CHAPTER 1

INTRODUCTION

1.1 Introduction of the Study

Insurance works as a double-wedged weapon. On one side, it provides financial securities against risk and on the other side it provides capital to the business houses. Nowadays, insurance has been not only a necessary thing but also a part and parcel of the business world. In this context, the importance and necessity of insurance business in Nepal cannot be ignored.

Nepal is one of the undeveloped countries of the world. Most of people live on poverty. Economic, Social accident makes them unbalanced. In this regard insurance is one way to managing low income level. In this regard, what is the situation of present insurance companies in Nepal is essential to study.

Capital Structure decision is one of the most complex areas of financial decision making due to its interrelationship with other financial decision variables. Capital Structure means the mix proportion of capital in the firm. This must be optimal. It helps the company to minimize the cost and maximize the value of the firm use of optimal capital structure management, least developed country like Nepal will get chance to improve their economy.

The term capital denotes the long-term funds of the firm. All of the items on one side of liabilities of balance sheet excluding current liabilities are source of capital. The source of financing are normally grouped into debt and equity, which normally characterized the firm's capital structure. Debt capital includes all long-term borrowings, while equity capital consists of long term fund provided by firm's owners, the stakeholders.

In order to achieve the firm's goal of wealth maximization the financial manager must be able to assess the firm's capital structure and understand its relationship to risk, return and value of the firm. Thus it is being increasing realized that a company should plan its appropriate capital structure maximize the use of funds and able to adopt more easily in changing conditions.

In managing the capital structure the financial manager's goal is to wealth maximization. Capital structure management is the key factor for short term as

well as intermediate term decision-making in today's dynamic and volatile environment.

So, the study is based on the comparative evolution of capital structure management of the two insurance companies. The study of these two companies of similar nature tries to examine the appropriateness of capital structure employed by these companies.

1.2 Background of Nepalese Insurance Sector

The World is full of risk and uncertainty. Human life and property are always at risk and uncertainty. In today's world of uncertainty a sense of security is not only needed but it is an effective means to save from loss and makes man certain and fearless regarding the risk.

M.N. Mishra defines insurance as "a consisting one party (the insures) agrees to pay to the other party (the insured) or his beneficiary, a certain sum on a given contingency (the risk) against which is sought."

There is no long history of insurance business in Nepal. The necessity of formal insurance was not realized before the revolution of 2007 B.S. At that time, some persons traveling in India used to take insurance in Indian Insurance Companies. Insurance Company used to come to Nepal to make insurance of Nepalese people.

In the financial structure of any nation, insurance companies constitute one of the most important components. They play two roles in the economy i.e. safeguarding against the risk of loss for property, life and accumulation of resources by collecting the long-term funds.

The parental role of the development of insurance in Nepal goes to Nepal Bank Limited (NBL). Transport of goods and Insurance Company (Nepal Mal Chalani Tatha Beema Company) was established under the control of NBL in 2004 B.S. The transport of goods and insurance company used to release the goods from the customs of such goods to the god own of the bank or parties after receiving it. The name of this company was changed into Nepal Insurance and Transport in 2016 B.S. Again in 2048 B.S. the name of this company was changed into Nepal Insurance Company Ltd. which is the oldest insurance company in Nepal.

The role of Indian Insurance Companies in development of Insurance Corporation on India, Oriental Insurance Company Limited and National Insurance Company has remarkable contribution in the field of insurance in Nepal. As well as some other foreign insurance companies have been given remarkable contribution in this field.

The credit of the development of modern insurance business goes to Rastriya Beema Sansthan Private Limited, which was established in 2024 B.S. under the third five plans with carrying two main objectives mobilizing the internal resources and capital for the economic development of the country and stopping the expenditure business power to make life, non-life insurance and re-insurance business. It was converted in Rastriya Beema Sansthan (RBS) in Poush 1st, 2025 B.S. under the Insurance Act 2025 and the RBS Act 2025 B.S. where enacted.

At present, the Insurance Act 2049, the Insurance Rules 2049 and the Rastriya Beema Sansthan Act 2025 are in the use to regulate, manage and control the insurance business in Nepal. Now the government has adopted liberal economic policy, as a result establishment of insurance companies is growing now days. In private sector, National Life and General Insurance Co. Ltd started general insurance business since 2044 B.S. Similarly, it began life insurance business since 2045 B.S.

There are at present 20 insurance companies altogether in Nepal which are listed in Insurance Board. Out of these 20 insurance companies, for the research purpose, only two of them have been selected. The list of insurance companies, their service, type and date of establishment are mentioned as below.

Table No. 1

Insurance Companies in Nepal

S.N.	Name of the Insurance Company	Type of Service	Date of establishment
1.	The Oriental Insurance Company Limited	Non Life	2013 B.S.
2.	Rastriya Beema Santhan	Life and Non-Life	2024 B.S.
3.	National Insurance Company	Non Life	2030 B.S.

4.	National Life and General Insurance Company Limited	Life and Non Life	2043 B.S.
5.	Himalayan General Insurance Company Limited	Non Life	2045 B.S.
6.	United Insurance Company Limited	Non Life	2049 B.S.
7.	Premier Insurance Company Limited	Non Life	2051 B.S.
8.	Everest Insurance Company Limited	Non Life	2051 B.S.
9.	NECO Insurance Company Limited	Non Life	2053 B.S.
10.	Sagarmatha Insurance Company Limited	Non Life	2053 B.S.
11.	Alliance Insurance Company Limited	Non Life	2053 B.S.
12.	NB Insurance Company Limited	Non Life	2057 B.S.
13.	Life Insurance Corporation (Nepal)Limited	Life	2057 B.S
14.	Nepal Life Insurance Company Limited	Life	2058B.S
15.	American Life Insurance Company Limited	Life	2058B.S
16.	Prudential Insurance Company Limited	Non Life	2059 B.S
17.	Shikhar Insurance Company Limited	Non Life	2061 B.S
18.	Lumbini Insurance Company Limited	Non Life	2062 B.S
19.	Siddhartha Insurance Company Limited	Non Life	2063 B.S
20.	Nepal Insurance Company Limited	Non Life	2004 B.S

Source: Beema Samiti

The establishment of new industries and factories, growing number of trading companies, growing awareness of people, government's interest in insurance, provision of compulsory insurance, provision of insurance board and enactment of laws and rules regarding insurance business are the positive indicator of the good future prospect of insurance business in Nepal.

1.3 Introduction of Sample Company

1.3.1 Premier Insurance Company (Nepal) Limited

This insurance company was incorporated with insurance board on 2048 and registered as an insurance of Nepal on 2051.At present company paid up capital is Rs.30,00,000 and its number of shares is 3,00,000 shares. It provides various types of facilities of non-life insurance business from 2051.

The company has its head office in Tripureshwor, Kathmandu. It has altogether 5 branch offices and 1-Liaison within countries. There are 47 administrative staffs of different levels.

It is at present one of the leading general insurance companies in Nepal. To meet the growing needs of today's world Premier Insurance has been upgrading its range of product and policies. These are as follows.

- Fire Insurance
- Loss of profits Insurance
- Comprehensive Household Insurance
- Marine(CARGO)Insurance
- Motor Insurance
- Burglary/House breaking Insurance
- Cash in Transit Insurance
- Fidelity Guarantee Insurance
- Personal Accident Insurance
- Hospitalization/Medical Insurance
- Overseas Medi claim Insurance
- Public Liability Insurance
- Engineering Insurance
- Workmen compensation Insurance
- Aviation

1.3.2 Sagarmatha Insurance Company Limited

This is a modern insurance company established in 2053 with Nepali and foreign promoters. There are Nepalese citizens and foreigners of Celinko Insurance Company Limited of Srilanka working in the company as per the record provided by the company. At present the companies has paid up capital of Rs 5,61,00,000 and its number of shares is 5,61,000 shares.

The company has its head office in Kamaladi, Kathmandu.It has 4 branch offices, the main objective of the company is to provide wide range of covers against physical damage/losses under various insurance products and policies are as follows.

- Fire Insurance
- Consequential Loss Insurance
- Marine Insurance
- Motor Insurance
- Personal Accident Insurance
- Theft/Burglary Insurance
- Cash-in Transit Insurance
- Fidelity Guarantee Insurance
- Contractors all Risk Insurance
- Public Liability Insurance
- Medical Insurance-Hospitalization
- Machinery Breakdown Insurance
- All Risks Insurance
- Workmen's Compensation Insurance
- Aviation Insurance

1.4 Statement of the Problem

There are number of constraints that hinder the development of Insurance in Nepal. Lack of sufficient number of industries, limited market opportunities, low per capita income, and lack of knowledge of insurance, lack of profitable investment opportunities poses a serious threat to the insurance business in Nepal.

The claim procedure is very complicated, it is very difficult to get the valid compensation timely, and the settlement of claim in majority of insurance

company is slow. The area of non-life insurance is decreasing; however, new insurance companies have been established in the market. These parties, however, lack the trust of people and fluctuations transition is major problems often faced by the companies. Due to lack of review and analysis of capital structure management, the company may suffer and face bankruptcy in the future.

Primarily Capital structure decision affects the overall cost of capital, value of firm and earning per share. It affects profitability, control position, management attitude, financial flexibility and premium in the long run. The main issue of study lies on the issue of capital structure used by Premier Insurance Co. (Nepal) Ltd. and Sagarmatha Insurance Co.Ltd. It tries to examine the appropriateness of capital structure used by the companies' obstacles faced by the companies in maintaining the optimal capital structure. In this context capital structure decision is being a challenging task for them. It also tries to seek the answer of the following question.

1.5 Objectives of the Study

The economic development of any country depends upon the effective mobilization of the accumulation of capital. The study of capital structure management helps to maintain and improve or create the perfect situations.

The basic objective of this study is to analyze the capital structure of Premier Insurance Co. (Nepal) Ltd. and Sagarmatha Insurance Co. Ltd., using the data for last five years. The general objectives of this study are as follows.

- ➢ To study debt servicing capacity.
- ➢ To test the relationship between cost of equity and capital structure.
- ➢ To find out the effect of capital structure on profitability.
- ➢ To analyze the related variables of capital structure such as debt equity ratio, cost of capital, earning per share and market per share.
- ➢ To examine the financial position, financial strengths and weakness of those insurance companies.
- ➢ To draw conclusion and recommendation based on the findings of the analysis.

1.6 Significance of the Study

As we know that capital structure management plays a vital role in each and every sector. Without effective capital structure management, an insurance sector cannot achieve its objectives.

Most of capital structure analysis studies have been conducted on manufacturing firms and banking sector. So this study will also highlight the importance of capital structure about two selected insurance companies. This study will provide suggestion framework to the insurance sector about the way of determining optimal capital structure. That will beneficial to the individual company as well as whole sector in long run.

This study uses various financial and statistical tools to examine the capital structure of the companies. The study evaluates the financial interims of capital structure, which helps the concerned insurance companies to formulate strategies to face the increasing competition and to achieve the target objectives.

This study will support the different areas like students, investors, financial managers, policy makers and financing agencies etc. by providing valuable information about the subject of the study.

1.7 Limitations of the Study

The study covers the data and information only last five years i.e. fiscal year 2059/60 to 2063/64.

This research work has some permanent boundary; besides the boundary, concentration about the topic is not diversified. This study is for partial fulfillment of Masters of Business Study (MBS).Following factors will be the main limitation of the study:

➢ Data availability.
➢ The analysis period covers only five years data.
➢ It focuses on capital structure and does not cover other aspect of the analysis.
➢ Only limited primary data will used in the study in forms of personal interview and questionnaire method.
➢ Study being heavily dependent on secondary data provided by the two selected companies will be used.

➢ This study is limited to the related variables affecting capital structure of the selected two insurance companies.
➢ Time and resource constraint.

1.8 Organization of the Study

This study has been organized into five chapters. The titles of each of these chapters are summarized and the contents of each of these chapters of this study are briefly mentioned below.

Chapter I: Introduction
Chapter II: Review of Literature
Chapter III: Research Methodology
Chapter IV: Data Presentation and Analysis
Chapter V: Summary, Conclusion and Recommendations

The first chapter deals with the subject matter consisting introduction, background of the study, introduction of sample company, statement of the problem, objectives of the study, significance of the study, limitations of the study and organization of the study.

The second chapter is concerned with review of literature. It includes review of books, review of articles, review of reports, review of related journals and review of thesis.

The third chapter is concerned with research methodology. It includes introduction, research design, population and sample, data collection procedure and methods of data analysis.

The fourth chapter deals with analysis and interpretation of data by using statistical and financial methods described in chapter three.

Lastly, chapter five deals with summary, findings, conclusion and recommendations of the study. The bibliography and appendix are incorporated at the end of the study.

CHAPTER -2

REVIEW OF LITERATURE

2.1 Introduction

The purpose of reviewing the literature is to develop some expertise in one's area, to see what new contributions can be made, and to receive some ideas for developing a research design. Thus, the previous studies cannot be ignored because they provide the foundation to the present study. It will give guideline to go further depth of the study. In other words, there has to be continuity in research. This continuity in research is ensured by linking the present study with the past research studies.

From above, it is clear that the purpose of literature review is to find out what studies have been conducted in one's chosen field of study, and what remains to be done. Under this chapter, different books, articles, research and thesis are well reviewed. This chapter is basically concerned with review of literature relevant to capital structure analysis of insurance companies of Nepal. This chapter has been divided into the following three sections.

1. Theoretical Review
2. Review of Article and Journal
3. Review of Previous Research

2.2 Theoretical Review

In this section theoretical concept regarding the theories of capital structure are well reviewed. This makes clear about conceptual foundation of this study.

2.3 Concept of Capital Structure

"Capital Structure is the permanent financing of the firm represented primarily by long-term debt, preferred stock and common equity but excluding of all short-term credit" (Weston and Brigham, 1982:555).

Capital Structure is composition of debt and equity that comprises a firm's financially of its assets. In accounting terminology, it is simply difference between total assets and total liabilities. But in financial terminology the term capital includes equity as well as debt capital. Equity capital contains capital

generated from issuing common stock, preferred stock and retained earnings. Debt capital may be the composition of payable bearing no interest rate, short-term bonds, long-term bond, debentures and term loans.

Capital is concerned with the analyzing the capital composition of the firm. It is considered as the mix of long-term source of funds. Debt, share and equity are long-term source of fund. A firm must concentrate in its proportion. A firm can raise funds by issuing various types of financial tools. Firm can raise funds either by debt capital or by share capital. Debt capital has several advantages and disadvanatages. Debt holders are also known as creditors. They receive interest as their return from the company where they invested capital. Interest is tax deductible which lower the effective cost of debt, debenture holders who are limited to the fixed return, do not have voting rights. So shareholders are the actual owners of the firm, but preference shareholders have preference rights to get return from the company then the equity shareholders. So equity shareholders, receive the remaining portion of net return after paying the preference dividend to preference shareholders, which is predetermined.

"The capital structure is a combination of long-term debt and equity; which includes preference stock, common stock and long-term debts as well as current liabilities. It is a part of financial structure. If current liabilities are removed from it we get capital structure" (Iqwal, 1979:210).

Capital structure is concerned with the analyzing the capital composition of the company. In the word of Weston and Brigham, Capital Structure is the permanent financing of the firm, represented primarily by long term debt, preferred stock and common stock but excluding all short-term credit. The capital structure plays vital role in the theory of financial management. It is also known as financial structure, plan or leverage.

A sound or appropriate capital structure should have following features (Pandey, 1990: 611)

Return: The capital structure should generate maximum returns to shareholders without adding additional cost to them.

Flexibility: The capital structure should be flexible to adapt its capital structure with minimum cost and delay in the changing situation and it should be able to generate funds whenever it needs to finance.

Capacity: The debt capacity should not be exceed and should have capacity to generate future cash flows enough to pay creditors fixed charge and principal.

Control: It should involve minimum risk of control of company.

2.3.1 Optimal Capital Structure

Optimal Capital Structure can be defined as the mix of debt and equity which will maximize the market value of the company, i.e. aggregate value of claims on ownership interest represented as the credit side of balance sheet. "The optimal capital structure is the mix of finance in which the market value of per share is maximum or the average cost of capital is minimum. The value will be maximized or the cost will be minimum when the marginal cost of each source of fund is the same. An optimum capital structure would be obtained at that combination of debt and equity that maximizes the total value of firm or minimized the weighted average cost of capital" (Hampton, 1989:33).

Optimal capital structure can be properly defined as that combination of debt and equity that attains the stated managerial goals, maximization of the firm's market value and which minimizes the firm's cost of capital. "The optimal capital structure strikes a balance between the risks and return and thus maximizes the price of the stock. A firm has certain structure of assets, which offers net operating incomes of given size and quantity, and gives certain structure of rates in the capital markets, there is some specific degree of financial leverage at which the market value of the firm's security will be higher (or the cost of capital will be lower) than at any other degree of leverage" (Soloman, 1963:92).

2.3.2 Factors Affecting Capital Structure

Capital structure of different types of firm's varies widely. "There is no rigid formula to explain the temperaments. Managing directives or major shareholders may often be the major determining factor at any given time. The availability of and level of interest rates and expectation as to future money availability and whether interest rate are through likely to raise or fall will be the important factors"(Ogley, 1981:95).

Factors affecting capital structure revolve principally around the adequacy and stability of earnings; the greater the stability of earnings the higher may be the ratio of bonds to stocks in the capital structure also. After a brief overview of the

capital structure management we can point out the following factor which affects the capital structure of any organization.

a) Market Condition

Conditions in the stock and bond market undergo both long and short-term changes, which can an important bearing on a firm's optimum capital structure. Stocks and bond market conditions do influence the type of securities used for a given financing.

b) Cost of Capital

Debt is usually least expensive because there is tax shielded saving on interest whereas the use of common stock is the most expensive. "The impact of financing decision on the overall cost of capital should be evaluated and criteria should be to minimize the overall cost of capital or to maximize the value of the firm" (Pandey, 1999: 264).

c) Firm's Internal Conditions

The internal condition of a company also plays an important role in capital structure. According to Brigham's, Suppose a firm has just successfully completed research and development program and projects are not yet anticipated by investors and hence are not reflected in the price of the stock. It would prefer to finance with debt until the higher earnings materialize and reflected in the stock price, at which time it want to sell an issue of common stock, retire the debt and return to its target capital structure.

d) Growth Rate

Faster growing firm's must rely more heavily on external capital. Rapidly growing firms tends to use somewhat more debt than companies of slower growth.

e) Stability of Sales

Stability, adequacy, volume and predictability of earnings determine the capital structure. The firm's with stables sales would have high ratio of funded debt because they will not face difficulty in meeting their fixed commitments. The companies with declining sales not employ debt or preference share capital; because they would not like to be burdened wait fixed charges.

f) Cash Flow Ability of a Company

A Firm is conservatively financed if it is able to serve fixed charges under any reasonable predictable adverse conditions. "It is not the average cash inflows but the yearly cash inflow which is important to determine the debt capacity of a company. Fixed financial obligations must be meet when due, not on an average and not in most years but always" (Johnson, 1973: 216).

g) Flotation Cost

Flotation costs are incurred only when the funds are raised. The cost of floating a debt is less than cost of floating an equity issue. This may encourage a company to use debt than issue equity shares.

h) Assets Structure

Firm's whose assets are suitable as securities for loans tends to use debt heavily than the firm's having no suitable assets structure necessary for pledging security for loan. According to J.Batty, "Borrowed capital should not exceed a reasonable percentage of fixed assets'' (Batty, 1963: 159).

i) Interest Rate Level

This affects choice of securities to be offered investors; high interest rate makes financing costly. When funds are obtained easily and cheaply, there is greater attitude for choice of types of securities to be used.

j) Nature of Industry and Capital Requirements

The pattern of capital structure of the industry of which the firm is a part also very important factor in determining the capital structure of the firm. The needed and financial conditions of the company have to be considered. If growth is only moderate, a reinvestment of earning will serve the purpose.

k) Control

The choice of the capital structure decision depends upon the management control position. If the management has voting control over company then it prefers to use debt whereas if the management is not concern about voting control it may decided to use equity then to use debt.

l) Flexibility

The company's desired for flexibility in future financing decisions also effects the capital structure of the company. Therefore the company should compare the benefits and costs of attaining the desired degree of flexibility and balance them properly.

m) Profitability

The firm's with very high rates of return of investment use relatively little debt. Their high rates of return enable them to do most of their financing with retained earnings.

n) Taxes

Interest is deductible expenses while dividends are not deductible. Hence the higher a firm's tax rate, the greater advantages in using debt.

o) Leverage Effects

The company with the high level of earnings before interest and taxes can make a profitable use of the high degree of leverage to increase return of the shareholders equity.

2.3.3 Capital Structure Decision

Capital Structure is considered as the mix of debt and equity and to operate in long run prospect. A firm must concentrate in its operation. Investors and creditors being the key suppliers of the capital, they hold greater degree of risk and hence have claims over firm's assets and cash flows. Similarly debt holders are also a source of financing fund and they have risk considering firm's cash flows is uncertain and there is probability that it may default in its obligations to pay off its interest and principles. In other hand, if a firm issue preference share, those shareholders even though have priority in payment of dividends before common shareholders but after the debt holders. Since the percentage of dividend is fixed as the percentage of interest to debt, it is preferably paid off only after interest payment .Common Shareholders as are the owner of the firms they are paid from cash remaining after all payment is being made. Since the common share i.e. equity fluctuates in the market more than the preference share and debt, there is more risk.

The required rate of return expected by investor according to their risk is cost of capital. Therefore, a firm should try to obtain necessary fund at low cost. This cost of capital is fully dependent upon the proportion of debt and equity, i.e. financial leverage, which is actually the capital structure used by the firm. Financing decision of a firm, as the other financial decision, is concerned with the shareholders wealth   maximization. As capital structure refers to the proportion of debt and equity, a choice in proportion is actually financial decision in case to fulfill investment requirement. Therefore, it is a wise decision to select such financing mix, which maximizes shareholders wealth.

One of the financial manager's principle goals is to maximize the value of the firm's securities. For this purpose firm should select a financial mix or leverage, which will help in achieving the object of financial management with a view to maximize the value of share. In order to attain this business goal, firm should select an appropriate structure.

The capital structure decision affects the overall cost of capital, total value of the firm and earning per share. Therefore, it should be well planned. It aims to maximize value of firm and earning per share by minimizing cost of capital without effecting operating income of the firm. An optimal capital structure would be obtained at the combination of debt and equity that maximizes the total value of the firm.

"The capital structure is the composition of the debt and equity securities that make up the firm's financing of its assets. Both debt and equity securities are used in most large corporations .The choice of the amount of the debt and equity   is made after a comparison on certain characteristics of each kinds security of internal factors related to the firm's operations and of external factor that can affect the firm" (Soloman, 1989:115).

The capital structure is rational judicious mix of debt, preference stock and common stock. Therefore, capital structure depends upon the efficiency of management in the rational estimation of capital mix. "There are four dimensional lists when thinking about capital structure decision" (Weston and Brigham, 1978: 451).

a) Taxes

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

b) Business Risk

With or without bankruptcy, financial distress is costly. Other things equal, distress is more likely for the firm with high business risk. That is why firm's generally issues debt.

c) Assets Type

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

d) Financial Slack

Financial slack is most valuable to firm's that have ample positive net present value growth opportunity. That is another reason why growth companies usually aspire to conservative capital structure.

2.3.4 Assumption and Definitions

In order to have better understanding of capital structure theory, the researcher makes the following assumptions. These are (Van Horne, 2000: 252)
- There is no corporate or personal tax.
- There are no bankruptcy costs.
- The ratio of debt to equity for a firm is changed by issuing debt to repurchase stock to issuing stock play off debt.
- The firm has a policy of paying 100% of its earning in dividends. Thus we abstract from the dividend decision.
- The expected value of the subjective probability distributions of expected future operating earnings for each company are the same for all investors in the markets.

⌡ The operating income of the firm is not expected to grow the expected earning for all futures periods are same as present operating earnings.
⌡ Two types of capital are employed:-Debt and Equity.
⌡ The firm is expected to continue indefinitely.

We can find out cost of capital and their expected values by using following formula:

$$\text{Cost of Debt (Kd)} = \frac{I}{D}$$

$$\text{Cost of Equity (Ke)} = \frac{EBIT-I}{V-B} = \frac{EBT}{S}$$

$$\text{Value of Debt (D)} = \frac{I}{Kd}$$

$$\text{Overall Cost of Capital (Ko)} = \frac{EBIT}{V}$$

The overall cost of capital is the weighted average cost of equity and cost of debt.

Thus,

$$Ko = Kd\frac{D}{V} + Ke\frac{S}{V}$$

The value of the firm is combination value of debt capital and equity capital. So, V=D+S

or,

$$\frac{EBIT}{Ko}$$

2.3.5 Theories of Capital Structure

The capital structure is a combination of long-term debt and equity; it is a part of financial structure .Thus, the financial decision of a firm relates to choice of proportion of debt and equity to finance the investment requirement a proper

balance between risk and return to shareholders. However, it can be expected that if the capital structure decision effect the total value of the firm, a firm should selected such a financing mix, which maximize the shareholders wealth. The optimal capital structure and its implications are more noticeable. Argument between those who believe that there is an optimal capital structure for each firm's and among those who believe in the absence of such optimal capital structure for each firm began in late 1950's yet there is no resolution of the conflict.

In theory, "Capital Structure is composition of debt and equity that compromises a firm's financially of its assets. Both debt and equity is made after a comparison of certain characteristics of each kinds of security of internal factor related to the firm's operations and of external factor that can affect the firm" (Hampton,1986: 42).

2.3.5.1 Net Income Approach (NI)

Under this approach, the cost of debt (Kd) and cost of equity (Ke) are assumed to be independent of the capital structure. The weighted average cost of capital declines and the total value of the firm rise with increased use of leverage.

"The emphasis is an EBIT is to measure how the degree of leverage changes in the valuation of the firm. Assuming a constant capitalization rate, the increases cheaper debt funds lower the WACC and thereby raising the value risky" (Shrestha, 1985:49).

Thus the use of additional debt is causes of increments of total value of the firm and decrease of cost of capital .The crucial assumptions of this approach are: (Van Horne, 1977:380)

1. The use of debt does not change the risk perception of the investors; as a result the equity capitalization rate, Kd, remains with changes in leverage.
2. The debt capitalization rate, Kd, is less than equity capitalization rate, Ke.
3. The corporate income tax does not exist.

Under this approach "As a firm increases its leverage by increasing its level of debt relative to equity the overall cost of capital declines. The importance of those levered overall cost of capital is that it increases the value of the firm" (Van Horne, 2000:254).

According to the first assumption, Kd and Ke are constant. Increased value of debt will result in the higher value of the firm via higher value of equity. Consequently, the overall cost of capital, Ko will decrease. The overall cost of capital is measured by following formula:

$$Ko = \frac{Net\ operating\ income}{Total\ value\ of\ firm}$$

$$Symbolically,\ Ko = \frac{EBIT}{V}$$

The overall cost of capital can also be measured by using following equations:

$$Ko = \frac{Ke - (Ke-Kd)\ D}{V}$$

As per assumption of NI approach, Kd and Ke are constant and Kd is less than Ke. Therefore Ko will decrease as D/V increase .It also implies that the overall cost of capital, Ko will be equal to Ke if the firm does not employ any debt.

Graphic presentation of this theory is shown in the following figure:

Y   Y   Value of the firm

Ke

Kd   Vo

Ko

O   X   O   X
 Figure:1   Leverage   Figure:2   Leverage
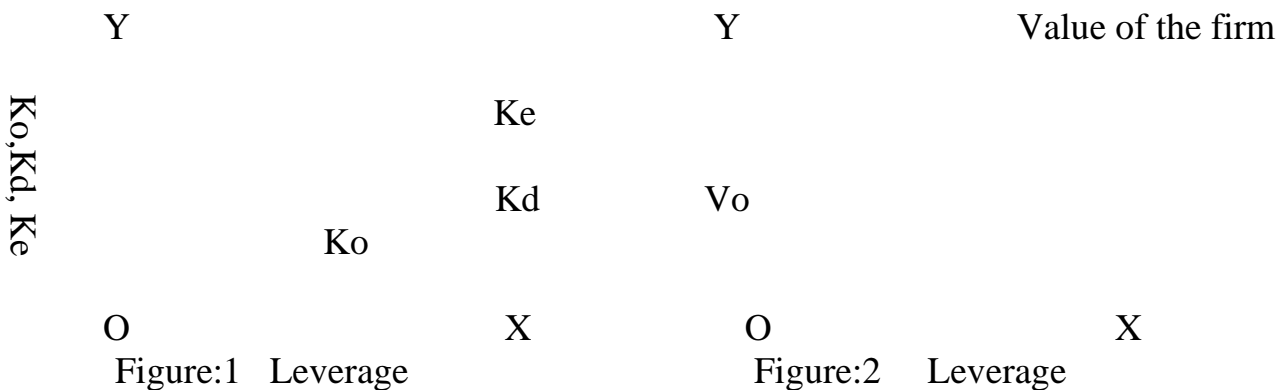
The effect of leverage on cost of capital and value of firm under NI approach.

In the above figure, the degree of financial leverage is shown in the horizontal axis and cost of capital (Ko,Kd,Ke) in vertical axis. Under this approach Kd and Ke are assumed to be not change with leverage. As the portion of debt increased in the capital structure, it cause overall cost of capital to decrease and approach to cost of debt. The optimal capital structure would occur at a point where the value of

the firm is maximum and overall cost of capital is minimum. Under this approach, the firm will have a maximum value and lower cost of capital when it is almost debt financing.

2.3.5.2 Net Operating Income Approach(NOI)

"Under the NOI approach, the cost of equity is assumed to increase linearly with leverage. As a result, the WACC remains constant and the total value of the firm also remains constant as leverage is change" (Eugene and Hohnoson, 1976:236).

The crucial assumptions of NOI approach are (Pradhan, 1992: 359)

⟩ The market capitalizes the value of firm as a whole .Thus the split between debt and equity is not important.

⟩ The market uses and overall capitalization rate (Ko) to capitalize the net operating income. Ko depends upon the business risk is assumed to remain unchanged, Ko is a constant.

⟩ The use less costly debt fund increases the risk of the shareholders. This causes the equity capitalization to increase. Thus the advantage of debt is offset exactly by the increase in the equity capitalization rate (Ke).

⟩ The debt capitalization rate is constant.

⟩ The corporate income tax does not exist.

Under NOI approach, the capital structure selected is a more detail since the value of the firm is independent of the firm's is capital structure. If the firm increase its use of financial leverage by employing more debt this is directly affect by an increase in the cost of capital .In this approach Ke is determined by following formula:

$$\text{Equity capitalization rate (Ke)} = \frac{EBIT}{S}$$

Equity Capitalization rate can be also measured by following equation:

$$Ke = Ko + \frac{(Ko-Kd)D}{S}$$

The equation indicates that if Ko and Kd are constant, Ke would linearly debt equity rate (D/S) this is shown in the following figures:

Y   Ke   Y

Cost of Capital   Ko   Value of the Firm   Ko

                                     Kd

o   Leverage   x   o   Leverage   x
Figure No.3   Leverage   Figure No.4   Leverage
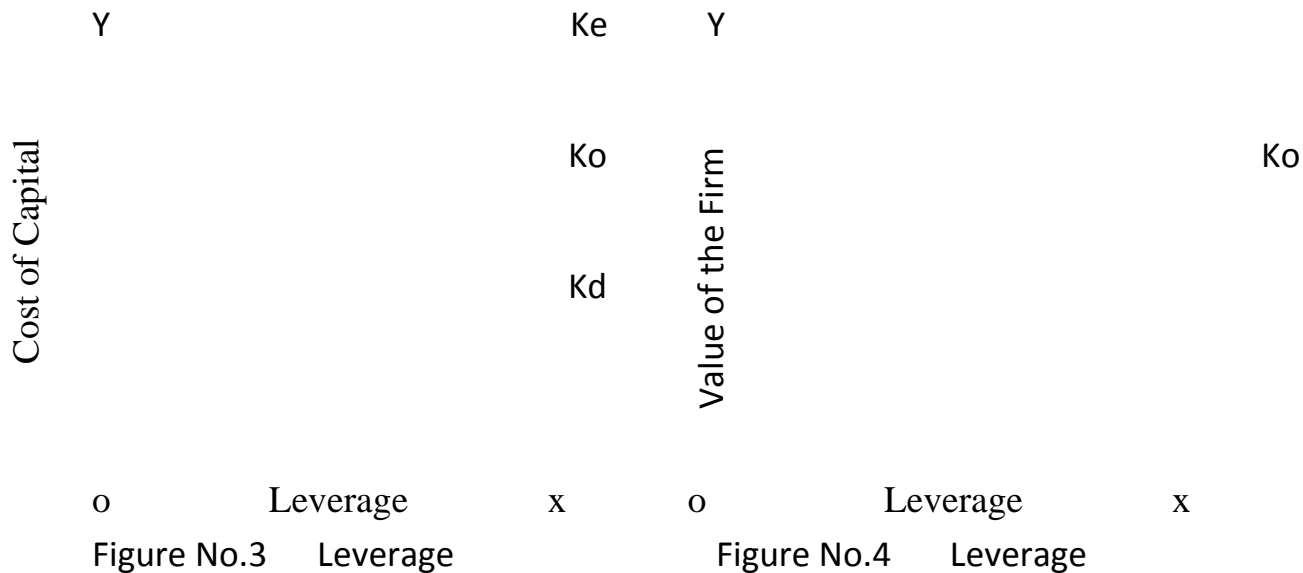
Effect on leverage on cost of capital and value of the firm under NOI approach.

According to figure we can say that under NOI approach as low cost of debt is used .Its advantages in exactly offset by increasing cost of equity in such a way that to cost of capital remains constant. By this the values of the firm also remains constant. At the extreme degree of financial leverage, hidden cost become very high hence the firm cost of capital and its market value are not influenced by the use of additional cheap debt fund.

2.3.5.3 Traditional Approach:

The preceding discussion clearly show that the NI approach as well as NOI approach represent to extreme as the theoretical relationship between financing decision as determined by the capital structure, the weighted average cost of capital and total value of the firm. The NI approach takes the position that use zero debt in the capital structure will always affect the overall cost of capital and total valuation while the NOI approach argues that capital structure is totally irrelevant.

While traditional view, which is also known as an intermediate approach, is a compromise between the NI approach and NOI approach.

"The traditional approach to valuation and leverage assumes that there is an optimal capital structure that the firm can increase the total value of firm through the judicious use of leverage. The approach suggests that the firm initially can lower its cost of capital and raise its value through leverage" (Van Horne, 2000: 254).

The traditional approach to valuation and leverage assumes that there is an optimal capital structure that the firm can increase the total value of the firm through the judicious use of leverage. This approach suggests that the firm initially can lower its cost of capital and raise its total value through leverage. Although the investors raise the required rate of return on equity, the increase in Ke does not affect entirely the benefit of using 'cheaper' debt funds.

The main assumptions of the traditional approach are:

) The cost of debt (Kd) remains more or less constant up to a certain degree of leverage but rises thereafter at an increasing rate.

) The cost of equity (Ke) remains more or less constant or raises only gradually upto a certain degree of leverage and rises sharply thereafter.

) The average cost of capital 'Ko' as a consequence of above behavior or 'Ke' and 'Kd' (i) decrease upto a certain point(ii)remains more or less unchanged for moderate increases in leverage thereafter rises beyond a certain point.

"According to the traditional position, the manner in which the overall cost of capital reacts to change in capital structure can be divided into three stages" (Soloman, 1989:194).

a) First Stage: Increasing Value

In the first stage, the equity capitalization rate (Ke) rises only after a certain level of leverage and not before or rises slightly with debt. So that the use of debt does not necessarily increases the 'Ke' and this slight increase in Ke may not be so high as to neutralize the benefit of using cheaper fund. As result, the value of the firm 'V' increases while the overall cost of capital falls with increasing leverage.

b) Second Stage: Optimum Value

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

c) Third Stage: Declining Value

If the amount of debt is increased further beyond the acceptable limit, the firm would become very risky to the creditors who would like to be compensates by a higher return such that Ki will rise. The use of debt beyond a certain point will, therefore have effect of rising the weighted average cost of capital and conversely the total the total value of the firm.

The overall effect of these three stages is to suggest that the cost of capital is the function of leverage. It declines with leverage and after reaching a minimum point. The relationship between cost of capital and leverage can be graphically shown as under:

Ke

Ko

Kd

Cost of Capital

1st 2nd 3rd
stage stage stage

O   X

Figure No. 5   Degree of Leverage

Analysis of Leverage under Traditional Approach

In the above figure Ke, it is assumed that Ke rise at an increasing rate with leverage, Kd assumed to rise only after significant leverage has occurred .At first, the weighted cost of capital. Ko, declines with leverage because the rise in Ke does not entirely offset the use of cheaper debt funds. As a result, Ko declines with moderate use of leverage. After a point, however, the increase in Ke more than offset the use of cheaper debt funds in the capital structure, and Ko begins to rise. The rise in Ko is supported further once Kd begins to rise. The optimal capital structure is point X. Thus the traditional position implies that the cost of capital is not independent of capital structure of the firm and that there is optimal capital structure.

Overall Effect

Thus the overall effects of these three stages suggest that the cost of capital is the function of leverage. Upto a point, the use of debt will favorably effect the value of firm, beyond the point; use of debt will adversely effect it. At the level of debt-equity ratio, the capital structure is an optimum capital structure. At the optimum capital structure, the marginal real cost of debt, define to include both implicit and explicit, will be equal to the real cost of equity. For the debt-equity ratio before that level the marginal real cost of debt would be less than that of equity capital, while beyond that level of leverage ,the marginal real cost of debt would exceed that of equity capital, while beyond that level of leverage, the marginal real cost of debt would exceed that of equity. Thus, there, would according to traditional view, be an optimum capital structure (Khan and Jain, 1990:511).

2.3.5.4   Modigliani-Miller Approach

Until 1958, capital structure theory considered the loose assertions about investors rather than carefully constructed model, which could test formal statistical analysis. It was believed that judicious mix of debt and equity capital i.e. financial leverage in the capital structure decreases the overall cost of capital, increases the value of firm and help in determining an optimal capital structure.

But in 1958, Franco Modigliani and Merton Miller (MM) addressed capital structure in a reign of rigorous, scientific fashion, and they set off a chain of research that continuous to this day. In 1958, M-M published a research paper, the cost of capital, corporate finance and the theory of investment "and added another miles stone on the theory of capital structure.

Modigliani-Miller (M-M) in their original position advocates the relationship between leverage and the cost of capital, which is explained by the net operating approach.

The M-M theory is identical with a net operating income approach. They argue that, in an absence of taxes, a firm's market value and cost of capital remain invariant to the capital structure changes. In their 1958 article, they provide analytically sound and logically consistent behavioral justification in favor of their hypothesis, and reject any other capital structure theory as incorrect.

M-M explains their theory based on the following important assumptions:

a. Capital market is perfect. Information is costless and readily available to all investors. There are no transactions costs and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.

b. The average future operating earnings of firms are represented by subjective random variables. It is assumed that the expected values of probability distribution of all investors are same.

c. Firms can be categorized into "equivalent return'' classes. All firms within a class have the class have the same degree of business risk. As we shall see later, this assumption is not essential for their proof.

d. The absence of corporate taxes is assumed.MM removes this assumption later.

The M-M position is based on the idea that no matter how we can divide the capital structure of a firm among debt, equity and other claims, there is a conservation of investment value. M-M in 1958 proposed that the theory without taxes and they relaxed the theory with tax consideration. So, we can study M-M theory under two headings:

a) M-M theory without taxes
b) M-M theory with taxes

a) M-M theory without taxes:

This theory can be expressed in term of the propositions I and II.

Propositions –I

The proposition states that the market value of a firm is independent of its capital structure. M-M argue that, for firms in the same risk class, the total market value is independent of debt equity mix and is given by capitalizing the net operating income by the rate appropriate to that risk class. This can be expressed as follows:

$$\text{Value of the firm (V)} = \frac{\text{Expected net operating income}}{\text{Expected overall capitalization rate}} = \frac{\text{NOI}}{\text{Ko}} \text{ or } \frac{\text{EBIT}}{\text{Ko}}$$

For an unlevered firm, Ko =Ke, so

$$Vu = \frac{\text{NOI}}{\text{Ko}_u} \text{ or } \frac{\text{NOI}}{\text{Ke}_u}$$

For a levered firm, $V_L = \dfrac{NOI}{Ko_U}$

Since, value of the firm is a constant, then under the M-M model, when there are no taxes, the value of firm is independent of its leverage. This also implies that:

-The weighted average cost of capital to the firm is completely independent of its capital structure.
-The weighted average cost of capital for the firm, regardless of the amount of debt is used, is equal to the cost of equity it would have if it uses no debt.

According to this proposition, there is no relationship between value of firm and the way its capital structure is made up, nor there only relationship between the overall cost of capital and capital structure.

Proposition-II

This theory states that the cost of equity rises proportionately with the increasing leverage in order to compensate in the form of premium for bearing additional risk arising from the increase in leverage. It assumes that only the equity holders adjust the capitalization rate for the degree of financial leverage risk. It means that Ke increases as debt equity ratio increase. The Kd does not respond to change in debt equity ratio and it remains constant.

The cost of equity capital for a levered firm (Ke_L) is equal to cost of equity of an unlevered firm (Ke_U) plus a risk premium equal to the differences between Ke_U and Kd multiplied by debt equity ratio.

$Ke_L = Ke_U + $ Risk premium

$Ke_L = Ke_U + \dfrac{(Ke_U - Kd)\ D}{E}$

According to the above equation, as the firm's use of debt increases, its cost of equity also rises. Due to the increase in leverage, firm gets the benefit of cheaper debt, but the benefit is exactly offset by an increase in the cost of equity in the firm of risk premium expected by the shareholders, against an increase in financial risk.

The two M-M propositions imply that the inclusion of more debt in the capital structure will not increase the value of the firm. Thus M-M argue that in the world

without taxes, both the value of the firm and its weighted average cost of capital would be unaffected by its capital structure.

The Arbitrage Proof

Arbitrage is the movement of shareholders from one firm to another to acquire equal return at relatively less investment outlay. This will cease when the value of both levered and unlevered firm is equal to each other.

M-M did not accept NI approach as valid. M-M opinion is that if two identical firms, except for the degree of leverage, have different market values; arbitrage will take place to enable investors to engage in personal or home-made leverage as against the corporate leverage to restore equilibrium in the market.

On the basis of the arbitrage process-M concluded that the market value of a firm is not affected by leverage. Thus the capital structure decision is irrelevant. It does not have any impact on the maximization of market price per share. This implies that one capital structure is desirable as much as the other.

M-M Theory with Taxes

The 1963 M-M article incorporated corporate taxes but the 1958 article did not include. In reality, the corporate income taxes exist and interest paid to the debt holders is treated as deductible expenses. So, debt financing is advantageous.

"In the 1963 article-M proved that the value of the firm will increase with debt due to the deductibility of the interest charges for tax computation, and the value of levered firm will be higher than of unlevered firm" (Pandey1999:694).Thus the value of the levered firm is equal to the value of the levered firm is equal to the value of unlevered firm plus the present value of tax shield.

Symbolically, $V_L = V_U + PV$ of interest tax shield

When corporate tax introduced, the value of levered firm exceed that of the unlevered firm by the amount of tax shield. Since the gain from leverage as debt increases, in theory a firm's value is maximized at 100% debt financing. With zero debt, the value of firm is equal to the firm's value of equity. The value of unlevered firm can be found by using following equation.

$$Vu = S = \frac{EBIT\ (1-T)}{Ke_U}$$

Where, V_L=Value of levered firm

Vu=Value of unlevered firm

T=Corporate tax rate

Ke_U=Cost of equity of unlevered firm

Proposition-II

The cost of equity of levered firm is equal to the cost of equity of an unlevered firm in the same risk class plus a risk premium whose size depends on the differential between the cost of equity and debt to an unlevered firm, the amount of financial leverage used, and the corporate tax rate.

$$Ke_L = Ke_U + (Ke_u - Kd)(1-T)\frac{D}{S}$$

Where, Ke_L=cost of equity of levered firm

The M-M's 'tax-corrected' view suggests that, because of tax deductibility of interest charges, a firm can increase its value or lower its cost of capital continuously with leverage. Thus the optimal capital structure is reached when the firm employs 100 percent debt in its capital structure. But the observed experience is contrary to this view. In practice firm do not employ large amount of debt, nor are lenders ready to lend beyond certain limits. M-M suggests that firms would adopt a target debt ratio so as not to violate the limit of debt level imposed by lenders.

The Miller Model

Although M-M introduced corporate taxes in the revised version of their model, they did not extend the model to include personal taxes. Changes in the capital structure have no effect on the firm's total valuation as per Miller argument. This position is the same as M-M's original proposition in the world of no taxes, but it contrasts sharply with their corporate adjustment article, in which they found that debt has substantial advantage.

With personal taxes included, and under the same set of assumptions used in the MM model, the value of an unlevered firm is found as follows.

$$V_u = \frac{\text{EBIT} (1\text{-tc}) (1\text{-tps})}{\text{Ke}_u}$$

Where,

EBIT= Earnings before interest and taxes
tc= Corporate tax rate
tps= Personal tax rate on income from stock
Ke_U= Equity capitalization rate of unlevered firm

The value of levered firm under Miller model can be found as follows:

V_L= Vu + Tax shield
Or, V_L=Vu + $1 - \frac{(1\text{-tc}) (1\text{-tps})}{(1\text{-tpd})}$

Where, tpd=Personal tax rate on income from debt.

The Miller model has two important implications:

a) There is an optimum amount of debt in the economy, which is determined by the corporate and personal tax rates.

b) There is no optimal debt-equity ratio for a single firm. There are hundreds of firms, which have already induced 'tax exempt' and 'low tax bracket'investors.Therefore a single firm cannot gain or loss by borrowing more or less.

Miller's model is based on some controversial assumptions, and therefore, most people still believe that in balance, there is a tax advantage of corporate borrowing.

2.4 Approaches to Establish Appropriate Capital Structure

The success of any company depends upon capital structure decision. This affects the value of the firm, earning per share and overall capitalization rate of the firm. The initial capital structure should be designed carefully. Firstly, all the available sources of funds should be identified. Carefully analysis should be carried out taking into consideration the advantages and disadvantages of each source. The company should make a proper mix of those sources while making the final decision for financing.

The financial manager should identify all the alternatives and weigh the advantages &disadvantages of each of the alternatives while the company is in need of finances. The best option available should select among the alternatives. Capital structure decision is ongoing process and should be considered when needed. Different approaches are available for the selection of appropriate capital structure. The common approaches are as follows:

- EBIT-EPS Analysis
- Cash flow Analysis

2.4.1   EBIT-EPS Analysis

The common goal of companies is to maximize the shareholder's wealth i.e. earnings per share. So, the company should select that financial plan which maximizes the earning per share of the company. EBIT-EPS approach analyzes the impact of various financial plans on earning per share.

The higher the level of EBIT in relation to indifference point, the stronger the case that can be made for debt financing, all other things being the same. The lower EBIT is in relation to the indifference point the stronger the case for common stock financing. This is particularly true when the indifference point is below the existing level EBIT.

So, the EBIT-EPS analysis can be used to evaluate the various capital structures in light of the degree of financial risk they entail and the return they provide the firm's owners.

2.4.2 Cash Flow Analysis

Cash flow analysis is the other approach to establish an appropriate capital structure. When considering the appropriate capital structure, the financial manager should analyze the cash flow ability of the firm to serve fixed charges. Fixed charges include payment of interest, preference dividend; principal payment and lease payment. They depend on both the amount of loan securities and term of payment.

The fixed charges will be high if the company employs large amount of debt or preference capital with short-term maturity. Whenever the company thinks of raising additional debt, it should analyze expected future cash flows to meet the

fixed charges. The inability to meet these fixed charges would be disastrous to the company. Cash flow analysis is helpful to determine the debt capacity of the firm. Debt capacity is the amount which a firm can serve easily ever under adverse conditions; it is the amount that the firm should employ. Coverage ratios can be used to analyze the debt capacity of the firm.

Among the coverage ratios, most widely used coverage ratio is time interest earned or interest coverage ratio and can be calculated by using the following formula:

$$\text{Interest coverage ratio} = \frac{\text{EBIT}}{\text{Interest on debt}}$$

The ability to pay interest is measured with the help of this ratio. It also measures the extent to which operating income can decline before the firm is unable to meet its annual interest costs. Failure to meet this obligation can bring legal action by the firm's creditors, possibly resulting in bankruptcy.

Time interest earned ratio tells us nothing about the ability of the firm to meet principal payments on its debt. The inability to meet principal payment constitutes some legal default as failure to meet an interest payment. Therefore, debt service coverage ratio is useful to test the ability to serve debt. This ratio is

$$\text{Debt service coverage ratio} = \frac{\text{EBIT}}{\text{Interest} + \frac{\text{Principal payment}}{\text{1-Tax rate}}}$$

Debt capacity should be thought in terms of cash flows rather than debt ratios. A high debt ratio is not necessarily bad. If firm can serve high debt without any risk, it will increase shareholder's wealth. On the other hand, a low debt flow ratio can prove to be a burden for a firm, which has liquidity problem. A firm faces financial distress when it has cash flow problem.

2.5   Review of Article and Journal

In this section various article and journal are reviewed to make clear view to analysis of capital structure.

Article conducted by **Sharma (1968)** concluded a study "The Capital Structure and Cost of Capital". In his paper, the firm's capital structure was examined in term of two parameters, the expected rate of return on the firm's capital structure and the efficient opportunity curve of yield verses risk were presented, and the range of efficient capital structure of the firm was derived. The capital structure theme was formulated; stating that the firm's cost of capital is constant along the range of efficient capital structure of interest rates, it is followed that the shape of the cost of capital curve is determined by the interest rates and if it is constant, any capital structure is efficient and that the cost of capital is also constant.

Article conducted by **Rao and Litznberges (1970)** conducted "A Study on Effect of Capital Structure in the Cost of Capital in Less Developed and Less Efficient Capital Market and in a Highly Developed and Efficient Capital Market". They used 28 Indian utilities and 77 American utilities. They conducted the study for five cross section years;1962-1966.They found that the results for American utilities are constant to the M-M proposition that except for the advantages of debt financing, the cost of capital is independent of capital structure and the result also supported that the M-M hypothesis that investor are indifferent for firm's dividend policy. In case of Indian utilities, the results are inconsistent to the M-M approaches and supports the traditional belief, the judicious use of financial leverage will lower than the firm's cost of capital and investor have a preference for current dividends. In conclusion, they contended that the M-M approach after allowing for tax advantage of debt, the firm's cost of capital is independent of capital structure does not appropriate applicable in case of developing economy.

Article conducted by **Jackson (1975)** concluded a study "The journal of Finance", In his paper, the study on commercials bank regulation, structure and performance with reference to the empirical analysis using data covering 1644 banks over the period of 1969-1971. Relatively "desirable" banking performance is associated with several traits, including bank asset size, on bank competition, low cash holding, low labour cost, state non-member bank status, multi bank holding company legislation, national bank states, low time deposits and low equity capitalization. Demand levels and temporal variations also significantly affect banking. Moreover; some variables favorably associated with one performance characteristic may tend to be adversely related to another. The study thus suggests that traits associated with relative freedom to complete and efficient bank management, rather than ones associated with limits on financial

competition have generally desirable effects on the performance of the banking industry.

Article conducted by **Shrestha (1985)** on "The journal of Public administration, analysis of capital structure in selected public enterprise" drew the conclusion that the selected public enterprise under study have a very confusing capital structure, since they are not guided by objectives, based financial plans and policies. Adhodsm became the basis of capital structure in many cases, where most of them want to eliminate debt if possible to relieve financial obligations. He further added that many cases provide very fantastic results on the calculations of equity-capitalization rate according to given data though some case carry valid and meaningful results.

A study done by **Shrestha (1989)** in his article "Capital adequacy of bank; the Nepalese context", has suggested that the bank should deal in highly risk transactions to maintain strong capital base. However, the inefficient allocation of scarce resources not too weak as to expose to extreme risk. The study accepts that the operation of bank and the degree of risk associated with the subject to changes country wise, bank wise and period wise. Hence forth, the study suggests preparing standard capital adequacy ratios for each individual bank keeping in mind the various relevant factors.

Article conducted by **Pandey (1995)** in study of "Financial Management". He has tried to test MM approach in the developing economy with taking the sample from different utilities: Cotton, chemicals, Engineering and Electricity from Indian market. He made some improvement in the model derived by MM approach and he used multiple regression equation for the year 1969 and 1970 and for the pooled data of the three cross section years .The improvement was made on the measurement of leverage and added earnings variability and liquidity as risk measure variable in the regression equation, he used two types of leverage as follows
      a. The debt to total capital ratio, D/V
      b. The debt to equity ratio, D/S

These two ratios were measured with or without preference share capital in the debt portion. Both leverages were done on book value and included short-term loan as part of leverage. The regression equation used as follows:

$$Ko = a_1 + b_1 L_1 + b_2 \log s + b_3 g + b \frac{4D}{P} + b_5 Liq + b_6 Ev + v$$

Where,

  Ko = Average cost of capital

  L = Leverage

  S = Size

  G = Growth

  D/P = Dividend payout ratio

  Liq = Liquidity

  Ev = Earning variability

  v = Random disturbance term

In the above, regression equation ,the average cost of capital is regressed with both the measure of leverage,i.e debt to total capital and debt plus preferred stock to total capital, with other explanatory variables and the result were consistent with the traditional view, the average cost of capital declines with increasing debt in financial structure.

2.6 Review of Dissertation

Previous studies are reviewed in this section. It consists of thesis and dissertations done by previous master level students as well as other research works related to the capital structure. In this section the following research studies have been reviewed.

In the study conducted by **Mr. Tamang (2001)** has done Comparative study about two hotels Yak and Yeti and Soaltee, a comparative study with the analyses, which is entitled "An Impact of Capital structure on profitability". He found that profit is one of the measurement of successful organization in planning its most optimum capital structure to provide maximum return to its shareholders and to increase the value of the firm. By analyzing the debt to equity ratio in terms of long term debt and shareholders equity, both hotels D/E ratios are not higher according to the standard ratio, which constitute 1:1.

Hotel Y&Y is trying to be levered company, which has practice of increasing the D/E ratio, since 2055/056 by approximately 27% every year. While calculating the correlation coefficient, he found that hotel Soaltee has negative correlation coefficient and there is safety to lenders last year, which is indicated by the

decreasing D/E ratio. Hotel Soaltee does not have financial leverage that is why changes in EBIT are not able to bring change in EPS. Therefore he has suggested that hotel Y&Y to should reduce its equity multiplier and increase the use of assets efficiently, in other to get higher ROE. Both hotels have once higher profit margins. But it is impossible to get high profit margins every time. So they should by to increase assets turnover and the redeem the amount of total debt, otherwise such debt would be a burden in terms of paying fixed interest while hotels are not getting high profits. He has also recommended that they should give equal importance to other factors like operating efficiency and assets efficiency etc. and the government also should make tourism policy.

In study conducted by **Mr. Parajuli (2001)** has studied "Capital Structure and its Impact on profitability of Nepal Lever Ltd" .He has analyzed that the appropriate mix of capital keeps a firm sound and healthy. In the long run, liquidity may depend on the profitability of a firm but to achieve long run profitability, it has to depend on its capital structure to some extent. He has used hypothesis to measure the significant relationship between debt and equity.

The NLL's long term debt seems very high at the time of its establishment. But in fiscal years 2055/056 and 2056/057, there is no long term debt at all. it can be said that the company's management is reluctant toward employing long term loans. From the Du point analysis, it is found that the profit margin and equity multiplier are in decreasing trend, which causes continuous decrease in ROE. Now it appears that ROE can be levered up by increasing the amount of debt in the firm. According to different calculations, he has found that performance of NLL is not in satisfactory level. He has recommended the maintenance of a proper capital structure by including the long term debt.

A study done by **Mr. Koirala (2003)** has studied "A Comparative Evaluation of Capital Structure between Dabur Nepal Pvt. Ltd (DNPL) and Nepal Lever Limited (NLL)" .According to his study the DNPL is highly levered firm and NLL is unlevered since four years. The debt equity ratio, in terms of long term debt and shareholders equity, of DNPL is higher than NLL.

The capital structure of DNPL is debt based whereas NLL cut off long term debt financing whereas NLL cut off long term debt financing. So, he has suggested both the companies to change their debt by changing long term debt to share capital and incase of NLL, to consider long term debt while financing. So, both the companies are suggested to maintain appropriate debt ratio, which minimizes the

cost and maximizes the return of the firm. He further finds that the DNPL is bearing high amount of interest expenses due to higher debt equity ratio and other operating expenses. Similarly, NLL also is bearing high interest expenses even it does not use long term debt in its capital structure. As a result, the return of the firm is not satisfactory. So, he has recommended both the companies to minimize interest expenses by using cheaper debt as well as other operating expenses to increase the return of the firm.

In study conducted by **Mr. Aryal (2004)** about the evaluation of "Capital Structure of Bottlers Nepal Ltd" has suggested that, the management must bring about the satisfactory compromise among these confusing factors of cost, risk, control and timing. And it was found that the company has high debt to equity ratio, so the company is regarded as highly geared company is to lower down the amount of debt and to obtain additional funds through the issue of equity capital from debt capital if the company had high rate of return and the company has to follow the greater norms of optimum capital structure.

2.7 Research Gap

There are various researches which have been done on the capital structure of manufacturing, hotel, banking sector, but not many thesis have been conducted on insurance sector. It has studies about the two sample companies to suggested whole sector. Only one thesis on the study of assets and capital structure of Rastriya Beema Sasthan have been conducted, but comparative study about this sector in capital structure have not been studies earlier.

I have used primary data to know view of respondent and capital structure effects and decisions as well as secondary data to find out the problem faced by the insurance sector in decision of capital structure and suggest them to overcome from such decision problems. I have used almost all the ratios have been applied to cover the analytical part and fulfill the objectives of the study. I hope this research will definitely help the new researcher to study in the corresponding subject. It will find out the problem faced by the insurance sector in decision of capital structure and suggest them to overcome from such decision problems.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Research is the combination of two words i.e. Re plus Search which means to search again. Research is a systematic method of finding out solution to a problem. This process of investigation involves a series of well throughout activities of gathering, recording, analysis and interpretation of the facts and figures. The basic objective of the study is to analyze the capital structure of Premier Insurance Co. Ltd. So, suitable research methodology as demanded by the study is followed. It consists of the research design, population and sample, data collection procedure, method of analysis and tools for analysis.

3.2 Research Design

"A research is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure" (Claire, 1962: 50).

The research design is a plan to obtain the answer of research question through analysis of data. It is the foundation of any study and it is taken as a conceptual framework for a study that helps the analysis of data related to study topic.

For the analysis of the capital structure of selected insurance companies, analytical as well as descriptive designs are applied to achieve the objective of the research. The various financial tools use the analytical research design to measure the financial position. It includes the calculation of correlation coefficient, mean ranking and bar diagram. All these elements will cover in research design, which will be very essential to find out the desired resulting order to develop insurance business in the country.

3.3 Population and Sample

"The large group about which the generalization is made 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" (Shrestha and Silwal, 2057: 155).

There are 20 insurance companies in Nepal. It is not possible to study all of them. Therefore, two of them i.e. Premier Insurance Co. (Nepal) Ltd. and Sagarmatha Insurance Co. Ltd are taken as sample among the population.

The selected both companies are private companies and both of them are operating non-life insurance business i.e. general insurance business. The relevant data is taken from the both companies to cover the objectives of the study. For our study comparative analysis of capital structure of insurance sector, two insurance companies are to select as sample. Therefore Premier Insurance Co.Ltd and Sagarmatha Insurance Co.Ltd. are the sample of the study.

3.4 Data Collection Procedure

The collection of the data is considered as an integral part of the research activity. Thus, according to the nature of our study, the require data will collect from following two sources

- Primary Data
- Secondary Data

The primary data were collected from the response of person representing from the various sector through questionnaire, informal and formal discussion and interview with concern person.

Data, which are already and are made available to others in the form of published statistics, are known as secondary data and it is collected from Insurance Board, the financial statement of the concerned insurance companies.

All the information were grouped at one place and analyzed thoroughly. After these financial tools and statistical tools are used to evaluate and examine capital structure management in the research process.

3.5 Methods of Data Analysis

For the purpose of analysis, data of five years will be taken as sample from 2059/60 to 2063/064. These will be analyzed financially and statistically and results are jointly interpreted. This study, analysis of capital structure of premier Insurance Co. (Nepal) Ltd. and Sagarmatha Insurance Co.Ltd.is a part of financial analysis.

In this way all the tools used in this study can be classified into two categories; financial tools and statistical tools that are as follows:

(I) Financial Tools:-

Financial tools help to analyze the capital structure. There are many financial tools, which are helpful to analyze the capital structure of firm. But our concern is limited to some financial tools that are directly concerned with the study of capital structure.

The capital structure ratio is defined as financial ratios, which throw light on the long-term solvency of a firm. The major ratio used in this research is:

a. Financial Leverage ratio

The financial leverage indicates the relationship between the total debts to total assets of a firm. It shows share of debt in the purchase of assets. The total debt of the firm compromises long-term debt and current liabilities. The total asset consists of permanent capital plus current asset. The total debt to total assets can be calculated by using following formula;

$$\text{Financial Leverage} = \frac{\text{Total Debt}}{\text{Total asset}} \times 100$$

The higher ratio indicates that the creditors claim in the total assets of the company is higher than the owners claim. Higher ratio specifies the higher leverage risk and too high ratio leads the carelessness of shareholders to the business activities.

b. Debt Equity Ratio

Debt Equity ratio is vital tool to analyze the long-term solvency of a firm. This ratio equals the firm's debt divided by its equity, where debt can be defined as total debt or as long-term debt. This ratio shows the number of times the interest charges are covered by funds that are ordinarily available for their payment. Thus it is computed as

$$\text{Debt-equity ratio} = \frac{\text{Long-term debt}}{\text{Shareholder's equity}} \times 100$$

The higher ratio indicates that the claim of the creditor's than that of the owner's.

c) Interest Coverage Ratio

It is also known as Time Interest Earned Ratio. This ratio is one of the most convention coverage ratio used to test the firm's servicing capacity. The ratio shows the number of times the interest charges are covered by funds that are ordinarily available for their payment. Thus it is computed as

$$\text{Interest coverage} = \frac{\text{EBIT}}{\text{Interest}}$$

d) The Degree of Financial Leverage (DFL)

It is also called EBIT-EPS approach. This approach analyses impact of debt on earning per share. It examines possible fluctuation in EBIT and its impact on EPS under different financial plan. It thus concluded that greater level of EBIT and lower the probability of downward fluctuation, it is more beneficial to use debt in capital structure. But EBIT-EPS approach suffers from certain limitation like EPS criteria doesn't consider long term perspective of financing i.e. it doesn't focus on wealth maximization rather it focus on EPS maximization because company can increase debt into a certain point and if the company increases its debt beyond that point the expected EPS may increase but the value of firm decreases due to greater exposure of shareholder's toward financial risk. So, while determining capital structure, the firm should analyze EBIT and its impact on EPS. This ratio shows the efficiency of management and utilization of shareholders funds. It can be calculated as follows:

$$\text{DFL} = \frac{\%\text{ Change in EPS}}{\%\text{Change in EBIT}}$$

or, it can be also calculated as:

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBIT-I-}\frac{\text{Pref. div}}{\text{1-T}}}$$

The higher the ratio indicates the higher financial risk as well as higher fixed charges of the company and vice versa.

e) Return on Total Assets Ratio

This ratio measures the profitability with respect to total asset. It is computed as

$$\text{Return on Total asset} = \frac{\text{Net income}}{\text{Total assets}}$$

f) Net Profit Ratio

This ratio shows the operating efficiency of management. It establishes the relationship between net profit and net sales. It can be calculated as follows.

$$\text{Net Profit Ratio} = \frac{\text{EAT}}{\text{Net Sales}}$$

Note: Here net sales stands for total premium collection.
High Net Profit Ratio indicates the high operating efficiency.

g) Return on Shareholder's equity

A return on shareholder's equity is calculated to see the profitability of owner's investment. The shareholder's equity includes paid-up share capital, share premium, reserves and surpluses less accumulated losses. This ratio can be calculated as follows

$$\text{Return on Shareholder's equity} = \frac{\text{Net profit after tax}}{\text{Shareholder's equity}} \times 100$$

Here, the shareholder's equity includes both ordinary and preference capital but excluded post-accumulated losses and deferred expenditures.

h) Value of the firm

The market value of firm is sum value of debt and value of equity.

i) The overall capitalization rate under NI approach

Overall capitalization means the cost of overall capital collected by the company from different source. This ratio is calculated by using the following formula.

$$Ko = \frac{EBIT}{V}$$

Where, Ko = Overall Capitalization rate

V = Value of firm

EBIT = Earning before Interest and Taxes

j) Equity Capitalization Rate

Equity is one of the sources of capital, which has its own cost and it is known as cost of equity (Ke).A large amount of equity means the higher amount of Ke. It is calculated as follows

$$Ke = \frac{EBIT}{\text{Market value of common stock}}$$

II) Statistical Tools

Statistics, originated as the quantity of information useful for a political state, has now become a very much well developed discipline backed by efficient scientific methods for the collection, analysis and interpretation of both qualitative and quantitative information. It deals with collection, analysis and interpretation of data" (Swain, 1997: 3-4)

The relationship between two or more variables can be measured by using statistical tools. For the purpose of the study simple statistical tools are used.

i) Correlation co-efficient (r)

Correlation simply is mutual dependence of two or more variables. The correlation co-efficient indicates the relationship between dependent variables and independent variables. It is one of the methods of determining the relationship these two variables.

There are several methods of measuring correlation. In this method, it can be calculated by using the method of Karl Person's correlation co-efficient because it is one of the widely mathematical methods of calculating the correlation co-efficient between variables. The correlation co-efficient denoted by 'r' can be calculated by using following formula:

$$r = \frac{N\sum xy - \sum x . \sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \quad \sqrt{N\sum y^2 - (\sum y)^2}}$$

Where, N=number of observation

X and Y are variables

The values of correlation co-efficient range from -1 to +1.

If r=0, there is no relationship between two variables or the variables are uncorrelated.

If r=+1, there is positive correlation between the two variables
If r=-1, there is negative perfect correlation between the two variables

ii) Probable Error (P.E)

The probable error of the coefficient of correlation helps in interpreting its value with the help of probable error; it is possible to determine the reliability of the value of the coefficient in so far as it depends on the conditions of random sampling. The probable error of the coefficient of correlation is obtained as follows

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{N}}$$

Where, r = correlation coefficient
N=Number of pairs of observation

It can be interpreted to know whether its calculated value of correlation co-efficient is significant or not in the following ways.

If r >P.E., the value of r is significant i.e. practically the correlation is certain.

If the value of r is more than six times the probable error, the coefficient of correlation is practically certain, the value of r is significant.

III) Mean Ranking

The data generated through questionnaire of respondents are analyzed using descriptive method. After this the data are presented into table whenever necessary. The tabulated data are analyzed by using mean ranking, First of all it conducted mean and they are ranked to take easily decision.

IV) Bar Diagram

The collected data for the statistical analysis is always in raw form, which we need to organize. So as to have better understanding what information the data aim to convey. The diagrammatic and graphic presentation of data makes it clear to understand what the given data is going to tell us. The pictorial presentation of statistical data in the form of geometrical figures like bars, square and caraculs etc.are known as diagram. Bar diagram are constructed specially for categorical data. They consider group of equidistant rectangles to present the given values.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter deals with presentation of data in meaningful way. The main purpose of analyzing the data is to change it form an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating, financial analysis and performing statistical analysis. The financial analysis and performing statistical analysis. The financial analysis is done through presentation of data and calculating various financial ratios. The main objective of this study is to evaluate capital structure decision of Nepalese Insurance Sector. To analyze the financial performance in respect of capital structure, various presentation and analysis have been done in this chapter.

Capital structure is concerned with the analyzing the capital composition of the company. It refers to the combination of long-term debt and equity capital. To access the position and decision of capital structure of capital structure of Premier Insurance Company Ltd. and Sagarmatha Insurance Company Ltd., the whole analysis has been divided into following sections.

- Ratio Analysis
- Capital Structure Analysis
- Statistical Analysis

4.2 Ratio Analysis

An arithmetical relationship between two figures is known as ratio. It is computed by dividing one items of relationship with the other.

`To evaluate the performance of the firm's by creating ratios form of figures of different account consisting in balance sheet and income statement is known as ratio analysis. Financial ratios can be classified into liquidity ratio, leverage ratio, profitability ratio and turnover ratio. But our study is based on following ratios that are directly or indirectly related to the capital structure of the firm.

4.2.1 Analysis of Debt to Equity Ratio

The debt equity ratio is the relationship between borrowed funds and owner's capital. It is determined to measures the firm's obligation to creditors in relation to funds invested by owners. Short-term debt and accruals provide leverage in just as long term debt. Current liabilities are usually omitted from the ratio because the firm is assumed to be able to adjust the short-term part of capital structure rapidly when the rate of return on assets declines. But the debt considered here including of current liabilities. This ratio is computed by using following formula i.e.

Total debts

Debt to equity ratio=

Shareholder's equity

Here, Total debts =Debentures +Current liabilities

Shareholder's equity=Share capital + Preference share capital share premium retained earning reserve and surplus profit and loss A/c + general reserve capital reserve Sinking fund reserve for contingencies. Thus in following table debt equity ratio are presented and interpret in the following ways.

Table No.2

Debt to Equity Ratios of PICL

(Amount in NRs.)

Fiscal Year	Total Debt	Share Holders Equity	D/E Ratio%	Change%
2059/60	50800445	56435304	90.01	-
2060/61	70974399	80368024	88.31	-1.7
2061/62	60477839	77977060	77.56	-10.75
2062/63	78620092	113060113	69.54	-8.02
2063/64	85985886	110367054	77.91	8.37
Average			80.67	

Source: Annual reports of PICL

Table No.3

Debt to Equity Ratios of SICL

(Amount in NRs.)

Fiscal Year	Total Debt	Share Holders Equity	D/E Ratio%	Change%
2059/60	48165710	88744730	54.27	-
2060/61	61450016	120356964	51.05	-3.22
2061/62	99777000	134045741	74.44	23.39
2062/63	162526971	100945078	161.00	86.56
2063/64	160248242	190764815	84.00	-77.00
Average			84.95	

The above data can be presented by following figure:

Figure No.6

Debt to Equity Ratio of PICL and SICL
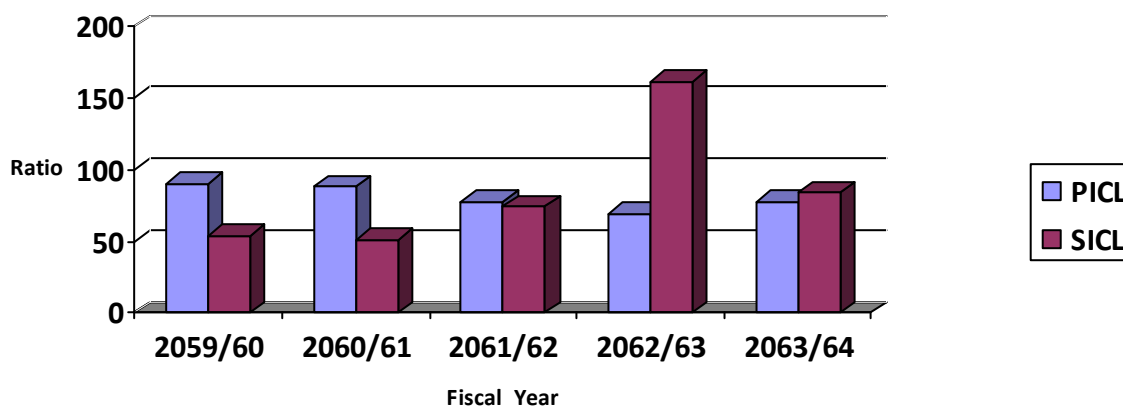
The calculated ratio in the above table shows that PICL has fluctuating trend of D/E ratio. The D/E ratio in the fiscal year 2059/60 constitutes 90.01% then afterwards 88.31%, 77.56%, 69.54% and 77.91% in the fiscal year 2060/61,

2061/62, 2062/63 and 2063/64 respectively. The above calculated table indicates that D/E ratio of PICL range between 90.01% to 69.54%.The average D/E ratios of PICL is 80.67% of equity financing. The calculation shows that the ratios of fiscal year 2061/62, 2062/63 and 2063/64 are less than average and the ratio of fiscal year 2059/60, 2060/61 are greater than average. The greater ratio implies that the high claim of creditors than the owner of the company. The average D/E ratio of PICL is 80.67%, which indicates that the claims of creditors are 80.67% higher than the owner.

While SICL has also its ratio in fluctuating trend. The D/E ratio in the fiscal year 2059/60 constitute 54.27% then afterwards 67.74%, 74.43%, 83.57% and 84.00% in fiscal year 2060/61, 2061/62, 2062/63 and 2063/64 respectively. The ratio range between 84.00% to 54.27%. The average D/E ratios of SICL is 4.95% which indicate that the claims of the creditors are 84.95% higher than the owner. The calculation shows that the ratios of fiscal year 2061/62, 2062/63 and 2063/64 are greater than the average and in fiscal year 2059/60, 2060/61 are lesser than the average.

4.2.2 Total Debt to Total Assets Ratio

The ratio of total debt to total assets, generally called the debt ratio is also known as leverage ratio. It measures the percentage of total funds provided by outsiders. Raising their value through the raising their expected earning per share, when the funds provided by outsiders are successfully employed benefits to shareholders. High ratio shows firm's success in exploiting debt to more profitable. High ratio also indicates the riskier capital structure position to the owner or the shareholders of the firm as well as carelessness of shareholders to the business. This ratio can be calculated by dividing total debt by total assets. This ratio can be calculated by dividing total debt by total assets. This ratio of PICL and SICL is calculated and interprets in the following ways.

Table No.4

Total Debt to Total Assets Ratio of PICL

(Amount in NRs.)

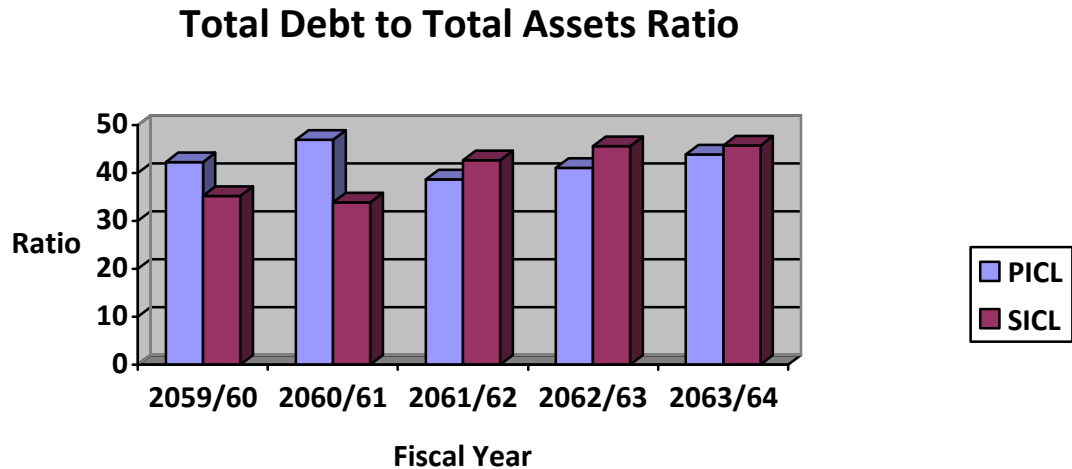| Fiscal Year	Total Debt	Total Assets	Debt ratio %	Change %
2059/60	50800445	120175053	42.27	-
2060/61	70974399	151342423	46.89	4.62
2061/62	60477839	156755841	38.58	-8.31
2062/63	78620092	191680205	41.02	2.44
2063/64	85985886	196352940	43.79	2.77
Average			42.51	

Source: Annual reports of PICL

Table No.5

Total Debt to Total Assets Ratio of SICL

(Amount in NRs.)

Fiscal Year	Total Debt	Total Assets	Debt ratio %	Change %
2059/60	48165710	136910440	35.18	-
2060/61	61450016	181806980	33.79	-1.39
2061/62	99777000	233822741	42.67	8.88
2062/63	122204824	268424292	45.53	2.86
2063/64	160248242	351013057	45.65	0.12
Average			40.56	

Source: Annual reports of SICL

The above data can be presented in the following figure:

Figure No.7

Total Debt to Total Assets Ratio

According to above calculation, the calculated debt to total assets ratio of PICL shows the fluctuating trend. The ratio in fiscal year 2059/60 is 42.27%, then afterwards 46.89%, 38.58%, 41.02% and 43.79% in the fiscal year 2060/61, 2061/62, 2062/63, 2063/64 respectively. The above calculated table indicates that debt to total assets ratio of PICL range between 46.89% to 38.58%. The average debt to total assets ratio of PICL is 42.51%. The calculation shows that the ratios in the fiscal year 2060/61 and 2063/64 are greater than the average. The greater ratio shows firm's success in exploiting debt to more profitable. The greater ratio also indicates the riskier capital structure position to the owner or the shareholders of the firm as well as carelessness of shareholders to the business.

While SICL has also its ratio in fluctuating trend. The ratio in the fiscal year 2059/60 is 35.18%. Similarly ratio in the fiscal year 2060/61, 2061/62, 2062/63 and 2063/64 are 33.77%, 42.67%, 45.52% and 45.65% respectively. The average debt to total assets ratio of SICL is 40.56%. The above calculated table indicates that debt to total assets ratio of SICL range between 45.65% to 33.79%. The calculation shows that the ratios in the fiscal year 2061/62, 2062/63 and 2063/64 are greater than average. The greater ratio shows firm's success in exploiting debt

to more profitable. The greater ratio also indicates the riskier capital structure position to the owner or the shareholders of the firm as well as carelessness of shareholders to the business.

4.2.3 Analysis of Debt to Total Capital Ratio

It shows the relationship between total debts and total liabilities. It can be presented by following formula.

Total debts

Debt to total capital ratio=

Permanent capital Current liabilities

Where, Permanent Capital=Equity Share Capital + Preference Share Capital General reserve for contingencies and Debentures.

This ratio shows the contribution of long-term debts on total permanent capital. High ratio shows the high riskiness and creditors are more serious about their investment. Low ratio shows the low riskiness and creditors feel more safety on their investment.

Table No.6

Total Debt to Total Capital Ratio of PICL

(Amount in NRs.)

Fiscal Year	Total Debt	Total Capital	Debt ratio %	Change %
2059/60	50800445	69375000	73.22	-
2060/61	70974399	80368000	88.31	15.09
2061/62	60477839	96278000	62.81	-25.5
2062/63	78620092	113060000	69.54	6.73
2063/64	85985886	110367000	77.91	8.37
Average			74.35	

Source: Annual reports of SICL

Table No.7

Total Debt to Total Capital Ratio of SICL

(Amount in NRs.)

Fiscal Year	Total Debt	Total Capital	Debt ratio %	Change %
2059/60	48165710	88745000	54.27	-
2060/61	61450016	120357000	51.06	-3.21
2061/62	99777000	134046000	74.43	23.37
2062/63	122204824	169841000	71.95	-2.48
2063/64	160248242	190765000	84.00	12.05
Average			67.14	

Source: Annual reports of SICL

The presented above data can be presented in the following figure:

Figure No.8

Total Debt to Total Capital Ratio of PICL and SICL
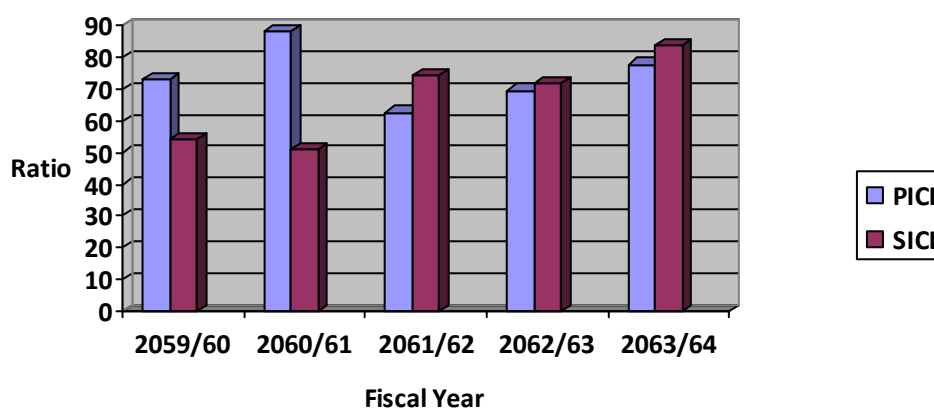
According to above calculation, the calculated total debt to total capital ratio of PICL shows the fluctuating trend. The ratio in fiscal year 2059/60 is 73.22%. Similarly ratio in fiscal year 2060/61, 2061/62, 2062/63 and 2063/64 are 88.31%.

Its average ratio is 74.36% which means that about 74.36% of total capital is employed by total debt and rest 25.64% is financed through shareholder's equity. The calculation shows the ratios of fiscal year 2060/61 and 2063/64 are greater than average. The greater ratio implies that high riskiness.

While SICL has also its ratio in fluctuating trend. The debt to capital ratio in the fiscal year 2059/60 constitute 54.27% then after wards 51.06%, 74.43%, 71.95% and 84.00% in fiscal year 2060/61, 2061/62, 2062/63 and 2063/64 respectively. The ratio range between 54.27% to 84.00%. The average of total debt to total capital ratio of SICL is 67.14% which means that about 67.14% of total capital is employed by total debt and rest 32.86% is financed by shareholders equity. The calculation shows that the ratio of fiscal year 2061/62, 2062/63, 2063/64 is greater than average. The greater ratio implies that high riskiness.

4.2.4 Analysis of Net Profit Margin Ratio

This ratio of net profit on sales indicates the firm's capacity to withstand adverse economic condition. A firm with a high net profit ratio would be in the advantageous position to service in the face of falling selling prices, rising costs of production or declining demand for the products and vice versa. It indicates that the efficiency of management in manufacturing, administrating and selling of the product or services. If net profit is inadequate, the firm will fail to achieve satisfactory return on owner's equity. In order to get net profits operating expenses, interest and taxes expenses are deducted from gross profit.

Note: Here net sales are stand as total premium collection.

Table No.8

**Analysis of Net Profit Ratio of PICL**

(Amount in NRs.)

Fiscal Year	EAT	Premium Collection	Net Profit Ratio %	Change %
2059/60	5965799	99849000	5.97	-
2060/61	7536119	117450000	6.42	0.45
2061/62	14005637	191439000	7.32	0.9
2062/63	13061006	96062000	13.59	6.27
2063/64	5529678	129039000	4.28	-9.31
Average			7.51	

Source: Annual reports of PICL

Table No.9

Analysis of Net Profit Ratio of SICL

(Amount in NRs)

Fiscal Year	EAT	Premium Collection	Net Profit Ratio %	Change %
2059/60	10404690	103814000	10.02	-
2060/61	15791022	140808000	11.21	1.19
2061/62	16949364	183551000	9.23	-1.98
2062/63	16902350	201637000	8.38	-0.85
2063/64	11561097	230545000	5.01	-3.37
Average			8.77	

Source: Annual reports of SICL

Figure No.9

Net Profit Ratio of PICL and SICL
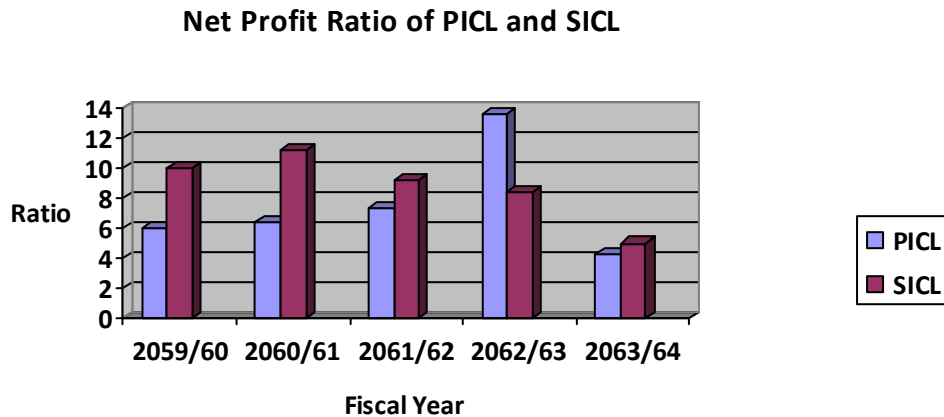
From the above calculation PICL has 7.51% of net profit ratio in average, which means that PICL has earned after tax is 7.51% of its total premium collection during the study period. Net profit ratio of 13.59% of fiscal year 2062/63 is highest and 4.28% is lowest. In fiscal year 2059/60, 2060/61 and 2061/62 are stands as 5.97%, 6.41% and 7.31% respectively. While comparing this ratio, the ratio of fiscal year 2062/63 is greater than average and 2059/60, 2060/61, 2061/62 and 2062/63 are lower than average. The above calculation shows that net profit ratio of PICL is fluctuating in nature.

While SICL has also its ratio in fluctuating trend. The ratio in fiscal year 2059/60 is 10.02%. Similarly ratio in fiscal year 060/61, 2061/62, 2062/63 and 2063/64 are 11.21%, 9.23%, 8.38% and 5.01% respectively. It average ratio is 8.77%. The ratios of fiscal year 2059/60, 2060/61 and 2061/62 are greater than average and ratio of fiscal year 2062/63, 2063/64 are lower than average. The above calculation also shows that net profit ratio of SICL is in fluctuating in nature. While comparing the ratio between PICL and SICL, operating efficiency of SICL is better than PICL. Average ratio of SICL is higher than of PICL by 1.26%.

4.2.5 Analysis of Return on Equity (ROE)

It shows the relationship between net profit and shareholder's equity. The shareholder's equity includes preference share capital, ordinary or common share capital, share premium and undistributed profit. Management objective is to generate the maximum return on shareholders' investment in firms. ROE is therefore the best signals measures of the company success in fulfilling its goals.

Thus, the ratio is of great interest and value to the present as well as perspective shareholders and also of great concern to management, which has the responsibility of maximizing the owner's welfare. The ratio equals the net profit after taxes dividing by common stockholder's equity. The ROE ratio of both PICL and SICL are presented and interpreted in the following ways.

Table No.10

Analysis of Return on Equity (ROE) of PICL

(Amount in NRs.)

Fiscal Year	EAT	Shareholders Equity	ROE %	Change %
2059/60	5965799	56435304	10.57	-
2060/61	7536119	80368024	9.37	-1.2
2061/62	14005637	77977060	17.96	8.59
2062/63	13061006	113060113	11.55	-6.41
2063/64	5529678	110367054	5.01	-6.54
Average			10.89	

Source: Annual reports of PICL

Table No.11

Analysis of Return on Equity (ROE) of SICL

(Amount in NRs.)

Fiscal Year	EAT	Share Holders Equity	ROE %	Change %
2059/60	10404690	88744730	11.72	-
2060/61	15791022	90714417	17.40	5.68
2061/62	16949364	134045741	12.64	-4.76
2062/63	16902350	146219468	11.56	-1.08
2063/64	11561097	190764815	6.06	-5.5
Average			11.87	

Source: Annual reports of SICL

Figure No.10

Return on Equity of PICL and SICL
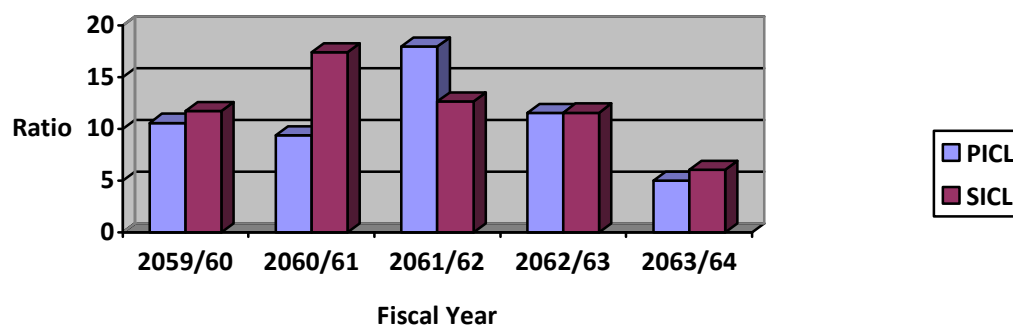
The individual trend analysis of both PICL and SICL of return on equity ratio is in fluctuating nature. The above table shows that the ROE of PICL range between 17.96% to 5.01%. This ratio of PICL stands on fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 are has provided 10.89% return to shareholders as a return on their investment.

Similarly range of ROE of SICL IS 17.40% to 6.06%. This ratio of SICL Stands on fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 are 10.72%, 17.40%, 12.64%, 11.56% and 6.06% respectively. In average SICL has provided 11.87% return to shareholders as a return on their investment. Generally this ratio indicates how well the firm has used the resource of the owners. High ratio is preferable. Comparing these two firms' we can say that SICL has higher ROE than ROE of PICL.

4.2.6 Analysis of Return on Assets (ROA)

Return on assets ratio measure the probability of firm that explains a firm to earn satisfactory return of all financial resources invested in the firm's assets; otherwise its survival is threatened. The ratio explains net income for each unit of assets. Higher ratio indicates efficiency in utilizing its overall resources and vice versa. Rate of return on assets is major tools to judge the operational efficiency of the firm. This ratio of both PICL and SICL are presented and interpreted as following ways.

Table No.12

Analysis of Return on Assets of PICL

(Amount in NRs.)

Fiscal Year	EAT	Total Assets	ROA%	Change%
2059/60	5965799	120175053	4.96	-
2060/61	7536119	151342423	4.97	0.01
2061/62	14005637	156755841	8.93	3.96
2062/63	13061006	191680205	6.81	-2.12
2063/64	5529678	196352940	2.81	-4
Average			5.69	

Source: Annual reports of PICL

Table No.13

Analysis of Return on Assets of SICL

(Amount in NRs.)

Fiscal Year	EAT	Total Assets	ROA%	Change%
2059/60	10404690	136910440	7.59	-
2060/61	15791022	181806980	8.68	1.09
2061/62	16949364	233822741	7.24	-1.44
2062/63	16902350	268424292	6.29	-0.95
2063/64	11561097	351013057	3.29	-3
Average			6.62	

Source: Annual reports of SICL

Figure No.11

Return on Assets of PICL and SICL
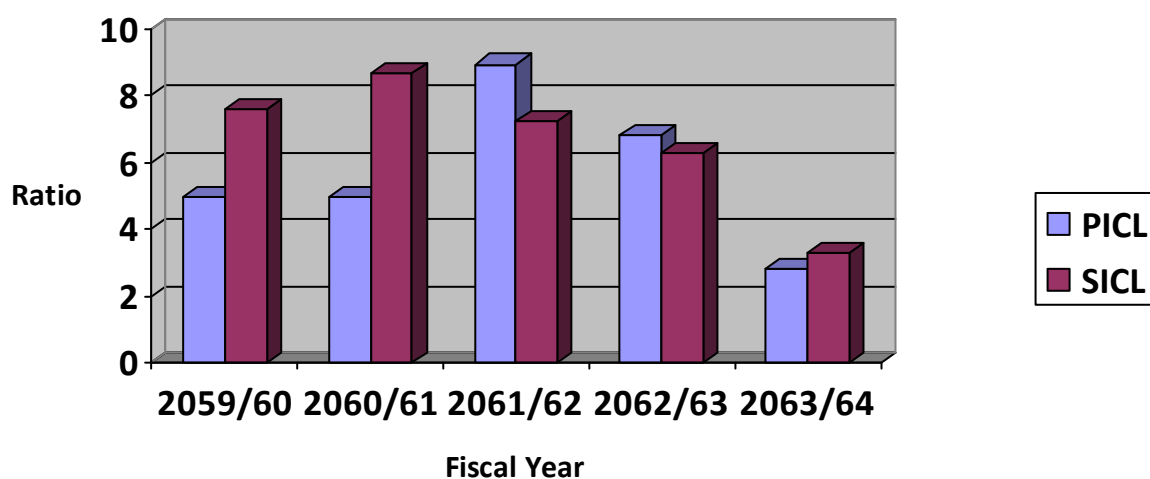
From the above calculation ROA ratio of PICL is in fluctuating trend. This ratio of PICL range up to 8.93% to 2.81%. This ratio of PICL stands on fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 are 4.96%, 4.97%, 8.93%, 6.81% and

2.81% respectively. The average ROA of PICL is 5.69 which means that PICL has earned 5.69% as a employing its total assets. Similarly, range of ROA of SICL is 8.68% to 3.29%. This ratio of SICL stands on fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 are 7.59%, 8.68%, 7.24%, 6.29% and 3.29% respectively. The average ROA of SICL is 6.62% which means that SICL has earned 6.62% as a employing its total assets.

The average ratio of SICL is greater than PICL .So we can say that SICL has been able to utilize its resources in most profitable projects than that of PICL.

4. 2.7 Analysis of Earning Per Share

Earnings per share show the profitability of the firm on a per share basis. It does not reflect how much is paid as dividend and how much is retained in the business. EPS is one of the most widely used measures of the firm's performance. It is an important index of insurance company's performance and the investors relay heavily on it for their investment decision. EPS of both PICL and SICL can be presented and interpreted in the following ways:

Table No.14

Analysis of Earning Per Share of PICL

(Amount in NRs.)

Fiscal Year	EAT	No. of Shares	EPS (in Rs.)	Change (in Rs.)
2059/60	5965799	30000000	19.88	-
2060/61	7536119	30000000	25.12	5.24
2061/62	14005637	30000000	46.68	21.56
2062/63	13061006	30000000	43.54	-3.14
2063/64	5529678	30000000	18.43	-25.11
Average			30.73	

Source: Annual reports of PICL

Table No.15

Analysis of Earning Per Share of SICL

(Amount in   NRs.)

Fiscal Year	EAT	No. of Shares	EPS (in Rs.)	Change (in Rs.)
2059/60	10404690	51000000	20.40	-
2060/61	15791022	56100000	28.15	7.75
2061/62	16949364	56100000	30.21	2.06
2062/63	16902350	56100000	30.13	-0.08
2063/64	11561097	78540000	14.72	-15.41
Average			24.72	

Source: Annual reports of SICL

Figure No.12

Earning Per Share of PICL and SICL
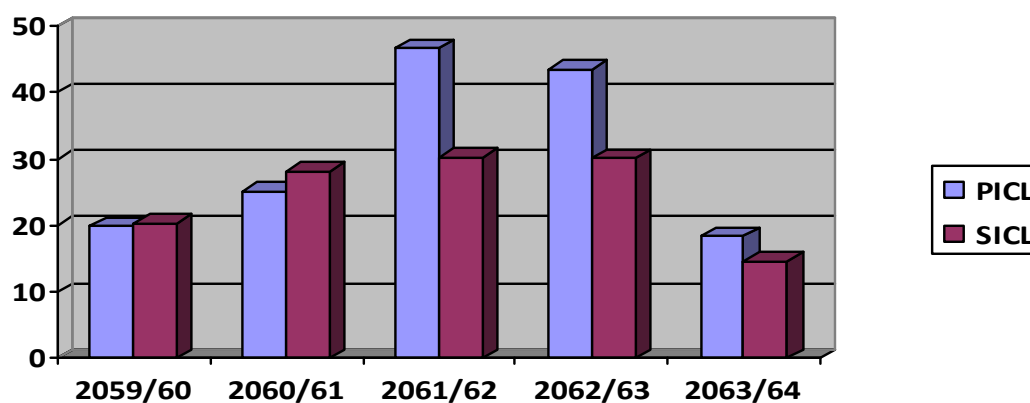
From the above calculations value of EPS of PICL is in increasing trend. Only in year 2062/63 and 2063/64 this ratio falls down, otherwise other year is in increasing trend. It has been ranged between Rs.46.68 to Rs.18.43. In fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 this ratio stand as Rs.19.88,

Rs.25.12, Rs.46.68, Rs.43.54 and Rs.18.43 respectively. The average EPS of PICL is Rs 30.73.

Same way SICL has almost its EPS is in increasing trend. Only in year 2062/63 and 2063/64 this ratio falls down, otherwise other year is in increasing trend. Similarly range of EPS of SICL is Rs.30.21 to Rs.14.72.

In fiscal year 2059/60, 2060/61, 2061/62, 2062/63and 2063/64 this ratio stand as Rs 20.40, Rs.28.15, Rs.30.21, Rs.30.13 and Rs.14.72 respectively. The average EPS of SICL is Rs.24.72.

Comparing both companies PICL has higher EPS than SICL. So we can say that PICL gives the strength of the share in the market.

4.2.8 Analysis of Capital Structure

Capital structure analysis plans refers to the composition of long term debt and equity and preference share capital including reserve and surplus. In other words, capital structure is the composition of debt and equity that comprises a firm financing of its assets. Both debt and equity are used in the largest corporations. Theories are developed to analyze the capital structure. But here following these approaches are considered to analysis the capital structure.

4.2.8.1 Total Value of Firm

The total value of firm is simply obtained by adding the value of debt and value of equity. Here in our calculation only long term debt and shareholders equity are taken for calculation. However, the actual value of the company may not be applicable by considering only long term debt.

Total value of the PICL and SICL has been calculated as follows.

Table No.16

Total Value of Firm of PICL

(Amount in NRs.)

Fiscal Year	Value of Debt	Shareholders' Equity	Value of Firm (in Rs.)
2059/60	50800445	56435304	107235749
2060/61	70974399	80368024	151342423
2061/62	60477839	77977060	138454899
2062/63	78620092	113060113	191680205
2063/64	85985886	110367054	196352940
Average			157013243.2

Source: Annual reports of PICL

Table No.17

Total value of Firm of SICL

(Amount in NRs.)

Fiscal Year	Value of Debt	Shareholders Equity	Value of Firm (Rs.)
2059/60	48165710	88744730	136910440
2060/61	61450016	90714417	152164433
2061/62	99777000	134045741	233822741
2062/63	122204824	146219468	268424292
2063/64	160248242	190764815	351013057
Average			1142334963

Above table shows that the value of PICL are in increasing trend except in fiscal year 2061/62 under the study period. In fiscal year 2062/63 company has issued Rs.78,620,092 long term debt and Rs.113,060,113 shareholder equity. Thus the total value of the PICL is Rs.191,680,205. But this value in fiscal year 2063/64 is increased although the value of equity is in decreasing trend because; in this year value of debt is in increase trend. So in our study period the average value of PICL is Rs.157,013,243.2 and below bar diagram shows the fluctuating trend of PIC's total value observed during the study period.

As same time the total value of SICL are in increasing trend. The average value of SICL is Rs.1,142,334,963 and below bar diagram shows the trend of SICL total value observed during the study period.

Figure No. 13

As an optimal capital structure is one which maximizes the market value of firm and minimizes the overall capitalization rate. By analyzing above table it is clear that capital structure in fiscal year 2063/64 is best among our observation period for PICL and in fiscal year 2063/64 is best capital structure of SICL. From above table it reveals that increased used of debt funds ensures the optimal capital structure. Thus, the firm should try to maximize value by using optimal debt equity mix.

4.4.8.2 Analysis of Overall Capitalization Rate (NI Approach)

One crucial assumption of NI approach is that "the use of debt doesn't change risk perception of investor, as a result, the equity capitalization rate Ke, and debt capitalization Kd, remains constant with the change in leverage. Thus, according to this approach, the higher use of cheap debt lowers the equity capitalization rate of firm and consequently increases the total value. Now, by considering this implication we can calculate overall capitalization collected by the company from different sources. Overall capitalization rate Ko, is calculated as per NI approach, which means Ko is calculated EBIT divided by value of the firm. Overall capitalization rate of both PICL and SICL can be presented and interpreted in following ways

Table No.18

Analysis of Overall Capitalization Rate of PICL

Amount in (NRs.)

Fiscal Year	EBIT	Value of Firm	Ko %	Change %
2059/60	8045276	107235749	7.50	-
2060/61	10262363	151342423	6.78	-0.72
2061/62	19677200	138454899	14.21	7.43
2062/63	18617430	191680205	9.71	-4.5
2063/64	7641544	196352940	3.89	-5.82
Average			8.42	

Source: Annual reports of PICL

Table No.19

Analysis of Overall Capitalization Rate of SICL

(Amount in NRs.)

Fiscal Year	EBIT	Value of Firm	Ko %	Change %
2059/60	14275281	136910440	10.43	-
2060/61	21563187	152164433	14.17	3.74
2061/62	23640402	233822741	10.11	-4.06
2062/63	23329104	268424292	8.69	-1.42
2063/64	16090774	351013057	4.58	-4.11
Average			9.59	

Source: Annual reports of SICL

Figure No.14

Overall Capitalization Rate of PICL and SICL
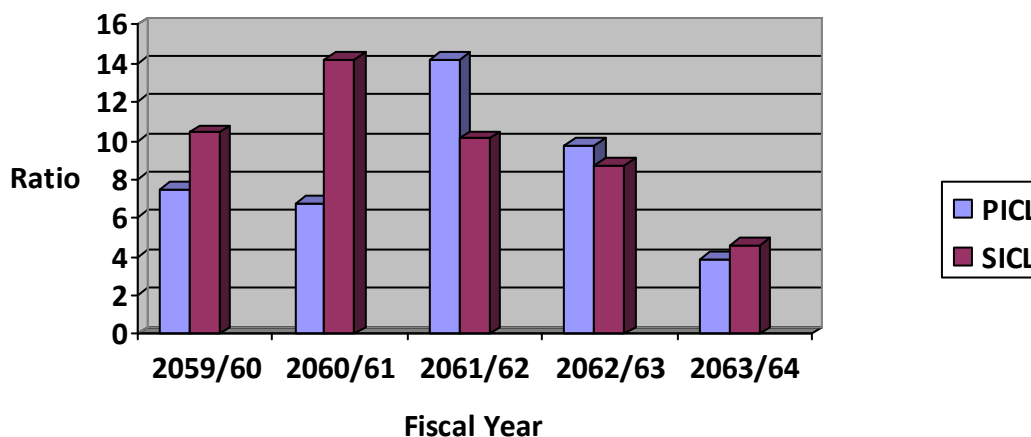
According to above calculation it shows that the overall capitalization rate of PICL is 8.42% in average. While comparing it in fiscal year 2059/60, 2060/61 and 2063/64 is less than average and in remaining year is more than average. In fiscal

year 2063/64, overall capitalization rate is very low, because in this year company has made very minimum EBIT. In fiscal year 2061/62 this rate stands as 14.21% because in this year company has highest EBIT during our observation period.

As same overall capitalization rate of SICL is 9.59% in average. Overall capitalization rate of SICL in fiscal year 2062/63 and 2063/64 is less than average and remaining year is more than average.

Both PICL and SICL has overall capitalization rate is in decreasing and fluctuating trend.

4.2.8.3 Analysis of Equity Capitalization Rate (NOI Approach)

The NOI approach focuses on the equity capitalization rate and appears as irrelevancy theory of capital structure. According to this approach overall capitalization rate, Ko as well as the debt capitalization rate Kd, is independent of degree of leverage. However, the equity capitalization rate is obtained simply dividing the earning before tax by market value of equity. Thus, under NOI approach, the equity capitalization rate of both PICL and SICL can be calculated, presented and interpreted as following ways:

Table No.20
Analysis of Equity Capitalization Rate of PICL

(Amount in NRs.)

Fiscal Year	EBT	Shareholders Equity	Ke %	Change %
2059/60	8o45276	56435304	14.25	-
2060/61	10262363	80368024	12.76	-1.49
2061/62	19677200	77977060	25.23	12.47
2062/63	18617430	113060113	16.46	-8.77
2063/64	7641544	110367057	6.92	-9.54
Average			15.12	

Source: Annual reports of PICL

Table No.21

Analysis of Equity Capitalization Rate of SICL

(Amount in NRs.)

| Fiscal Year	EBT	Shareholders Equity	Ke %	Change %
2059/60	14275281	88744730	16.08	-
2060/61	21563787	120356964	17.91	1.83
2061/62	23640402	134045741	17.64	-0.27
2062/63	23329104	100945078	23.11	5.47
2063/64	16090774	190764815	8.43	-14.68
Average			16.63	

Source: Annual reports of SICL

Above table shows the increasing trend of both EBIT and EPS of PICL from fiscal year 2059/60 to 2061/62, but in fiscal year 2062/63 and 2063/64 is in decreasing trend. EBIT of PICL are Rs.8,045,276,Rs.10,262,363,Rs.19,677,200,Rs.18,617,430 and Rs.7,641,544 during fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 respectively. EPS of PICL during the fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 is Rs.19.88, Rs.25.12, Rs.46.68, Rs.43.54 and Rs.18.43 respectively. Average of EBIT and EPS of PICL is Rs.12,848,762 and Rs.30.73 respectively.

As same time trend of EBIT and EPS of SICL are in increasing trend except in fiscal year 2062/63 and 2063/64. EBIT of SICL is Rs.14,275,281, Rs.21,563,187, Rs.23,640,402, Rs.23,329,104 and Rs.16,090,744 during fiscal Year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 respectively. EPS of SICL during the fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 is Rs.20.40, Rs.28.15, Rs.30.21, Rs.30.13 and Rs.14.72 respectively. Average of EBIT and EPS of SICL is Rs.19,779,743 and Rs.24.72 respectively.

Figure No. 15

Equity Capitalization Rate of PICLand SICL
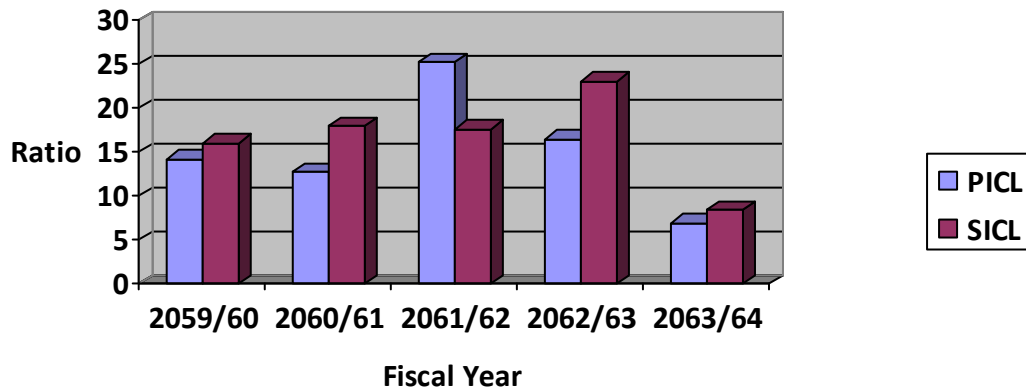
From the above calculated value it shows that the equity capitalization rate of PICL is almost in decreasing trend over the study period. Equity capitalization rate of PICL during fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 are 14.25%, 12.76%, 25.23%, 16.46% and 6.92% respectively. Equity capitalization rate of PICL is 15.12% in average. As comparing average in fiscal year 2061/62 and 2062/63 is higher than average but remaining year is less than average, but remaining years is lesser than averages.

Same time equity capitalization rate of SICL is in fluctuating trend. Equity capitalization of SICL range between 23.11% to 8.43%.The average of equity capitalization rate during our study periods is 16.63%, while comparing it in fiscal year 2060/61,2061/62 and 2062/63 is more than average and in remaining year is less than average.

4.2.9 EBIT-EPS Analysis

The EBIT-EPS analysis is one of the most important financial tools for analyzing the effects of leverage. Any fluctuation in EBIT is magnified on the earning per share by operation of leverage. The greater degree of leverage, the wider is the variation in the EPS given in any variation in EBIT. The choice of the combination of the different source i.e. capital structure, would be one which, given level of EBIT, would ensure the largest EPS. Thus to analyze this relationship, EBIT and EPS of PICL and SICL over fiscal year are presented and interpreted in following ways

Table No.22

Analysis of EBIT and EPS of PICL

<div align="right">(Amount in NRs.)</div>

Fiscal Year	EBIT	EPS
2059/60	8045276	19.88
2060/61	10262363	25.12
2061/62	19677200	46.68
2062/63	18617430	43.54
2063/64	7641544	18.43
Average	12848762.6	30.73

Source: Annual reports of PICL

Table No.23

Analysis of EBIT and EPS of   SICL

<div align="right">(Amount in NRs.)</div>

Fiscal Year	EBIT	EPS
2059/60	14275281	20.40
2060/61	21563187	28.15
2061/62	23640402	30.21
2062/63	23329104	30.13
2063/64	16090744	14.72
Average	19779743.6	24.72

Source: Annual reports of SICL

Above table shows the increasing trend of both EBIT and EPS of PICL from fiscal year 2059/60 to 2061/62, but in fiscal year 2062/63 and 2063/64 EBIT and EPS of

PICL is in decreasing trend. EBIT of PICL are Rs.8,045,276, Rs.10,262,363, Rs. 19,677,200, Rs.18,617,430 and Rs.7,641,544 during fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 respectively. EPS of PICL during the fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 is Rs.19.88, Rs.25.12, Rs.46.68, Rs.43.54 and Rs.18.43 respectively. Average of EBIT and EPS of PICL is Rs.12,848,762 and Rs.30.73 respectively.

As same time trend of EBIT and EPS of SICL are in increasing trend except in fiscal year2062/63 and 2063/64. EBIT of SICL is Rs.14,275,281, Rs.21,563,187, Rs.23,640,402, Rs.23,329,104 and Rs.16,090,744 during the fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 respectively. EPS of SICL is Rs.20.40, Rs.28.15, Rs.30.21, Rs.30.13 and Rs.14.72 during the fiscal year 2059/60, 2060/61, 2061/62, 2062/63 and 2063/64 respectively. Average of EBIT and EPS of SICL is Rs.19,779,743.6 and Rs.24.72 respectively.

4.2.10 Statistical Analysis

The method of measuring relationship between two or more variables as well as their significance can be analyzed by using help of statistical tools. In our study different relationships have been calculated with help of correlation co-efficient. Correlation co-efficient indicates the relationship between dependent and independent variables. As a same time probable error of the correlation co-efficient is the measure of the value of correlation co-efficient. It test the calculated value of correlation co-efficient is significant or not.

In this analysis, correlation co-efficient between following variables are calculated and testing probable error for significant correlation are calculated and analyzed as following ways.

4.2.10.1 Analysis of Correlation Co-efficient and P.E. between Debt and SHE

The relationship between debt and shareholders equity has been analyzed by correlation co-efficient formula. In order to find out the relationship between these two variables the correlation co-efficient has been calculated of both PICL and SICL in appendix 1 and 2. The calculated correlation and their respective probable error have been shown in the following table:

Table No.24

Correlation Co-efficient and their respective P.E. between Debt and SHE

Name of Firm	r	P.E.	Relationship	Effects
PICL	0.94	0.035	Positive	Significant
SICL	0.52	0.23	Positive	Significant

The calculated correlation co-efficient between debt and shareholders' equity of PICL is 0.94, which shows the positive relationship between debt and SHE, which means that positive relation shows that an increase in debt ratio varies to increases in SHE. But the value of 'r' is greater than six times of P.E., so the value of 'r' is significant i.e. there is significant relationship between Debt and Shareholders equity of PICL.

As same time correlation co-efficient between these two variables of SICL is 0.52, which shows the positive relationship between debt and SHE. The value of 'r' is greater than six times of P.E., so the value of 'r' is significant i.e. there is significant relationship between Debt ratio and Shareholders equity of SICL.

4.2.10.2 Analysis of Correlation Co-efficient and P.E between overall Capitalization Rate (Ko) and Debt-Equity Ratio

Correlation co-efficient between overall capitalization rates Ko, in terms of total debt to net worth is calculated in order to measure whether increase in the debt-equity ratio decreases overall capitalization rate of firm's. After calculation, which is shown in appendix 3 and 4, the correlation co-efficient and their respective probable error, following result is obtained for PICL and SICL and has been shown in the following table.

Table No.25

Correlation Co-efficient and their respective P.E. between D/E Ratio and Ko

Name of Firm	r	P.E.	Relationship	Effects
PICL	-0.31	0.27	Negative	Not Significant
SICL	-0.40	0.25	Negative	Not Significant

The calculated correlation co-efficient between D/E ratio and overall capitalization rate (Ko) of PICL is -0.31, which shows negative relationship between D-E ratio and Ko. That means the relation between D-E ratio and Ko is negative, where increase in D-E ratio causes to decrease in Ko and vice versa. Considering P.E. the value of 'r' is lesser than value of P.E., so the value of 'r' is not significant i.e. there is no significant relationship between D/E ratio and Ko of PICL.

As same time Correlation Co-efficient between these two variables of SICL is -0.40, which shows the negative relationship between D-E ratio and Ko, where increases in D-E ratio causes to decrease in Ko and vice versa. The P.E of SICL is 0.25, which clarifies that correlation co-efficient is less than the probable error.

4.2.10.3 Analysis of Correlation Co-efficient and P.E between Equity Capitalization Rate (Ke), and Debt-Equity Ratio:

The relationship between equity capitalization rate Ke, and debt-equity ratio interms of total debt to shareholders equity is calculated in order to measure whether increase in the debt equity ratio increases the equity capitalization rate of firm. In order to find out relationship between these two variables which is calculated in appendix 5 and 6 the correlation co-efficient has been calculated of both PICL and SICL. The calculated value of 'r' and their respective probable error has been shown in the following table:

Table No.26

Correlation Co-efficient and their respective P.E. between D/E Ratio and Ke

Name of firm	r	P.E.	Relationship	Effects
PICL	-0.22	0.28	Negative	Not Significant
SICL	0.48	0.23	Positive	Significant

The calculated correlation co-efficient between D/E ratio and equity capitalization rate of PICL is -0.22, which shows the negative correlation between D/E ratio and equity capitalization rate (Ke). Consider in P.E. the value of 'r' is lesser than value of P.E., so the value of 'r' is not significant i.e. there is no significant relationship between D/E ratio and Ke of PICL.

As same time calculated correlation co-efficient between D/E ratio and equity capitalization rate of SICL is 0.48, which shows the positive relationship between these two variables that means if debt to equity ratio increases then equity capitalization rates also increases. Considering P.E. the value of 'r' is greater than six times of P.E., so the value of 'r' is significant i.e. there is significant relationship between D-E ratio and Ke of PICL.

4.2.11 Analysis of Primary Data

Although secondary data have provided a result but in this section the opinions of various respondents are collected. The study is based on thirty five respondents included financial manager, chief executive officers, directors and financial analyst. The preformed of question asked during schedule interview is presented in appendix.

The basic objective of the firm's is to maximize shareholders wealth and it is possible through maintaining optimal capital structure by using debt. Our query was that do you think that use of debt helps to maximize shareholders wealth, following result was obtained.

Table No.27

Respondent over Affect of Debt on SHE

Items	No. of Respondent	Percentage
Yes	23	65.71%
No	9	25.71%
Don't Know	3	8.57%
Total	35	100%

The above table shows that 65.71% respondent agree that use of debt maximize SHE. While 25.71% did not agree that use of debt cannot maximize SHE and remaining stay at did not know. In respect to this, majority of total respondents stated towards the use of debt maximize SHE, due to advantage of tax deductibility on debt.

Whether the capital structure affects the profitability of firm is concerned to our study. For this we have next query that do you think that there is relationship between capital structure and profitability of firm, following result were obtained

Table No.28

Respondent over Relationship of Capital Structure and Profitability

Items	No. of Respondent	Percentage
Yes	24	68.57%
No	8	22.85%
Don't Know	3	8.57%
Total	35	100%

Regarding the relationship between capital structure and profitability, over 68.57% of total respondent agrees with the statement that the source of capital

affects the profitability of firm; however, 22.85% of total respondent did not agree with the statement and about to 8.57% of total respondent did not know about it.

In another query for respondent were asked to rank different source of financing the new project they are to undertake. Following result was obtained by using mean and ranks.

Table No.29

Respondents Preference over Financing Alternative

Items	Scale					Mean	Rank
	1	2	3	4	5		
Common Stock	3	7	10	12	3	3.14	3
Retained earning	20	6	4	1	4	1.94	1
Preferred stock	1	5	9	6	14	3.77	4
Debt	9	15	6	1	4	2.31	2
Other	1	4	10	3	17	3.88	5

Respondent were asked to rank different source of financing, by giving alternatives. On the basis of their response, they gave first priority to retained earnings. They gave second priority to debt, third to common stock and fourth to preferred stock and at last they gave priority to others such as trade credit etc.

Another query to respondents were that what do you think the degree of risk associated with the firm will also increases if the leverage increases, alternatives

provided to respondents to rank were risk increases, risk decreases, share price will increase and share price will decreases. Following table shows the result obtained by using mean ranking

Table No.30

Respondents Preference over Debt Ratio

Items	Scale				Mean	Rank
	1	2	3	4		
Risk increases	17	9	6	3	1.85	1
Risk decreases	1	5	7	22	3.43	4
Share price will increases	11	10	8	6	2.26	2
Share price will decreases	4	8	12	11	2.86	3

On the basis of response of respondents, they gave first priority to risk increases. It means that when leverage increases risk will also increases. Then share price will increases is to give second rank/preference. Third and fourth rank is given to share price will decreases and risk decreases respectively.

Another query to respondents was that can following factors influences attributes on capital structure. The different factor affecting capital structure was given to respondents. The rank has been provided to different alternatives response from lowest to the highest i.e. 1 for strongly agree and 5 for strongly disagree and

mean and rank has been found. Following result was obtained which can be shown in the following.

Table No.31

Respondents over Factor Affecting Capital Structure

Attributes	Strongly Agree	Agree	Indifference	Disagree	Strongly disagree	Mean	Rank
Tax rate	16	12	7	-	-	1.74	2
Interest rate	17	13	4	1	-	1.71	1
Assets structure	4	12	16	3	-	2.51	5
Growth opportunity	7	8	15	4	1	2.54	6
Stability of sales and growth	10	14	11	-	-	2.03	3
Period of finance	12	6	16	1		2.17	4

The majority of respondents stated that interest rate is major determinants of capital structure. According to our survey, other important factors affecting capital structure decision are tax rate and stability of sales and growth. Period of financing, assets structure and growth opportunities are gave to be less important by respondents while observing factor affecting capital structure decision.

From above it is clear that the interest rate is major determinants of capital structure decision along with tax rate and stability of sales in Nepalese context.

4.2.12 Major Findings

Major findings of the study are presented as follows:

- The total debt to shareholders equity ratio shows that PICL has higher ratio than that of SICL. From this we can say that PICL is highly levered than SICL.
- Average of debt to total assets ratio for PICL is higher than that of SICL. It means that debt amount is comparatively high in PICL for assets financing.
- Long term debt to capital employed ratio shows the use of more long term debt in terms of capital employed by PICL than that of SICL.
- Net profit ratio on sales for SICL seems better than PICL in average. So SICL has better operating efficiency than that of PICL.
- Average ROE of SICL is higher than that of PICL. So SICL can give satisfactory return than that of PICL to their shareholders. So investors of SICL get more return from than of PICL.
- Average ROA for SICL seems to higher than that of PICL. It means that production power of assets for SICL is higher than that of PICL.
- Average EPS of PICL seems higher than that of PICL. But both companies EPS are seem to be attractive to investor as investment proposal.
- Total value of the firm of SICL is higher than that of PICL. This value of SICL is in increasing trend and PICL is in fluctuating trend.
- Overall Capitalization rate of SICL is higher than that of PICL. So we can say that SICL is better levered company in terms of overall capitalization rate.
- Equity capitalization rate of SICL is also higher than that of PICL. Higher Ke of SICL means that it has higher equity capital in capital structure.
- Average of EBIT of SICL is higher than that of PICL and average of EPS of PICL is higher than that of SICL. By analyzing it is found that EPS-EBIT of both companies are in increasing trend.
- The calculated correlation co-efficient between debt and shareholders equity shows the positive correlation for PICL and SICL.
- The calculated correlation co-efficient between D-E ratio and equity capitalization rate shows the negative correlation for PICL and SICL. These values of 'r' are not significant for PICL and SICL.
- The calculated correlation co-efficient between D-E ratio and equity capitalization rate shows the negative correlation for PICL and at same time positively correlated for SICL. These values of 'r' are not significant for PICL but significant for SICL.

- Most respondents agree that by maintaining optimal capital structure it is possible to maximize the shareholder's wealth.
- 73.33% respondent agree that capital structure affect the profitability of the firm, as a same time 20% did not and 6.67% say that they did not know.
- By ranking different source of financing alternatives they preferred retained earning as the first alternatives. They followed debt after retained earnings and common stock and preferred stock is preferred at last.
- Most of respondents ranked to risk increases if the leverage will increases and compared gave the response towards increases and decreases in the share prices.
- Most of respondent ranked to interest rate, tax rate, loan covenants and flexibility factor affecting capital structure. They gave less important to growth opportunities, assets structure and management attitude etc.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The concluding chapter deals with the findings in a logical and rational manner to the problems of research within the framework stated in introduction chapter. The relevance of the related ratios to the capital structure and their contribution to analysis are described in this chapter. Similarly, this chapter is also related with the findings and conclusions derived from the study of the selected insurance companies in Nepal. This chapter is composition of conclusion of the study and lastly some practical recommendations are suggested to help to solve the problems observed on the basis of findings.

Insurance is a contract made by a company, society or by the state, to provide a guarantee of compensation for loss, damage, sickness, death etc. in return for regular payment. Insurance is a precautionary measure that has been taken by any party's to compensate for the loss incurred due to any undesirable events. It is an intangible service which helps to get rid from the painful sufferings caused by the uncertainties. It helps to create opportunities for employment and increase government revenues and to contribute significantly in the national development as well as to assist in the country's economic development. Thus the insurance provides a relief in the form of compensation packages in a period desperate need.

In Nepal, there are 20 insurance companies. One of them is fully government owned corporation.12 insurance companies are invested by private sector of the nation whereas 3 of them are joint venture with foreign companies and 3 are totally foreign investment company. Out of these 21 insurance companies, 2 companies are operating both life and nonlife insurance business whereas 3 are holding life insurance and other is non life insurance companies. Among the insurance companies PICL and SICL are important companies in Nepal and taken as the sample for the study.

The study "Analysis of Capital Structure of Nepalese Insurance Sector (Comparative analysis between PICL and SICL)" has been prepared to fulfill the requirement of Master of Business Studies (MBS).While selecting the sample companies for analysis; two listed companies with almost similar size, similar in

nature have been selected. This study is mainly based on secondary and primary data that is provided by concern companies and respondents. The main objective of this study is to assess the capital structure in respect to identify debt serving capacity, effect of leverage in profitability. So to fulfill the mentioned objectives various tools have been used. Due to the time and resource constraints all types of analysis are not conducted. Information is gathered during the period of fiscal year 2059/60 to 2063/64.

To conclude this study, collected information is presented, analysis and conclusion is drawn from the study. The whole study has been divided into five chapters of different aspects. The summary of each chapter is presented as follows.

Chapter I 'Introduction' provide the brief introduction of this study. It explains about objective of the study, statements of problem, limitation of study and organization of the study which provides guideline for entire study. Even though, this study can't deprive from some limitations.

Chapter II 'Review of Literature' deals with reviewing of available literature in the field of this study. From the theoretical review section, we can take advantages of conceptual foundation of capital structure decision. Similarly, by reviewing related research works, articles and previous studies, may inputs can be taken for this study and other researcher can also take advantage from this section. From this chapter we can conclude that all the theories of capital structure are not properly applicable in the Nepalese context.

Chapter III 'Research Methodology' deals about the methodology of this study. The study covers the five fiscal years data of concerned companies. Secondary as well as primary data are used in this study. In this study ratio analysis, capital structure analysis, correlation analysis and probable error have been used to species the guidelines, tools and research to achieve the objective of the study.

Chapter IV 'Data Presentation and Analysis' included presentation and analysis of data. To analysis the data financial as well as statistical tools are used. Ratio analyses which are directly related to the capital structure analysis and leverage are main financial tools used. Correlation co-efficient and probable error are main statistical tools. Data generated through questionnaires are analyzed using descriptive methods and are presented table whenever necessary.

Chapter V 'Summary, Conclusion and Recommendations' is concluding chapter. This chapter explains about the overall conclusion of this study. Based on the analysis and conclusion of this study some recommendation are made in this chapter, which are helpful to take corrective action in capital structure decision for the concerned companies as well as whole sector for their betterment.

5.2 Conclusion

This study "An Analysis of Capital Structure of Nepalese Insurance Sector" tries to analyze the capital structure of the sampled companies based on the data provided in the financial statements. After analyzing primary and secondary data which are presented in chapter 4, the following conclusion is drawn from the study.

⌡ By analyzing debt equity ratio, both companies are using equity and debt in their capital structure. Through this analysis, it is found that PICL and SICL have 80.66% and 72.80% of D-E ratio in average respectively. Above data shows that PICL is highly levered firm than that of SICL and PICL has higher claim of outsiders than there of equity holders. It can conclude that higher ratio would be in a danger of encouraging irresponsibility on the part of owners.

⌡ By analyzing the total debt to total assets ratio, it seems to be higher ratio is PICL than that of ratio of SICL. This ratio in average of PICL is 42.51% whereas this ratio in average of SICL is 40.56%. This ratio PICL is higher which indicates that the creditor's margin of safety is low.

⌡ By analyzing the total debt to total capital ratio, it is found that the averages of total debt to total capital ratio of PICL and SICL are 74.36% and 67.14% respectively. This implies that about 74.36% of total capital is financed by total debt in case of PICL and about to 67.14% of total capital is financed by total debt of SICL. Having higher ratio of PICL we can say that PICL borrowed fund has greater contribution of total debt to total capital whereas SICL has nominal contribution of total debt to total capital ratio. An arbitrary rule is that total debt should not be more than 67% of total capital.

⌡ By analyzing the net profit ratio, average of this ratio of PICL and SICL stands as 7.52% and 8.77% respectively .So it is found that operating efficiency of SICL is better than that of PICL. How the management operates

the organization is shown by this ratio. So we can say that net profit ratios of both companies are in satisfactory trend.

⟩ By analyzing the return on equity of both companies, it is found that these ratios of PICL and SICL are 10.89% and 11.87% in average respectively. Here this ratio of SICL seems to be better than that of PICL. But both companies have better ROE in respect to gain higher return from their investments.

⟩ By analyzing the return on assets the average ratio of PICL and SICL are found 5.69% and 6.62% respectively. By comparing this SICL has higher ROA than that of PICL. We can say that SICL is utilizing its assets in profitable investments. But both companies have better ROA.

⟩ By analyzing EPS of both companies, it is found Rs.30.73 and Rs.24.72 are earning per share in average of PICL and SICL respectively, which shows the better earnings to its shareholder by the companies.EPS of PICL, seems to be better than that of SICL. Investor always wants to invest its investment or share in profitable opportunities. So here both companies are desirable investment opportunities by the side of investor.

⟩ Total value of firm of PICL and SICL are found Rs.157,013,243 and Rs.1,142,334,963 respectively in average. This shows that SICL has higher total value of firm. Its total value of SICL is in increasing trend.

⟩ By analyzing of EPS-EBIT of PICL is in fluctuating trend and of SICL is also in fluctuating trend. It can conclude that average of EBIT of SICL seems to be better than that of PICL and EPS of PICL seems to be better than that of SICL.

⟩ By analyzing the overall capitalization rate according to NI approach, net operating income is capitalized at an overall capitalization rate to obtain the market value of the firm. According to this approach Ko and Kd stay same, regardless the degree of leverage. So the company can use high amount of debt capital with the same rate of interest. With this analysis overall capitalization rate of PICL is 8.42% and 9.59% in average.

⟩ Another aspect of NOI approach is that the required rate of the return increases with the decreasing value of debt. From the analysis this, it is clearly known that Ke is in high percentage for those companies which are giving priority to equity than debt. So, Ke of SICL seems to be higher than that of PICL. From this study we can conclude that Ke is directly affected by the leverage position of the company, i.e. increasing leverage position is the reason for decreasing rate of Ke. At last, we can make a conclusion that

the market value of the firm is not affected by the leverage position of the firm and that only Ke depends upon the leverage position of the firm.

) By analyzing the correlation co-efficient it is found that PICL has positive correlation, which signifies that the relationship between debt and SHE of PICL is significant, because value of 'r' is greater than six times of P.E. As same time value of 'r' is significant and there is proper relationship between these two variables for SICL.

) By analyzing the correlation co-efficient between D-E ratio and Ko it can be concluded that the value of 'r' is not significant and there is negative relationship between these two variables for PICL.As same time value of 'r' is not significant and there is no proper relationship between these two variables for SICL. By analyzing the correlation co-efficient between D-E ratio and Ke it can be concluded that the value of 'r' is not significant for PICL and at same time positively correlated for SICL.

) By analyzing the primary data, the respondent of the practitioners are not support of particular theory of capital structure as it is evident that they ranked retained earnings as the first alternatives sources of financing. They opined that use of debt helps to maximize the shareholder's wealth as well as they viewed that there is as positive relationship between capital structure and profitability of the firm. Respondent ranked interest rate, tax rate, loan covenant as the factor affecting capital structure. Some of the structured questionnaires were included to examine of the response in the former is consistent with later.

5.3 Recommendations

For the above findings and conclusion following recommendation to the concern companies as well as whole sector have been suggested, this can be presented as follows.

1. It is necessary to identify and attain optimal capital structure by the companies to enhance the overall performance of the company. Insurance companies are recommendation to plan their capital structure by analyzing the possible alternative financial plan.

2. The proposition of debt and equity capital should be decided keeping in mind the efforts of tax advantages and financial distress. When it is difficult to pay interest and principle, it's ultimately leads to liquidation or bankruptcy. For such insurance companies are recommended to

balance their capital structure, which minimized cost and maximizes the return to shareholders of company.

3. The management of the insurance companies should always be well informed about the source of capital, their reliability, their cost and possible terms, condition that can be made by lenders.

4. Insurance companies should give continuity in providing both conceptual and practical training to the staff to enhance their knowledge, skill and competency level.

5. Lastly, the company has to enhance effectiveness, efficiency and proper co-ordination of its department's tasks by continuously reviewing its structural design in accordance with the need of the changing time and situation. The management of insurance companies should not take any financial decision randomly and always keep in mind those capital structure theories and cost of capital concept which are helpful in taking corrective decision.

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Appendix 1

Correlation Co-efficient and their respective P.E. between Debt and SHE of PICL

Fiscal Year	Total Debt (X)	SHE (Y)	X^2	Y^2	X.Y
2059/60	508.00	564.35	258064	318490.92	286689.8
2060/61	709.14	803.68	502879.54	645901.54	569921.63
2061/62	604.78	779.77	365758.85	608041.25	471589.30
2062/63	786.20	1130.60	618110.44	1278256.36	888932.75
2063/64	859.86	1103.67	739359.22	1218087.47	949001.68
Total	3467.98	4382.07	2484172.05	4068777.54	3166135.16

$$r = \frac{N\sum xy - \sum x \cdot \sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \quad \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 3166135.16 - 3467.98 \times 4382.07}{\sqrt{5 \times 2484172.05 - (3467.98)^2} \quad \sqrt{5 \times 4068777.54 - (4382.07)^2}}$$

$$= \frac{15830675.8 - 15196931.12}{\sqrt{12420860.25 - 12026885.28} \quad \sqrt{20343887.7 - 19202537.48}}$$

$$= \frac{633744.68}{\sqrt{393974.97} \quad \sqrt{1141350.22}}$$

$$= \frac{633744.68}{627.67 \times 1068.34}$$

$$= \frac{633744.68}{670564.97}$$

$$=0.94$$

$$\text{Probable Error} = \frac{0.6745(1-r^2)}{\sqrt{N}}$$

$$= \frac{0.6745(1-0.94^2)}{\sqrt{5}}$$

$$= \frac{0.6745(1-0.88)}{2.24}$$

$$= \frac{0.6745 \times 0.12}{2.24}$$

$$= \frac{0.08094}{2.24}$$

$$=0.036$$

Appendix 2

Correlation Co-efficient and their respective P.E. between Debt and SHE of SICL

Fiscal Year	Total Debt (x)	SHE (Y)	X^2	Y^2	xy
2059/60	481.66	887.44	231996.35	787549.75	427444.35
2060/61	614.50	1203.57	377610.25	1448580.74	739593.76
2061/62	997.77	1340.46	995544.97	1796833.01	1337470.77
2062/63	1625.27	1009.45	2641502.57	1018989.30	1640628.80
2063/64	1602.48	1907.65	2567942.15	3639128.52	3056970.97
Total	5321.68	6348.57	6814596.29	8691081.32	7202108.65

$$r = \frac{N\sum xy - \sum x.\sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \quad \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 7202108.66 - 5321.68 \times 6348.57}{\sqrt{5 \times 6814596.29 - (5321.68)^2} \quad \sqrt{5 \times 8691081.32 - (6348.57)^2}}$$

$$= \frac{3601053.32 - 33785058}{\sqrt{34072981.45 - 28320278.02} \quad \sqrt{43455406.65 - 40304341.04}}$$

$$= \frac{2225485.32}{\sqrt{5752703.43} \quad \sqrt{3151065.61}}$$

$$= \frac{2225485.32}{2398.47 \times 1775.12}$$

$$= \frac{2225485.32}{4257598.61}$$

$$= 0.52$$

Probable Error (P.E) = $\dfrac{0.6745(1-r^2)}{\sqrt{N}}$

$= \dfrac{0.6745(1-0.52^2)}{\sqrt{5}}$

$= \dfrac{0.6745(1-0.2704)}{2.23}$

$= \dfrac{0.6745 \times 0.7296}{2.23}$

$= \dfrac{0.49}{2.23}$

$= 0.21$

Appendix 3

Correlation Co-efficient and their respective P.E. between D/E ratio and Ko of PICL

Fiscal Year	D-E ratio (x)	Ko (Y)	X^2	Y^2	xy
2059/60	90.01	7.50	8102.70	56.25	675.11
2060/61	88.31	6.78	7798.83	45.97	598.75
2061/62	77.55	14.21	6015.39	201.92	1102.11
2062/63	69.34	9.71	4807.89	94.28	673.28
2063/64	77.91	3.89	6069.96	15.13	303.07
Total	403.12	42.09	32794.77	413.55	3352.32

$$r= \frac{N\sum xy - \sum x . \sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \quad \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{5\times3352.32 - 403.12\times42.09}{\sqrt{5\times32794.77 - (403.12)^2} \quad \sqrt{5\times413.56 - (42.09)^2}}$$

$$= \frac{16761.6 - 16967.91}{\sqrt{163973.85 - 162517.02} \quad \sqrt{2067.8 - 1771.57}}$$

$$= \frac{-206.31}{\sqrt{1456.83} \quad \sqrt{296.23}}$$

$$= \frac{-206.31}{38.16 \times 17.21}$$

$$= \frac{-206.31}{656.73}$$

=-0.31

Probable Error (P.E) =
$$\frac{0.6745(1-r^2)}{\sqrt{N}}$$

$$= \frac{0.6745[1-(-0.31)^2\}}{\sqrt{5}}$$

$$= \frac{0.609}{\sqrt{5}}$$

= 0.27

Appendix 4

Correlation Co-efficient and their respective P.E.between Ko and D-E ratio of SICL

Fiscal Year	D-E ratio	Ke (Y)	X^2	Y^2	x.y
2059/60	54.27	10.43	2945.67	108.72	565.91
2060/61	51.05	14.17	2606.10	200.78	723.37
2061/62	74.44	10.11	5541.31	102.21	752.88
2062/63	161.00	8.69	25922.61	75.53	1399.29
2063/64	84.00	4.58	7056.50	21.01	385.06
Total	424.76	47.98	44072.19	508.25	3826.51

$$r = \frac{N\sum xy - \sum x.\sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \quad \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 3826.51 - 424.76 \times 47.98}{\sqrt{5 \times 44072.19 - (424.76)^2} \quad \sqrt{5 \times 508.25 - (47.98)^2}}$$

$$= \frac{19132.55 - 20379.98}{\sqrt{220360.95 - 180421.06} \quad \sqrt{2541.25 - 2302.08}}$$

$$= \frac{-1247.43}{\sqrt{39939.89} \quad \sqrt{239.17}}$$

$$= \frac{-1247.43}{199.85 \times 15.46}$$

$$= \frac{-1247.43}{3089.68}$$

=-0.40

Probable Error (P.E.)= $\dfrac{0.6745(1-r^2)}{\sqrt{N}}$

$= \dfrac{0.6745[1-(-0.40^2)]}{\sqrt{5}}$

$= \dfrac{0.6745 \times 0.84}{2.24}$

$= \dfrac{0.56}{2.24}$

=0.25

Appendix 5

Correlation Co-efficient and their respective P.E. between D-E ratio and Ke of PICL

Fiscal Year	D-E ratio (x)	Ke (y)	X^2	Y^2	xy
2059/60	90.01	14.25	8101.80	203.06	1282.64
2060/61	88.31	12.76	7798.66	162.82	1126.83
2061/62	77.56	25.23	6015.55	636.55	1956.84
2062/63	69.34	16.46	4808.03	270.93	1141.34
2063/64	77.91	6.92	6069.97	47.88	539.14
Total	403.13	75.62	32794.01	1321.24	6046.79

$$r = \frac{N\sum xy - \sum x . \sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \quad \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 6046.83 - 403.13 \times 75.62}{\sqrt{5 \times 32794.01 - (403.13)^2} \quad \sqrt{5 \times 1321.24 - (75.62)^2}}$$

$$= \frac{30234.15 - 30484.99}{\sqrt{163973.85 - 162517.02} \quad \sqrt{6606.2 - 5718.38}}$$

$$= \frac{-250.84}{\sqrt{1456.83} \quad \sqrt{887.82}}$$

$$= \frac{-250.84}{38.16 \times 29.79}$$

$$= \frac{-250.84}{1136.78}$$

$$= -0.22$$

$$\text{Probable Error (P.E.)} = \frac{0.6745(1-r^2)}{\sqrt{N}}$$

$$= \frac{0.6745[1-(-0.22^2)]}{\sqrt{N}}$$

$$= \frac{0.64}{\sqrt{5}}$$

$$= 0.28$$

Appendix 6

Correlation Co-efficient and their respective between D-E ratio and Ke of SICL

Fiscal Year	D-E ratio (x)	Ke (y)	X^2	Y^2	xy
2059/60	54.27	16.08	2945.67	258.56	872.66
2060/61	51.05	17.91	2606.10	320.76	914.30
2061/62	74.44	17.64	5541.31	311.16	1313.12
2062/63	161.00	23.11	25922.61	534.07	3720.82
2063/64	84.00	8.43	7056.50	71.06	708.14
Total	424.77	83.17	44072.19	1495.61	7529.04

$$r= \frac{N\sum xy-\sum x.\sum y}{\sqrt{N\sum x^2-(\sum x)^2} \quad \sqrt{N\sum y^2-(\sum y)^2}}$$

$$= \frac{5\times7529.04 -424.77\times83.17}{\sqrt{5\times44072.19-(424.77)^2} \quad \sqrt{5\times1495.61-(83.17)^2}}$$

$$= \frac{37645.2-35328.12}{\sqrt{220360.95-180429.55} \quad \sqrt{7478.05-6917.25}}$$

$$= \frac{2317.08}{\sqrt{39931.4} \quad \sqrt{560.8}}$$

$$= \frac{2317.08}{199.82 \times23.68}$$

$$= \frac{2317.08}{4731.74}$$

=0.48

Probable Error (P.E.) = $\dfrac{0.6745(1-r^2)}{\sqrt{N}}$

$= \dfrac{0.6745(1-0.48^2)}{\sqrt{5}}$

$= \dfrac{0.52}{\sqrt{5}}$

$= 0.23$

Questionnaire used for Primary data collection

Dear Respondents,

This research questionnaire has been developed to achieve the main objective of the research entitled " Comparative analysis of capital structure management between two selected insurance companies i.e. Premier Insurance Co. (Nepal) Ltd. and Sagramatha Insurance Co. Ltd." conducted by me in the partial fulfillment of the requirement for the degree of Masters of Business Studies (MBS). For the research reports your valued opinions, experience and thoughts may play a significant role. Thus you are kindly requested to answer the question set by the researcher.

1. Do you think that the optimal capital structure helps to minimize the cost of capital and maximize the value of the firm?
) yes
) No
) Don't Know

2. Do you think that use of debt helps to maximize shareholders wealth?
) yes
) No
) Don't Know

3. Do you think that there is relationship between capital structure and profitability of firm?
) yes
) No
) Don't Know

4. Do you think that the current political situation affect the profitability ratio of service sector rather than that of management sector?
) Strongly agree
) Moderately agree
) Disagree
) Strongly Disagree
) Don't Know

5. Which alternate do you rank among the source of financing the new project they are to undertake?

Items	Scale					Mean	Rank
	1	2	3	4	5		
Common Stock							
Retrained Earning							
Preferred Stock							
Debt							
Other							

6. Do you think that the degree of risk associated with the firm will also increases if the leverage increases?

Items	Scale					Mean	Rank
	1	2	3	4	5		
Risk increases							
Risk decreases							
Share price will increase							
Share price will decrease							

7. Can following factors influence attributes on capital structure decisions? Please assign for strongly agree and strongly disagree.

Attribute	Strongly agree	Agree	Indifference	Disagree	Strongly Disagree	Mean	Rank
Tax Rate							
Interest Rate							
Assets Structure							
Growth Opportunity							
Stability of Sales and growth							
Period of Finance							