

THE ANALYSIS OF CAPITAL STRUCTURE OF AGNI CEMENT INDUSTRY LIMITED

A THESIS

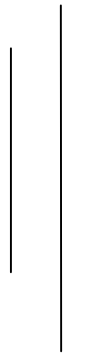
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TRIBHUVAN UNIVERSITY

त्रिभुवन विश्वविद्यालय

RAMSWARUP RAMSAGAR MULTI. CAMPUS

रामस्वरुप रामसागर बहुमुखी क्याम्पस

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DECLARATION

I hereby declare that the work reported in this thesis entitled “ The Analysis of Capital Structure of Agni Cement Industry Limited ” submitted to Research Department of Ramswarup Ramsagar Multiple Campus,Janakpur Faculty of Management, Tribhuvan University, is my original work. This research work is conducted in the form of partial fulfillment of the requirements for the Master of Business Studies (MBS) under the supervision and guidance of Mr.RamNaresh Thakur of Ramswarup Ramsagar Multiple Campus,Janakpur .

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.....
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TABLE OF CONTENTS

Contents

RECOMMENDATION

VIVA VOCE SHEET

DECLARATION

ACKNOWLEDGEMENT

ABBREVIATION

TABLE OF CONTENTS

LIST OF TABLE

LIST OF FIGURE

Page No.

CHAPTER - ONE - INTRODUCTION

| | | |
|-----|-----------------------------------|---|
| 1.1 | Background of Study | 1 |
| 1.2 | Focus of the study | 2 |
| 1.3 | Statement of Problems | 4 |
| 1.4 | Background of Selected Enterprise | 5 |
| 1.5 | Objectives of the Study | 7 |
| 1.6 | Limitation of the Study | 7 |
| 1.7 | Significance of Study | 8 |

CHAPTER - TWO - REVIEW OF LITERATURE

| | | |
|-------|------------------------------------|----|
| 2.1 | Introduction | 9 |
| 2.2 | Theories Capital Structure | 10 |
| 2.2.1 | Net Income Approach | 11 |
| 2.2.2 | Net Operating Approach | 13 |
| 2.2.3 | Traditional Approach | 16 |
| 2.2.4 | M-M Approach | 19 |
| 2.3 | Review of Major Empirical Works | 22 |
| 2.4 | Review of Nepalese Empirical Works | 31 |
| 2.5 | Review of Dissertation | 33 |

| | |
|------------------------|----|
| 2.6 Concluding Remarks | 40 |
|------------------------|----|

CHAPTER - THREE - RESEARCH METHODOLOGY

| | |
|------------------------------------|----|
| 3.1 Introduction | 42 |
| 3.2 Concept of research design | 42 |
| 3.3 Population and Sample | 42 |
| 3.4 Nature and Sources of Data | 43 |
| 3.5 Status of Selected enterprises | 44 |
| 3.6 Method of Research Analysis | 46 |
| 3.7 Limitation | 49 |
| 3.8 Defination of Key terms | 50 |

CHAPTER - FOUR - DATA PRESENTATION AND ANALYSIS

| | |
|---------------------------------|----|
| 4.1 Presentation of Data | 57 |
| 4.2 Analysis of Data | 58 |
| A. Debt Equity Ratio | 59 |
| B. Debt to Total Capital Ratio | 61 |
| C. Proprietary Ratio | 63 |
| D. Capital Employed Turnover | 65 |
| E. Return on Shareholder's Fund | 67 |
| F. Return on Capital Employed | 70 |

CHAPTER - FIVE - SUMMARY CONCLUSION & RECOMMENDATION

| | |
|--------------------|----|
| 5.1 Summary | 73 |
| 5.2 Conclusion | 76 |
| 5.3 Recommendation | 77 |

| | |
|---------------------|-----------|
| Bibliography | 79 |
|---------------------|-----------|

| | |
|-------------------|-----------|
| Appendixes | 82 |
|-------------------|-----------|

LISTS OF TABLE

| Table No. | Topic | Page No. |
|------------------|---------------------------------------|-----------------|
| 1. | Net Income Approach | 12 |
| 2. | Net Operating Income Approach | 14 |
| 3. | Review of Nepalese Empirical Works | 31 |
| 4. | Review of Dissertation | 33 |
| 5. | Calculation of Shareholder's Fund | 53 |
| 6. | Analysis of Capital Structure of ACIL | 57 |
| 7. | Capital Structure of ACIL | 58 |
| 8. | Debt Equity Ratio | 59 |
| 9. | Debt to Total Capital Ratio | 61 |
| 10. | Proprietary Ratio | 63 |
| 11. | Capital Employed Turnover Ratio | 65 |
| 12. | Return on Shareholder's Equity | 67 |
| 13. | Return on Capital Employed | 69 |

LISTS OF FIGURE

| Figure No. | Topic | Page No. |
|-------------------|--|-----------------|
| 1. | Net Income Approach | 13 |
| 2. | Net Operating Income Approach | 15 |
| 3. | Combination Effect of Traditional Approach | 18 |
| 4. | Debt Equity Ratio | 60 |
| 5. | Debt to Total Capital Ratio | 62 |
| 6. | Proprietary Ratio | 64 |
| 7. | Capital Employed Turnover Ratio | 66 |
| 8. | Return on Shareholder's Equity | 68 |
| 9. | Return on Capital Employed Turnover | 70 |

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 |
| ACIL | Agni Cement Industry Limited |
| i.e | That is |
| JSM | Jyoti Spinning Millers |
| Ltd | Limited |
| M.B.S | Master in 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 Equity |
| Rs. | Rupees |
| SEC | Stock Exchange Centre |
| USA | United State of America |
| UK | United Kingdom |

CHAPTER - ONE

INTRODUCTION

1.1 Background of the study :-

Before industrial revolution, business activities were performed traditionally. They were in small scale. After the industrial revolution during eighteenth century, business became globalize. So, many public enterprises were established in public sector . To measure development, finance has been used as an indicator to know about financial position, Thus, accounting system developed with the help of accounting. we come to know about the business transaction analytically.

Until twentieth century, Nepal had adopted traditional concept. Nepal was dependent upon agriculture. Agriculture was major occupation of Nepalese people. All people relied on Agricultural sector to fulfill their needs. Economy was based of barter system. People had not known about finance. Nepal was ruled by autocrats. They did not think about national development. Neither they wanted to develop social benefit nature of business nor, they permitted people to launch their business independently. People were kept in limited area. People did not know about the world due to unavailability of communication.

After establishment of democracy, people adopted new technology to develop agricultural production and industry based on agriculture had been established . To know financial position of the industry some recording system were development on traditional concept. Slowly, communication covered worldwide. New system and technology had come to know for the improvement of business. New accounting system had been known. Budgeting and planning system were developed indicating financial figure.

By knowing the developed countries economic growth , the government of Nepal took PEs as a tool of economic growth. The government had made periodic plan targeting to establish PEs on public sectors. As a result agro based industries were established within the country at least to substitute import of industrial consumable goods. The basic goal of government was self-sufficiency and the other was to generate revenue by

operating industrial units and creating employment opportunity through this sector. We can say in our language . food is for physical development just like PEs is for economic growth .” Industrialization is a major instrument of progress for modernization and social change in Nepal.

Industrialization creates vast employment opportunities and maximum utilization of human resources and other natural resources of a country . It not only increases the income of the people by providing job opportunity and making use of natural resources but also facilitates the agriculture development by reducing the pressure on land. Creating demand for agricultural raw-materials and by supplying necessary inputs to agriculture . Industries help increase national income without reducing total agricultural inputs. Nepal Government has given emphasis on various sectors to develop national economy 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.

1.2 Focus of the study :-

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 marketing 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 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, performance 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 permanent 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 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, flotation charge etc. connected with issue of shares and debentures.

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'llara: 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 . 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 deductible 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].

1.3 Statement of problem :-

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 are helpful resolving much business issue relating to capital structure . However prediction of effect of capital structure is a judgement task too.

The major problem of manufacturing public enterprises in Nepal is lack of proper utilization of their available resources . Unless 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, 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.

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 the enterprise selected for the analysis ?
-) What are the determinants of capital structure of selected enterprise ?
-) What are the financial ratios that are helpful in predicting the capital structure of the selected enterprise ?
-) What is the debt equity trend of selected enterprise ?

1.4 Background of Selected Enterprise :-

There are 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 Jagadamba Cement Industry , Siddhartha Cement Industry , Brij Cement Industry , Ambe Cement Industry , **Agni Cement Industry** , Reliance 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 Agni Cement Industries Limited. Here we have taken Agni Cement Industries Limited (ACIL) as a sample of as government owned public enterprises.

It is situated in Western development region at Guruwania – 7 , Rupendehi district lumbini zone which towards west side on Bhairahwa – Lumbini road and 15.25 k.m before Lumbini area. It is establish on the month of Bhadra,2066 and Since then it is producing opc and ppc . It is the ISO certified Company , ISO 9001.2008. The Industry is providing Pozzolana Cement as per NS: 385-2054 and when customer demand we produce ordinary Portland cement as per Ns 49 satisfying the Mandatory regulation of Nepal government.

It is a grinding unit to producing ordinary Portland pozzolana cement . Installed capacity of industry is 300 TPD . This industry has a experienced workforce , qualified supervisory staff and executive .The work premise is built on a land area of 31848 m² still we have plan for the further extension of the same capacity . At present industry is providing two brand i.e Agni Cement & Alfa Cement.

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.

| | | |
|-------------------------------|---|-------------------|
|) Jagadamba Cement Industry | - | 271,200 MT |
|) Ambe Cement Industry | - | 260,000 MT |
|) Agni Cement Industry | - | 108,000 MT |
|) Brij Cement Industry | - | 16500 MT |
|) Siddhartha Cement Industry | - | 9000 MT |
|) Tribeni Cement Industry | - | 9000 MT |

Among these , the major cement producers are Jagadamba Cement Industry, Ambe Cement Industry and Agni Cement Industry Limited. ACIL Produces 108,000 metric tones , which consists of 216,000 bags of 50 kg per year. ACIL utilizes various raw materials in following proportions for producing 108,000 MT or 216,000 bags in a year .

ACIL provides direct employment opportunities 350 persons among than 250 personnel are technical and 100 personnel are administrative . ACIL has 32 private dealers . At present about 180 dealers are engaged in sales and distribution of cement .

The government of Nepal has provided the mark of Nepal standard to ACIL. The main market of cement of ACIL is various Cities like Kathmandu , pokhara, Butwal , Bhairahwa , Surkhet , Kapilvastu, Julmi, Bardiya, Kalikot, Banepa, Palpa, Parasi, Nepalgunj , kailali etc. Now ; ACIL can fulfill above 18% of the total demand of the Nation. There are scientific mechanical lab, quality assurance department and other facilities in the industry . ACIL 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.

1.5 Objectives of the study :-

The thesis is nothing more than a systematic analysis on the topic selected for writing report. It is a means to achieve some desired objectives . The major objective of this study is to fulfill the Partial requirement of Master in Business Studies (M.B.S) degree . The study will especially be conduct 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 below:-

-) To examine the relationship between capital structure and cost of capital in Agni Cement Industries Limited.
-) To find out debt Ratio,debt to total capital Ratio and cost of capital of the selected firm.
-) To test the relationship of capital structure with cost of equity in selected Agni Cement Industries Limited.
-) To test the relationship of capital structure with the cost of debt in selected Agni Cement Industries Limited.
-) To find out capital gearing of selected Agni Cement Industries Limited.
-) To predict the effect of capital structure through various financial ratio.
-) To analyze the debt and equity trend of cement industry.

1.6 Limitation of the Study :-

This study is conducted by staying within the following constrains.

1. The research is carry out for the partial fulfillment of the requirement of the master degree of business Studies, thus it may possesses limitation in terms of adequacy of information and data.

2. Some of the information related to the capital structure effects of Agni Cement Industry and market will difficult to obtain and confidential which wouldnot be included here in the report.
3. This study is confided to the respondent of Agni Cement Industry. It is based on the responses of a limited number of respondents.

1.7 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 preffered 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.

-) 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 Agni Cement Industries Limited (ACIL) and the effects of capital arrangement.
-) This study is help to know the capital structure performance with reasonable proportion of debt and equity capital of ACIL .
-) This study is help in decision making , indentifying weakness regarding financial administration.
-) This study is also help to examine the effectiveness of using financial resources as well as problems and prospects of financial polices.
-) This study is also help ACIL to take necessary correctin to improve financial health by exploring the environmental opportunities avoiding treats.
-) Thus, it is most important to improve source of capital and profit performance public enterprises.

CHAPTER - TWO

REVIEW OF LITERATURE

2.1 INTRODUCTION :-

Nepal is a landlocked and developing country. Most of all areas are covered by mountain as well as hill . Through small parts are covered by Terai,the main occupation of Nepal is agriculture . Due to static nature of productive land , traditional occupation of Nepal is agriculture does not fulfill growing population's demand . People are now in compulsion to think about the alternative sources of income to feed their enlarging stomach . So, it is necessary to develop other income sources . As a result, PEs comes in mind as remedies to solve this problem.

Public enterprises in Nepal constitute a vital instrument for the socio – economic development of our country . It enjoys strategic and crucial position in our mixed economy . They have been established in many sectors for the overall development of the country with different goals and objectives .

PEs is a major means to develop economic infrastructure. Private parties are not interested to invest on the large scale of industry . They are interested in immediate return from their investment . In this case , it is compulsion for the government to take over it as a responsibility . PEs is the indicator of development of Nepalese economy . They provide employment as well as consume natural resources and help increase purchasing power which develops standard of living. When we talk about non-agricultural sector,we can't neglect the industrial income.

Industries are the income sources to relieve poverty . Industrial development is a major infrastructure for stable economic development . To some extent , this is satisfactory in the sense that each and every developing and underdeveloped country has to follow industrialization for the betterment . According to Prof. Harry Johnson " Industrialization involves the organization of product in business enterprises characterized by specialization and division of labor both within and among themselves, this specialization is based on the application of technology

and efforts and motivated by the objectives of minimizing cost per unit and maximizing the return enterprises. "

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 Permanent long financial represented by debt , preferred stock and common equity (Van Horne : 1997) . 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 resources 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. Keounet : 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) .

2.2 THEORIES OF CAPITAL STRUCTURE :-

The theory of capital structure is the composition of debt and equity securities that compromise 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 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 :

- 2.2.1 Net income Approach
- 2.2.2 Net Operating Approach
- 2.2.3 Traditional Approach
- 2.2.4 M-M Approach

2.2.1 Net Income Approach :-

Net income approach shows that there exists optimal 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 in 1952 . The basic assumptions of this approach are stated as follows :-

- i. The cost of equity remains constant 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 exist and
- v. The increasing leverage brings about no deterioration in the quality of net earnings so long as borrowing is confined to the amount below the acceptable limit.

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

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

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 :-

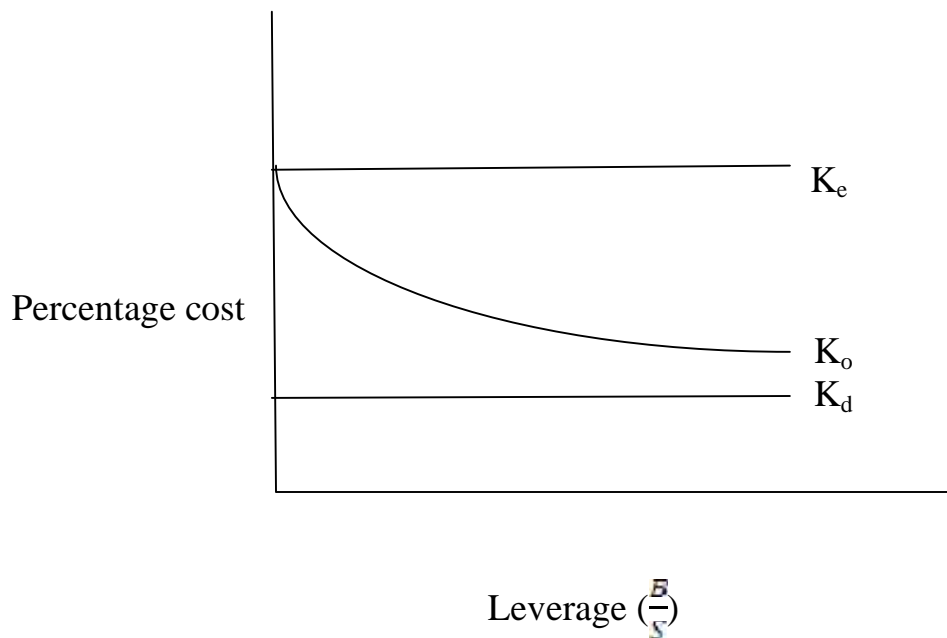
Table No. 1
Net Income Approach

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

According to this approach , the cost 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 2.1. 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 sources of finance , increase in the capital structure.

2.2.2 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 feel 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 nearly 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 increase 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:-

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

$$K_e = K_o (K_o - K_d) B/S \dots\dots\dots (ii)$$

Where,

B/S = Degree of Leverage

K_o = Overall Capitalization Ratio

K_d = Debt Capitalization Ratio

K_e = Equity Capitalization Ratio

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

Table No.2

Net Operating Income Approach

| | |
|------------------------|-----|
| O Net operation income | *** |
|------------------------|-----|

| | | |
|-------|--|-----|
| K_o | Overall capitalization rate | *** |
| V | Total market value of firm (O/K_o) | *** |
| B | Market value of debt | *** |
| S | Market value of equity ($V-B$) | *** |

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

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

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

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

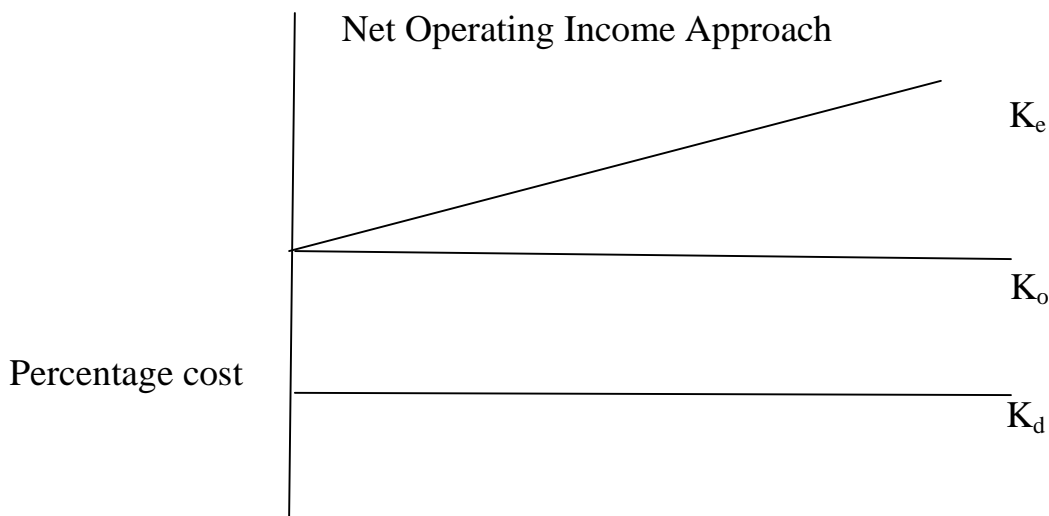
Where,

K_o and K_d are constant and

K_e would increase linearly with Leverages; 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



Leverage

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 because equity investors seek higher compensation as they are exposed to the greater risk arising from increase in the degree of leverage. [Prasanna Chandra]

2.2.3 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 structures, the average cost of capital and total value of the firm. The NI approach reflects that the use of debt in the capital 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 judicious mixture of debt and equity. So, optimal capital structure is possible for every firm. According to this view, debt fund is cheaper than the equity fund. This approach is based on the 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 affect the cost of debt. And
- iii. The expected outcome of the behaviours of equity holders and debt holders is that the benefit of cheaper debt financing decreases as the cost of equity and debt increases. (S.Pradhan)

The behaviours of cost of capital and value of 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 into following three stages.

1. First Stage - Increasing Value
2. Second Stage - Optimal Value
3. Third Stage - Declining Value

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 increases 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:

$$K_o = \left(\frac{D}{V}\right) K_d + \left(\frac{E}{V}\right) K_e = K_e - (K_e - K_d) \left(\frac{D}{V}\right)$$

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:-

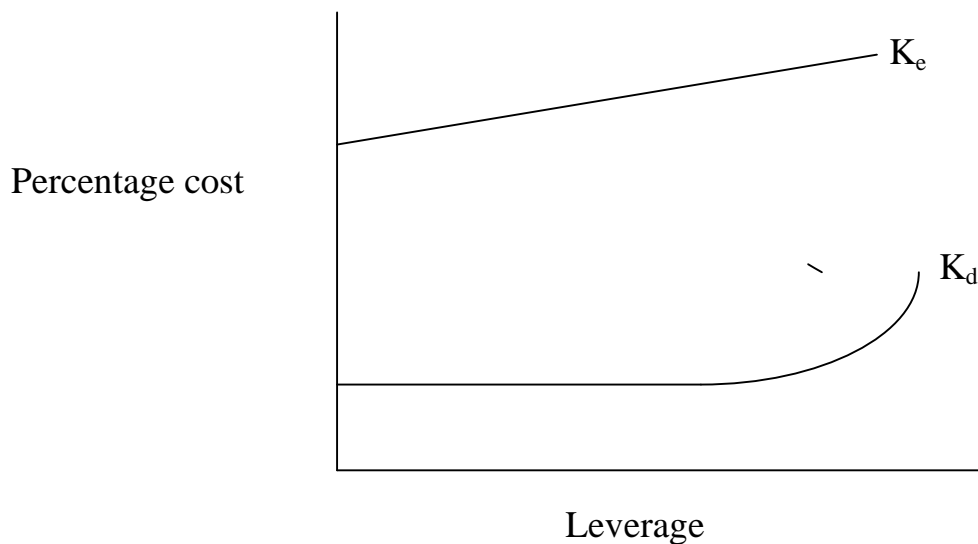
It seems that if the amount of debt is increased further beyond the acceptable limit, the firm would become very. After the critical level of leverage, any increase of debt in the capital structure . The cost of capital starts to income or the value of the firm goes down. This will happen become the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

2.2.4 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 proposition by offering behaviours 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 Srivastva, 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 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 more detail.
- iv. Share of firm in the same class is homogeneous and perfect substitute for each other.
- v. Firms can be divided into 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 operation income at a rate for the firm 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. Pandey 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.

Preposition II

The MM Proposition II sates 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 indential 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.

$$\text{i.e. } V_l = V_u$$

(S.Pradhan. 2000; P. 455)

With tax consideration MM theory reveals that its conclusion is indential 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 the this theory with tax consideration:

$$K_{eL} = K_{eU} + (K_{eU} - K_i) (1 - \text{tax rate}) (D/E)$$

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

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

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

(D/E) = Debt equity ratio

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

2.3 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 2008. 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 2008 with their major findings in foreign countries while the second section deals with the review of Nepalese empirical works.

2.2.1 Review of foreign empirical works

2.3.2 Review of Nepalese empirical works

2.2.1 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 1989
- c. Review of empirical works during 1990s and early 2008

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:

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 lailities 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 in 1958.

2. The Barge's study

Barge tested MM hypothesis with the data of 61 classes. Iraitroads, 63 departmental stores 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 industries. 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 advantages. 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 Wipern's study

Wipern in 1960 also conducted the study to test 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 industries. 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 1967-62. 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.

Many Indian studies were made in relation to capital structure and its trend. Some of the major results are shown as review of India studies up to 1969.

Some of the studies belonging to India and their major findings are listed below:

1. Malhotra's study

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

2. Saradhi's study

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

3. 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. They sampled 30 engineering companies from the India engineering industry and used regression equation for three cross section years (1962, 1963 and 1964). They concluded that investors prefer corporate to personal leverage and therefore value of a firm rise up in a leverage rate consideration prudent.

B. Review of empirical works during 1970 to 1989.

The decade of 1970_s and 1980_s was remarkable with empirical studies directed in the area of capital structure and prediction of business failure using data and ratios. The following financial studies according to empirical works were conducted in these decades:

Some of these studies of foreign countries and their findings are listed below:

1. Belkaoui's Study

Belkaoui provided the evidence against industrial influence on financial structure. He studied 155 firms from 13 various industries for the period of 1968 to 1973. He concluded that debt ratios do not vary significantly by industry.

2. Carleton and Silvering's Study

Carleton and Silvering also provided the same evidence and found that earnings variability is an important determinant of industry leverage.

3. Ferry and Jones's Study

Ferry and Jones studied the cross-section analysis of genetic industries in 1979. He suggested only a slight statistical relationship between relative debt structure class and genetic industry class.

4. Masuli and Taggart's Study

Masuli and Taggart highlighted on the general trend of capital structure. Masuli showed that distributed profits 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 these 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 to 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.

5. Bewen et al's Study

Bewen et al in 1982 found that the statistically significant industrial influence on financial structure. He had documented the leverage ratio of specific industries. His result was on broad agreement and showed that drugs Instruments, electronics and food industries have cosnsistently low leverage and paper, textile mill product, steel, airlines and cement industries have consistently high leverage.

6. Long and Maltz's Study

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.

7. Kim and Sorensen's Study

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 1970s & 1980s, many Indian studies were made a relation to capital structure and its trend . Some of the major results are Shown as below:

Some of the studies belonging to India and their major findings are listed below:

1. Rao and Rao

Rao and Rao in 1975 found the negligible positive impact of corporate income tax on corporate debt policy of manufacturing sectors in India.

2. Chakarborty and Mishra

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.

On the other hand, Mishra in 1978 showed that the evidence in favour of the tax avoidance hypothesis for sugar, tobacco, trading industries and aggregate corporate sector of India while.

3. Mr. Rao and Pandey

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 industries and could not reach the conclusion on the impact of debt and cost of equity.

4. Gangadhar and Agrawal

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. And 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.

5. Mr. Singh and Mr. Sharma

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.

6. Banerge and Mall

Banerge 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. But, 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 .

C. Review Empirical worker during 1990_s and early 2005_s

After the years 1990, 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 1990_s and early 2012_s

Some of these studies of foreign countries and their findings are listed below:

1. Agrawalla and Nagrajan's Study

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 snake 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 effects the capital structure through the agency problem.

2. Isreal et al's Study

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 systmetric information model.

3. Kran et al's Study

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

4. Hull's Study

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.

5. Chui et al.'s Study

Chui et al. concluded that country factory and culture factords are influenced on determinations of capial 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.

6. Allayannis, Bromn and Klappers's Study

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.

2.4 Review of Nepalese Empirical Works

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

Table No. 3
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 |

1. Mr. Shretha's Study

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 ratios for the analysis of capital structure and found a very in depend capital structure.

2. Adhikari's Study

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.

3. Paudel's Study

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 influence on the capital structure. He also studies on corporate financial sector and impact of leverage on the value of firm.

4. Baral's Study

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. He remains the determination of the capital structure trend in public sector enterprises in Nepal.

5. Khatri's Study

Khatri tested the same hypothesis. He studies on 12 listed companies by using multiple regression analysis and support the traditional proposition.

6. KC's Study

KC found that the significant positives relationship of long term debt with growth rate of companies.

7. Khanal's Study

Khanal studies on capital structure management of Nepalese enterprise by choosing the sample from public industries enterprise and found that overall result was unsatisfactory while.

2.5 REVIEW OF DISSERTATION

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

Table No. 4
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 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 debt 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 variables. |

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.

[Yuraj 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. The Study of Mr. Pathak

Mr. Krishan pathak has made a study on capital structure management of Gorakhakali Rubber Udyog Limited. He had analyzed the entire variables 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 large 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 Gorakhakali Rubber Udyog limited “ Unpublished Master’s Thesis Central Department of Management T.U 1995]

3. The Study of Mr. Subedee

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 finding 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 from 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. The Study of Mr. Khatri

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.

[Mr. Bhuvan Singh Khatri, “ An Empirical study on capital structure and cost of capital for Nepalese listed Companies“ Unpublished Master’s Thesis Central Department of Management T.U 1998]

5. The Study of Mr. Ghimire

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:

xt-tR

V-iD a+b₁L+b₂LogS+b₃G+b₄DPR+b₅EV+b₆LiQ

[Mr. 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. The Study of Mr. Sah

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 tools of study. His used Model was:-

Ko = a+b₁L+b₂LogS+b₃G+b₄DPR+b₅EV+b₆LiQ

Where,

Ko - Cost of Capital

LogS - Size of capital employed

DPR - Dividend pay out ratio

A and b – Variables value

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 than that of Non-financial sector
- b. Under Non-financial sector, average cost of capital is negatively correlated to leverage and liquidity ratio. And positively 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 dividend payout ratio. And liquidity is negative in the financial sectors.

[Mr. Binod kumar Sah, “ 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]

1. 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 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 K_o is negative and average cost of equity is also negatively correlated with leverage , size of capital employed growth in total assets.

[Mr. Ram Nath Mahato, “ Capital structure and cost of capital of Nepalese Manufacturing companises“ Unpublished Master’s Thesis Central Department of Management T.U 2006]

2.6 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 predication 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 of 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 dring 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 1980_s which were based on either agency cost model or an asymmetric information model. The study carried out during 1990_s and early 2007_s 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

3.1 INTRODUCTION :-

The main purpose of this chapter is to discuss the research & Methodology such as research design, population and sample , nature and sources of data , Data collection techniques, data processing and tabulation and analytical tools used. Research methodology is the process of arriving at the solution of the problems through a planned and systematic dealing with the collection analysed and interpretation of the facts and figures. The objectives of this study will be analyze the Capital structure on Agni cement industry limited and there by forward some measures to improve the situation.

3.2 CONCEPT OF RESEARCH DESIGN :-

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).

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.

3.3 POPULATION AND SAMPLE :-

At present the cement industry in Nepal Consist of nearly 50 units which from the population for the study only Agni Cement Industry Limited has been selected as sample units for the study.

Therefore the large group which the generatization is made that is called the population under study or the universe and small portion on which the study is made is called the sample of the study.

3.4 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 preparing this thesis report.

1. Primary data
2. Secondary data

1. 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 Agni Cement Industries Limited(ACIL).

2. 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 3 years i.e. fiscal 2066-2067 to fiscal 2068-2069 from the direct in Agni Cement Industries Limited (ACIL). 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 Agni Cement Industries Limited(ACIL). The company's financial department provides the annual financial reports. The balance sheet of Agni Cement Industries Limited(ACIL) provides the information on market value and book value of equity, loans, current liabilities, total assets, net worth and other related variables. Similarly the income statement of Agni Cement Industries Limited(ACIL) provides net profit, sales 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:-

Booklets published by the company

Annual reports

Financial statements

Web site of NEPSE Ltd.

Various previous study dissertation and articles on the subject.

3.5 STATUS OF SELECTED ENTERPRISES :-

The are above 118 Nepalese manufacturing public limited companies listed in Nepal stock Exchange. It is not possible to study all Nepal 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 Agni Cement Industries 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 industries, development of nation is not possible. In present day, new technological approaches have been introduced for industrial sector and numbers of industries have been established . Among them, cement industries were established to fulfill the requirement of strong and durable construction work.

Among various public enterprises, Himal Cement Industries Ltd, Agni Cement Industries Ltd, Udaypur Cement Industries Ltd, Annapurna Cement Industries Ltd, Maruti Cement Industries Ltd and Tribeni Cement Industries Ltd are major manufactures and suppliers of cement internally in our country, Nepal. The study focuses on Agni Cement Industries Limited(ACIL) .

Agni Cement Industries Limited (ACIL) was incorporated under company act 2021 with the share investment of Government of Nepal and loan assistance of Citizen Bank. Later, the credit from national and international commercial banks was also received for finding the projects. The plant has annual production capacity of 108000 MT of cement and was installed with loan assistance from Citizen bank . It commenced its commercial production since December 1985.

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 case 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 ACIL is selected as sample unit for the study.

3.6 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 ACIL.

This analysis has been made in this study by using annual data of Nepalese Manufacturing Company for the years 2066-2067 to 2068-2069. 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 dividend 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 ACIL.

1. Debt to Equity Ratio
2. Debt to Total Capital Ratio
3. Capital Employed Turnover
4. Return on Shareholder's fund
5. Return on Capital Employed

Model I 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 every 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 industries. 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:

$$\text{Debt Equity Ratio} = \frac{\text{Long term debt}}{\text{Shareholders Fund}}$$

OR

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

Model II Debt to Total Capital Ratio :-

The ratio which shows the relationship between long term debt and total 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 2:1 is considered satisfactory but there is no hard and fast rule for its acceptable norm for any industries. It can be calculated as follows:

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

OR,

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

Model III 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 shareholder's equity by total assets. It reflects the proportion of shareholders equity in the total assets used in Industry. It can be calculated as follows:

$$\text{Debt to total Capital Ratio} = \frac{\text{Share holders Equity}}{\text{Total Assets}}$$

Model IV Capital Employed Turnover:-

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:

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

OR,

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

Model V Return on Shareholders Equity:-

The ratio which indicates the profitability of the owners 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:-

$$\text{ROSE} = \frac{\text{NPAT}}{\text{Total Shareholders fund}} \times 100$$

Model VI Return on Capital Employed:-

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 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:-

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

3.7 LIMITATION OF THE STUDY:-

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/ agnicement/index.html](http://www.sajilo.com/agnicement/index.html) publishes various financial statements of ACIL to avail and case information regarding the concerned enterprise, ACIL. But, it is still unable to provide required data of ACIL from the years of listing. In order to make study on the effect of capital structure of ACIL, 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 ACIL which are available in from of profit and loss and balance sheet. Including above fact, the study has to face following remarkable limitation.

- Lack of appropriate method used for writing it.
- Lack of adequate time and data for writing.
- Lack of adequate fund for data collection, printing work and so on.
- Lack accurate data of the current fiscal years due to unpublished materials.
- 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.

3.8 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 describes 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 share which can be issued by a company are of following two types:-

1. Equity Share Capital
2. 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-cumulative;
 - Participating & Non-participatin and
 - Convertible & Non-convertible.

The share capital of a company is divided into 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 follow:-

Tabel No:- 5
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 | XXX |
| Fictitious Assets | (XXX) |
| Net Loss | (XXX) |

| | |
|-------------------------------|-----|
| Shareholder's Fund | XXX |
|-------------------------------|-----|

3. Debt Capital:-

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:-

- Long term debt
- Short term debt or Current liabilities
- 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 and short term debt or current liabilities.

4. Capital Employed:-

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. Assets:-

The properties owned by the organizations termed as assets that can be used to operate organizational affairs. It may be fixed and current.

- a. **Fixed assets:-** 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. **Current assets:-** The assets that can be converted into cash within short period of time are called current assets. Here the short period of time 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. **Total assets:-** 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. Earning per share:-

The profit in rupee value for each number of the share is called earning per share.

7. Leverage:-

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. Liquidity:-

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. Net profit:-

Net profit is the excess of revenue over expenses incurred for earning such profit.

CHAPTER - FOUR

DATA PRESENTATION AND

ANALYSIS

This chapter consists of two sections which are fully devoted to analyze the various issues of Capital structure or ACIL. The first section shows the capital structure of ACIL while the second section analyses the different component of capital structure on liquidity, solvency, profitability and performance of business.

4.1 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. ACIL had its initial sources of capital as follows:-

Table No: 6
Analysis of Capital Structure of ACIL

| S.N | Component of Capital | Amount (Rs) | Percentage % |
|-----|-----------------------------------|---------------|--------------|
| 1 | Loan from Citizen Bank limited | 1,043,603,880 | 66% |
| 2. | Loan from Asian Development Bank | 332,055,780 | 21% |
| 3. | Investment of Government of Nepal | 205,558,340 | 13% |
| | Total | 1,581,218,000 | 100% |

Source Primary data of ACIL

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

Table No: 7
Capital Structure of ACIL

| S.N | Component of Capital | Amount (Rs) | Percentage % |
|-----|-----------------------------------|-------------|--------------|
| 1 | Loan from Citizen 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 ACIL, invested Rs. 205,558,340 in equity in commencement of ACIL and reached up to Rs. 900,685,000 till the end of study period, fiscal year 2068/069.

Similarly in context of debt capital, the company collects the loan from Citizen Bank limited and Asian development Bank. It collections debt capital Rs. 1,375,659,660 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.

4.2 ANALYSIS OF DATA

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 ACIL without using analytical tools.

Debt equity ratio, debt to total capital ratio, capital employed turnover, return on capital employed 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. Debt Equity Ratio

Debt equity ratio is the ratio of external equities to internal equities or outsider's funds to shareholder's 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 ACIL 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 ACIL is calculated here by dividing total debt including current liabilities by shareholders funds under study.

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

Table No: 8
Debt to Equity Ratio

| Fiscal year | Total Debt | Shareholder's Fund | Total Debt to Shareholder's Fund |
|-------------|-------------|--------------------|----------------------------------|
| 2066/067 | 869,191,692 | -76,329,748 | -11.39 |
| 2067/068 | 905,137,807 | 9,926,588 | 91.18 |
| 2068/069 | 880,471,813 | 257,231,761 | 3.42 |
| Average | 906,225,019 | 68,271,010 | 13.27 |

Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

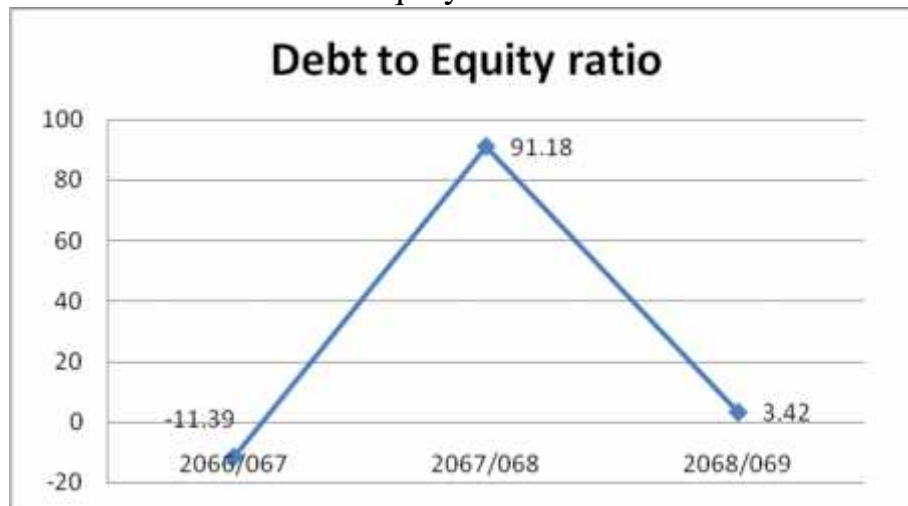
From the above data, it has cleared that debt equity ratio of ACIL is not only positive but negative also. It is not only very low but negative in fiscal year 2066/067. According to the table it is clear that the company has the the highest debt equity ratio in the year fiscal year 2067/068 i.e. 91.18:1 while the company has very low debt equity ratios in the fiscal year 2068/069.

According to the above data, that debt equity ratio of ACIL is of fiscal year 2067/068 and 2068/069 are 91.18:1 and 3.42:1 respectively. Similarly the total debt equity ratios of fiscal year 2066/067 is -11.39:1 respectively.

The Company has negative debt equity ratio in these fiscal years. According to the above data; the debt equity ratio of fiscal year 2067/068 us 91.18:1 that is the highest debt equity ratios during the study period. The company has negative debt equity ratios in these fiscal years due to heavy accumulated loss. The debt equity ratio of fiscal year 2068/069 in ACIL is nearer to industrial norms i.e. 4:1 under the study period.

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

Figure No: 4
Debt to Equity Ratio



Sources:- Annual Report of ACIL for the Year 2066/067to 2068/069

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 2067/068 and in decreasing way from fiscal year 2068/069.

The trend of debt equity ratio is in decreasing way from the fiscal year 2068/069 while the trend is in the increasing way from the fiscal year 2067/068. The creditors are not in secured position in the fiscal year 2066/067 due to negative ratio.

Thus, the trend of debt equity ratio is greater in comparison to the previous year 2068/069. 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.

B. 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 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 ACIL by the total capital employed of the period.

The comparative pictures of debt to total capital ratio of ACIL for different fiscal years are given below in the table:-

Table No: 9
Debt to Total Capital Ratio

| Fiscal year | Total Debt | Total Capital | Total Debt to Total Capital Ratio |
|-------------|-------------|---------------|-----------------------------------|
| 2066/067 | 869,191,692 | -76,329,748 | -11.39 |
| 2067/068 | 905,137,807 | 9,926,588 | 91.18 |
| 2068/069 | 880,471,813 | 257,231,761 | 3.42 |
| Average | 906,225,019 | 68,271,010 | 13.27 |

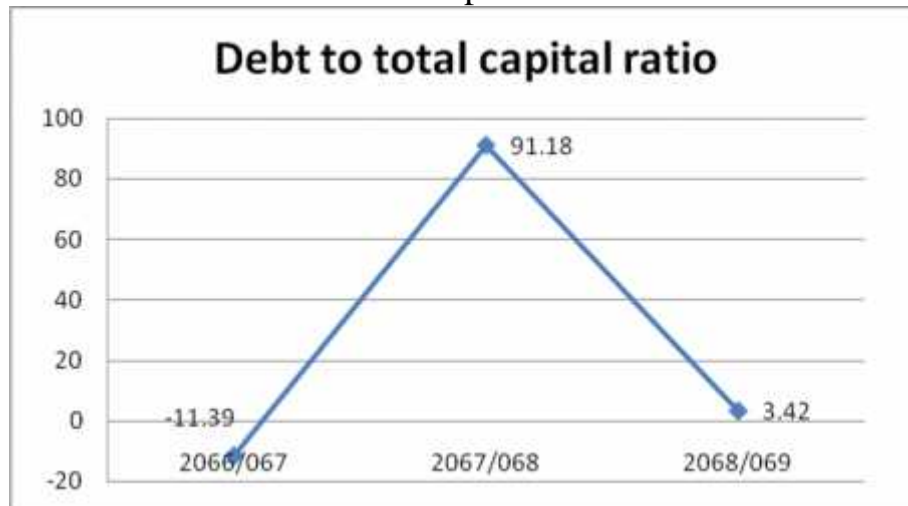
Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

From the above table it is clear that the company, ACIL has to face with higher risk in the year 2067/068 due to higher ratios. The firm's investment is negative in the fiscal year 2066/067. It is dramatically increased too much in fiscal year 2067/068 because the total funds are provided by creditors in the company.

According to the above data, that total debt to total capital ratio of ACIL is of fiscal year 2067/068 and 2068/069 are 91.18:1 and 3.42:1 respectively. Similarly the total debt to total capital ratios of fiscal year 2066/067 is -11.39:1 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: 5
Debt to Total Capital Ratio



Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

From the above graph diagram, the trend of debt equity ratio is very clear that it is high and more than one as well as negative. From the above graph diagram, it becomes clear that the trend line of total debt to total capital ratio is decreasing way since the fiscal year 2067/068. The ACIL is highly geared company with a higher debt to total capital ratio.

On the other hand the ACIL total debt to total capital ratio is in negative trend line during fiscal year 2066/067. This indicates that the company has more accumulated previous loss. The creditors are not in secured position in the fiscal year 2066/067 due to negative ratio.

The trend of debt equity ratio is in increasing in fiscal year 2067/2068 in comparison to the previous fiscal year 2068/2069. 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. The debt equity ratio of fiscal year 2068/069 in ACIL is not just nearer to industrial norms i.e. 4:1 under the study period but it can be taken as standard.

C. 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 shareholder's equity by total assets of the firm study. It reflects the proportion of shareholders equity in the total assets used in ACIL. The proprietary ratio of the industry should be 1:3 i.e. 0.333:1 which is the acceptable norms of this ratio as standard.

The comparative pictures of Proprietary ratio of ACIL for different fiscal years are given below in the table:-

Table No: 10
Proprietary Ratio

| Fiscal year | Shareholder's Equity | Total Assets | Proprietary Ratio |
|-------------|----------------------|---------------|-------------------|
| 2066/067 | -76,329,748 | 792,861,944 | (0.10) |
| 2067/068 | 9,926,588 | 915,064,395 | 0.01 |
| 2068/069 | 257,231,761 | 1,137,703,574 | 0.23 |
| Average | 6,342,481 | 510,319,246 | 1.24 |

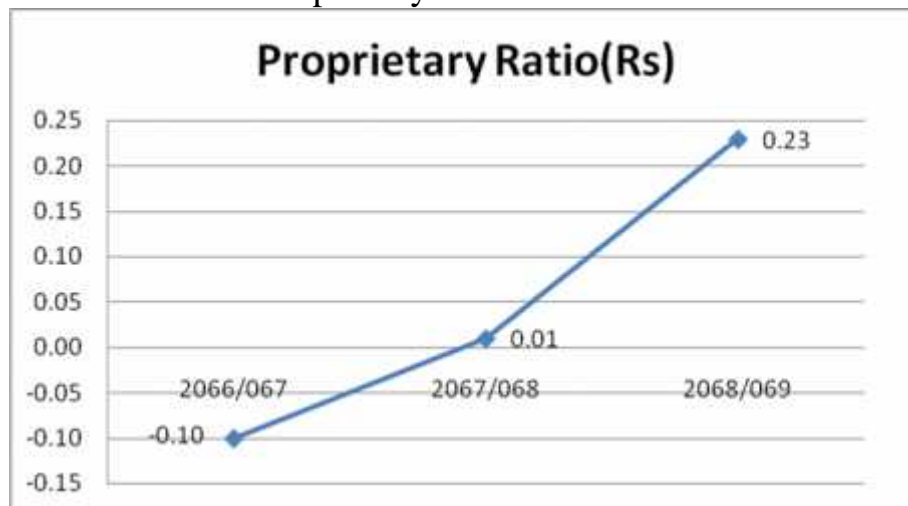
Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

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 2066/067 shows negative and highly dependence on external sources while the ratio 0.01:1 of fiscal year 2067/068 is nominal which indicates unsound financial position.

On the other hand the ratio of fiscal year 2066/067 is 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 ACIL also indicates the general strength of the company. The ratio alarms for creditors towards greater risk in the event of ACIL's liquidation.

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

Figure No: 6
Proprietary Ratio



Sources:- Annual Report of ACIL for the Year_2066/067to 2068/069

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 increasing way from fiscal year 2067/068.

The trend of proprietary ratio is in decreasing way from the fiscal year 2066/067 while the trend is in the increasing way form the fiscal year 2068/2069. No proprietary ratio of ACIL is nearer to industrial norms i.e. 0.33:1 under 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 2066/067 and 2068/069. The creditors are not in secured position in the fiscal year 2066/067 due to negative ratio.

D. 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 ACIL by capital employed of ACIL. The comparative picture of employed turnover ratio of ACIL for different fiscal years are given below in the table.

Table No: 11
Proprietary Ratio

| Fiscal year | Net Sales | Total Capital | Capital Employed Ratio |
|-------------|-------------|---------------|------------------------|
| 2066/067 | 416,057,520 | -76,329,748 | -5.451 |
| 2067/068 | 658,720,310 | 9,926,588 | 66.359 |
| 2068/069 | 836,551,685 | 257,231,761 | 3.252 |
| Average | 427,812,816 | 43,445,188 | 9.847 |

Sources:- Annual Report of ACIL for the Year 2066/067to 2068/069

From the above table it becomes clear that the capital employed turnover of the ACIL is negative in fiscal year 2066/067 where as it is positive then after in every fiscal year.

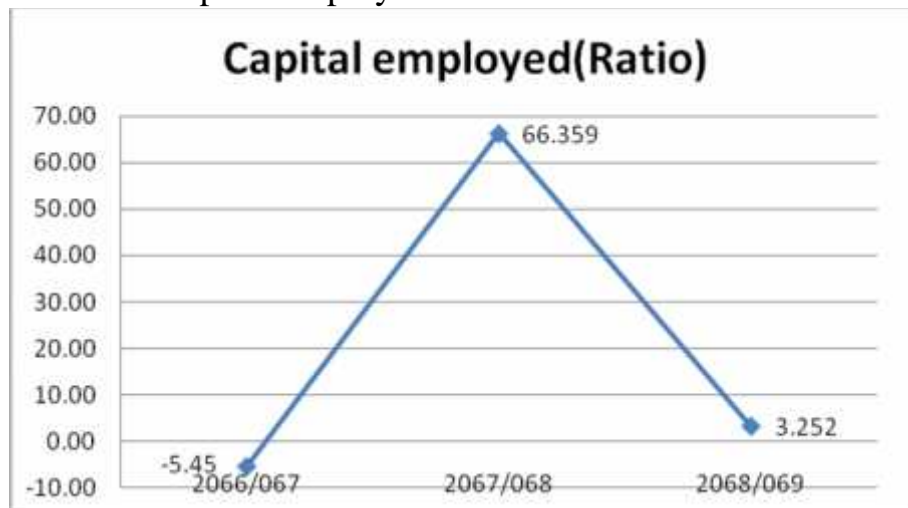
According to the above data, the capital employed turnover ratio of fiscal year 2066/067 is -50451 respectively. These ratios are considered

negative. But the capital employed turnover ratio of fiscal year 2067/068 is 66.359 which is very high capital employed turnover ratio.

Similarly, The company has 66.359 and 3.252 capital employed turnover in F/Y 2067/068 and F/Y 2068/069 respectively. These ratios are positive but not nearer to industrial norms.

The trend of capital employed ACIL can also be shown form following graph diagram:

Figure No: 7
Capital Employed Turnover Ratio



Sources:- Annual Report of ACIL for the Year 2066/067to 2068/069

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 is in negative as well as positive. Its trend is not only increasing but decreasing also.

The trend of capital employed turnover ratio is in increasing way in the fiscal year 2067/068 but very fast while its trend is in the decreasing way form the fiscal year 2068/069 but comparatively fast in comparison to next trend.

From the above diagram it is clear that the company efficiently utilize its employed capital in last few fiscal years but not satisfactorily. The trend line

of capital employed turnover is in increasing way from 2067/068 but in decreasing way in 2068/069. The company ACIL has to face negative trend line of capital employed turnover which reflects in efficient use of capital to generate sale and earn profit.

E. Return on Shareholders Equity

Return on shareholders equity measures the overall profitability of the owner's investment. It indicates how well the firm has used the resources of owners. A high return on equity represents the sound profitability position of a firm and vice –versa. This ratio is calculated by dividing net profit after tax and interest by shareholder's equity. The comparative picture of Return on Shareholder's Equity of ACIL for fiscal year 2066/067 to 2068/069 has been shown in following table:-

Table No: 12
Return on Shareholders Equity

| Fiscal year | Net Profit | Shareholder's Equity | ROSE(%) |
|-------------|-------------|----------------------|---------|
| 2066/067 | -89,571,204 | -76,329,748 | 117 |
| 2067/068 | 65,718,408 | 9,926,588 | 662 |
| 2068/069 | 50,952,629 | 257,231,761 | 20 |
| Average | 18,274,568 | 43,445,188 | 42 |

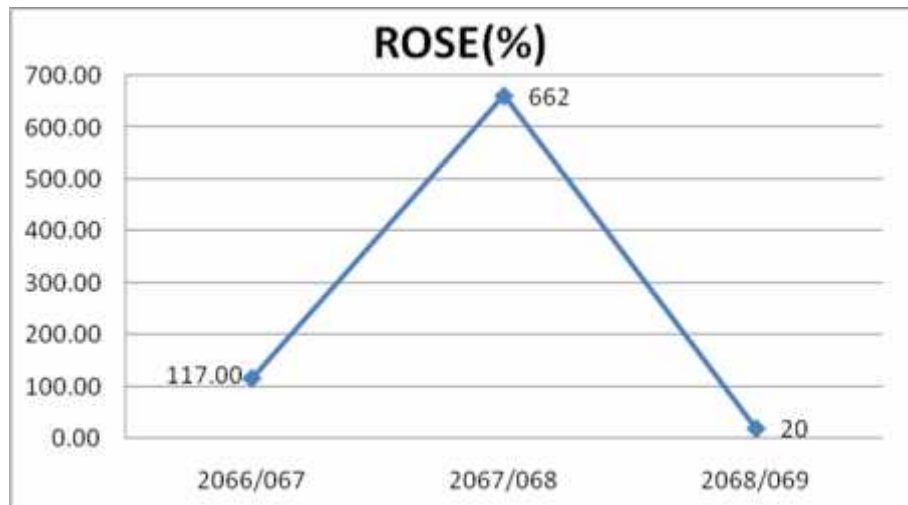
Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

It is observed from above table of ACIL that the highest ROSE is 662% in 2067/068. The average of ratios is 42% which shows highly favorable situation. According to the above data, that ROSE of ACIL is 117%, 662%, and 20% in fiscal year 2066/067, 2067/068 and 2068/069 respectively.

The ROSE of ACIL hasn't shows any negative return which presents ineffective utilization of government investment in equity. But the ROSE of ACIL all fiscal year is positive which presents effective utilization of government investment in equity.

The trend of capital employed ACIL can also be shown form following graph diagram:

Figure No: 8
Return on Shareholde's Equity



Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

In the above diagram, ROSE shows positive 117% in fiscal year 2066/2067. The above trend of ROSE of ACIL show worse situation of ROSE.

From the above graph diagram, the trend of ROSE is very clear that it is low. The trend of ROSE is increasing way from the fiscal year 2067/068 but fast while its trend is in the decreasing way form the fiscal year 2068/069 but comparatively slow.

The overall profitability position in ACIL in term of return on shareholders equity indicates that management has not used the owner's 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.

F. Return on Capital Employed

This ratio uses to measure profitability how well managed the long term resources financed by owners and sthe 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 debt 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: 13
Return on Capital Employed

| Fiscal year | Net Profit | Capital Employed | ROCE(%) |
|-------------|-------------|------------------|---------|
| 2066/067 | -89,571,204 | -76,329,748 | 117 |
| 2067/068 | 65,718,408 | 9,926,588 | 662 |
| 2068/069 | 50,952,629 | 257,231,761 | 20 |
| Average | 18,274,568 | 43,445,188 | 42 |

Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

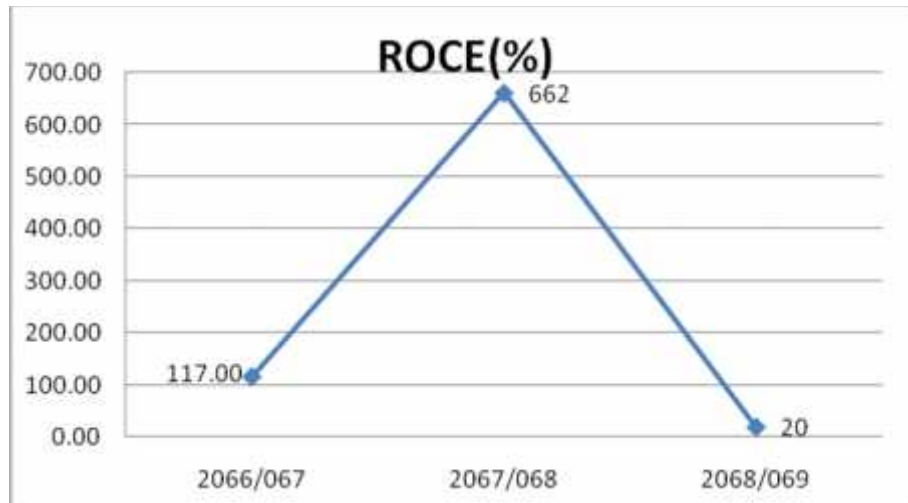
It is observed from above table of return on capital employed of ACIL that the highest ROSE is 662% in 2067/068. The average of ratios is 42% which shows favorable situation.

According to the above data, that ROCE of ACIL is 117%, 662% and 20% in fiscal year 2066/067, 2067/068 and 2068/069 respectively. These ROCE are positive but these fall in decreasing way. The company has very high return on Capital employed in these fiscal years. The company has low return on capital employed in these fiscal years.

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

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

Figure No: 9
Return on Capital Employed



Sources:- Annual Report of ACIL for the Year 2066/067 to 2068/069

In the above diagram, the trend of return on capital employed is highly fluctuating. In fiscal year 2066/2067 it starts from 117%. After that it dramatically raises upward to 662% in year 2068/2069 again it drops to 20%. The trend clearly presents less highly unsatisfactory situation of return on capital employment under study period.

From the above graph diagram, the trend of ROCE is not only positive but decreasing as well as increasing. The trend of return on capital employed is in decreasing way from fiscal year 2066/2067 while the trend of ROCE is again in increasing way from fiscal year 2068/2069 and in decreasing way from fiscal year 2067/2068.

4.3 MAJOR FINDING :-

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% 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 enterprise 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.

Various public enterprises are concerned within the manufacturing sector. Cement is one of the main elements of manufacturing public enterprises. Among them Agni 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 to growing demand alone. So, the government had established Agni Cement Industries Limited on the loan from government of Nepal under loan assistance from Citizen development Bank, Manila and public funds.

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

The objectives of employing capital structure ratio analysis are investigate over all performance of ACIL. This analysis and interpretation of ratios is an attempt to determine the significance and forecasting the various effects of capital structures.

The 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 ACIL but debt capital has been paid and only equity financing is there since the fiscal year 2066/067 till now under the study period.
2. 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 ACIL. Due to lack of long term debt, it is calculated by considering total debt of ACIL. Debt equity ratio of ACIL is very high under study period which is unsatisfactory even in final year.
3. Debt to total capital ratio of ACIL 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 2067/068 which represents a greater risk to creditors and depression to the shareholders.

4. The proprietary ratio of ACIL indicates the general strength of the ACIL. According to it the creditor's position is not secured in the ACIL since the fiscal year 2066/067 due to very low proprietary ratios. On the other hand no proprietary ratio of ACIL nearer to acceptable norm up to the study period, fiscal year 2068/069. The proprietary ratio also alarms for creditors towards greater risk in the event of ACIL's liquidation.
5. Capital employed turnover of ACIL indicate the ACIL's ability to generate sales based on its total capital used. It measures that effectiveness of ACIL is improving and its trend line looks satisfactory after the fiscal year 2067/068.
6. Return on capital employed ratio does not look much satisfactory except in the fiscal year 2067/068 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 2067/068.
7. Return on shareholder's equity looks less satisfactory in the fiscal year 2067/068. 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 in the studies period due to lack of Long term debt.

CHAPTER - FIVE

SUMMARY CONCLUSION AND

RECOMMENDATION

5.1 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% 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.

With a view to develop import substitution, fulfillment of unemployment problem as far as, utilization of unused natural resources and income generation, the government of Nepal has established public enterprise before pre-planning period and during planning period. They are categorized 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 Agni 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 Agni Cement Industries limited on the loan from government of Nepal under loan assistance from Citizen development Bank, manila and public funds.

Agni cement industries limited has been established by public funds. The main objective of the ACIL is to earn profit providing cement cheaply and utilizing resources more effectively. So, it is necessary to monitor ACIL 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 wheather the ACIL 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 ACIL and website of <http://www.sajilonepal.com/agnicement/index/php> for three fiscal year from 2066/067 to 2068/069 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, 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 analysis are investigate over all performance of ACIL. 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.

5.2 CONCLUSIONS

In developed capital market, a number of studies have been conducted for prediction of effect of capital structure on various aspect of organization. The different developed models have indentified and they are used as financial ratios 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 ACIL ?
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 ACIL ?
4. What are the relationship between debt financing and equity financing of ACIL?
5. What is the relationship between various components of capital structure of the ACIL ?

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 ACIL but debt capital has been paid and only equity financing is there since the fiscal year 2066/067 till now under the study period.

2. 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 ACIL. Due to lack of long term debt, it is calculated by considering total debt of ACIL. Debt equity ratio of ACIL is very high under study period which is unsatisfactory even in final year.
3. Debt to total capital ratio of ACIL 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 2067/068 which represents a greater risk to creditors and depression to the shareholders.
4. The proprietary ratio of ACIL indicates the general strength of the ACIL. According to it the creditor's position is not secured in the ACIL since the fiscal year 2066/067 due to very low proprietary ratios. On the other hand no proprietary ratio of ACIL nearer to acceptable norm up to the study period, fiscal year 2068/069. The proprietary ratio also alarms for creditors towards greater risk in the event of ACIL's liquidation.
5. Capital employed turnover of ACIL indicate the ACIL's ability to generate sales based on its total capital used. It measures that effectiveness of ACIL is improving and its trend line looks satisfactory after the fiscal year 2067/068.
6. Return on capital employed ratio does not look much satisfactory except in the fiscal year 2067/068 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 2067/068.
7. Return on shareholder's equity looks less satisfactory in the fiscal year 2067/068. 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 in the studies period due to lack of Long term debt.

5.3 RECOMMENDATIONS

After the detail analysis of various aspect of capital structure of ACIL, it is found that ACIL 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 ACIL is not sound because of less attention towards long term debt and more attention towards short term debts or current liabilities.

This following recommendations and suggestions have been offered:

1. ACIL should design an appropriate capital structure consisting of long term loan and debentures in order to maximize the wealth.
2. The concept of capital structure has not received much attention in the ACIL 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 ACIL.
4. The management has not paid proper attention towards increasing the amount of profit in ACIL. But ACIL has to manage and reduce the amount of operating expenses as well as interest and deferred revenue expenditure.
5. At last the ACIL 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 ACIL otherwise it should be privatized if not possible to be liquidated.

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APPENDIX -1

**Revised Comparative Balance Sheet of Agni Cement
Industry Limited for Fiscal year 2066/067 to
2068/069**

| Particular\Fiscal Year | 2066/067 | 2067/068 | 2068/069 |
|--|-----------------|-----------------|-----------------|
| <u>Sources of Funds :-</u> | | | |
| 1. Share holder's Funds | | | |
| a. Equity Share Capital | 900685000 | 900685000 | 900685000 |
| b. Capital Reserve | 774240 | 589987 | 1617542 |
| c. Net Profit (Loss for the year) | -89571204 | 65718408 | 50952629 |
| d. Accumulated Profit (loss) | -888217784 | -957066807 | - |
| Share holder's Funds (A) | -76329748 | 9926588 | 257231761 |
| 2. Loan Funds | | | |
| a. Long and Mid term loan | 0 | 0 | 0 |
| Total Debt Capital (B) | 0 | 0 | 0 |
| Total Liabilities (A+B) | -76329748 | -9926588 | 257231761 |
| | | | |
| <u>Application of Funds :-</u> | | | |
| 1. Net Fixed Assets | 337039620 | 286856864 | 27214164 |
| 2. Investment | 7882007 | 123473428 | 25385586 |
| 3. Okhare Mines | 54251022 | 33727412 | 4019563 |
| Total Long term Assets (C) | 399166649 | 444057704 | 56619313 |
| Current Assets Loan and Advance | | | |
| Current Assets | 393695295 | 471006691 | 57151043 |
| Less: Current liabilities & Provisions | 869191692 | 905137807 | 88047180 |
| Net Current Assets (D) | -475496397 | -434131116 | -30896137 |
| Total Assets (C+D) | -76329748 | -9926588 | 25723176 |

