	overall capitalization rate	XX
V	Total market value of firm (O/ K_o)	XX
B	Market value of debt	(XX)
S	market value of equity (V-B)	XX

The earning available of common stock holders (E) is the excess of net operating income over the interest payment.

i.e. $E = O - K_d \times B$

And the implied required rate of return can be defined as follows:

$K_e = K_o + (K_o - K_d)\, B/S$

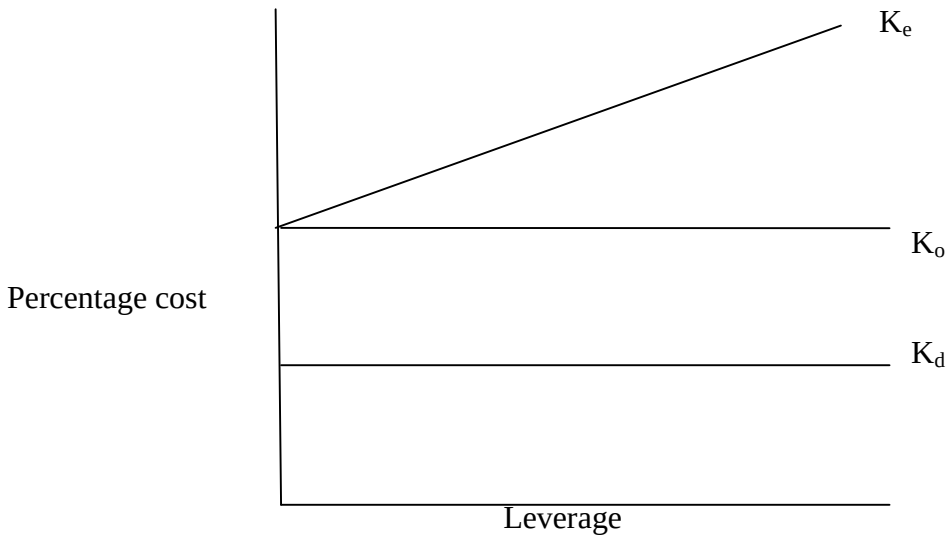
Where,

K_o and K_d are constant and K_e would increase linearly with Leverage; B/S.

The above behavior of K_d, K_e, & K_o with respect to changes in B/S under NOI approach is shown graphically in figure no.2

Figure No. 2

Net Operating Income Approach



From the above graph; it becomes clear that an increase in the use of debt funds which are apparently cheaper is offset by an increase in the equity capitalization rate. This happens become equity investors seek higher compensation as they are exposed to the greater risk arising from increase in the degree of leverage.

1.2.3 Tradition Approach

The previous study clarifies that the NI approach as well as NOI approach represents two extreme as regards the theoretical relationship between financial decisions as determined by the capital structure, the average cost of capital and total value of the firm. The NI approach reflects that the use of debt in the capita; structure will always affect the overall cost of capital which the NOI approach argues that capital structure is totally irrelevant. In other words, the cost of capital is the same at all capital structure in NOI approach.

The tradition approach is called an intermediate approach of NI approach and NOI approach. This approach says that overall cost of capital can be minimized and value of the firm can be maximized with the Judicial mixture of debt and equity. So, optional capital structure is possible for every firm. According to this view, debt fund is cheaper than the equity fund. This approach is based is following assumptions:

i. Equity holders adjust their required rate of return proportionately for every unit of debt inclusion.

ii. A moderate level of debt inclusion in the capital structure does not the cost of debt. And

iii. The expected outcome of the behaviors of equity holders and debt holders is that the benefit of cheaper debt financing decreases as the cost of equity and debt increases.

The behaviors of cost of capital and value the firm under this approach, showed with respect to the changes of capital structure into different phases. According to Ezra Solomon, the manners in which the overall cost of capital reacts to change in capital structure can be divided in to following three stages.

First Stage Increasing Value:-

This stage starts with introduction of debt in the firm's capital structure. As a result of use of cheaper debt, the firm's cost of capital decrease and value of the firm increases. In other words, the debt used in financial structure can be earning more than its cost and the surplus amount goes to the stockholders. The cost of capital increase slightly due to increased financial risk but it is negligible from the point of view of cost of capital. Under these assumptions; over all capital rate K_o expressed as follows:

$$K_o = \left(\frac{O}{V}\right) = K_e - (K_e - K_d)\left(\frac{B}{V}\right)$$

Where;

K_e is greater than K_d

Second Stage Optimal Value:-

The total market value would remain in optimal capital structure. Normally the increase in leverage has a negligible effect on the value of firm as the cost of capital of the firm at a specific point. Thus, the further addition of debt will raise cost of debt and equity so sharply as to offset the gains in Net income. Hence, the total market value would remain in optimal capital structure.

I. M. Pandey also suggests that the value of firm will be maximum and the cost of capital will be minimum with in the range or at a specific point.

Third Stage Defining Value:-

It seems that if the amount of debt is increased further beyond the acceptable limit, the firm would become very. After the critical level of leverage, any increase of debt in the capital structure. The cost of capital starts to income or the value of the firm goes down .This will happen become the cost of debt and equity start increase.

Combined effect:-

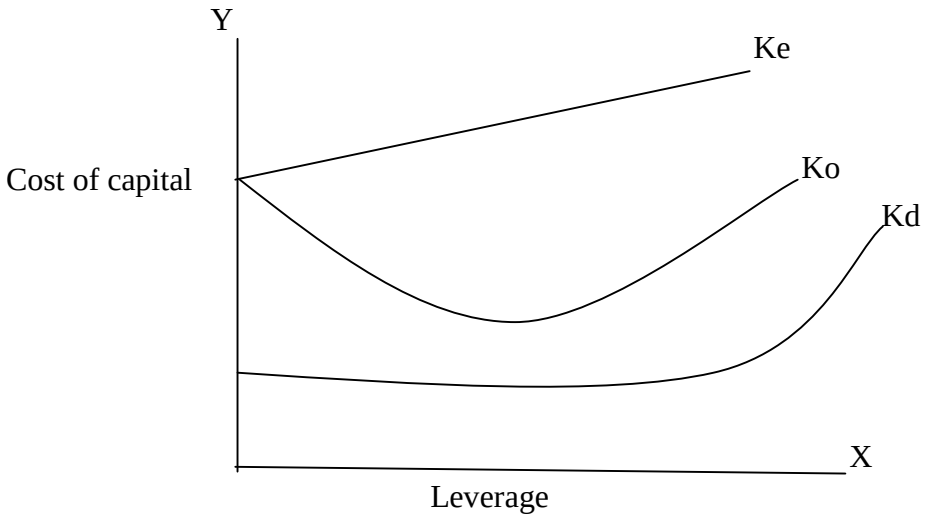
The combined effect of these stages suggests the capital structure decision is relevant with the cost of capital or value of the firm. The overall effect of these three stages also suggests that the cost of capital is the function of leverage. Upon a point, the use of debt will

favorably affect the value of a firm; beyond the point the use of debt will adversely affect it. At that level to debt equity ratio, the capital structure is on optimum capital structure.

The overall effect of these three stages can be shown graphically as follows:

Figure No. 3

Combined Effects of all stages under Traditional Approach



In the above figure, the debt equity ratio result in the lowest overall cost of capital which consequently maximizes the value of the firm. Therefore, the debt equity ratio is relevant and the optimal capital structure exits for the firm (S.Pradhan 457). The overall cost of capital curve, K_o is source-shared with a horizontal range. K_e is assumed to increase slightly in the beginning and then a faster rate. This implies that there is range of capital structure in which the cost of capital is minimized. At the optimal capital structure the real marginal cost of debt and equity is the same.

1.2.4 M.M. Approach

A comprehensive analysis of capital structure was revealed in 1958 when Franco Modigliani and Merton Millers (MM) published an article on the issue of capital structure relevancy. Modigliani and Miller in their original proposition advocate that the relationship between leverage and cost of capital is explained by net operating income approach. They make a formidable attack on the tradition preposition by offering behaviors Justification for having the cost of capital (K_o) remains constant throughout all degree of leverage.(Van Horne: 2000; p. 275)

In the views of Srivastav, MM contended that the cost of capital is equally to the capitalizations rate of a pure value steam of income and the expected income at the

appropriate discount rate for its risk class. The major assumptions regarding this proposition are as follows:

i. The investors are free to sell and buy the securities and they can borrow without at the same rate as corporation does.
ii. The individual investment may have the different views as to the shape of the probability the same.
iii. The division of net income between cash divided and returned earning in any period is a mere detail
iv. Share of firm in the same class is homogeneous and perfect substitute for each other.
v. Firms can be divided in to equivalent return classes such that the retina on the shares issued by any firm in any gives class is proportion to the return on the shared issued by any other firm in the same class.

Modillions and Miller also provide analytically sound and logically consistent behavior Justifications in fort of their hypothesis and reject any other capital structure theory as incorrect Their Hypothesis can be explained in the terms of their proposition I and II

Proposition I

The MM Proposition I states that the market value of the firm is independent of its capital structure. The reason is that the value of the firm is determined by civilization the net operating income at a rate for the firm's risk class (MM: 1958). According to this Proposition, there is no relationship between the value of firm and the way its capital structure is made up, and there is no relation between the average cost of capital and capital structure (S. Pradhan).

This can be expressed as follows:

Value of firm = Market value of equity + market value of debt

OR

$$\text{Value of firm} = \left[\frac{\text{Expected net operating income}}{\text{Expected over all capitalization rate}}\right]$$

$$\text{i.e. } V = (S+B) = \left(\frac{O}{Ko}\right)$$

From the discussion of Surendra Pradhan; it becomes clear that there is no relationship between the value of a firm and the ways its relationship is made up, and there is relationship between the average cost of capital and capital structure.

Similarly I.M. Panday clarifies that MM concluded that the total market value of the firm is unaffected by the financial mix. It follows that the cost of finance is independent of the capital structure and is equal to the capitalization rate if a pure equity stream of its class.

Prashanna Chandra also states this Proposition through follows symbols:

$$V_j = S_j + B_j = O_j/K_j$$

Where;

V_j refers to the market value of firm j

S_j refers to the market value of equity of firm j

B_j refers to the market value of debt if firm j

O_j refers to the operating income of the firm j

K_j refers to the discount rate applicable to risk class to which the firm j belongs.

The above equation explains that the total market value of a firm is equal to its expected operating income divided by there discount rate appropriate to its risk class. It is independent of degree of leverage.

<u>Preposition II</u>

The MM Proposition II states that the cost of equity rises proportionately with increase in the financial leverage in order to compensate in the form of premium for bearing additional risk arising form increased leverage.

Thus, MM theory in the absence of tax, the overall cost of capital as well as the value of the firm are independent of capital structure. The theory in a tax free is identical to the net operating income approach. It is also called the value of levered form (V_L) is equal to the value of unleveled firm (V_U) in the same risk class.

i.e. $V_L = V_U$ (S.Pradhan.2000; P455)

With tax consideration MM theory reveals that its conclusion is identical to that of net income approach, which says that the value of firm increases with every additional unit debt financing. The theory suggests that it is always betters to have maximum debt financing. Thus the Prof. Surendra Pradhan states the following equation for this theory with tax consideration:

$$K_{eL} = K_{eU} + (K_{eU} - K_i)\,(1\text{-tax rate})\left(\frac{D}{E}\right)$$

Where ,

K_{eL} = The cost of equity of a levered firm

K_{eU} = The cost of equity of an unleveled firm

$(K_{eU} - Ki)$ = Risk Premium

D/E = Debt equity ratio

The above equation indicates that the cost of equity increases with debt equity ratio. On the other hand, the tax deductibility of interest on debt lowers the cost of debt but still remains constant irrespective of debt equity ratio. This reduction the cost of debt (K_i) as a result of tax saving outweighs the increased cost of equity, forcing the overall capitalization rate (K_O) to decline with every unit of additional debt financing.

1.3. REVIEW OF MAJOR EMPIRICAL WORKS

This section of the chapter 'Review of Literature' represents empirical studies conducted on the selected topic from 1958 to early 2007. The empirical works on capital structure are numerous and it is no easy to survey and review all empirical works extensively and present them in detail. Therefore, review of some of the important studies conducted in foreign countries including India and our own country, Nepal are dealt briefly in order of the decade. The review of empirical works has been undertaken in two sections. The first section focuses on the review of empirical works carried upto 2007 with their major findings in foreign countries while the second section deals with the review of Nepalese empirical works.

1.3.1 Review of foreign empirical works

1.3.2 Review of Nepalese empirical works

1.3.1 Review of foreign empirical works

Under this section of empirical review on capital structure theory, many more studies are found. Out of these, some of the important Studies of foreign countries and their real findings are categorized into following sub branches.

a. Review of empirical works up to 1969.

b. Review of empirical works from 1970 to 1979.

c. Review of empirical works from 1980 to 1990.

d. Review of empirical works during 1990s and early 2007.

a. Review of Empirical Works up to 1969.

In this section, the major empirical studies are reviewed to board the knowledge further. In context of capital structure, many foreign studies are taken into consideration. Some of these studies of foreign countries and their findings are listed below in tabular form.

Table No. 3

Description of review of foreign studies up to 1969

S.N	Study	Area Covered	Major findings.
1.	MM (1958)	Test of MM independent hypothesis.	Acceptance of MM Hypothesis.
2.	Barge (1963)	Test of MM independent hypothesis.	Rejection of MM Hypothesis.
3.	Weston (1963)	Test of MM independent hypothesis.	Rejection of MM Hypothesis.
4.	MM (1966)	Test of tax advantages of leverage.	Leverage is significant because of its advantages.
5.	Wippern (1966)	Test of capital structure theory.	Acceptance of traditional theory.
6.	Peterson (1969)	Relationships between Business risk and capital structure.	Leverage varies directly with business risk.
7.	Gupta (1969)	Effect of size, growth and industry on financial structure of manufacturing companies.	The significant effect of the size and industrial classification of the firm on the financial structure of the manufacturing companies

1. MM 1st study

This empirical study was found clustered around the MM independent by hypothesis and traditional theory of capital structure. Modigliani & Miller first study was carried out in the American Electric Utilities and Oil Companies and turned out the result in support of their hypothesis that cost of capital and value of the firm is independent of the capital structure decision. This study also focused on the cost of equity which is liner function of the leverage. A high percentage of the observation in MM, First study falls within a very narrow range of capital structure. So it is unjustifiable to draw any conclusion about the shaped of the relationship over the entire range immediate after the test MM indecent hypothesis in1958.

2. The Barge's study

Barge tested MM hypothesis with the data of 61 classes I railroads, 63 department store companies and 34 cement producers. He conducted the empirical test of relationship between stock yield and debt equity ratio under the limitation of the M-M empirical works. He used two approaches, direct test and yield test to examine the validity of the independent hypothesis. Direct test result supported the traditional view while yield test result neither support nor contradicted the MM hypothesis.

3. The Weston's study

J. F. Weston's study made in 1963 was also related with cost of capital and leverage. But he made some important improvement in the cost of capital model. He included firm's size and growth as an additional explanatory variable in his model. He also found that the leverage is negatively related to earning growth. He studied the cross sectional analysis of the sample of 50 firms from the different six Industry. He reached on his decision from this study that shareholders wealth is increased by the firm judicious used of fix commitment of financing.

4. MM 2nd study

The second study was made by Modigliani & Miller in 1963 with correcting their original hypothesis for corporate income taxes and expected cost of capital to be affected by leverage for its tax advantage. They therefore, wanted to test whether leverage has tax advantages or not. They conducted the mathematical analysis regarding the effect of leverage and other variable on the cost of capital. For the testing purpose, they used the regression equation Model.

5. The Wippern's study

Wippern in 1960 also conducted the study to test the empirical relation between costs of capital and leverage the carried out the cross section analysis of the sample of 50 firms from the different six Industry. He reached on his decision from this study that the shareholders wealth is enhanced by the firm judicious use of fixed commitment of financing.

6. Peterson's study

Peterson in 1969 studied the relationship between business risk and capital structure of manufacturing firm's. This study showed that the evidence contrary to the traditional view between risk measured by the co-efficient of variation and rate of return on the total capital over the period 1947-56 and leverage measured by the ratio of senior to junior capital at book value finally by the rate fixed charges to earning powers.

7. **Gupta's study**

Gupta in 1969 studied the cross section analysis of Manufacturing Corporation of USA for the years 1961-62. He concluded that the significant effect of the size and industrial classification of the firm on the financial structure of the manufacturing companies no significant effect of growth rate on leverage.

Similarly some of the studies belonging to India have been received on this topic. The major findings and worked areas are listed below from following table.

Table No. 4

Description of review of Indian studies upto 1969

Study	Area covered	Major financial
1. Malhotra 1967	Capital structure Trends	Increasing
2. Rao & sharama1967	Capital structure Trends	Increasing
3. Saradhi 1968	Capital structure Trends	Increasing
4.Sharma & Rao	Test of MM hypothesis	Rejection

During 1960s a few studies were done covering Indian context.

1. **Malhotra 's study**

Malhotra studied that the trend in capital structure in electricity, basic Industry, Manufacturing Industry, jute textile & cotton textile, cement and sugar Industry. This study found that the percentage of creditorship capital form pre-independent through third plan revels an increasing trend.

2. **Rao & sharama 's study**

Rao and sharma study on 54 engineering industrial companies and found the same trend in capital structure measured by long term debt to total capital.

3. **Saradhi 's study**

Saradhi's study showed that the low capital gearing ratio and corporate sector. He compared the medium and large public limited companies for the Indian planning period 1951-1966.

4. **Sharma and Rao's study**

The study of sharma and Rao tested the MM hypothesis. They conclude that the debt had Non-tax advantages and investors preferred debt financing in corporate sectors. On the study they sampled 30 engineering companies from the India engineering industry and used regression equation for three cross section years (1962, 1963 and 1965). They introduced

debt as a separate independent variable in their study. They concluded that investors prefer corporate to personal leverage and therefore value of a firm rise up to a leverage rate consideration prudent.

b. Review of empirical works during 1970s.

The decade of 1970s was remarks with empirical studies directed in the area of capital structure and prediction of business failure using data and ratio. The following Financial studies according to empirical works were conducted in this decade:

Table No. 5

Description of foreign empirical works during 1970s

Study	Area Covered	Major Financial
1.Hamda 1972	Test of MM by Thesis	Accepted
2 Scott & Martin 1972	Industrial influences	Significant
3 Belkaouli 1975	Industrial influence on capital structure	No significant effect
4. Carleton & Silverman	Rate of refresh capital structure	Negative relationship between earning variance &leverage
5. Ferri & Jones 1979	Relationship between firm's financial structure and its Industry class, size, variable of income and operating leverage	Existence of relationship between states variables except to variable income

From the close study of above journal of 1970s, it becomes clear that MM -hypothesis is pore supported Hamada found the evidence in support of the MM hypothesis. Scott and Martin also provided the evidence on the support of significant industrial influence on capital structure.

Similarly, Belkaouli provided the evidence against industrial influence on financial structure. He studies 155 firm's from 13 various Industry for the period of 1968 to 1973. He concluded that debt ratio do not vary significantly by industry. Carleton and silvering also provided same evidence and found the earning variability as an important determined of industry leverage. On the other hand ferry and Jones studies the cross section analysis of genetic Industry in 1979. He suggested only a slight statistical relationship between relative debt structure class and genetic industry class.

During the decade at 1970 most of the Indian studies were made some of the important studies are listed below.

Table No. 6

Description of Indian empirical works during 1970s

Study	Area covered	Major financial
Rao & Rao 1975	effect of corporate income Tax on corporate debt policy	Negligible effect
Agrawal 1976	Capital structure of Aluminum industry	Increasing trend of both debt and equity
Chakraborty 1977	Cost of capital & capital structure of private sector	Influence of firm structure characteristics
Mishra 1978	Effect of corporate income tax on capital structure	Positive effect
Rao 1979	Effect of capital structure on profitable	Adverse relation
Panday 1979	Relationship of capital structure & cost of equity	Advance relationship

From the close study of above foreign Journals, it becomes clear that they are concerned with the cross section characteristics of individual firm's capital structure and some studies are also related to the general evidence of capital structure trends.

Rao and Rao in1975 found the negligible positive impact of corporate income tax on corporate debt policy of manufacturing sectors in India. On the same way, Mishra in 1978 showed that the evidence in favour of the tax avoidance hypothesis for sugar, tobacco, trading Industry and aggregate corporate sector of India. Chakarborty in 1975 has studied the effect of ten different individual firms and characteristics on capital structure. This study covered various Indian non-government public and private companies. He concluded that the negative association of debt equity ratio of age, retained earning, profitability scaled by capital employed and corporate tax rate, while positive association with size profitability scaled by sales and capital intensiveness measured by gross fixed assets to sales.

In the same way Agrawal found the sound long term financial strength of the aluminum industry in India and increasing trend of both debt and equity in capital structure during the period of 1963-1973. Mr. Rao in 1979 he drew the conclusion that the relationship between debt equity ratio and cost of equity is adverse. But Pandey studied the cross

sectional analysis of 47 chemical, 32 cotton, 32 engineering and 20 electricity Industry and could not reach the conclusion on the impact of debt and cost of equity.

c. Review of imperial works during 1980.

During the decade of 1980s a few studies have been carried out on general trends of capital structure.

Table No.7
Review of Major Foreign Studies during 1980s.

Study	Area Covered	Major findings
Masuli (1980)	General trends of capital structure	Increasing trend
Bawen et al 1982	Industrial influence on leverage	Statistically significant
Taggart 1985	General trend of capital structure in USA	Increasing trend in post world - war period
Long and Maltz 1985	Effect on industry and firm's characteristics on leverage	Positive effect fixed assets and Profitable and negative effect of advertise and R&D expenditure
Kim and Sorensen 1986	Effect of firm's characteristics on leverage	The effect equity ownership and effect of Non debt tax shield on the leverage.

According to above empirical works, Masuli and Taggart highlighted on the general trend of capital structure. Masuli showed that distributed profit account for about 22% of total sources of funds of non-farms and Non-financial corporate business in 1986. The figure in average was about 49% over the period of 1946 to 1966 In USA. Taggart in his study, provides that an account on secular trend in leverage by using verities of measurement. He concluded that there was increasing trend of leverage in USA since the Second World War He further showed the increasing trend of debt financing after the Second World War till 1974 and decreasing trend after 1974. In his study, he showed the debt financing was used to an unprecedented extent during the period of 1986 – 1974. It is argued that debt financing has come down to the level that is not high by historical standard after 1974.

Bawen et al in 1982 found that the statistically significant industrial influence on financial structure. He had documented the leverage ratio of specific Industry. His result was on broad agreement and showed that drugs Instruments, electronics, and food Industry have

consistently low leverage and paper, textile mill product, steel, airlines and cement Industry have consistently high leverage.

On the other hand Long and Maltz in 1985 studied the effect of industry firm's characteristics on leverage. His found out positive effect of fixed assets and on profitability and negative effect of advertisement research and development expenditure.

Similarly, Kim and Sorensen in 1986 also studied the effects of firm's characteristics on leverage. He found out the positive relationship between the volatility and leverage ratio. The positive relationship between the leverage and volatility of earning is consistent with the agency cost theory. This theory contended that high variance firm has lower agency cost of debt and hence, higher financial leverage. He also declares that negative effect of non-dept tax shield, growth, opportunities and size on leverage on the firm.

In the decade of 1980s many Indian studies were made in relation to capital structure and its trend. Some of the major results are shown in the given in table as review of India studies.

Table No. 8

Review of major Indian studies during 1980s

Study	Area covered	Major finding
1. Gangadhar 1980	Trend examination of corporate sector's capital structure	Increasing trend in small scale Pvt. Ltd companies but a decreasing trend in small scales public Ltd companies
2.Singh 1981	Capital structure of public Ltd. Companies	Size of the firm is relevant to the capital structure.
3. Sharma 1983	Impact of firm's characteristics on capital structure of chemical and pharmaceutical industry	Effect of profit and age is negative and statistically significant but Effect of size, growth, business risk and assets structure is positive
4.Banerjee 1984	Trend in capital structure of medium and large scale public	Existence of optimal capital structure.

	companies & central government companies	
5. Mall 1986	Trend of capital structure in Medium and large scale Pvt. Ltd. Companies.	Increasing trend of industrial capital structure and negative correlation between D/E ratios and profit.

According to above empirical works, the various decision of capital structure are selected by Indian scholars. Gangadhar found the increasing trend in medium and large scale public and private limited companies and small scale private limited companies but a decreasing trend in small public limited companies from the study of 1961 to 1976.

Similarly, Mr. Singh studies the capital structure of various public limited companies. He concluded that size of firm is relevant to the capital structure.

On the other hand, Mr. Sharma conclude that the positive impact of size of the firm on debt equity ratio. He showed that the effect of profit and age is negative and statistically significant but effect of size, growth, business risk and assets structure is positive. He suggested that the positive relationship between debt equity ratio and growth rate.

Banergee also showed the trend of debt equity ratio of Government companies during the period of 1960-1961 to 1969-1970 was increasing and after 1969-70 was decreasing.

Mall examined the trend of capital structure in medium and large scale private limited companies for the period 1960-1961 to 1982-1983 and found the increasing trend and negative correlation between debt equity ratio and profit.

d. <u>Review Empirical worker during 1990s and early 2005s.</u>

After the years 1989, it seems that the corporate sectors are highly development. But, many corporate bodies are failure due to disarrangement of capital structure. The given table shows the empirical studies during 1990s and early 2007s. Table No. 9

<u>Review of studies from 1990 to early 2007</u>

Study	Area covered	Major finding
Agrawalla & Nagrajan 1990	Factor influencing capital structure decision of all equity firms	All equity firms have greater family investment in corporate operation than levered firm.
Isreal et al 1991	Information in context of equity	Leverage is positively related with firm value

Kran et al 1992	information contents	The market reacts to changes in financial leverage
Hull 1999	Industry level rate and ratio norms	Market reaction to leverage decrease announcement depend on how firm's debt equity changes reactive to its industry D/E norm
Chui et al. 2002	Determinant of capital structure	i. National culture affects corporate capital structure. ii. Countries with high scores on the culture dimension of "conservatism and mastery" tend to have lower corporate debt ratio.
Allayannis Bromn and Klappers	Capital structure and financial risk	Examine the use different types of debt for a large sample of East Asia as well as some common factor that determine the use of different types of foreign debt.

According to above empirical works, Agrawalla and Nagrajan in 1990 showed that all equity firms have greater family involvement in corporate operation than in levered firm in their study. On the sake of both views, it is conducted that the mangers of all equity firms have greater control of corporate voting right. This finding implies that human capital involved in the firm affects the capital structure through the agency problem.

Isreal et al in 1991 revealed that there was positive association of leverage with the value of the firm's in agreement with result of symmetric information model.

Kran et al derived the functional relationship between business risk and debt level. He concluded that the market reacts to change in financial leverage.

Hull found out from 338 observations that the market reaction to leverage decrease announcement depends on how a firm's change to its industry norms of debt equity ratio.

Chui et al. concluded that country factory and culture factors are influenced on determinations of capital structure. He also found the debt ratio depends on country factor such as gross Domestic product (G.P.P), growth rates, inflation rates and development of

capital market from his study of various firms across 22 countries and concluded that culture failure affect the determinates of capital structure.

Allayannis, Bromn and Klappers concluded that several unique factors as well as some common factors that determine the use of different types of debt. For example, proxies for the lowers cost foreign debt and the accessing cheaper foreign capital market consistently explain the type of debt used East Asian firms.

1.3.2 Review of Nepalese Empirical Study

There are many more studies are carried out in context of Nepal. Different personalities of financial sector have fasted the theory of capital structure in the listed financial manufacturing organization. The following table shows the major Nepalese studies:

Table No. 10

Empirical Review of Nepalese studies

Study	Area covered	Major finding
Mr. Shrestha 1985	Analysis of capital structure	Possible major solution of the capital structure problem
Adhikari 1991	Test of MM - hypothesis	Rejection of MM hypothesis
Paudel 1994	Effect of leverage	Growth measure, risk measure profitable measure due to effect of capital structure
Baral 1996	Determine of capital structure	Profit, operating cash flow and debt service ratio are correlated significantly with capital structure of public enterprise.
Khatri 1998	Test of MM hypothesis	Rejection of MM hypothesis
KC. 1999	Financial corporate growth	significant and positive relationship of long term debt with growth and negative assets
Khanal 1999	Effect of leverage and capital investment	Overall result are unsatisfactory

Shrestha, Adhikari, Paudel, Baral and other scholar of financial sector have studies upon the topic relating to capital structure Adhikari and Khatri have tested MM Proposition. Similarly Khanal, and Paudel study on corporate financial sector and impact of leverage on the value of firm. Mr. Shrestha clarifies that maintaining an optional capital structure become a ticklish problem on the public enterprises since is no reliable basis yet developed to there is no sound capital structure .On the other hand Baral remains the determination of the capital structure trend in public sector enterprises in Nepal.

Mr. M.K Shrestha in his analysis of capital structure in selected public enterprises has focused on providing the conceptual base and the determination of capital structure, analyzing the capital structure of selected public enterprises. He also suggested that the possible measure to overcome the capital structure problem. He calculated the cost of equity and weighted average cost capital taking consideration the net operating income and Net approach relation. The capitalization rate and EBT were found very poor and in consistency. He also used the various rations for the analysis of capital structure and found a very in depend capital structure.

Adhikari studies to test MM hypothesis in five listed finance for the period of 1976-1977 to 1988-1989 and his studies result supports the traditional proposition by using multiple regression analysis. Similarly, Khatri tested the same hypothesis. He studies on 12 listed companies by using multiple regression analysis and support the traditional proposition.

On the other hand, Khanal studies on capital structure management of Nepalese enterprise by choosing the sample from public Industry enterprise and found that overall result was unsatisfactory while KC found that the significant positives relationship of long term debt with growth rate of companies. Paudel studies in various Nepalese enterprises for the period of 1982-83 to 1991-92 and concluded that size, profit, growth, collateral value and earning variability have the influence on the capital structure. In the same way, Baral studies on the sample of 26 enterprises for the period of 1980-81 to 1991-92 and concluded that profit, operating cash flow and debt service ratio are positively correlated to capital structure.

1.4 REVIEW OF DISSERTATION

Under this section various master level dissertations related to this study have been received and summarized as follows:-

Table No. 11

Review of Dissertation

S.N.	Study	Selected Topic	Major Findings
1.	Mr. Dhungana 1993	A comparative study on capital structure between BSM and JSM	The long term debt to total debt ratio was higher than generally acceptable level and negative interest coverage ratio.
2.	Mr. Pathak 1995	A study on capital structure management of GRUL	Debt capital is very high and negative interest coverage ratio.
3.	Mr. Subedee 1996	A financial analysis of manufacturing public enterprises in Nepal	Long term debts to capital employed ratio and total debts to equity ratio are normally higher.
4.	Mr. Khatri 1998	An empirical study on capital structure and cost of capital of Nepalese listed companies	The capital structures with composition of Nepalese companies were confusion and determined with consideration the capital structure theories.
5.	Mr. Ghimire 1999	Testing capital structure and average cost of capital	Support to the tradition proposition.
6.	Mr. Sah 2002	Effect of capital structure and cost of capital	The leverage is related to average cost of capital and size of capital.
7.	Mr. Mahto 2005	Examine the relationship between capital structure and cost of capital	Average cost of capital is regressed with each of the selected explanatory variable.

1. **The study of Mr. Dhaugana**

Mr.yubraj Dhaugana has made a comparative study on capital structure between Balaju Spinning Mills and Jyoti Spinning Mill. He found that long term debt to total debt ratio was higher than general acceptable level. The debt serving capacities of the both companies were not satisfactory due to the negatives interest coverage ratio. The return on

capital employed and debt removing capacity also was not satisfactory due to negative earning. The overall capitalization rate and equity capitalizations rate was also negative in the firms. He further emphasized that the companies should reduce operational cost and utilizes optimum capacities.

[Yuvraj Dhungana, 'A comparative study on capital structure between B. S. M. and J. S. M.' Unpublished Master's Thesis Central Department of Management T.U. 1993]

2. **<u>The study of Mr. Pathak</u>**

Mr. Krishan Pathak has made a study on capital structure management of Gorakhkali Rubber Udyog Limited. He had analyzed the entire variable in form of Ratio Analysis in his study. He has concluded that GRUL's debt capital was very high as compared to the shareholder's equity and the trend of debt by equity ratio was increasing every year. The following issues on the capital structure are found out by Mr. Pathak:

a. Company's debt servicing capacity was very poor due to the negative interest coverage ratio.
b. The operating performances were not satisfactory due to negative earning and low volume of sales revenue.
c. The companies were not able to utilize its capacity more than 50% which result the huge losses.
d. At last .he suggested to lower down the amount of debt obtain addition fund rough issue of equity shares improve its working capital and over staff. Make. ke strategy plans and develop the motivation managements.

[K.Pathak, "A study on capital structure management of Gorakhkali Rubber Udyog Limited" Unpublished Master's Thesis Central Department of Management T.U. 1995]

3. **<u>The study of Mr. Subedee</u>**

Mr. Kapil Subedee analyzed five years secondary data in his study. He clarified that the company would have suffered from heavy losses. It is going on heavy loss year by year. In such situation of HCIL Subedee highlights a question "How can the industry be saved from the shortage of funds?" as statement of the problem.

The major findings of his studies are:

a) Long term debts to net worth ratio debt to capital employed ratio and total debts to equity ratio are normally higher but the trends of these ratio are satisfactory.

b) The interest coverage ratio, inventory turnover ratio, fixed assets turnover ratio, capital employed turnover ratio and debtor's turnover ratio are unfavorable and unsatisfactory. The trend of these ratios is also not practicable and satisfactory. But the trend of capital employed turnover ratio is improving form fiscal year 2049/050 and 2051/052.

[Kapil Subedee, "A financial analysis of manufacturing public enterprises in Nepal; a case study of HCIL", Unpublished Master's Thesis Central Department of Management T.U. 1996]

4. <u>The Study of Mr. Khatri</u>

Mr. Bhuvan Singh Khatri made a research about capital structure and the cost of capital of Nepalese listed companies with the objective of testing the relation between cost of capital and capital structure and the relationship between costs of equity and capital structure in selected listed Nepalese companies. His study was based on five years pooled data of various companies for banking sector and manufacturing and trading sector.

On the study, Mr. Khatri found that the regression co-efficient of leverage against cost of capital were negative. He reached to the conclusion that there were not strong enough to establish relationship between cost of capital and capital structure with other explanatory variable.

Thus, he also concludes that the capital structures with composition of Nepalese listed companies were confusion and determinate with consideration the capital structure theories.

[Bhuvan Singh Khatri " An Empirical Study on capital structure and cost of capital of Nepalese Listed Companies " Unpublished Master's Thesis .Central Department of Management T.U. 1998.]

5. <u>The study of Mr. Ghimire</u>

Mr. Krishan Raj Ghimire has made a research about capital structure and cost of capital. He has made comparative study between trading, manufacturing sector and banking and financial sector with the objective of testing relationship between capital structure and average cost of capital as well as cost of equity. His study was based on five years pooled data for Banking and financial sector manufacturing and trading sector.

He used the next models to set the proposition that the cost of capital reduce with leverage by tax benefit on interest payment the models to test this proposition was:

<u>xt-tR</u>

V-iD $a+b_1L+b_2Log+S+b_3G+b_4DPR+b_5EV+b_6LiQ$

[Krishan Raj Ghimire " Capital structure and cost of capital A Comparative study between Trading Manufacturing "Banking and Financial" Unpublished Master's Thesis Central Department of Management T.U.1992.]

6. <u>The Study of Mr. Sah</u>

Mr. Binod Kumar Sah has made a study on the effect of capital structure and the cost of capital. His study was based on the data of 26 enterprises consisting of Banks, Finance companies, Insurance, Hotels, Manufacturing and processing companies, trading Companies and other enterprise. His study was based on five years pooled data to examine relationship between cost of capital and capital structure.

He used simple and multiple regression analysis models as tool of study. His used Model was:-

$$Ko = a+b_1L+b_2LogS+b_3G+b_4DPR+b_5EV+b_6Liq$$

Where,

Ko	-	cost of capital
LogS	-	Size of capital employed
DPR	-	Dividend pay out ratio
A and b	-	Variables values
G	-	Growth of total assets
EV	-	Earning variability
Liq	-	Liquidity

On this study, he found the following issues: -

a. The average leverage of financial sector less them that of Non-financial sector

b. Under Non-financial sector, average cost of capital is negatively correlated to leverage and liquidity ratio. And positive correlated to size and capital employed growth in total assets and earning variability.

c. Co-efficient of leverage, size of capital employed, growth in total assets and earning variability are positive and co-efficient of divided payout ratio. And liquidity is negative in the financial sectors.

[Sah, B. K., ‘A comparative study on capital structure between B. S. M. and J. S. M.’ Un Published Master’s Thesis Central Department of Management T.U. 1993]

7. **The Study of Mr. Mahto**

Mr. Ram Nath Mahto has made a research about capital structure and cost of capital of Nepalese Manufacturing companies. Out of the total 118 enterprise, his study has been confined to only two government owned Manufacturing enterprises and four private owned manufacturing enterprises. He has used both economic analysis and statistical tools in his study to test the relationship between cost of capital and capital structure.

He has found that the average cost of capital is regressed with each of the selected explanatory variable such as leverage ratio, size of capital employed, dividend pay out ratio, earning variability and liquidity ratio. Besides it, he has also concluded following issues:

a The earning variability of government companies is higher than that of private owned companies.

b. The relationship of cost of capital to leverage holding other variables constant.

c. The result shows that the correlation co-efficient of leverage of has negatives relationship with average cost of capital.

d. Under private owed companies average cost of capital and regression co-efficient of leverage is negative but Regression co-efficient of cost of capital on growth in total assets is positive.

e. In context of government owned companies, the regression co-efficient of Ko is negative and average cost of equity is also negatively correlated with leverage, size of capital employed, growth in total assets .

[R.N. Mahto 'capital structure and cost of capital of Nepalese Manufacturing companies' Un Published Master's Thesis Central Department of Management T.U. 2006]

1.5 CONCLUDING REMARKS

Many studies have been conducted on the theory and practice of capital structure in developed countries having big capital markets particularly in U.S.A. and U.K. But the optimal capital structure is yet being seen in context of underdeveloped countries having smaller capital markets. The present study which is based on a small capital market of Nepal can be considered as more important. This study has identified useful financial variables that are helpful for prediction of capital structure and its effect on profitability which is a Judgmental task.

From the review of literature, it is obvious that the capital structure is an important topic that has received much attention in the management area. However the extensive body of literatures surrounding the capital structure, the question of optimal capital structure and

determination of capital structure still remains. The decision regarding capital structure has been a subject of controversy in financial literature. It is suggested that there is optimal structure for each firm is obtained by the trade off between the cost and benefit of using debt in capital structure. But the net operating income approach and Modigliani and miller proposition on capital structure rejected debt capital presence of any such optimal capital structure.

The Review shows that decade of 1960 were centered on the MM independent hypothesis and MM tax correction hypothesis. Many research worked under the MM hypothesis and result concluded that the cost of capital is the function and leverage. In 1985, the Modigliani and Millers seminar paper in United States were conducted to back up the most data tables MM hypothesis during the 1970. Most of the empirical works were directed towards the area of capital structure. After the development of agency cost and a symmetric information modes of capital structure theory numerous studies were carried out during the 1980s which were based on either agency cost model or an asymmetric information model. The study carried out during 1990s and early 2007s revealed that the capital structure decisions were affected by the cultural factor, organizational factor and country factors on various assets of companies. This study used various financial tools to accomplish the objectives of the study.

This study is devoted to test the relationship between various factors of capital structure. There is need to carry out a specific study on the effect of capital structure on business result. This study is expected to validate effect of capital structure on profitability and sales. It also clarifies the financing of the firm represented in the company.

CHAPTER – THREE
RESEARCH METHODOLOGY

Simply research methodology is the method used for conducting research work. From deep study, the term research methodology is the research method used to test the hypothesis after making proper planning and structure of research work. In designing research methodology for a thesis, the following elements should be taken into account:

i. To state the research question and hypothesis

ii To pick a sample from a list of population

iii To make a separations between the dependent and independent variable .

iv. To discussion the reliability and validity of instrument used.

v. To control the procedures and make sure that they are carried out correctly.

The conceptual component of capital structure has already been discussed in the introduction chapter as well as in the review of literature relating of the various theories of capital structure. In this section of thesis report, various methodologies which are followed in the thesis writing are included. The section is focused on the application of the techniques and produces to analyze the various component of capital structure in context of selected firm of cement Industry. This chapter has been divided into several sections to examine the debt equity trend of selected firm Hetauda Cement Industry Limited (HCIL).

The first section presents the concept of research design while the second section describes nature and source of data where as the third section deals with selection of enterprises studied and their present status. Similarly fourth section explains the methods of research analysis employed in this study or thesis report. At last the fifth section explains the definition of key terms.

1. CONCEPT OF RESEARCH DESIGN

Simply a design means the planning of work. It includes the process of doing work. In context of research, the design used in research procedure is known as research design. The planning activity in research is also governed by systematic manner. In other words, Research design means the planning of research work by which the decision is to be carried out easily.

The research design refers to the entire process of planning and carrying out a research work. Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to the research questions and to control variance (Kerlinger: 1986).

Basically, the research has two purposes. The first purpose is to answer the research question or test research hypothesis and the second purpose of research design is to control variance.

In context of the thesis writing, the research design is the logical and systematic planning which is traced before conducting this study. It is the plan to test the hypothesis for study on a particular subject matter i.e. the effect of capital structure. In order to conduct this study, descriptive vs analytical research design has been adopted. Descriptive research design has been utilized mainly for conceptualization of the problem while analytical research design has been followed to analyze the relationship among capital structure and its variables.

2. NATURE AND SOURCE OF DATA

Collecting data is the vital element for this thesis writing. The data collections are the basic work of preparing thesis work. Such data are taken from following two ways while preparing this thesis report.

A. Primary data

B. Secondary data

A. Primary Data: -

The data which is first time collected for investigations by his/her against or research organization is known as primary data. It is original in characters just like Raw material. The methods of collecting primary data are:

a. Direct personal interview

b. Indirect oral interview

c. Observation method

d. Information from local correspondent.

e. Mailed questionnaire method

In this thesis writing, only direct personal contact and oral interview methods are used. The data information is collected by making questions and interviewing with different personnel of the concerned department of the Hetauda Cement Industry Limited (HCIL).

B. Secondary Data: -

The data which is not originally collected but obtained from published and unpublished source called secondary data. These data are not original in characters. These data are prepared by higher skilled manpower. It can be collected from internal and external source.

This study is based upon the primary as well as secondary data. The necessary data and information have been collected from various sources covering a period of 9 years i.e. fiscal 2057-056 to fiscal 2065-66 from the direct visit in Hetauda Cement Industry Limited (HCIL). The study mostly depends on secondary data, which contains the balance sheet and profit and loss account of the selected manufacturing company.

To analyze the relationship among different variables, this study uses pooled cross-sectional data of cement industry named Hetauda Cement Industry Limited (HCIL). The company's financial department provides the annual financial reports. The balance sheet of Hetauda Cement Industry Limited (HCIL) provides the information on market value and book value of equity, interest bearing funds, loans, current liabilities, total assets, net worth and other related variables. Similarly the income statement of Hetauda Cement Industry Limited (HCIL) provides net profit, sales, cash flow, and amount on interest expenses. Then various ratios and variables have been computed as required for the study.

The major sources of secondary data and information are as follows:-

a. Booklets published by the company
b. Annual reports
c. Financial statements
d. Web site of NEPSE Ltd.
e. Various previous study dissertation and articles on the subject.
f. Website of the HCIL i.e. Http:// www.sajilo.com./hetaudacement/index.htm

3. STATUS OF HCIL

There are above 118 Nepalese manufacturing public limited companies listed in Nepal stock Exchange. It is not possible to study all Nepalese manufacturing public limited companies because of the absence of valid and reliable data as well as time. So the study only covers a cement industry which is one of the basic agro-based public enterprises named Hetauda Cement Industry Limited.

Industrialization is the back bone for the development and generally supposed to be the land marks for high economic growth. In absence of development of Industry, development of nation is not possible. In present day, new technological approaches have been introduced for industrial sector and numbers of Industry have been established. Among them, cement Industry were established to fulfill the requirement of strong and durable construction work.

Among various public enterprises, Himal Cement Industry Ltd, Hetauda Cement Industry Ltd, Udaypur Cement Industry Ltd, Annapurna Cement Industry Ltd, Maruti Cement Industry Ltd and Tribeni Cement Industry Ltd are major manufacturers and suppliers of cement internally in our country, Nepal. The study focuses on Hetauda Cement Industry Limited (HCIL) which was established in 2033 B.S.

Hetauda Cement Industry Ltd (*HCIL*) was incorporated under company act 2021 with the share investment of Government of Nepal and loan assistance of Asian Development Bank. Later, the credit from national and international commercial banks was also received for financing the projects. The plant has annual production capacity of 230,000 MT of cement and was installed with loan assistance from Asian development Bank (ADB). It commenced its commercial production since December 1985. (Source: Company's Profile of *HCIL*)

In context of Nepal, data problem is acute. Even the financial statements of the companies published by them are not readily available because they are treated as confidential. NEPSE Ltd. Published financial statement of some of the listed companies to avail and ease information regarding capital market for research purpose. We need sufficient data of several years regarding the study on the selected topic. So newly establishes manufacturing companies do not have sufficient data even though they are listed in Nepal stock Exchange market. Thus, among more than 43 public enterprises, only HCIL is selected as sample unit for the study.

4. METHODS OF RESEARCH ANALYSIS

Analysis is the careful study of available facts, so that one can understand and draw conclusion from them on the basis of established principles and sound logic (Cottle et. Al: 1986, P. 29). The analysis of data consists of organizing; tabulating and performing statistical analysis (Wolf & Pant 1999, p.127). The statistical techniques of regression analysis are employed to a number of cases. Various financial tools are used to confirm the relationship between various factors of capital employed in HCIL.

This analysis has been made in this study by using annual data of Nepalese Manufacturing Company for the years 2057/058 to 2065/066. Different possible alternative specifications are also attempted where necessary in each case in order to obtain the best result. The empirical results have been estimated in this study by processing usable financial variable such as divided yield, capital gain yield, earning yield, leverage, assets turnover, debt equity ratio, debt to total capital ratio etc.

This study attempts to examine the relationship of component of capital structure. The following models are used in this study for presentation and analysis of data of HCIL:

1. Capital Gearing
2. Proprietary Ratio
3. Fixed Assets to Proprietors' Fund Ratio
4. Debt to Equity Ratio
5. Debt to Total Capital Ratio
6. Capital Employed Turnover
7. Return on Shareholders' fund
8. Return on Capital Employed

Model I **<u>Capital Gearing: -</u>**

Capital gearing ratio is also known as capitalization ratio or leverage ratio, which is closely related to solvency ratio. The term capital gearing refers to the Proportion between the fixed interest and divided bearing fund and non fixed interest and dividend bearing funds. The capital gearing can be calculated ad follows:-

$$\text{Capital Gearing} = \frac{\textbf{Fixed Interst and Divided Bearing Fund}}{\textbf{Non Fixed Interest and Dividend Bearing Funds}}$$

If both of equity capital and loan capital is equal, there is even gear while if equity capital is more than the loan capital, it is the situation over capitalization having low gear and if loan capital is more than the equity capital. It is the situation of under capitalization having higher gear in the business.

Model II **<u>Proprietary Ratio: -</u>**

Proprietary ratio is the ratio which shows the proportion of shareholder's funds in the total resources used in the business. This ratio shows the long term or future solvency of the company. The ratio shows the general strength of the company. It is calculated by dividing shareholder's funds by the total Assets as shown below: -

$$\text{Proprietary Ratio} = \frac{\textbf{Share Holders Fund}}{\textbf{Total Resources or Assets}}$$

The accepted norm of the ratio is 1:3 and a ratio below 50% may be alarming for the creditors since they may have to lose heavily in the event of company's liquidation on account of heavy losses (R.S.N. Pillai & Bagavathi: 1994, P.1344).

Proprietary Ratio is further analyzed into the following manners:

1. Ratio of fixed assets to proprietor's funds.
2. Ratio of current Assets to proprietor's funds

Model III **Ratio of Fixed Assets to Proprietor's Funds: -**

Ratio of Fixed Assets to Proprietor's Funds is the ratio which shows the relationship between fixed assets and shareholders fund. The purpose of the ratio is to calculate the percentage of the owner's funds in vested in fixed assets. It can be ascertained by using following formula:

$$\text{Fixed Assets to Proprietor's Funds} = \frac{\textit{Fixed Assets}}{\textit{Proprietor's Fund}}$$

Model IV **Debt to Equity Ratio: -**

The ratio which shows the relationship between creditor's fund and owner's fund is known as "Debt equity Ratio". It indicates to what extent the firm depends upon the outsider for its existence. The ratio is very important from the point of view of creditors, owners and the business itself.

An acceptable norm for this ratio is considered to be 2:1. A higher debt equity ratio is allowed in the case of capital intensive Industry, A norm of 4:1 is used for fertilizer and cement unit and a norm 6:1 is used for shipping units (R.S.N. Pillai & Bagavathi: 1994, p.1346). It can be calculated as follows:

$$\text{Debt Equity Ratio} = \frac{\textit{Long Term Debt}}{\textit{Shareholders Fund}}$$

OR

$$\text{Debt Equity Ratio} = \frac{\textit{Total Debt}}{\textit{Shareholders Fund}}$$

Model V **Debt to Total Capital Ratio: -**

The ratio which shows the relationship between long term debt and total capital employed in organization is known as "Debt to total capital Ratio" It is calculated by dividing long term debt by total capital employed. Conventionally, a ratio of 2:1is considered satisfactory but there is no hard and fast rule for its acceptable norm for any Industry. It can be calculated as follows:

$$\text{Debt to total Capital Ratio} = \frac{\textit{Long term Debt}}{\textit{Total Capital}}$$

OR

$$\text{Debt to total Capital Ratio} = \frac{\textit{Total Debt}}{\textit{Total Capital}}$$

Model VI **<u>Capital Employed Turnover: -</u>**

The ratio which shows the relationship between sales and total capital is known as "capital employed Turnovers". It is also called total capital turnovers. It shows the efficiency of the capital employed in the business enterprises. The efficiency and effectiveness of the operations are judged by the comparing the cost of sales or sales with the amount of total capital invested in the business. It can be ascertained as follows:

$$\text{Capital Employed turnover} = \frac{\textit{Net Sales}}{\textit{Total Capital}}$$

OR

$$\text{Capital Employed turnover} = \frac{\textit{Cost of Sales}}{\textit{Total Capital}}$$

Model VII **<u>Return on Shareholders Equity: -</u>**

The ratio which indicates the profitability of the owner's investment is known as Return on shareholders equity. This is the most commonly used ratio for measuring the return on owner's investment. It is calculated as follows: -

$$\text{ROSE} = \frac{\textit{NPAT}}{\textit{Total Shareholder's Fund}} \times 100$$

Model VIII **<u>Return on Capital Employed: -</u>**

The Ratio which measures the relationship between capital employed and operating profit is said to be return on capital employed. It is also called return on investment (ROI) or rate of return. It indicates how well the management has used the funds supplied by creditor. The efficient use of funds entrusted to the firm, by creditors and owners. This ratio can be calculated by using following formula: -

$$\text{ROCE} = \frac{\textit{Net Profit}}{\textit{Capital Employed}} \times 100$$

5. <u>LIMITATION OF THE STUDY</u>

A thesis is a statement of some proposition which appears to be a general truth or at least is true in some stated situation. Writing a thesis is an activity which not only requires a

good writing skill but also the Knowledge of research methods both in the library and in the field (H. K. Wolff and P.R. Pant: 1975). The thesis writer has to face a number of difficulties in preparation of thesis report. The major difficulties relating to the writing of this thesis are taken as the limitation of this study.

In the context of Nepal, collecting data is a great problem. The financial statement of Nepalese enterprises published by them are not ready available since they are treated as confidential. Although http:// www.sajilo.com./hetaudacement/index.html publishes various financial statements of HICL to avail and ease information regarding the concerned enterprise, HCIL. But, it is still unable to provide required data of HCIL from the years of listing. In order to make study on the effect of capital structure of HCIL, It is more fruitful to our country Nepal. It is essential that the data could be of frequent time intervals such as monthly, quarterly and half yearly. But it is not possible to obtain such data. Due to this, the study has been use annual data of HCIL which are available in form of profit and loss account and balance sheet. Including above fact, the study has to face following remarkable limitation.

1. Lack of appropriate method used for writing it.
2. Lack of adequate time and data for writing.
3. Lack of adequate fund for data collection, printing work and so on.
4. Lack accurate data of the current fiscal years due to unpublished materials
5. Lack of necessary books, business journal and related Magazines in local market.

This study will be done on the basis of secondary data; therefore reliability of conclusion of the study will be based on the accuracy of secondary data.

6. DEFINITION OF KEY TERMS

The financial statements published of NEPSE Ltd. have its own format for published the financial data of Nepalese enterprises a more or less uniform basis. It is therefore desirables to define some key terms so as to avoid misunderstanding. The brief definition of key terms of variables used in this study is as follows:-

1. Share capital:-

A company collects its capital by inviting the public to buy its share through documents known as prospects. The capital which has raised by issue of shares is known as share capital. The shares which can be issued by a company are of following two types:-

A. Equity share capital

B. Preference share capital

A. Equity share capital

Equity share, with reference to any company are ordinary share having no any preferential right generally. Rate of dividend may vary from years to year according to the profit earned

B. Preference share capital

Preference share with reference to any company are extra-ordinary share having some preference right over the ordinary types of share. It must have following two preferential rights:-

i. They have a preference right to be paid dividend during the life time of the company.

ii They have a preferential right to the return of capital when the company goes in to liquidation . It may be

- Redeemable & Irredeemable;
- Cumulative & Non-cumulatisssve;
- Participating & Non-participating and
- Convertible & Non-convertible.

The share capital of a company is divided in to the following categories:-

- Authorized share capital
- Issued share capital
- Subscribed share capital
- Called up share capital
- Paid up share capital

a. Authorized share capital

This is the maximum amount which a company authorizes to raise by issue of share. It is stated in the memorandum of Association as capital of the company.

b. Issued share capital

It is the part of the authorized share capital which the company offer to the public for purchase or subscription at present .The company may not issue its entire authorized capital at once a time. It may be issued from time to time as per need of the company.

c. Subscribed share capital

It is the part of the issued capital which is taken up or subscribed for by the public. Sometimes there may be overwhelming response to the issued and share may be over subscribed while on the other cases the company may receive application for less numbers of shares than the issued share capital.

d. Called up share capital

It is the part of the subscribed capital which is called up by the company and is to be paid by the shareholders. According to the need of the company, the amount may be called up.

e. Paid up share capital

It is the part of called up capital which is actually paid by the shareholders. It represents the amount received against the call made on the share.

2. Shareholder's Fund

The amount which belongs to the shareholders is known as shareholder's fund. It means share capital plus reserve and surplus minus fictitious assets including preliminary expenditure. It may be calculated as follows:

Table No: - 12

Calculation of Shareholder's Fund

Particular	Amount
Paid up equity share capital	xxx
Paid up Pref. share capital	xxx
Share premium	xxx
Share forfeiture	xxx
Reserve and funds	xxx
Retained earning	xxx
Earned surplus (or profit)	xxx
Less	
Fictitious Assets	(xxx)
Net loss	(xxx)
Shareholder's Fund	**XXX**

3. <u>Debt capital</u>

The company needs capital for running expansion and development. Debt capital is the funds collected from external sources. It is one of the usual way through which a company borrows on a long term basis by issuing of debenture to financial institution and the public. It is also termed as loan capital. It includes debenture, bond and any other long term loan of a company .There are following three terms associated with it is this study:-

a. Long term debt
b. Short term debt or current liabilities
c. Total debt

a. **Long term debt**: - The major part of debt capital that is dues beyond one year is known as long term debt.

b. **Short term debt**: - The part of debt capital that should be cleared within one year is known as shorts term debt.

c. **Total debt:-**The total funds collected from external sources as debt capital. It is the sum of all Long term debt and short term debt or current liabilities.

4. <u>Capital employed:</u> - The total of long term debt and shareholder's fund is known as capital employed. It is also known as permanent capital or long term fund or total capital.

5. <u>Assets</u>: - The properties owned by the organizations termed as assets that can be used to operate organizational affairs. It may be fixed and current.

a. <u>Fixed assets: -</u> fixed assets are capital assets or long term assets which are of a permanent nature and which the proprietor of a business purchases because these are helpful in the operation of the business year over year. They are not intended for re-sale but are purchased for permanent use. These include plant, machinery, furniture, building etc.

b. <u>Current assets: -</u> The assets that can be converted into cash within short period of time are called current assets. Here the short period of tine refers to a month, a quarter or half year, that is not exceeding a year. These assets are of essentially short term nature like cash, inventory, account receivable etc. as opposed to fixed assets.

c. <u>Total assets</u>: - Total assets include current assets, fixed assets, loans provided by the company to development banks, investments made by the company in shares, debentures and other securities and miscellaneous assets.

6 <u>Earning per share</u>: - The profit in rupee value for each number of the share is called earning per share.

7. **<u>Leverage</u>: -** Here leverage means financing of borrowed (or debt) capital in firm's capital structure for effectiveness of the long term financial position. It stands for relationship between external and internal sources of funds of a business firm.

8. **<u>Liquidity</u>: -** Firm's investment on liquid assets which is used to describe money and assets that are readily convertible. It is the ability to meet current obligation or claims within a short period of time.

9. **<u>Net profit</u>: -N**et profit is the excess of revenue over expenses incurred for earning such profit.

CHAPTER – FOUR
DATA PRESENTATION AND ANALYSIS

1. CONCEPT OF DATA PRESENTATION AND ANALYSIS

Human beings are always inquisitive. They always try to understand about the different impacts and results. They keep the information regarding the daily activities of concerned organization to understand the importance and application of statistics formally. Specially to start any project work and thesis writing, we need different information either of qualitative nature or quantitative nature.

Generally all the collected phenomena are information but it is being ready to use, for the purpose of statistical analysis, then it works as a data. It is essential for all statistical investigations and research work. The investigators should collect facts and figures related to their particular area of investigation to make appropriate analysis, decision, suggestions and recommendation.

The presentation of data is the basic organization and classification of data for analysis. After the collection of data, it is necessary to arrange them, so that it makes some sense to the researcher and can later be presented to the readers of the thesis. The data can be presented in charts, graphs and tables to understand data in the easiest way.

The analysis of data is another important work of thesis writing. Analysis means the systematic process of establishing a meaningful relationship between each other in such a way that a conclusion can be drawn. Thus the data analysis is the process of establishing meaningful relationship between various items of selected data and evaluation the relationship between the components studied so that the forecasting may be made in connection with status of the firm concerned. Especially the main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis.

This chapter consists of **two** sections which are fully devoted to analyze the various issues of this study. The first section shows the capital structure of HCIL while the second section analyses the effect of capital structure on liquidity, solvency, profitability and performance of business.

1. PRESENTATION OF DATA

Capital structure is the permanent financing represented by long term debt, preferred stock and common stock. The firm's capital structure is the mix of long term financing

broadly classified into outsider's debt and owner's equity fund. An industry can not manage its financial sources by itself. It will have to depend upon external and internal source of finance for itself like bank, financing institutes, government etc. HCIL had its initial sources of capital as follows: -

Table No: 13

Capital Structure of HCIL

S. N.	Component of capital	Amount (Rs.)	Percentage
1	Loan from Nepal Bank Limited.	330,000,000	66%
2	Loan from Asian Development Bank	1,044,000,000	21%
3	Investment of Government of Nepal	206,395,000	13%
	Total	1581218000	100%

Source Primary data of HCIL

Similarly it has been changed nowadays. In present time the capital structure is as follows:

Table No: 14

Capital Structure of HCIL

S. N.	Component of capital	Amount (Rs.)	Percentage
1	Loan from Nepal Bank Limited.	----------	-----
2	Loan from Asian Development Bank	----------	-----
3	Investment of Government of Nepal	900685000	100%
	Total	900685000	100%

Profile of company

From the above data is clear that the HCIL invested Rs. 206,395,000 in equity in commencement of HCIL and reached up to Rs. 900,685,000 till the end of study period, fiscal year 2065/066.

Similarly in context of debt capital, the company collects the loan from Asian Development Bank ltd and Nepal Bank Ltd. It collections debt capital Rs. 1,374,000,000 in beginning but there is no any long term loan nowadays.

On the other hand the company's capital structure has been divided into two parts. It consists of equity and loan capital. The ratio of equity and loan capital was 13:87 at the

beginning of the industry while it is changed and 100% equity financing at present. It means there is more loan or borrowed capital invested in the company at the time of establishment while it is gradually decreased and equity portion of capital structure is increased.

2. ANALYSIS OF DATA

Many studies have been conducted over the last four decades on the issue of capital structure. Some studies supported one view or the other, leading to some fairly unsetting conclusion about capital structure. On the other hand it is argued that capital structure has no effect on the value of the firm according to Modigliani and miller because of 100 percent debt financing.

This study analyses the relationship of various factors of capital structure on profitability, liquidity and solvency position of the organization. The analysis is incorporated with various analytical tools. We can't diagnose about nature of HCIL without using analytical tools. Debt equity ratio, debt to total capital ratio, capital employed turnover, return on capital employed, capital gearing and many more ratios are used as tools and techniques for analysis in this thesis report. As a consequence, summary and conclusion are presented in last on the basis of which recommendation has been given to improve the condition.

A. Capital Gearing:

Capital gearing ratio is the proportion between owners' funds and non owner's fund. It shows the mix of finance employed in the business concern. It is calculated by dividing fixed interest and dividend bearing funds, i.e. funds supplied by debenture holders and preference shareholders by equity non fixed interest and dividend bearing funds, i.e. equity share capital. The comparative pictures of capital gearing for different fiscal year of HCIL are presented in the following table:

Table No. 15

Capital Gearing

Fiscal Year	Fixed Interest and Dividend Beaing Fund	Non Fixed Interest and Dividend Bearing Fund	Capital Gearing
2057/058	116,444,723	900,685,000	0.13
2058/059	276,659,487	900,685,000	0.31
2059/060	156,276,724	900,685,000	0.17
2060/061	9,630,044	900,685,000	0.01

Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

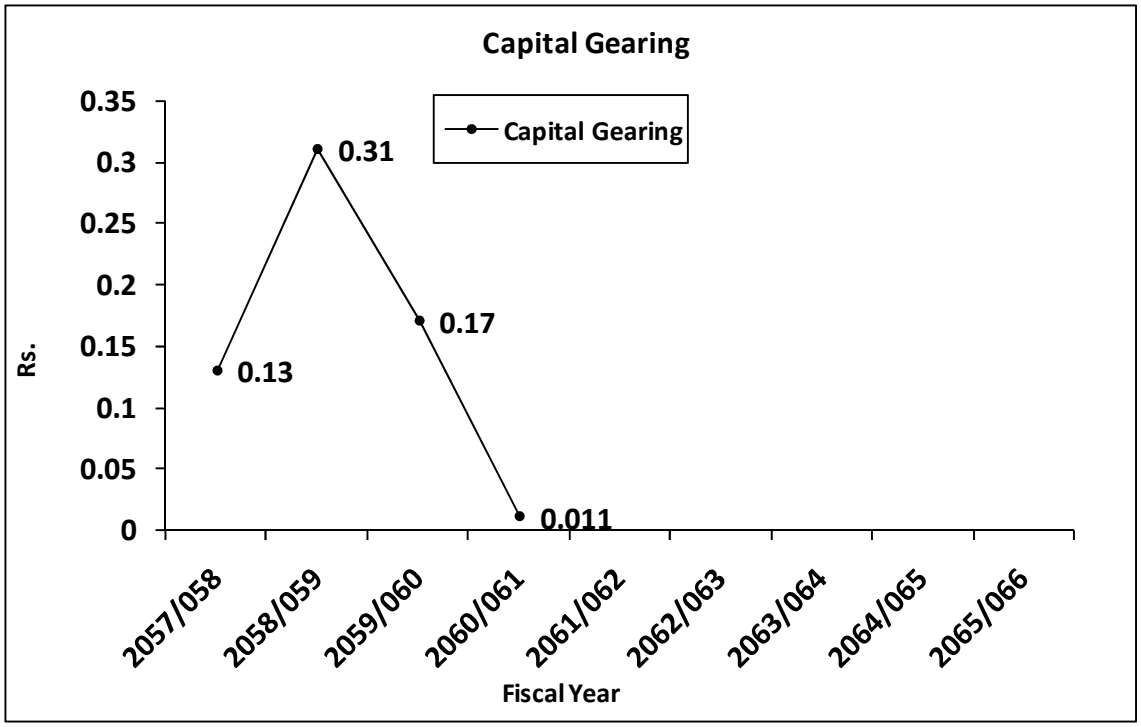
From the above table, it becomes clear that the result of capital gearing is only at beginning of four years of the study period. It is very low in fiscal year 2060/061 and slightly high in fiscal year 2058/059. According to the table it is clear that the company has low gear in the year fiscal year 2060/061 while the company has been highly geared in the fiscal year 2058/059. The company is in under capitalization since the fiscal year 2057/058 to fiscal year 2060/061 because of low capital gearing ratio. On the other hand, the company is in over capitalization which indicates trading on thick equity.

The capital gearing of *HCIL* indicates the mix of finance employed in HCIL. The table clarifies that the capital gearing of *HCIL* is 0.13:1 in fiscal year 2057/058, 0.31:1 in fiscal year 2058/059, 0.17:1 in fiscal year 2059/060 and 0.01:1 in fiscal year 2060/061.

The trend of capital gearing of HCIL can also be shown from following graph diagram:

Figure No. 4

Capital Gearing



Source: - Annual Report of HCIL for the Year 2057/2058 to 2065/2066

From the above graph diagram, the trend of capital gearing is very clear that it is low and less then one. The trend of capital gearing is in increasing way from fiscal year 2057/058 to fiscal year 2058/059 while it is in decreasing way from fiscal year 2058/059. It is 0.13:1 in fiscal year 2057/058, 0.31:1 in fiscal year 2058/059, 0.17:1 in fiscal year 2059/060 and 0.01:1 in fiscal year 2060/061.

The trend of capital gearing increases from 0.13:1 to 0.31:1in fiscal year 2058/059 and it decreases from 0.31:1 to 0.17:1 in fiscal year 2059/060. On the other hand, it is dramatically decreased to 0.01:1 in fiscal year 2060/061. The trend shows that there is only equity investment in the HCIL after that fiscal year 2061/062 to fiscal year 2065/066.

Thus it is cleared that the HCIL is in over capitalization having low gear. On the other hand, the capital gearing is not calculated since fiscal year 2061/062 to till now because of not showing long term debt and preference share capital in company's financial statement but the portion of long term loan is to be shown in current liabilities till now which creates the capital gearing of HCIL but very low.

B. Proprietary Ratio

Proprietary ratio is the ratio of shareholders funds to total assets including goodwill. In context of this study, amount of goodwill is not available. So, it is calculated by dividing

shareholders' equity by total assets. It reflects the proportion of shareholders equity in the total assets used in HCIL. The comparative picture of proprietary ratios for different fiscal year of HCIL is presented in the following tables:

Table No. 16

Proprietary Ratio

Fiscal Year	Shareholder's Equity	Total Assets	Proprietary Ratio
2057/058	200,658,190	906,068,309	0.22
2058/059	173,550,071	888,775,939	0.20
2059/060	76,472,989	913,821,069	0.08
2060/061	13,632,701	866,390,144	0.02
2061/062	-76,329,748	792,861,944	(0.10)
2062/063	-55,731,020	830,430,868	(0.07)
2063/064	9,926,588	915,064,395	0.01
2064/065	50,828,463	993,298,813	0.05
2065/066	128,388,047	1,061,217,195	0.12
Average	57,932,920	907,547,631	6.38

Source: - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

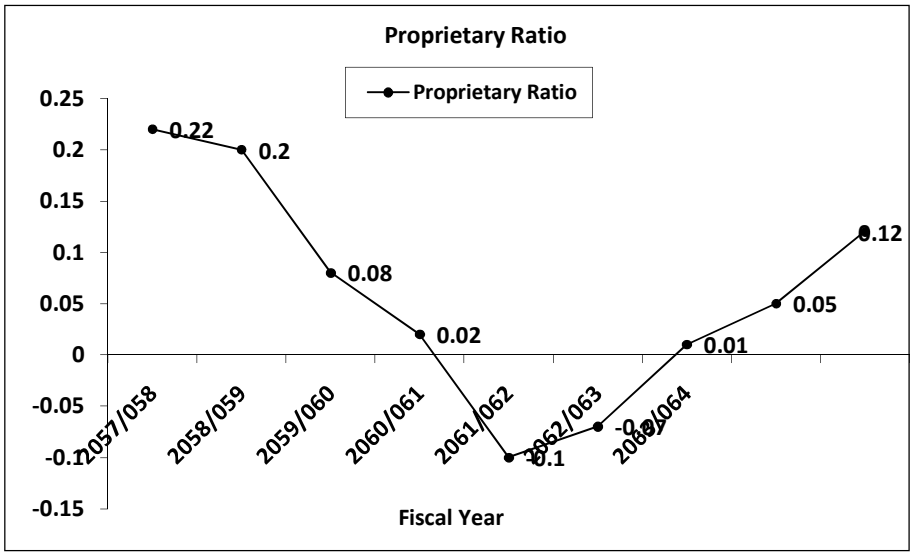
From the above table the proprietary ratio of various fiscal years is very low but less than 1:3 i.e. 0.333:1 which is the acceptable norms of this ratio. The ratios of 2057/058, 2058/059, 2064/065, 2065/066 shows highly dependence on external sources while the ratio 0.01:1 of fiscal year 2063/064 is nominal which indicates unsound financial position.

On the other hand the ratio of fiscal year 2061/062 and fiscal year 2062/063are negative because of heavy accumulated loss of previous year. From those ratios, it becomes clear that the creditors have greater risk because of low ratios. The proprietary ratio of HCIL also indicates the general strength of the company. The ratio alarms for creditors towards greater risk in the event of HCIL's liquidation.

The trend of proprietary ratio of HCIL can also be shown form following graph:

Figure No. 5

Proprietary Ratio



Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

From the above graph diagram, the trend of proprietary ratio is very clear that it is low and less then one. The trend of proprietary ratio is in decreasing way from fiscal year 2057/2058 while it is in increasing way from fiscal year 2062/063 to fiscal year 2065/066.

The trend of proprietary ratio is in decreasing way from the fiscal year 2057/058 while the trend is in the increasing way form the fiscal year 2062/063. No proprietary ratio of HCIL is nearer to industrial norms i.e. 0.33:1under the study period.

Thus it is cleared that the trend of proprietary ratio is greater riskier to the creditor. The creditors are not in secured position. On the other hand, the trend of proprietary ratio is greater riskier to the creditor in the fiscal year 2060/061, 2061/062 2062/063 and 2063/064. The creditors are not in secured position in the fiscal year 2061/062, and 2062/063 due to negative ratio.

C. Fixed Assets to Proprietors' Funds Ratio:

Fixed assets to shareholders fund ratio show the relationship between fixed assets and share holder's fund. The fixed assets and shareholders fund's ratio of HCIL reflects how much amount of shareholder's equity has been invested in fixed assets of the HCIL. The higher fixed asset to proprietor's funds ratio shows sound financial position where as lower ratio shows unsound financial position. It is calculated by dividing total fixed assets

excluding investment of HCIL by share holder's equity of the HCIL. The comparative pictures of fixed assets to share holder's fund ratio of HCIL for various years are given below in table no. 17:

Table No. 17

Fixed Assets to Proprietary Fund Ratio

Fiscal Year	Fixed Assets	Proprietors' Funds	Fixed Assets to Proprietors' Fund
2057/058	473,288,093	200,658,190	2.36
2058/059	434,282,345	173,550,071	2.50
2059/060	400,820,450	76,472,989	5.24
2060/061	366,207,308	13,632,701	26.86
2061/062	337,033,620	-76,329,748	(4.42)
2062/063	310,932,337	-55,731,020	(5.58)
2063/064	286,856,864	9,926,588	28.90
2064/065	265,535,360	50,828,463	5.22
2065/66	254,898,156	128,388,047	1.99
Average	347761614.8	57932920	6.00

Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

From the above table, it becomes clear that the fixed assets to proprietary fund ratio of HCIL are not only positive but negative also. The table clarifies that highest fixed assets to proprietary fund ratio is 28.90:1 of fiscal year 2063/064 and the lowest fixed assets to proprietary fund ratio is -5.58 : 1 of fiscal year 2062/063.

On the other hand, there is negative fixed assets to proprietary fund ratio of HCIL are in fiscal year 2061/062 and fiscal year 2062/063 i.e. -4.42:1 and -5.58:1 respectively.

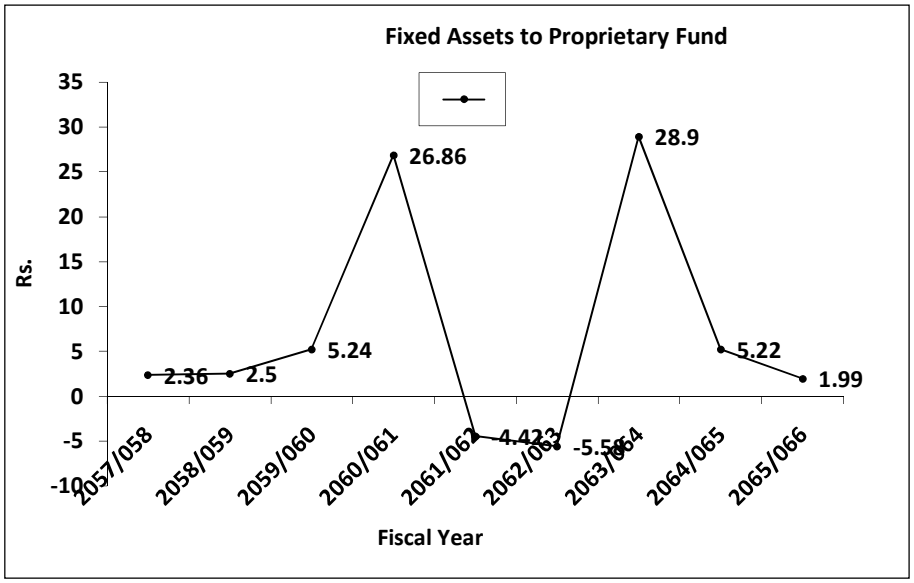
The creditor's obligation has been used to acquire a part of fixed assets in the every fiscal year. The fixed assets to shareholder funds' ratio of HCIL are generally more than one under study of fiscal year 2057/058 to 2065/066 excepting fiscal year 2061/062 and 2062/063. It means that creditors obligation have been used to acquire a part of the fixed assets.

Even though the evidence shows that this ratio is highly unsatisfactory even in fiscal year 2063/064 which is largest and increased up to 28.9:1.

The trend of this ratio can be shown in the following diagram.

Figure No. 6

Fixed Assets to Proprietary Fund Ratio



Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

In the above graph diagram, the trend of fiscal assets to proprietor's funds ratio is positive in every fiscal year excepting fiscal year 2061/062 and 2062/063. It is in increasing trend in the beginning three year but it is dramatically decreased in the fiscal year 2060/061. On the other hand, the trend of fiscal assets to proprietor's funds ratio is in increasing position since the fiscal year 2062/063.

The trend of fixed assets to proprietor's fund ratio is very clear that it is low but more then one.

The trend of fixed assets to proprietor's fund ratio is in increasing way from fiscal year 2057/058 to fiscal year 2060/061 and it is in decreasing way from fiscal year 2060/2061 to 2062/063. Its trend is again in increasing way from fiscal year 2062/063 to fiscal year 2063/064 and in decreasing way from fiscal year 2064/065 to fiscal year 2065/066.

D. Debt To Equity Ratio

Debt equity ratio is the ratio of external equities to internal equities or outsiders' funds to share holders' fund. It shows the relationship between borrowed funds and owner's capital. It indicates the relative proportions of total debt and equity in financing the assets of the firm.

The financial statement of HCIL does not include long term debt in every year but the portion of long term debt payable in the current year is shown in current liabilities. Thus the debt equity ratio of HCIL is calculated here by dividing total debt including current liabilities by shareholders funds under study.

The comparative pictures of debt equity ratio of HCIL for different fiscal years are given below in the table: -

Table No. 18

Debt to Equity Ratio

Fiscal Year	Total Debt	Shareholder's Fund	Total Debt to Shareholder's Fund
2057/058	705,410,119	200,658,190	3.52
2058/059	715,225,868	173,550,071	4.12
2059/060	837,348,080	76,472,989	10.95
2060/061	852,757,443	13,632,701	62.55
2061/062	869,191,692	-76,329,748	-11.39
2062/063	886,161,888	-55,731,020	-15.90
2063/064	905,137,807	9,926,588	91.18
2064/065	942,970,350	50,828,463	18.55
2065/066	932,829,148	128,388,047	7.27
Average	849,670,266	57,932,920	14.67

Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

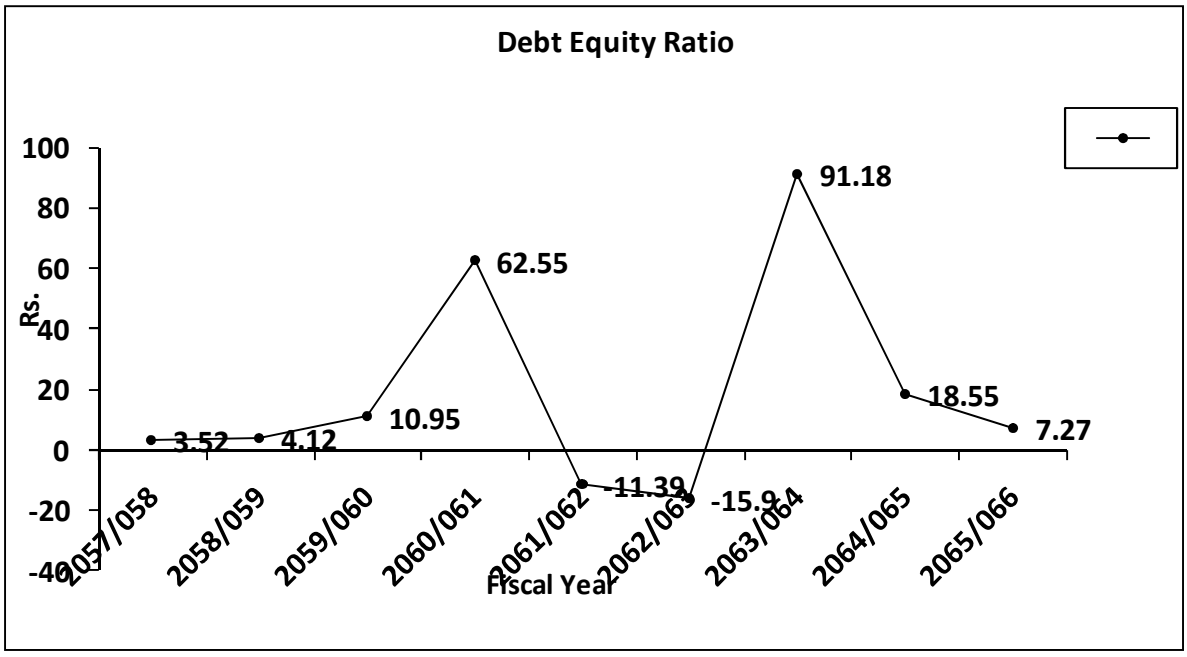
From the above data, it has cleared that debt equity ratio of HCIL is not only positive but negative also. It is not only very low but negative in fiscal year 2061/062 and2062/063. According to the table it is clear that the company has the highest debt equity ratio in the year fiscal year 2063/064 i.e. 91.18:1 while the company has very high debt equity ratios in the fiscal year 2060/061.

According to the above data, that debt equity ratio of HCIL is 3.52:1, 4.12:1and 7.27:1 in fiscal year 2057/058, 2058/059 and 2065/066 respectively. These ratios are considerable. On the other hand, the debt equity ratios of fiscal year 2059/060, 2064/065, 2060/061 and 2063/064 are 10.95:1, 18.55:1, 62.55:1 and 91.18:1 respectively. The company has very high debt equity ratios in these fiscal years. Similarly the debt equity ratios of fiscal year 2061/062 and 2062/063 are -11.39:1and -15.90:1 respectively. The company has negative debt equity ratios in these fiscal years.

The trend of Debt to Equity Ratio can be shown in the following graph diagram.

Figure No. 7

Debt Equity Ratio



Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

From the above graph diagram, the trend of debt equity ratio is very clear that it is high and more then one. The trend of debt equity ratio is in increasing way from fiscal year 2057/058 to fiscal year 2060/061 while its trend is in decreasing way from fiscal year 2060/2061 it is in increasing way from fiscal year 2062/063 to fiscal year 2065/066. On the other hand, the trend of debt equity ratio again is in increasing way from fiscal year 2062/063 and in decreasing way from fiscal year 2063/064.

The trend of debt equity ratio is in decreasing way from the fiscal year 2057/058 while the trend is in the increasing way form the fiscal year 2062/063. The debt equity ratio of fiscal year 2058/059 in HCIL is nearer to industrial norms i.e. 4:1under the study period. The creditors are not in secured position in the fiscal year 2061/062, and 2062/063 due to negative ratio.

Thus, the trend of debt equity ratio is greater in comparison to the previous year since 2060/061 to 2064/065. The high trend of this ratio shows the claims of creditors are greater than these of owners. The total debt is taken into account for the study.

E. Debt To Total Capital Ratio

Debt to total capital ratio shows the relationship between long term debt and total capital. In context of this study, debt to total capital ratio refers to total debt to total capital ratio. The firm with a higher total debt to total capital ratio is subject to the higher risk and this will in turn increase the changes of getting higher returns and vice-versa. It can be calculated by dividing the total debt of HCIL by the total capital employed of the period. The comparative picture of debt to total capital ratio for various year are given below in the table:

Table No.19

Debt to Total Capital Ratio

Fiscal Year	Total Debt	Total Capital	Total Debt to Total Capital Ratio
2057/058	705,410,119	317,102,913	2.22
2058/059	715,225,868	450,209,558	1.59
2059/060	837,348,080	232,749,713	3.60
2060/061	852,757,443	23,262,745	36.66
2061/062	869,191,692	-76,329,748	-11.39
2062/063	886,161,888	-55,731,020	-15.90
2063/064	905,137,807	9,926,588	91.18
2064/065	942,970,350	50,828,463	18.55
2065/066	932,829,148	128,388,047	7.27
Average	849,670,266	120,045,251	7.08

Source:

- Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

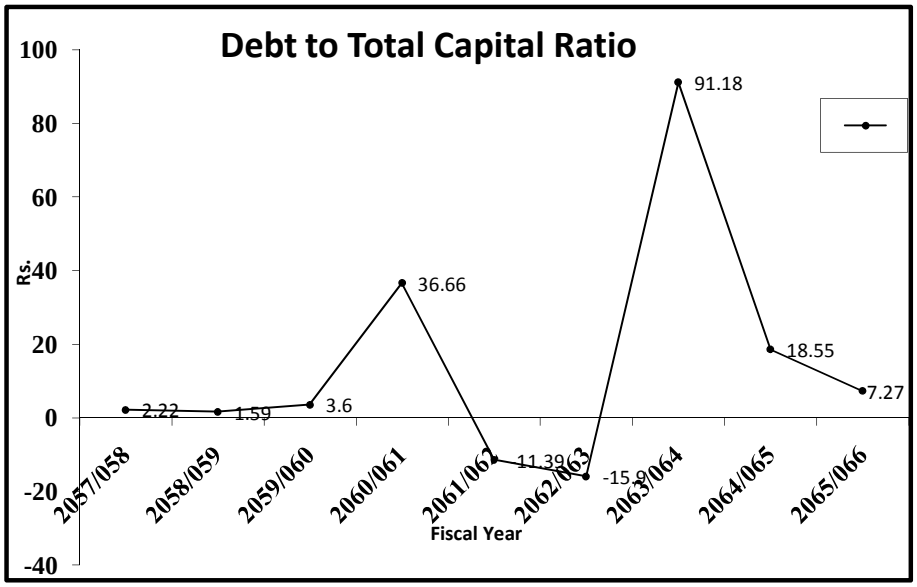
From the above table it is clear that the company, HCIL, has to face with higher risk in the year 2060/061, 2063/064 and 2064/65 due to higher ratios. The firm's investment is negative in the fiscal year 2060/061 and 2062/063. It is dramatically increased too much in fiscal year 2063/064. The total funds provided by creditors in the company.

According to the above data, that total debt to total capital ratio of HCIL is 2.22:1, 1.59:1and 3.60:1 in fiscal year 2057/058, 2058/059 and 2059/060 respectively. These ratios are considered satisfactorily. But the total debt to total capital ratio of fiscal year 2065/066, 2064/065, 2060/061 and 2063/064 are 7.27:1, 18.55:1, 36.66:1 and 91.18:1 respectively. The company has very high total debt to total capital ratio in these fiscal years. Similarly the total debt to total capital ratio ratios of fiscal year 2061/062 and 2062/063 are -11.39:1and -15.90:1 respectively. The company has negative total debt to total capital ratio in these fiscal years.

It is observe that debt to total capital ratio is satisfactory because of low level of risk due to public enterprises. The trend of this debt to total capital ratio can be shown from the following graph diagram:

Figure No. 8

Debt to Total Capital Ratio



Source: - Annual Report of HCIL for the Year 2057/058 to 2065/066

From the above graph diagram, the trend of debt equity ratio is very clear that it is high and more then one. From the above graph diagram, it becomes clear that the trend line of debt to total capital ratio in decreasing way in fiscal year 2058/059 and 2065/066 in comparison to fiscal year 2057/058 and 2064/065 respectively. The HCIL is highly geared company with a higher debt to total capital ratio. On the other hand the HCIL debt to total capital ratio is in negative trend line during fiscal year 2060/061 and 2062/063.

The trend of debt equity ratio is in decreasing way from the fiscal year 2057/058 while the trend is in the decreasing way form the fiscal year 2060/061. The creditors are not in secured position in the fiscal year 2061/062, and 2062/063due to negative ratio.

The trend of debt equity ratio is greater in comparison to the previous year since 2060/061 to 2064/065. The high trend of this ratio shows the claims of creditors are greater than these of owners. The total debt is taken into account for the study.

F. Capital Employed Turnover

This ratio shows the relationship between capital employed and the amount of sales of the organization. It measures the efficiency of capital employed. It indicates how efficiently the capital has been utilized to generate the sales. It is calculated by dividing the net sales of HCIL by capital employed of HCIL. The comparative picture of capital employed turnover ratio of HCIL for different fiscal years are given below in the table.

Table No. 20

Capital Employed Turnover

Fiscal Year	Net Sales	Total Capital	Capital Employed
2057/058	586,041,884	317,102,913	1.848
2058/059	542,170,327	450,209,558	1.204
2059/060	578,710,237	232,749,713	2.486
2060/061	598,141,523	23,262,745	25.712
2061/062	416,057,520	-76,329,748	-5.451
2062/063	655,404,842	-55,731,020	-11.760
2063/064	658,720,310	9,926,588	66.359
2064/065	655,968,569	50,828,463	12.906
2065/066	706,303,831	128,388,047	5.501
Average	599,724,338	120,045,251	4.996

Source: - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

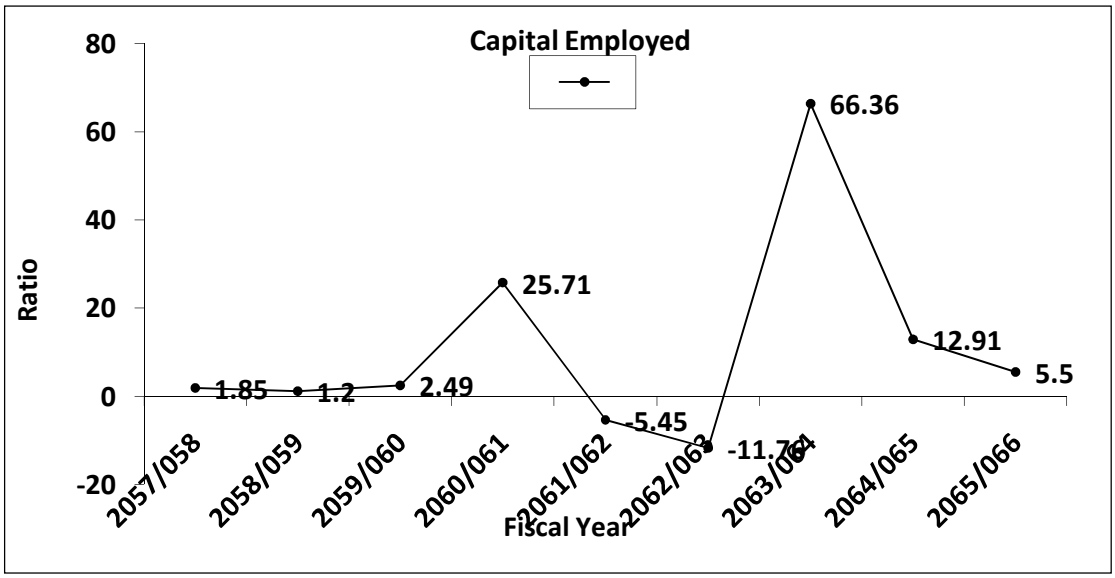
From the above table it becomes clear that the capital employed turnover of the HCIL is Positive and more than one times in fiscal year 2057/058, 2058/059, 2059/060 and negative in fiscal year 2061/062, 2062/063 where as it is again positive then after in every fiscal year.

According to the above data, that capital employed turnover ratio of HCIL is 1.848, 1.204 and 2.486 in fiscal year 2057/058, 2058/059 and 2059/060 respectively. These ratios are considered low. But the capital employed turnover ratio of fiscal year 2060/061 and 2063/064 are 25.712 and 66.359 respectively. The company has very high capital employed turnover ratio in these fiscal years. Similarly the capital employed turnover ratio ratios of fiscal year 2061/062 and 2062/063 are -5.45 and -11.760 respectively. The company has negative capital employed turnover ratio in these fiscal years.

The trend line of capital employed of HCIL can also be shown form the following graph diagram:

Figure No. 9

Capital Employed Turnover Ratio



Source: - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

From the above graph diagram, the trend of capital employed turnover ratio is very clear that it is high and more then one. The trend of debt equity ratio is in increasing way from fiscal year 2058/059 to fiscal year 2060/061 while its trend is in decreasing way from fiscal year 2060/2061 it is in increasing way from fiscal year 2062/063 to fiscal year 2065/066. On the other hand, the trend of debt equity ratio again is in increasing way from fiscal year 2062/063 and in decreasing way from fiscal year 2063/2065.

The trend of capital employed turnover ratio is in increasing way from the fiscal year 2058/059 but slowly while its trend is in the increasing way form the fiscal year 2062/063 but comparatively fast.

From the above diagram it is clear that the company efficiently utilize its employed capital in last three fiscal years but not satisfactorily. The trend line of capital employed turnover is in increasing way from 2063/064 to 2064/065 but in decreasing way in 2065/066. The company HCIL has to face negative trend line of capital employed turnover which reflects in efficient use of capital to generate sale and earn profit.

G. Return of Shareholders Equity

Return on shareholders equity measures the overall profitability of the owners' investment. It indicates how well the firm has used the resources of owners. A high return on equity represents s the sound profitability position of a firm and vice- versa. This ratio is calculated by dividing net profit after tax and interest by shareholders' equity. The

comparative picture of HCIL for fiscal year 2057/2058 to 2065/66 has been shown in fallowing table:

Table No. 21

Return on Shareholders Equity

Fiscal Year	Net Profit	Shareholders' Equity	ROSE(%)
2057/058	17,353,643	200,658,190	9
2058/059	-27,856,096	173,550,071	-16
2059/060	-95,626,230	76,472,989	-125
2060/061	-62,487,945	13,632,701	-458
2061/062	-89,571,204	-76,329,748	117
2062/063	20,722,181	-55,731,020	-37
2063/064	65,718,408	9,926,588	662
2064/065	39,888,179	50,828,463	78
2065/066	78,100,875	128,388,047	61
Average	-5,973,132	57,932,920	-10

Source: - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

It is observed from above table of HCIL that the highest ROSE is 662% in 2063/064 and the lowest ROSE is -458% in 2060/2061. The average of ratios is -10% which shows highly unfavorable situation.

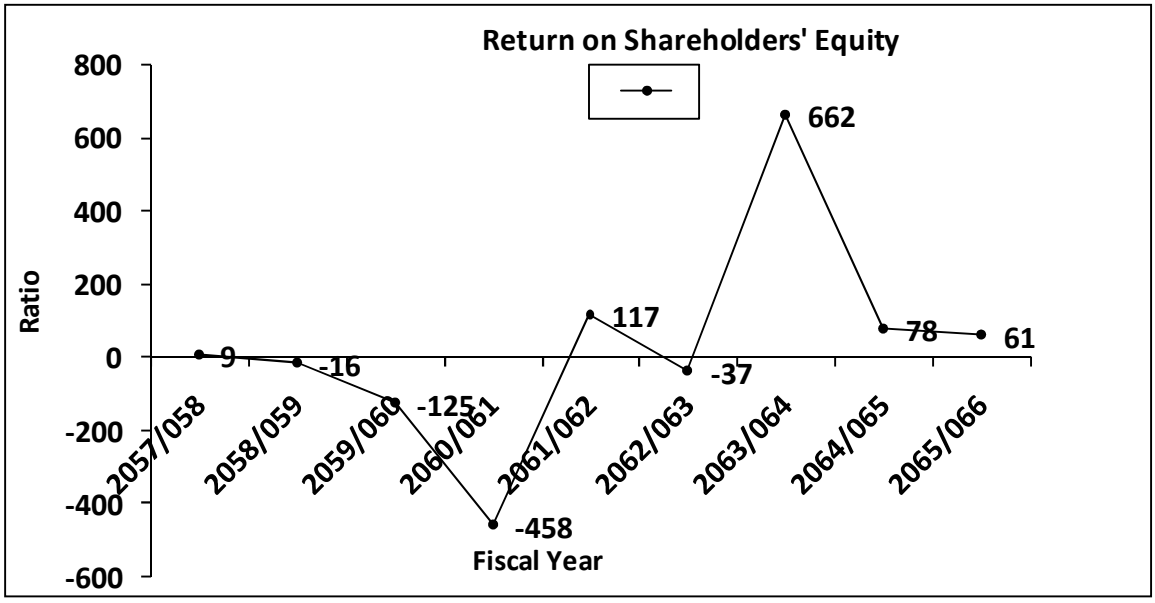
According to the above data, that ROSE of HCIL is -16%, -125%, -458% and -37% in fiscal year 2058/059 and 2059/060, 2060/2061 and 2062/063 respectively. These ROSE of HCIL shows negative return which presents ineffective utilization of government investment in equity.

The overall profitability position in HCIL in term of return on shareholders equity indicates that management has not used the owners' capital soundly because the manufacturing industry standard is 13% and ROSE is generally highly below to this standard. On the other hand the highest ROSE, 662% is calculated due to negative shareholder's equity and net loss of the year.

The trend of return on shareholders' equity can also be presented using following graph diagram:

Figure No. 10

Return on Shareholders' Equity



Source: - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

In the above diagram, ROSE shows 9% in fiscal year 2057/2058 which forwards negative to -16% in fiscal year 2058/2059 and continued negative to -458% in fiscal year 2060/2061 which forward positive to 117% in fiscal year 2061/2062 and again it dawn negative from fiscal year 2062/2063. The above trend of Rose of HCIL show worse situation of ROSE.

From the above graph diagram, the trend of ROSE is very clear that it is low and negative also. The trend of ROSE is in decreasing way from fiscal year 2057/058 to fiscal year 2060/061 while its trend is in increasing way from fiscal year 2061/062. The trend of ROSE is in decreasing way from the fiscal year 2057/058 but slowly while its trend is in the increasing way form the fiscal year 2062/063 but comparatively fast.

H. Return on Capital Employed

This ratio uses to measure profitability how well managed the long term resources financed by owners and the creditors the ratio shows how much returns the company gives towards its investors .this ratio is calculated by dividing net profit after interest and taxes by capital employed. Capital employed includes long term dent plus net worth or it is equivalent to net working capital plus net fixed assets. Higher the ratio is assumed to be favorable and vice versa. Comparative picture of return of capital employed has been expressed in the table below:

Table No. 22

Return on Capital Employed

Fiscal Year	Net Profit	Capital Employed	ROCE (%)
2057/058	17,353,643	317,102,913	5
2058/059	-27,856,096	450,209,558	-6
2059/060	-95,626,230	232,749,713	-41
2060/061	-62,487,945	23,262,745	-269
2061/062	-89,571,204	-76,329,748	117
2062/063	20,722,181	-55,731,020	-37
2063/064	65,718,408	9,926,588	662
2064/065	39,888,179	50,828,463	78
2065/066	78,100,875	128,388,047	61
Average	-5,973,132	120,045,251	-5

Source : - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

It is observed from above table of return on capital employed of HCIL that the highest ROSE is 662% in 2063/064 and the lowest ROSE is -269% in 2060/061. The average of ratios is -5% which shows unfavorable situation.

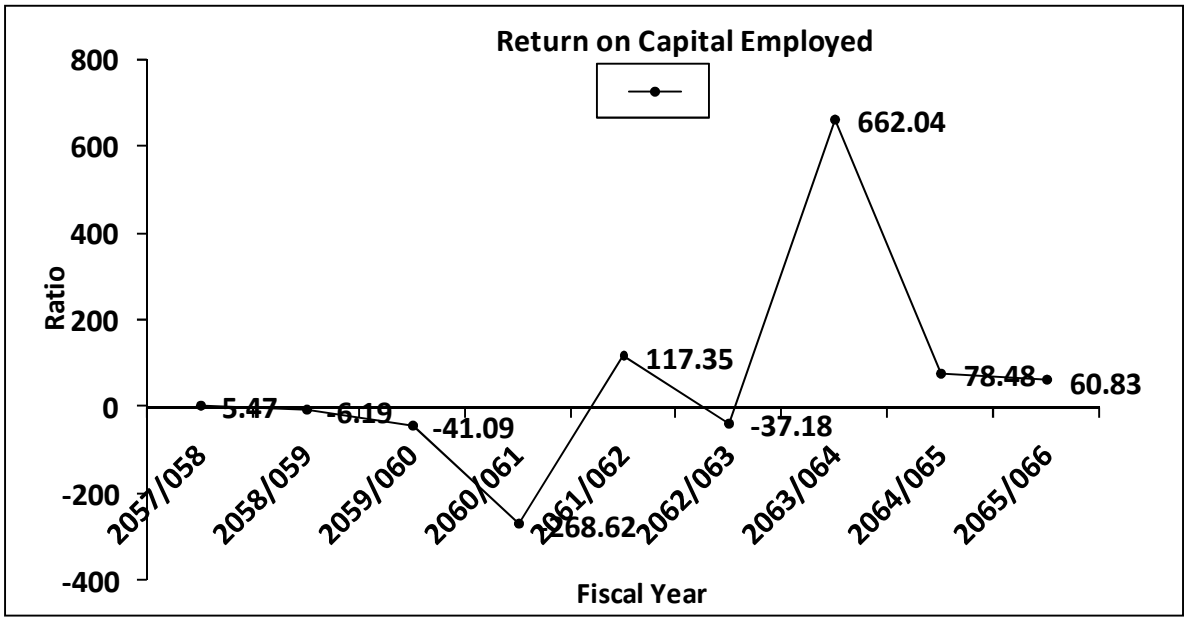
According to the above data, the return on capital employed of HCIL is 5%, 117%, 662%, 78% and 61% in fiscal year 2057/058, 2061/062 2063/064 and 2065/066 respectively. But the total return on capital employed of fiscal year 2058/059, 2059/060, 2060/061 and 2062/063 are -6%, -41%, -269% and -37% respectively. The company has very high return on capital employed in these fiscal years. The company has negative return on capital employed in these fiscal years.

The above situation shows unsatisfactory return on capital employed under study period. HCIL is not able to generate return on capital employed by owners as well as long term lender.

The trend of return on capital employed can be presented using following graph diagram:

Figure No. 11

Return on Capital Employed



Source: - Annual Report of HCIL for the Fiscal Year 2057/058 to 2065/066

In the above graph diagram, the trend of return on capital employed is highly fluctuating. In year 2057/2058 it starts from 5.5% and forward negative up to yea 2060/2061. After that is dramatically raises upward to 93% in year 2061/2062 again it drop to negative area and forward negative to proceeding year. The trend clearly present the highly unsatisfactory situation of return on capital employed under study period.

From the above graph diagram, the trend of return on capital employed is not only positive but decreasing as well as increasing. The trend of return on capital employed is in decreasing way from fiscal year 2057/058 while its trend is in increasing way from fiscal year 2060/061. On the other hand, the trend of ROCE is again in increasing way from fiscal year 2062/063 and in decreasing way from fiscal year 2063/064.

From the above diagram it is clear that the company efficiently utilize its employed capital in last three fiscal years but not satisfactorily. The trend line of return on capital employed is in increasing way from 2063/064 to 2064/065 but in decreasing way in 2065/066. The company HCIL has to face negative trend line of capital employed turnover which reflects in efficient use of capital to generate sale and earn profit.

CHAPTER – FIVE
SUMMARY CONCLUSION AND RECOMMENDATION

1. SUMMARY

Nepal is a land locked developing country which economy has mainly based on agriculture. The amount invested on agriculture is greater in Nepal in almost all countries about 90 percent people are engaged in agriculture in Nepal. The democratic government of Nepal is responsible for economic, social, and political development of country in balanced way. The government establishes various public enterprises in the field of finance, industry commerce, construction, and service in order to save the general people from exploitation and the prompt development of backward areas.

The corporate sector is excessively important for developing countries like Nepal. There is no controversy as to whether corporate sector should be developed or not. After industrial revolution, corporate sector is important as medicine for rapid development of socio-economy of Nepal. The corporate sector of Nepal consists of three different types of enterprises namely government owned corporations, public ltd. Companies whose shares has been listed in stock exchange centre and private enterprises which are mostly family owned business and whose shares are not floated in the open market.

With a view to develop import substitution, fulfillment of unemployment problem as far as, utilization of unused natural recourses and income generation, the government of Nepal has established public enterprise before pre-planning period and during planning period. They are categorizes into industrial, trade, finance and insurance, manufacturing, public utilities and social services. This study had mainly concentrated on manufacturing sector.

Various public enterprises are concerned within the manufacturing sector. Cement is one of the main elements of manufacturing public enterprises. Among them Hetauda cement industry limited has been chosen for the research.

Cement is a basic construction material to build road, bridge, dam, building and so on. Before establishment of Himal Cement Factory, all required cement were imported from the abroad and India. To reduce trade imbalance, Himal cement factory had been established. Himal cement factory had not been successful to fulfill the growing demand alone. So, the government had established Hetauda Cement Industry limited on the loan from government of Nepal under loan assistance from Asian development bank, manila and public funds.

Hetauda cement Industry limited has been established by public funds. The main objective of the HCIL is to earn profit providing cement cheaply and utilizing resources more effectively. So, it is necessary to monitor HCIL is successful in accomplishing the basic established objectives.

Capital is one of the most important types of resources without which we can not imagine even the establishment of the organization. Actually the capital is important as the blood to human beings for the organization. It is taken as the sources of income of an organization at the beginning or starting of organization. The objective of this study is to investigate whether the HCIL has sound capital and its proper structure or not. For this analysis, effect of capital structure analysis is chosen. To analyze capital structure, the financial data and information are collected from the central office of HCIL and website of http/www.sajilonepal.com/hetaudacement/index/php for nine fiscal year form 2057/058 to 2065/066 after that they are organized in systematic way in order to use financial tools easily.

The effect of capital structure of the industry has been analyzed with the help of only quantitative method like capital structure ratios, proprietary ratio, capital gearing, trend analysis, chart and tables are used to support analytical findings.

The study on capital structure occupies an important place in the corporate restructuring. This study has focused on the most important sources of capital structure of the firm. The financial restructuring involves replacing old financial claim with new ones and take place with private work outs or legal bankruptcy. The objectives of employing capital structure ratio analyses are investigate over all performance of HCIL. This analysis and interpretation of ratios is an attempt to determine the significance and forecasting the various effects of capital structures. The major findings using financial tools are presented in conclusion.

2. CONCLUSIONS

In developed capital market, a number of studies have been conducted for prediction of effect of capital structure. The different developed models have identified useful financial ratio that are helpful for resolving many business issues and their status. Viewed in this way, the present studies which are based on small capital market of Nepal can be considered all the more important. This studied mainly addresses the following issues:

1. What is the capital structure of HCIL?
2. What are the financial ratios that are helpful in predicting effect of capital structure?
3. What are the causes, signals and symptoms of sound capital structure of HCIL?

4. What are the relationship between debt financing and equity financing of HCIL?
5. What is the relationship between various components of capital structure of the HCIL?

To address the above issue, following major finding are concluded by using various financial tools:

1. In context of first issue of the study, the term capital structure refers to both debt and equity financing at beginning of the HCIL but debt capital has been paid and only equity financing is there since the fiscal year 2061/062 till now under the study period.

2. The capital gearing of HCIL indicates the mix of finance employed in HCIL. It indicates the proportion between owners' fund and non owners' funds. The result of capital gearing is only at beginning of four years of the study period of which it is very low at fiscal year 2060/061 and very high at fiscal year 2059/060. The HCIL financial statement does not show long term debt since the fiscal year 2061/062 but the portion of long term debt is to be shown in current liabilities till now which creates the capital gearing of HCIL but very low.

3. The proprietary ratio of HCIL indicates the general strength of the HCIL. According to it the creditor's position is not secured in the HCIL during fiscal year 2060/061 to 2064/065 due to very low and negative proprietary ratios. On the other hand no proprietary ratio of HCIL nearer to acceptable norm up to the study period, fiscal year 2065/066. The proprietary ratio also alarms for creditors to wards greater risk in the event of HCIL's liquidation.

4. The fixed assets to proprietor's fund ratio of the HCIL indicate the percentage of owner's funds invested in fixed assets. It reflects that the creditors obligation on fixed assets have been more during fiscal year 2060/061 and fiscal year 2063/064 but there is less creditor obligation in fiscal year 2057/058, 2058/059, 2059/060, 2064/065 and 2065/066. Thus, HCIL has invested its proprietor's fund on fixed assets and it is maintained presently.

5. Debt equity ratio indicates how much fund has been provided by the owners and how much by outsiders in the acquisition of total assets of HCIL. Due to lack of long term debt, it is calculated by considering total debt of HCIL. The debt equity ratio of HCIL indicates the mix of finance employed in HCIL. It becomes clear that the ratio of fiscal year 2058/059 is nearer to acceptable norms 4:1. Debt equity ratio of HCIL is very high under study period. It is unsatisfactory even in final year.

6. Debt to total capital ratio of HCIL establishes a link between funded debt and total long term funds available in the business. This shows higher but trend of this ratio is satisfactory. It is extremely high in the fiscal year 2063/064 which represents a greater risk to creditors and depression to the shareholders.

7. Capital employed turnover of HCIL indicate the HCIL‘s ability to generate sales based on its total capital used. It measures that effectiveness of HCIL is improving and its trend line looks satisfactory after the fiscal year 2062/063.

8. Return on capital employed ratio does not look much satisfactory except in the fiscal year 2063/064, 064/065 and 2065/066 and has not taken a particular trend. The trend of those ratios is also highly unfavorable and fluctuating over research period. The trend of ROSE is in decreasing way since fiscal year 2057/058 but it is growing up to -458%.

9. Return on shareholder’s equity does not look satisfactory except in the fiscal year 2063/064, 064/065 and 2065/066. It has not taken a particular trend. The trend of those ratios is highly fluctuating over research period. Both the ROSE and ROCE are same after four years of studies period due to Long term debt.

3. RECOMMENDATIONS

After the detail analysis of various aspect of capital structure of HCIL, it is found that HCIL is suffering from heavy loss. Its situation is extremely negative and fluctuating during the study period. The sound capital structure management ensures the company’s success but the capital structure of HCIL is not sound because of less attention towards long term debt and more attention towards short term debts or current liabilities.

The following recommendations and suggestions have been offered:

1. HCIL should design an appropriate capital structure consisting of long term loan and debentures in order to maximize the shareholder’s wealth.
2. The concept of capital structure has not received much attention in the HCIL while designing capital structure, it should be properly arranged to compensate the short term risk.
3. Proper analysis and evaluation of capital mix decision should be required in the HCIL.
4. The management has not paid proper attention towards increasing the amount of profit in HCIL. But HCIL has to manage and reduce the amount of operating expenses as well as interest and deferred revenue expenditure.

5. At last the HCIL should launch a long range program and projects by cutting down the excessive cost and adopting standard costing, budgeting, cost control techniques to improve profitability of HCIL otherwise it should be privatized if not possible to be liquidated.

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Appendix 1

Revised Comparative Balance Sheet of Hetauda Cement Industry Ltd
For Fiscal Year 2057/058 to 2061/062

Particulars\Fiscal Year	2057/058	2058/059	2059/060	2060/061	2061/062
Sources of Funds					
1. Shareholder's Funds					
a. Equity Share Capital	900685000	900685000	900685000	900685000	900685000
b. Capital Reserve	2220703	2968680	1517828	1165485	774240
c. Net Profit (Loss) for the Year	17353643	-27856096	-95626230	-62487945	-89571204
d. Accumulated Profit (Loss)	-719601156	-702247513	-730103609	-825729839	-888217784
Shareholder's Funds (A)	200658190	173550071	76472989	13632701	-76329748
2. Loan Funds					
a. Long and Mid Term Loan	116444723	276659487	156276724	9630044	0
Total Debt Capital (B)	116444723	276659487	156276724	9630044	0
Total Liabilities (A + B)	**317102913**	**450209558**	**232749713**	**23262745**	**-76329748**
Application of Funds					
1. Net Fixed Assets	473288093	434282345	400820450	366207308	337033620
2. Investment	1000000	1000000	1000000	26704535	7882007
3. Okhare Mines	68320629	61735893	59735023	59319433	54251022
Total Long Term Assets (C)	542608722	497018238	461555473	452231276	399166649
Current Assets Loan and Advances					
Current Assets	363459587	391757701	452265596	414158868	393695295
Less: Current Liabilities & Provisic	588965396	438566381	681071356	843127399	869191692
Net Current Assets (D)	-225505809	-46808680	-228805760	-428968531	-475496397
Total Assets (C + D)	**317102913**	**450209558**	**232749713**	**23262745**	**-76329748**

	Appendix 1			
Revised Comparative Balance Sheet of Hetauda Cement Industry Ltd				
For Fiscal Year 2062/063 to 2065/066				
Particulars \ Fiscal Year	2062/063	2063/064	2064/065	2065/066
Sources of Funds				
1. Shareholder's Funds				
a. Equity Share Capital	900685000	900685000	900685000	900685000
b. Capital Reserve	650787	589987	1603683	1062392
c. Net Profit (Loss) for the Year	20722181	65718408	39888179	78100875
d. Accumulated Profit (Loss)	-977788988	-957066807	-891348399	-851460220
Shareholder's Funds (A)	-55731020	9926588	50828463	128388047
2. Loan Funds				
a. Long and Mid Term Loan	0	0	0	0
Total Debt Capital (B)	0	0	0	0
Total Liabilities (A + B)	**-55731020**	**9926588**	**50828463**	**128388047**
Application of Funds				
1. Net Fixed Assets	310932337	286856864	265535360	254898156
2. Investment	22413366	123473428	170722036	243088769
3. Okhare Mines	44969883	33727412	29597341	25690796
Total Long Term Assets (C)	378315586	444057704	465854737	523677721
Current Assets Loan and Advances				
Current Assets	452115282	471006691	527444076	537539474
Less: Current Liabilities & Provisions	886161888	905137807	942470350	932829148
Net Current Assets (D)	-434046606	-434131116	-415026274	-395289674
Total Assets (C + D)	**-55731020**	**9926588**	**50828463**	**128388047**