CHAPTER ONE

INTRODUCTION

1.1 Background

Capital structure refers to the mix of long term sources of fund. Such as, Debenture, long term debt, preference share capital and equity share capital including reserve and surplus (Pandey, 1999: 633). Capital structure concept holds major place in the field of financial management. Capital structure is the composition of various types of long term sources of fund , namely debt, prefer stock, debenture and equity including retain earning (reserve and surplus) .Sometime it is also refer as financial structure ,if there is no short term liability ,(Khan and Jain ,1992:58) stressed that the capital structure or financial plan or financial structure refers to the composition of long term sources of fund. The capital structure of the firm, defined as the mix of financial instruments used to finance the firm, is simplified to include only long-term interest bearing debt and common stock. (Stephen and Archer, 1992:344)

In fact, present banking system is the result of the development of many centuries. When we talk of the wonderful scientific inventions, banking also comes to be as a wonder of the modern world. It would also be necessary to see as to how the banking has come to its present stage and what were the periods of hope and despair through which the banking system had to pass to come to its present stage. Now the banks are much more conscious in their every aspects of management so the capital management and its structure are also studied in the institution with standing the separate department. Financial institutions collect the fund from different sources that come to

the department of capital management. Where the sources of funds in commercial banks are varied.

Deposits

Deposits remain the main source of funds for a commercial bank. The money collected can go toward paying on interest-bearing accounts, completing customer withdrawals and other transactions. Savings account deposits are especially important to banks.

Reserve Funds

A commercial bank builds a reserve fund with deposits so it can pay interest on accounts and complete withdrawals. A bank builds its reserve fund by accumulating surplus profits during healthy financial years so that the funds can be used in leaner times. On average, a bank tries to accumulate approximately 12 percent of its net profit to build and maintain its reserve fund.

Shareholders Capital

Some commercial banks that trade on the stock exchange can use shareholders' capital to receive the money it needs to stay in business. For example, if a company sells shares on the market, it increases both its cash flow and its share capital. This process is also known as equity financing. Banks can only report the amount of capital that was initially on their balance sheet. Appreciation and depreciation of shares do not count toward the total sum of a shareholder's capital.

Each time a bank makes a profit it can generally make two choices that include paying dividends to their shareholders or reinvesting the money back into the bank. Most banks utilize both options as they will retain a portion of the profit and pay the remainder to their shareholders. The amount reinvested into the bank typically depends on the company's policy and the condition of the stock market.

Retained Earnings

A lot of commercial banks earn retained earnings or fees to help fund their business. A retained earning can be collected through overdraft fees, loan interest payments, securities and bonds. Banks also charge fees for providing customers with services such as maintaining an account, offering overdraft protection and also monitoring customer's credit scores.

In the study of capital structure, a change in one capital source due to the changing source of another capital can be studied under leverage (Hampton, 2006:157-159). Similarly, in the profit planning process, firm analyses the ways of increasing amount of profit, considerably attentions is given to different kinds of leverage. As the objective of a firm should be directed towards the maximization of the value of the firm, the capital structure decision should be examined from the point of view of its impact of the value on the firm. If the value of the firm can be affected by capital structure, a firm should prefer a capital structure, which maximizes the value of the firm.

The nature of capital could differ one company to other company which is directly guided, regulated and controlled by the management of company "However a reasonable satisfactory capital structure can be determined by considering relevant factors and analyzing the impact of alternative financing proposal on the earning per share (Prasana, 1994:477).

As we know the capital plays the vital role in any institutions for its smooth operation and value maximization, we also be much careful in its management that means in its

structure. The objective is to assess the capital structure of commercial banks in Nepal. Moreover the history of organization also plays the vital role in its capital management. Nepal is a developing mountainous and landlocked country with hetero-cultural environment is one of the poorest countries in terms of commercial and economic status. About 80% of the country's population is farmer and the rest are engaged in other sectors, which shows the development status of the country. The agriculture sector is dominated by complex physical geography, political instability, land-locked situation and poor resource mobilization, which has slowed down the pace of development. The growth of banking in Nepal is not so long. In comparison with other developing or developed country, the institutional development in banking system of Nepal is far behind. Nepal had to wait for a long time to come to this present banking position.

After Nepal adopted the policy of economic liberalization as in other developed countries, banks and other companies are mushrooming every year. For them capital is the first step towards running their business. Simply capital is property or wealth, which is also the source for increasing the wealth of a firm or company. It is well known that a business organization needs sufficient funds which can be acquired in two ways, by issuing debt and equity. A debt has the fixed charge where as equity provides ownership to shareholders in business, retained earning may also be used as a source of financing. The concept of capital structure has therefore an important place in the financial management of a firm, and its financial decision is one of the major points to achieve the objectives of maximizing shareholders wealth. A proper balance between debt and

equity is therefore necessary to ensure a trade-off between risk and return to shareholders.

Among 30 commercial Banks in the country only three commercial banks have been taken as samples. They are following:

1. NABIL Bank Limited

2. Nepal SBI Bank Limited

3. Nepal Standard chartered Bank Limited

1.1.1 A Brief Introduction of Sample Commercial Banks:

1.1.1.1 NABIL Bank Limited (Nepal Arab Bank Limited)

NABIL Bank Limited (Nepal Arab Bank Limited) was incorporated in the year 1984 A.D. It commenced its operation on 12th, July 1984 as the first commercial joint venture bank in Nepal. It was listed in the Nepal Stocks Exchange in the year 1986 A.D (2042.B.S). Dubai Bank Ltd., Dubai (Later acquired by Emirates Bank International Ltd. Dubai) was the first joint venture partners of NABIL currently, NB (International) Ltd, Ireland is the foreign partner. NABIL bank Limited had the official name Nepal Arab Bank Ltd. Till 31st December 2001, the equity composition of Nepal Arab Limited was as follows:

NB (International) Ltd. Ireland - 50%

Nepal Industrial Development Corporation (NIDC) -10%

Rastriya Beema Sansthan - 9.67%

Nepal Stock Exchange Limited - 0.33%

General Public - 30%

NABIL Bank is the pioneer in introducing many innovative banking services and marketing concept in baking sector in Nepal. It is the only bank having presence in the Tribhuvan International Airport. Some of the services provided by NABIL Bank Limited are accepting deposits, documentary credit, guarantees, collections, credit cards, Tele-banking, safe deposit, fund transfer etc. (www.nabilbank.com.np)

1.1.1.2 Nepal SBI Bank Limited

Nepal SBI bank Ltd (NSBL) is also the joint venture bank in the country. It is financed by three institutional promoters, mainly state Bank of India, Karmachari Sanchaya Kosh (Empolyees Provident fund) and Agriculture Development Bank of Nepal. The bank was registered on 2050/01/16 (28/04/1993) in the department of industry HMG/N under the company Act 2021 and commercial bank Act 2031. The formal inauguration of Nepal SBI Bank Limited took place on 7th July 1993. It commenced its operations on 2050/03/24 (8th July, 1993). The equity composition of the Bank was as follows:

State Bank of India - 50%

Employee provident fund - 15%

Agriculture Development Bank - 05%

General Public - 30%

The Service provided by Nepal SBI Bank Limited include deposits, remittances, various types of loan facilities, letter off credit, bank guarantees, retail financing (house loans, vehicle loans and education loan) etc. It has launched 365 days banking and ATM facility in different part of the country.

1.1.1.3 Nepal Standard Charted Bank Limited

Nepal Standard chartered Bank Limited, formerly known as Nepal Grindlays Bank Limited was incorporated in the year 1985 and has been in operating since 1987. On 31th July 2000, Standard chartered Bank concluded the acquisition of ANZ Grindlays Banks from the Australia and New Zealand Banking Group Limited, with this acquisition 50% share of Nepal Grindlays Bank Limited (NGBL) previously owned by ANZ Grindlays are now owned by Standard Chartered Grindlays Bank Ltd. leading to the name change of the bank to Standard chartered Bank Limited with effective from July 16th, 2001. The equity composition of standard chartered Bank Ltd. was as follows at the time of establishment:

Nepal Grindlays Bank - 50%

Nepal Bank Limited - 33%

General Public - 17%

The Bank focuses mainly on corporate, consumer and commercial banking, providing services for internal firms, aid agencies, airlines, hotels and government corporations. The banking services range includes full trade finance capabilities on well as working capital and medium term loan facilities, remittance deposit service, credit card and ATM for international firms, standard character bank Nepal limited specialized in foreign

trade, bonding remittance service and foreign exchange. (www.standardchartered.com.np)

1.2 Statement of the problem

Capital structure is very much essential choice for the financing decision-making. Moreover, the theory regarding the cost of capital is of fundamental importance in business problem. The capital structure and its constituent, the cost of capital is mostly unknown to the large segment of the financial community. It is not a simple aspect of corporate finance. The effect of cost of capital about the whole corporate finance, the effects of capital structure on cost of capital shows the interrelationship between themselves. Since the concept of capital structure is to minimize the cost of capital and maximize the value of a firm, it does not follow the conceptual trend; rather it mobilizes business in monopoly. The firms do not pay divided even if they have higher EPS. It may directly affect the investor, management team and even their clients. If the dividend payments are not proportion to earnings, it shows fluctuation causing effect to capital structure. In the same way, fluctuation may occur in interest rate for certain investors. There is not any uniformity in dividend, interest etc. which ultimately target to capital structure.

There are many studies conducted on the capital structure management regarding different companies in Nepal and they are mostly based on the financial ratio analysis. Very few students in management faculty have choose this study, so it has become a subject of curiosity to the researchers, businessman and other people who have interest to know the right position of the Nepalese companies regarding the theories of capital structure and cost of capital. This study attempts to deal with the following questions:

a. How the banks are managing their capital?

b. What is the proportion of total debt and equity capital of selected commercial banks?

c. Does the financial leverage is considered while determining capital structure?

d. Does the capital structure affect the profitability?

e. Whether or not there is correlation between debt and return, EBIT and interest payment and interest payment & interest income.

1.3 Objectives of the Study

The primary objective of this study is to make comparative analysis of the capital structure of three commercial banks and to recommend suggestion for the improvement of the state of affairs. The specific objectives are as follows:

a. To see the capital structure of selected commercial banks.

b. To see the proportion of total debt and equity capital over the study period.

c. To see profitability positions of selected commercial banks.

d. To see the relationship between debt and return, EBIT and Interest payment, interest payment & interest income and Debt equity ratio & NPAT.

1.4 Need for the Study

It is quite difficult to imagine the development of a nation without its economies development. Banks are playing vital role in the development process, there are

different other sectors which contribute to the purpose. Growth in multinational banking in the nation has helped to improve the living standard of the people and their society. Although it is mainly based on the comparison of capital structure of the commercial banks in Nepal, it is intended to fulfill the need of banks to update is capital structure for its internal development. We could not imagine a bank without capital and the capital without the mixture of debt and equity .As the development of a nation depends upon economic growth and as the economy depends upon banking transaction is geared to fill up the intellectual vacuum, highlighting the capital structure in commercial banks working in Nepal.

1.5 Limitations of the Study

In the context of Nepal, data problem is major problem for study. There is considerable place for arguing about accuracy and reliability. There are many limitation, which weaken the generalization e.g. periods taken and other variables. Besides this following specific limitations are also mentioned:

a. This study is based on the annual report of the selected banks of the last five years i.e. 2004/05 to 2008/09.

b. Among the twenty four commercial banks, the study focuses on NABIL, SBI bank Ltd. and NSCBL.

c. Only those factors are considered which are related to capital structure i.e. Debt, Equity and Leverage.

d. Only secondary data are collected and analyzed.

1.6 Organization of the Study

The study has been organized into five chapters. The titles of each chapter are as follows:

Chapter One

It is an introductory chapter which covers the subject matters of the study, consisting introduction, background of commercial banks, statement of the problems, objective of the study and limitation of the study.

Chapter Two

Deals with review of literatures, it includes a discussion on the conceptual framework on capital structure and reviews the major studies relating with capital structure of several authors.

Chapter Three

Explains the research methodology used to evaluate capital structure of commercial banks in Nepal .It consists of research design, selection of sample, sources of data collection, method of analysis, financial tools and statistical tools used to analyze the data.

Chapter Four

Chapter four fulfill the objective of the study by presenting data and analyzing them with the help of various tools described in research methodology.

Chapter Five

It states summary, conclusion and recommendation of the study.

CHAPTER-TWO

REVIEW OF LITERATURE

Conceptual foundation is a most important part of study. Without clear concepts on subject matter the study may not go through right way. So, the review of literature is taken as an essential part, which works as a cornerstone of the study. It provides the guidelines for further study and avoids the unnecessary duplication in research works. This chapter includes the review of underlying literature from text books, journals and previous thesis. Review of books has been made to form theoretical concepts. It is followed by the review of studies and articles presented in journals and by master's degree thesis. Thesis and journals have added valuable dimension for this research. The available literatures are reviewed relating to the field of this Study. Some of the literature reviews relating to this study are presented below.

2.1 Concept of Capital Structure

Capital structure refers to the mix of long term sources of fund. Such as, Debenture, long term debt, preference share capital and equity share capital including reserve and surplus (Pandey, 1999:633). Capital structure concept holds major place in the field of financial management. Capital structure is the composition of various types of long term sources of fund , namely debt , prefer stock ,debenture and equity including retain earning (reserve and surplus) .Sometime it is also refer as financial structure ,if there is no short term liability (Khan and Jain ,1992:58) stressed that the capital structure or financial plan or financial structure refers to the composition of

long term sources of fund.The capital structure of the firm, defined as the mix of financial instruments used to finance the firm, is simplified to include only long-term interest bearing debt and common stock. (Stephen and Archer, 1992:344).

Capital Structure, knows as financial plans refers to the composition of long term debt, preference share capital and equity share capital including reserve and surplus. The objective is to assess the capital structure of commercial banks in Nepal.Capital structure is concerned with the analyzing of the capital composition of the company. In the words of well known professor Weston and Brigham "Capital structure is the permanent financing of the firm, representing primarily by the long term debt, preferred stock and common stock, but excluding all short term credit. Thus, firm's capital structure is only a part of its' financial structure" (Weston, and Brigham, 1966:253).

Capital structure is the combination of the long term sources of funding, i.e. preferred stock, common stock that are used to finance the firm. (Steven and Conn, 1981:348). Similarly, capital structure is the mix of long term debt and equity maintained by the firm (Gitman, 1988:22). Optimum capital structure can be defined as that mix of debt and equity which will maximize the market value of a company, i.e. aggregate value of the claims of ownership interest represented as the credit side of the balance sheet.

In the study of capital structure, a change in one capital source due to the changing source of another capital can be studied under leverage (Hampton, 1994:33). Similarly, in the profit planning process, firm analyses the ways of increasing amount of profit, considerably attentions is given to different kinds of leverage. Thus, the financial

leverage measures the responsiveness of EPS to changes in EBIT (Prasana, 1986). As the objective of a firm should be directed towards the maximization of the value of the firm, the capital structure decision should be examined from the point of view of its impact of the value on the firm. If the value of the firm can be affected by capital structure, a firm should prefer a capital structure, which maximizes the value of the firm.

The value of a firm depends upon its expected earning streams and the rate used to discount this stream. The rate used to discount the earnings steam is the required rate of return or cost of capital. Thus, the capital structure decision can affect the value of the firm either by changing the expected earnings or the cost of capital or both. The cost of capital is the most vital concept in the financial decision making. The cost of capital is influenced by the change in capital structure. The cost of capital is also called hurdle rate or required rate of return for investors. The required rate of return of all the assets is not same because of their variability in return of investors is made up of two components i.e. risk free rate of return and market risk premium.

The nature of capital could differ one company to other company which is directly guided, regulated and controlled by the management of company "However a reasonable satisfactory capital structure can be determined by considering relevant factors and analyzing the impact of alternative financing proposal on the earning per share (Prasana, 1986).

One of the financial manager's principal goals is to minimize the value of the firm's securities. For this purpose the firm should select a financial mix/financial leverage which will help in achieving the objective of financial management with a view to

maximize the value of share. In order to attain this business goal, firm should select an appropriate capital structure. In the view of Khan and Jain, "If the capital structure decision affects the total value of firms, a firm should select such financial mix which will maximize the shareholder's wealth. Such capital structure is the optimum capital structure."(Khan and Jain, 1995:423). But "An optimum capital structure would be obtained at the combination of debt and equity that maximizes the total value of the firm (Value of shares plus value of debt) or minimize the weighted average cost of capital" (I.M. Pandey, 1995:493).

The following symbols are employed in capital structure theories:

1. S= Total market value of the equity share.
2. B= Total market value of the debt.
3. V= Total market value of the firm i.e. V=S+B
4. I= Total interest payment.
5. EBIT/NOI= Earning before interest and tax to net operating income.
6. EAT= Earnings after tax.
7. K_o= Overall capitalization rate/weighted average cost of capital
8. K_e= Equity Capitalization rate.
9. K_i= Cost of debt.

2.2 Capital Structure Decision

Decision regarding the choice of capital components is known as the capital structure decision. The capital structure decision is a significant financial as well as managerial decision. It affects the shareholder's return and risk. Consequently, the market value of the share may be influenced by the capital structure decision. Every type of corporations should have a plan, their Capital structure initially at the time of promotion. Subsequently, whenever funds are needed to finance investments, a capital structure decision is needed. Gitman (1988:22) stressed that the capital structure decision involves an analysis of the existing capital structure and the factors that will affect the decision. Pandey (1999:685) has identified many more factors, which plays the vital role in the process of capital structure decision. Such as, stake holder's attitude, nature of required funds, risk and returns associated with investment, management desire, existing capital structure, dividend policy, share holder's expectation, government rules & regulations, access to the capital market etc. Pandey adds that, the dividend decision of a firm works as a bearing on capital structure and capital structure decision.

2.3 Optimum Capital Structure

The capital structure is as said to be optimum when the marginal real cost (explicit as well as implicit) of each available source of financing is identical with an optimum debt and equity mix, the cost of capital is minimum and the market price per share (or total value of the firm) is maximum. The use of debt in capital structure or financial leverage has both benefits as well as costs (Khan & Jain, 1992:419).

In this way, the optimum capital structure is an appropriate mix of long-term sources of financing. Optimum capital structure will lead to maximize shareholder's wealth, as

reflected in the market price per share (Solomon.1969). Optimum capital structure or leverage is an appropriate mix of debt and equity which will maximize the market value of the claims and ownership interest represented on the credit side of the balance sheet.

An optimum capital structure would be obtained at that combination of debt and equity that maximize the total value of the firm (value of share plus value of debt) or minimize the weighted average cost of capital. Therefore, financial managers of a firm should have to compose the optimum capital structure. But in practice, it is a formidable task to determine the optimum capital structure for a corporation.

2.3.1 Features of an Optimum Capital Structure

Optimum capital structure may be defined as the combination of different capital components in capital structure that leads to the maximum value and minimum overall cost of capital. Thus, a sound or appropriate or optimum capital structure is an indicator of efficient financial practice. (Pandey,1991:203) has explained the features of optimum capital structure as given below.

Return: Optimum capital structure should provide maximum returns to shareholders without any additional cost.

Risk: Optimum capital structure should not be the subject of higher risk. The use of excessive debt threatens the solvency position of the firm. To the point, debt does not add significant level of risk it should be used, otherwise its use should be avoided.

Flexibility: The capital structure should be flexible. It should be possible for a company to adopt its capital structure with a minimum cost. Similarly, it should be possible for the company to provide funds whenever needed to finance its profitable opportunities.

Capacity: The capital structure should be determined with the additional debt capacity of the company. The debt capacity of a company depends on its ability to generate future cash flows. It should have enough cash flows to pay creditor's fixed charges (Interest) and principal sum.

Control: The capital structure is said to be optimum when the control of the company is in the desired level. The capital structure should involve minimum risk of loss of control in the company.

2.4 Meaning of Bank Capital

In simple term, the capital is defined as resources employed in production process to generate more wealth and profit. In financial and accounting term capital can be defined as the excess amount of assets over liabilities. Financial institutions and commercial banks produce loans and financial innovation (or financial products) to facilitate trade transactions. Because of special role they play in the economy, they are

heavily regulated by concerned authorities. Thus the capital and composition of the capital components is different in these institutions. The Commercial Banks Act 2031 B.S. has defined Capital funds of a bank as, paid-up equity, statutory reserve, retained profit and any other reserve prescribed by Nepal Rastra Bank from time to time. According to the Nepal Rastra Bank Act 2058 and NRB Directives, the capital funds of a bank comprise t the following:

i. Core Capital: Core Capital of a bank includes:

   a. Paid up equity

   b. Share premium

   c. Non-redeemable preference shares

   d. General reserve

   e. Accumulated profit and loss

ii. Supplementary Capital: Supplementary capital includes:

   a. General loan loss provision (GLLP)

   b. Exchange fluctuation reserve

   c. Assets revaluation reserve

   d. Hybrid capital instruments

   e. Unsecured subordinated term debt

   f. Other free reserves

Banking and financial ordinance 2061 also assimilates the same things that were includes and explained in Nepal Commercial bank Act 2031 and Nepal Rastra Bank Act 2058, in regard of bank capital.

Nepal Rastra Bank Act is effective from 1st Shrawan 2058 (July 16th 2001). According to the NRB, minimum paid-up capital requirement for establishment of commercial bank is as under:

i. Rs.250 million to operate all over Nepal except Kathmandu Valley

ii. Rs.1000 million to operate all over Nepal.

iii. All existing commercial banks are required to raise their capital base to Rs.2000 million by mid July, 2009.

2.5 Sources of Bank Capital

Bank is viewed as supplementary capital in its capital structure. Based on the core and supplementary capital, there are various sources of bank capital.

(Dahal & dahal ,2002:23) have explained the following sources of bank capital.

i. Money invested by the shareholders

- Paid-up equity
- Share premium
- Redeemable preference share
- Non-redeemable preference share

ii. Retention (ploughing back) of profit

- Statutory reserve
- Retained profit
- Loans loss provision
- Assets revaluation reserve
- Exchange fluctuation fund
- Other free reserve

iii) Money invested by creditors

In general, Banks collects capital by issuing shares, which is known as share capital. Share capital can be both ordinary shares and preference shares. Commercial banks are required to obtain the approval of Nepal Rastra Bank in case of issuing preference share capital. Preference share may be redeemable and non-redeemable.The preference shares are hybrid of debt and ordinary shares. In case of liquidation preference shareholders have right of preference claim over ordinary shareholders but not over depositors and creditors. They receive a fixed amount of return. In case of redeemable preference shares, they have to be redeemed at the maturity (Dahal & Dahal, 2002:23-24).

In this way, preference shares are the hybrid securities of debt/deposits and ordinary shares and the preference shareholders have the right of preference claim over common equity shareholders but after the outsider's claim (i.e. depositors and creditors). Similarly, the ordinary share capital is a major capital source for commercial banks. It is a pure ownership financing. Dahal also stressed that, the ordinary share

capital is the pure ownership financing and primary source of capital for the bank. Ordinary shareholders are the owners of the business who share all the profits and bear all the losses.

The debt capital is a major component of capital structure, which carries the pre-determined fixed amount of interest. Interest are payable periodically on debt capital and the principal is repaid after a certain specified period. Generally, there is no long-term debt capital in the capital structure of commercial bank. Commercial banks are required to obtain the approval of Nepal Rsatra Bank in case of issuing any long-term debt as a supplementary capital. According to Nepal Rastra Bank Act 2058, debt and other hybrid capital instruments are categorized under supplementary capital. Bhandari (2061) argued that the total debt includes both short-term debt (bank advances plus current portion of long-term debt) and long term debt. Here, the long-term debt includes bonds, leases, and notes payable. Similarly, Shrestha (2059) stressed that the total debt of a bank includes the loan, debentures, current liabilities and deposit liabilities. He further added that the debt capital of a bank includes deposits liabilities and debentures.

2.6 Capital Structure Theories

Capital structure is the determinant of overall cost of capital and it affects the value of the firm by affecting either in expected earnings or in the cost of capital or in both. On the other hand, the use of debt in capital structure affects value of the firm through the cost of capital and optimum capital structure exists in practice. The optimum capital structure is obtained with the appropriate mix of capital components, which leads maximum value and minimum overall cost of capital in the firm. There is a long debate

in this regard (capital structure, leverage & optimum capital structure) and running as a matter of research. As a result, various works and empirical studies are carried out and different theories have been developed in this matter.

According to capital structure decision of the firm, the history presents several theories on capital structure. The early theories are based on the assumption of the investor's reactions over the degree of debt equity ratio and these theories are as follows:

Net Income Approach

Net Operating Income Approach

Traditional Approach

Modigliani – Miller's Approach

These theories have identified three possible behaviors of investors, and accordingly developed three approaches, i.e. (i) Net income approach (ii) Net operating income approach (iii) Traditional approaches, which fall between NI and NOI. And these three early base theories of capital structure propounded by (David Durand, 1952). These theories have tries to explain the relationship between the debt – equity ratio and the market value.

In 1958, a comprehensive analysis of capital structure by Franco Modigliani and Merton Miller was published on an article is considered to be the most significant work in financial research. In this article M-M logically offered behavioral support for the independence of the total valuation and the cost of capital of the firm from its capital

structure. However two conflicting views exist on the relationship between capital structure and cost of capital or the clue of the firm.

2.6.1 Net Income Approach

The essence of the Net income (NI) approach, Suggested by Durand in his article, *The cost of debt and equity funds for business, (1959*) the capital structure decision is relevant to the valuation of the firm. In other words, a change in the capital structure (financial leverage) will lead to a corresponding change in the overall cost of capital as well as value of the firm.

Due to the limited degree of risk, the debt holder's required rate of return is relatively lower than of equity holders. So the debt financing is relatively cheaper than equity. In addition the cost of debt (K_1) and the cost of equity (K_e) being constant, the overall cost of capital (K_o) declines with the increased proportion of debt in the capital structure. In other words, the increased use of debt results the lower overall cost of capital (K_o) and higher market value of shares. Thus, this approach is known as relevancy theory. According to the NI approach, an important variable in the capital structure decision of a firm, with a judicious mixture of debt and equity, a firm can evolve an optimum capital structure which will be the one at which value of the firm is the highest and the overall cost of capital the lowest. At that structure the market price per share would be the maximum (khan and Jain, 1990:481).

The function of overall cost of capital (K_o) of the firm under 'NI' approach can be expressed as follows

Overall cost of Capital (K_o) = Net Operating Income

Total Value of the Firm

The Overall cost of capital can be calculated by following formula

$K_o = K_e - (K_e — K_d)\ D/V$…….2.2

Where, K_o = Overall cost of capital, K_e = Cost of equity,
K_d = Cost of debt, D = Market value of debt
V = Total market value of the firm.

In equation (2.2), as per the assumption of NI approach; 'K_e' and 'K_i' are constant and 'K_1' less than 'K_e'. Therefore K_o will decrease as B/V increases.

Graphically the effect of leverage on the firms cost of capital and the effect of leverage on the total market value of the firms is shown below.

Fig: 2.1

The Effect of Leverage on Cost of Capital

Fig: 2.2

The Effect of Leverage on the Total Market Value of a Firm

In Figure 2.1, it is shown that the relationship between degree of financial leverage and cost of equity capital, cost of debt and overall cost of capital. The degree of leverage D/V, K_o is plotted on the horizontal axis and the percentage rate for K_e, Ki and K_o is polled on the vertical axis of the graph. As the K_1, the optimal capital structure is occurring at the point where the total value of the firm is highest and the cost of capital is lowest. Market price of share of that point would be the maximum. Under the NI approach (see fig 2.2) when it is all debt financed the total market value of a firm will be the maximum, so that financial leverage, according to the NI approach is an important.

2.6.2 Net Operating Income Approach (NOI)

Another behavioral approach to the valuation of the earning of a company suggested by Durand; is known as the Net Operating Income Approach which is dramatically opposite to the Net Income Approach (NI) with respect to the assumption of the behavior of equity holders and debt holders.

The NOI approach assumes that the equity holders want to compensate for higher leverage risk and expect a higher rate of return for higher debt equity ratio. With these assumptions, this approach says that the cost of equity increases with debt level and the higher cost of equity. Offsets the benefits of cheaper debts financing result is no effect at all on K_o. The NOI approach to valuation argues that the overall capitalization rate (K_o) and the cost of debt (K_1) remain unchanged as the degree of leverage changes. The

essences of this approach are the capital structure decision of the firm and the market price of share. In this approach the corporate income taxes do not exist. The function of "K_e" under NOI approach can be expressed in equation as follows:

$$K_e = K_o + (K_o - K_d)\ D/V \quad \ldots\ldots\ldots\ldots\ldots\ldots\ 2.3$$

Where, D/V is the debt equity ratio at market value. Equation (2.3) indicates that if "K_o" and "K_i" would increase linearly with debt equity ratio D/V.

Fig 2.3

The Effect of Leverage on Cost of Capital

Fig 2.4

The Effect of Leverage on Value of Firm

Financial Leverage

According to this approach, it is clear from the fig (2.3) that there is used low cost of debt. It's advantages is exactly offset by the increase in the required equity return 'K_e' . Thus, the weighted average of 'K_e' and 'Ki' (i.e. overall cost of capital 'K_o') increase continuously. By this, value of the firm also remains constant, see fig (2.4). At the extreme degree of financial leverage, implicit or "hidden" cost becomes very high so that the cost of capital and the market value of the firms are not affected by the use of additional "cheaper" sources of funds (Pandey,1999:680).

2.6.3 Traditional Approach

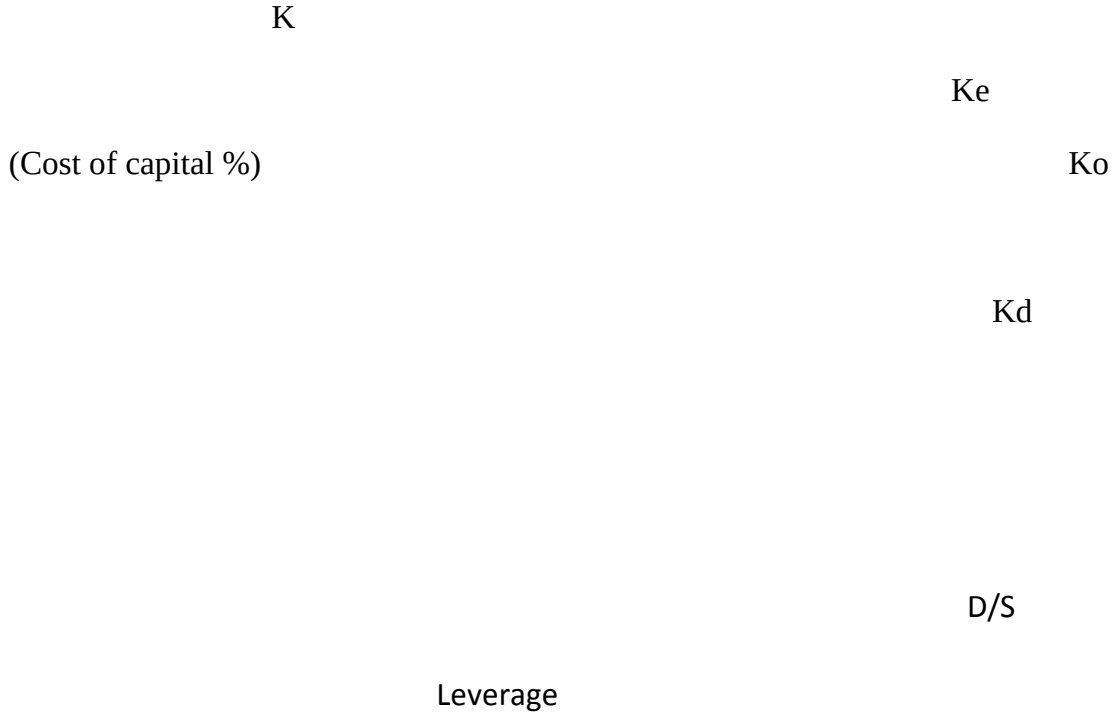
Just before, we discussed about two approaches which are based on some what unrealistic assumptions of investor behavior. The third approach to capital structure which called middle ground position is also known as intermediate approach and it is a compromise between the NI and NOI approach. It is more realistic compared to the preceding to and partakes of some features of both these approaches. This is known as "Traditional Approach". This approach says that the firm can increase the total value of the firm through the judicious use of leverage. The approach suggests the firm initially can lower its cost of capital and raise its total value through leverage. Thus, an optimum capital structure exists and occurred when the cost of capital is the minimum or the value of firm is the maximum. According to traditional view debt is relatively cheaper source of funds as compared to ordinary shares and there is same capital structure with less than 100 percent debt which maximizes the value of the firm.

The statement says that debt funds are cheaper than equity funds. It carries the clear implication that the cost of debt plus the increased cost equity, together on a weighted basis will be less than the cost of equity which existed on equity before debt financing

(Barges and Alexander, The effect of capital structure on the cost of capital, 1963). As more leverage occur, the firm would become financially more risky to the investors who would penalize the firm by demanding a higher equity capitalization rate 'K_e' but the increase in 'K_e' may not be so high as to neutralize the benefit of using cheaper debt (Khan and Jain, 1990:483).

Fig 2.5

The Cost of Capital Behavior on Traditional approach



In one variation of traditional approach, shown in fig 2.5 'K_e' is assumed to increase slightly in the beginning and than at a faster rate with leverage, whereas, 'Ki' function to be horizontal over a certain level and then it is assumed to rise only after significant leverage has occurred. At first, the weighted average cost of capital 'Ko' decline with

leverage because the rise in 'Ke' dose not entirely offset the use of cheaper debt finds. As a result the weighted average cost of capital 'Ko' declines with use of leverage. After a point, the increase in 'Ke' more than offsets the use cheaper debt funds in the capital structure and 'Ki' starts to rise. While ‘Ko’ is started to rising, it supported further once ‘Ki’ begins to rise. Under such a situation there is a precise point at which the cost of capital would be the minimum. This precise point defines the optimum capital structure at which marginal cost of debt is equal to the average cost of capital (Erze Soloman, Theory of Financial Management).

2.6.4 Modigliani and Miller Approach (M-M approach)

M-M supplied rigorous challenge to the traditional view. This approach is identical with the net operating income approach. According to Van Horne “M-M in their original position advocate the relationship between leverage and the cost of capital is explained by net operating income approach”. It is based on the idea no matter how you divide up the capital structure of a firm among debt, equity and other claims; there is a conversion of investment value, (Van Horn.2000:255).

In this approach, cost of capital of the firm remains unaffected by capital structure employed by the firm. They argued that any rational choice of debt and equity results in the same cost of capital, under their assumptions and that there is no optimal mix of debt and equity financing and in the absence of taxes, a firm’s market value and the cost of capital remain invariant to the capital structure changes. In the views of R.M Srivastava that M-M contend that cost of capital is equal to the capitalization rate of a pure equity stream of income and the market value ascertained by capitalizing its expected income at the appropriate discount rate for it's risk class, (Shrivastava, 1984:881).

They make a formidable attack on the traditional position by offering behavioral justification for having the cost of capital 'Ko' remain constant throughout all degree of leverage. Modigliani and Miller argue that, in the absence of taxes a firm’s market value and the cost of capital remain invariant to the capital structure changes (Modigliani and Miller, 1958:255-259).

M.M hypothesis can be best explained in terms of their proposition I and II. These propositions are based on certain assumption i.e.

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

ii. The absence of corporate income taxes is assumed. M-M removes this assumption better.

iii. Firms are categorized into "equivalent returns" classes. All firms with in a class have the same degree of business risk.

iv. Firms, distribute all net earnings to the shareholder which means a 100 percent payout.

v. The average expected future operating earnings of a firm are represented by subjective random variable; it is assumed that expected value of the probability distribution of all investors are the same.

Proposition I

Given the above stated assumption, M-M argue that, for firms in the same risk class, the total market Value is independent of the debt equity mix and given by the capitalization of the expressed net operation income by the rate appropriate to that risk class (Modigliani and Miller op.cit.). This proposition can be expressed as follows:

$$v = (S+B) = \frac{x}{K_0} = \frac{KOI}{K_0}$$

Where,

V = The market value of the firm

S = The market value of ordinary share

B = The market value of debt

X = The expected net operating income on the assets of the firm

K_o = The capitalization rate or overall cost of capital X/V appropriate to the risk class of the firm.

Proposition I can be expressed in terms of cost of capital, X/V which is the ratio of expected earnings to the market value of all its securities. This is

$$S+B = V = \frac{x}{K_0} = \frac{x}{K_0} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(II)}$$

If 'K_d' is the expected return on the firm's debt and Ke is the expect return on firm's equity than expected net operating income is as follows.

$$x = K_0/V = Ke\,(S) + K_d\,(B) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(I)}$$

By definition

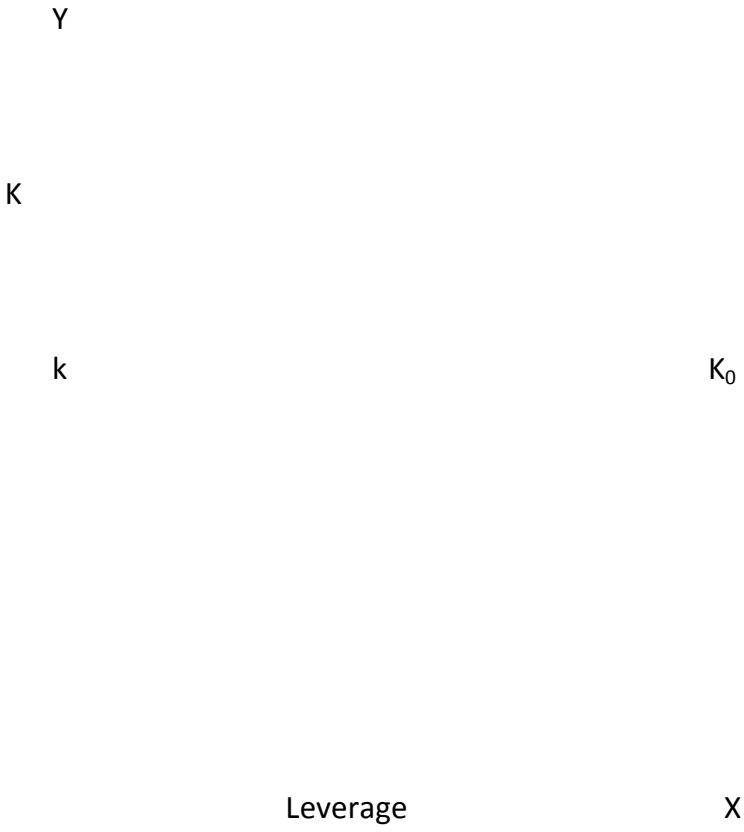
$$K_0 = \frac{x}{V}$$

: $K_0 = Ke\,(S/V) + K_d\,(B/V)$ …….. (III)

Equation II expressed K_o as the weighted average of the expected rates of return on equity and debt capital of the firm or K_o is shown to be the weighted average cost of capital. Since the cost of capital is defined as the expected net operating income divided by the total market value of the firm and since M-M concluded that the total market of the firm is unaffected by the debt equity mix. It follows that the cost of capital is independent of its capital structure. The overall cost of capital function is hypothesized by M-M through proposition I, is shown in fig.2.6.

Fig. 2.6

The Cost of Capital under M-M proposition



Principle of proposition I is that, two firms are identical in all respects expect for their capital structures, can not command different market values or have different cost of capital, arbitrage will take place which will enable investors to engage in personal leverage to restore equilibrium in the market (I.m. pandey, op.cit.).

Proposition II

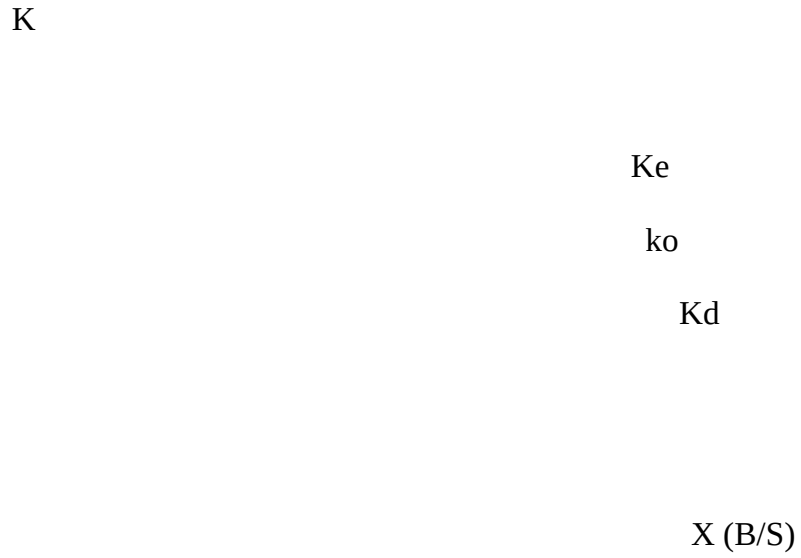
On the basis of proposition I, M-M formulated proposition II which defined the cost equity is the linear function of the leverage. The equation of this proposition can be expresses as follows:

$K_e = K_o + (K_o - K_e) B/S$…… (I)

Equation is derived from the definition of average of capital $K_o = K_e (S/V) + K_d (B/V)$. Equation state that, for any firm in a given risk class, the cost of equity, 'K_e' is equal to the constant average cost of capital, K_o plus a premium for the financial risk, which is equal to debt equity to debt equity ratio times the spread between the constant average cost of capital and the cost of debt, $(K_o - K_d) B/S$ the cost of equity, 'K_e' is a linear function of leverage, measured by the market value of debt to equity, B/S. Validity of the M-M proposition II depends upon the assumption that K_o will not rise. Even if very excessive use of leverage is made, and this conclusion could be valid if the cost of borrowings 'K_d' remains constant for any degree of leverage, but in practice, 'K_d' increasing with leverage beyond a certain acceptable or reasonable level of debt. However, M-M maintain that even if K_d maintain that even if increasing the weighted average cost of capital 'K_o' will remain constant. They argue that when 'K_d' increases, K_e will increase at a decreasing rate to compensate. Graphically this can be shown below.

Fig 2.7

Behavior of K_o, K_d and K_e under M-M Hypothesis



In this Fig M-M insist that the arbitrage process will and that as 'K_d' increases with debt. This fig. is shows that 'K_e ' increases when the marginal rate of interest (K_d) is below the cost of capital.

2.7 Factors Determining Capital Structure

Capital structure decision is not an easy task that a manager can handle individually. Some major factors that lay significant role are pointed below. (Western & Brigham 1981)

2.7.1 Growth Rate of Future Sales

Growth Rate of Future Sales is a manager of the extent to which the earning per share of firm is likely to be magnified by leverage. However, the common stock of a firm whose sales and earning is increasing at a favorable rate commands a high price, thus it sometime appears that equity financing is desirable. The firm must weight the benefits

of using leverage against the opportunities of broadening. Its equity base when it chooses between futures financing alternative.

2.7.2 Sales Stability

With greater stability in sales and earning, a firm can in air the fixed charge of debt with less risk then when its sales and earnings are subject to periodic, in the later instance, it will have difficulty meeting its obligation. Thus, sales stability and debt ratio are directly related.

2.7.3 Profitability

Debt servicing capacity is not only dependent on sales volume but also on the profitability. Loss (Weak) entry barriers and ability of competing firms to expand both influence profit margin.

2.7.4 Assets Structure

Assets structure of the firm directly influences the financing. The firms having long lived fixed assets and having much assumed demand for its outputs use long-term debt extensively. Firms have their assets mostly in receivables and in inventory, as in whole sale and retail trade.

2.7.5 Management Attitude

Choice of financing is influenced by management attitude about risk and control. Large firms having wide spread common stakeholders prefer issuance of more stocks, because it does not influence on control of the firm significantly, in contrast the owners of small firms may prefer to avoid issuing common stock in order to be assumed of continued control. The converse may occur. The manager of the small company is comparative on account of risk taking.

2.7.6 Lender Attitude

The management cannot individually determine its capital structure ignoring lender's attitude. Sometimes lender's attitude can be the most influencing factor. They emphasize that excessive debt reduces the credit standing of the borrower and the credit rating of the securities previously issued.

2.7.7 Taxes

Interest is a deductible expense, while dividends are not deductible. Therefore, the higher a firm’s corporate tax rate, the greater the advantage of using debt.

2.8 Research Review

2.8.1 Review of Articles

The capital structure theory has taken the subject of controversy ever since the publication of Modigliani and Miller's classic paper in1958. While the traditional theory of finance claims that the cost of capital is a function of capital structure, the Modigliani and Miller's version of the theorem asserts that the cost of capital and the value is independent from the firm's capital structure. Both views are found logically consistent and have been supported by empirical observations. Many empirical studies exist supporting or refuting the M-M and the traditional view but the issue still remains unsettled. Although, different research works are carried out by different scholars within the various geographical region. Those studies and issues are reviewed in this section, which are related with capital structure and/or the area of the study.

Sharar (1968) conducted a study on *capital structure and the cost of capital with the objective of presenting the capital structure theorem within the framework of the theory of investor's behavior towards return and risk.* In addition, the paper has tried to clarify the controversy over the capital structure theorem. In his research work, the firm's capital structure was examined in terms of two parameters. Such as: the expected rate of return on the firm's stocks and the standard deviation of return on the stocks. The relationship between the firm's capital structure and the efficient opportunity curve of yield (return) versus risk was presented and the range of efficient capital structure of the firm was determined. Then the capital structure theorem was formulated stating that the firm's cost of capital is constant along with the range of efficient capital structure and rises with the inefficient range. The major findings of the paper are that,

when the firm's borrowings rate rises and the investor's rate is constant then the range of efficient capital structure is limited. The highest efficient financial leverage is determined where the firm's marginal borrowing rate equals the investor's rate. The cost of capital is therefore constant along with the range of efficient capital structure and rises along with the range of inefficient capital structure. In this paper the researcher has concluded that any capital structure is efficient and that the cost of capital is therefore constant in a perfect market, where the interest rate is constant.

Sarma and Rao (1969) conducted *an empirical test of M-M hypothesis on the topic of leverage and the value of the firm.* The purpose of the study was to employ the M-M hypothesis on the influence of debt on value of a firm. In this research work the required data and information were collected by taking a sample of 30 engineering companies from the Indian engineering industry to obtain the meaningful result. Different tools were used, such as regression models for three cross-section year – 1962, 1964 and 1965. Variables were selected in exactly the same way as that done by M-M except for the treatment of the leverage variable. In the regard of selecting variables, researchers argue that if there is unused capacity in the firm then the growth in assets does not convey anything meaningful to investors. In the presence of unutilized capacity, growth of earnings, rather than assets gives a proper picture of growth potential of a firm. Thus, they have used the growth rate of earnings as the growth variable in the research work. On the basis of empirical test of different variables they found all the coefficients of the leverage variable are significantly greater than the corporation income tax rates of three years studied. At last, they concluded that the investors prefer corporate to personal leverage and, therefore, the value of a firm rises up of a leverage rate consider prudent.

Litzenberger and Reo (1970) conducted a study on *leverage and the cost of capital in less developed capital market.* The study tried to find out the effect of capital structure on the cost of capital in less developed and less efficient capital market (India) and in developed and efficient capital market (United States). Researchers conducted the empirical analysis for five cross-section years (1962-1966) by using 28 India and 77 American utilities. Different models and tools were used to draw the concluding framework. The study shows that the cost of capital is independent from capital structure and investors are indifferent for the firm's dividend policy in developed and efficient capital market. Whereas, in the case of less developed and less efficient capital market, the result is inconsistent to the Modigliani-Miller approach and support the traditional approach. The firm's cost of capital is dependent of capital structure (existence of optimum capital stricture and judiciary use of debt in capital structure provides the lower cost of capital) and investors prefer the current dividends instead of capital gains. The conclusion of the paper is that, the Modigliani-Miller approach of capital structure does not appear to be applicable in the case of a developing economy (The firm's cost of capital is a function of firm's capital structure decision).

Pringle (1974) carried out a study on *the capital structure decision in commercial banks*. In this paper, a detail theoretical analysis of the economic role of capital from the stand point of the individual commercial bank is carried out. Major purposes of the study were to clarify the functions of bank capital, to investigate the implications of treating capital as a managerial decision variable, to explore the implications for the capital position of optimizing behavior with respect to shareholder interests and to identify the determinants of optimal capital policies. Some critical assumptions were made in the course of analysis like imperfect financial markets, future events are uncertain, investors are risk averse and optimality is defined in terms of the interest of shareholders rather

than of depositors and the monetary system. In this paper the researcher has concluded that, capital is an important managerial decision variable and that it plays an important role in the financial management of the individual bank.

In addition to the traditional function of risk bearing capital is important in adjusting the maturity structure of liabilities. Practicing bankers sometimes characterize the function of capital in terms of "underwriting" or "providing a base" for deposits and asset expansion. Considering shareholder's interests, the capital/deposit balance must be maintained for two reasons rather than only one (risk bearing). The market imperfections are important determinants of optimal capital policy as well as of loan policy and optimal scale of the bank.

Jackson (1975) conducted a study on *commercial bank regulation structure and performance.* The study was carried out to identify the determinants of commercial banks allocation efficiency. Both theoretical and empirical microeconomic analysis has applied to examine the competitive effects of banking influences. In this paper, the nature of banking was examined, showing that banks are essentially financial intermediaries that are engaged in greater competition than is commonly believed. Many theories of the firm as a bank are presented emphasizing efficiency-distorting forces such as liquidity provision. Almarin Philip's model of complex interaction between banking firms and other influences on observed performance was used to summarize banking theories.

For the empirical analysis purpose, data were collected by covering 1644 banks over the period 1967-1971. Regression analysis was used to measure the relationship among

variables. As a conclusion, the study showed that the relatively "desirable" banking performance is associated with several traits including bank asset size, non bank competition, low cash holdings, low labor cost, state non member basic status and multi –bank company legislation. National bank status, low time deposits and low equity capitalization. Demand levels and temporal variations also significantly affect the banking performance. Furthermore, the study showed that the commercial bank regulation, structure and performance are interrelated with each other.

Adhikari (1992) conducted a study on *capital structure effect on average cost of capital*. The major objective of the study was to analyses the effect of the capital structure on the cost of capital in the context of Nepal. Specifically, the aim of the study was to test the relationship between capital structure and average cost of capital. The study was based on the pooled data of selected five financial enterprise listed in the security exchange center. The study period was bounded from 1976 to 1978. Simple and multiple regression approaches were used to test the relationship. In the simple regression models, the average cost of capital was regressed with each of explanatory variables such as – leverage, size, growth, dividend payout ratio, earning variability and liquidity. Similarly, in multiple regression models the average cost of capital was regressed on the leverage together with other explanatory variables. He found negative sign of beta coefficients of leverage under both analyses. On the basis of these findings, the researcher concluded that, the increasing use of debt (increasing leverage) decreases the overall cost of capital. In this way, this study does not support the M-M's independence hypothesis. It indicates that the use of debt in capital structure increases the value and decreases the overall cost of capital.

Shrestha (1993) conducted a study on *capital structure in public companies*. She used data from 19 companies and the study covered different sectors manufacturing, finance, utility service and other area. She found that most of the companies have relatively higher debt capital than equity capital. Consequently, most of them are operating at losses; to the extent that interest payment on loan has been serious issue in these organizations. Due to the higher amount of debt in capital structure all of the enterprises are facing the problem of property servicing the debt. In this way, she has suggested that the government have to consider in public enterprise by evaluating the relationship among the variables that are important in designing capital structure as well as the use of debt and its impact on overall earnings. Nepalese public enterprises are absorbing the huge amount of government funds. So, it is necessary to develop a suitable capital structure guideline for these enterprises from the side of government. Because the funds used in public enterprises is not a cost-less fund. To make the more realistic capital structure, it is needed to analyze the cost and risk-return trade off. At last she concluded that most of the public enterprises have no transparent capital structure and ad hoc capital structure is determined without any realistic parameter. Thus, policy makers should have to be careful in developing capital structure guidelines for public enterprises and the companies/organizations also to be aware of financial accountability.

Booth et. al. (2001) has conducted a research work on *capital structure in developing countries*. The purpose of the study was to analyze the capital structure choices made by companies from developing countries having different institutional structure and economic structures. The study was attempted to search the answer of three different questions. Data and information were collected from the International Finance Corporation (IFC). In addition with this source, other related data and information were

collected from 10 different countries, such as India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan and Korea. Different common financial and mathematical tools were used to analyze the gathered data. In this study, a new firm-level database was used to examine the financial structure of firm in a sample of 10 developing countries.

They found that the variables that are relevant for explaining capital structure in the United States and European countries are also relevant in developing countries although, there are financial differences in institutional factors across these developing countries. Therefore, they conclude that the knowledge of institutional factors is essential to predict the financial structure and capital structure of a firm then the knowledge of its nationality. Furthermore, they found that the firms are adopting "pecking-order hypothesis" because of the higher costs involving in external financing in these countries. Finally, they conclude that the debt-ratios in developing countries seem to be affected in the same way and by the same types of variables that are significant in developing countries. However, there are systematic differences in the way these ratios are affected by country factors, such as GDP growth rates, inflation rates and the development of capital markets.

2.8.2 Review of Dissertations / Thesis

This sub-section is concerned with previous research works done by different scholars. More specifically, the chapter includes the review of dissertations submitted by research pioneers in the field of capital structure and cost of capital.

Khanal (1980) conducted a research on *capital structure of state-owned industrial enterprises in Nepal.* Main objective of the study was to know about the capital structure of industrial enterprises in public sector. He found the unsound capital structure in state owned industrial enterprises. Similarly, the institutional financing has not been able to grip round its effects in Nepalese state owned industrial enterprise. The researcher has concluded that the managerial expertise is essential while accumulating the required capital in the state owned industrial enterprises. The proper mixture of various capital components is an act of managerial tactfulness in a given state of environment. Similarly, the financial institutions often hesitate to invest in public enterprises mainly due to their mismanagement. Therefore, there is an immediate need of effective management that will lead to maximize the shareholder's wealth through effective utilization of economic resources.

Shrestha (1990) conducted a research work on *portfolio behavior for commercial banks in Nepal.* Main objectives of the study was to know the debt equity ratios of commercial banks in Nepal.She has analyzed the debt to equity ratios of commercial banks in aggregate and Agriculture Development bank from 1971 to 1990. She found that the debt to equity ratio in commercial banks minimum of 8.30% in 1971 and the maximum of 1583.3% in 1974. Similarly, the range of debt to equity ratios of ADBN is minimum of 21.44% in 1972 and maximum of 652.74% in 1990. On the basis of the finding, she concluded that the Nepalese commercial banks are highly leveraged and highly risky. Further, She argued that the capital adequacy ratio explains the strength of the capital base of commercial banks. Higher the capital adequacy ratio, higher is its internal sources. Lower value of capital adequacy ratio with regard to the standard value shows the bank's ability to attract from the surplus units and inter bank funds also be limited.

Aryal (1991) has carried out a study on *evaluation of capital structure of Bottlers Nepal Ltd.* The main objective of the study was to evaluate the capital structure of Bottlers Nepal Ltd. The researcher found that the company is using more debt in its capital structure. Due to the inefficient capital structure management, the profitability position of the firm was found to be poor and the overall performance was not better. Furthermore, the company is taking the burden of higher fixed charges. As a result, the cost of capital and financial risk was higher in the company during the study period. On the basis of all the findings, he concluded that the company is playing with the inefficient capital structure.

Khanal Deepak (1992) in his dissertation – *The capital structure management of industrial public enterprises* has found that capital investment and earnings were not correlated. Most of public enterprises were in loss position. Debt equity ratio was not satisfactory. Financial performance of these companies was not good. So he suggested that the management should reduce government subsidy and donation. They should improve their performance efficiency.

Dhungana (1993): *A comparative study on capital structure of Butwal spinning Mill and Jyoti Spining Mill* .Main objective of the study was to see the leverage is considered while determining capital structure. He has found that both companies are highly levered and financially week. The researcher has recommended that the management of both companies should minimize operating and administrative expenses and utilize optimum capacity and to enhance competitive strategy to extend market to international level.

Baral (1994) has conducted a research on *capital structure and cost of capital in public enterprises in Nepal.* The objectives of the study were to find out the trend in capital structure, to find out the determinants of capital structure, to trace out the trend in capital structure, to find out the behavior of debt and equity capital and to analyze the composition of long-term debt & debt servicing capacity. In his research work, He found that the increasing trend of debt and paid up capital of manufacturing and trading corporations in absolute term and same trend of paid up capital in financial institutions. Further, he found volatile and higher proportion of debt capital in Nepalese enterprises (Public) over the study period. At last, researcher concluded that the capital structure of public enterprises is not sound and they are running with unbalanced capital structure. Due to the lack of optimum and effective guidelines in setting the capital structure, there is no optimum debt to equity ratio in the public enterprises. In the Nepalese public enterprises debt capital has not been raised with the viewpoint of repaying the advantage of leverage. It has been raised either to meet the financial crisis or to solve the immediate financing problem. In this way, they are not seeking to maximize the wealth. Further he concluded that the capital structure of public enterprises more or less is the outcome of government decision.

Panth (1995) in his master's thesis – "*A Study on Capital and Assets Structure Management of NIDC*" concluded that the growth rate of fixed assets is very high so the corporation should pay the attention to maintain growth rate of fixed assets. He analyzed in his thesis that the liquidity ratio is normally high and the corporation has not been paying attention to maintain the liquidity ratio. He recommended in his research that the corporation should establish a certain ratio which is appropriate to the corporation

Regmi (1998) conducted a research work on *capital structure management of Necon Air Ltd.* The general objective of the study was to analyses the capital structure of Necon Air Ltd. Findings of the study was that the company is running with higher proportion of debt capital. Due to the higher proportion of debt there is a burden of fixed charges in the company. As a result market price per share as well as net worth is in declining trend. So, the company should think seriously about the higher proportion of debt and adopt the recovery strategy in order to improve the overall structure of company.

Ghimire (1999) carried out a comparative study on *capital structure and cost of capital of trading, manufacturing and financial sector of Nepal.* The main objective of the study was to analyze the effect of capital structure on cost of capital in the context of Nepal. Multiple regression equation was used to examine the relationship between cost of capital and leverage with other explanatory variables. He found positive beta coefficient with other explanatory variables (I.e. leverage, growth, and earnings) in banking and financial sector. But he failed to establish the relationship between cost of capital and capital structure because all the coefficients were found statistically insignificant. Although, he concluded that the capital structure is the determinant of cost of capital or the study does not support the M-M's hypothesis. And, capital structure directly affects the cost of capital in Nepalese trading, manufacturing and financial sector.

K.B. Singh (1998) carried out "*An empirical study on capital structure and cost of capital of Nepalese listed companies.*" Nepalese listed companies have lack of theoretical and practical knowledge regarding capital structure and cost of capital. He concluded that theories developed by the scholars have not been able to attract the Nepalese inventors. So he recommended that the firms have to properly analyze and evaluate the investment proposal and determine whether it is beneficial or not

Regmi G. P. (1998) in the study on *capital structure management of Necon Air Private Limited* has found that Necon Air is highly levered. Debt capital is proportionality higher than the equity capital consequently, financial risk is also higher and the outsider claim on the company's assets is more than that of shareholders. In brief, company's capital structure is not satisfactory level of debt and equity mix. He suggested that for the optimal capital structure of its existing capital structure the company should make a drastic reduction in its total debt capital. So, he suggested that the company should issue more equity share or convert preference share into equity share.

Pandey (2001) conducted a study on *capital structure of standard chartered bank Ltd. and Nepal Bangladesh bank Ltd.* General objective of the study was to analyses the capital structure of NSCB Ltd. and NB bank Ltd. She found that the higher percentage of total debt in financing the assets in both the banks and they are operated with higher degree of financial risks during the study period. In the study, she found that the higher percentage of total debt is raising the assets in both the banks and they are operated with higher degree of financial risks during the study period. Further she found that, the increasing trend of deposits, credit portfolios and profitability position over the last five years of study. Finally, she concluded that the outsider's claim in total assets of the bank is higher than that of owner's. She stressed that the banking sector in Nepal is somehow doing well, even though it has to face a number of hurdle during the study period.

Baniya P.B. (2001) carried out *the study of capital and assets structure management of commercial banks in Nepal*, has calculated and analyzed the different ratios by observing the figures of balance sheet of different commercials banks are proved as a

resource for achieving rapid economic development of any country. Nepalese commercial banks face several problems related to maintain effective capital and assets structure management. They are still working with traditional approach. He concluded that they need to achieve innovative approach of banking, thereby, bringing professionalism in their Business. It is better for commercial banks to follow above mentioned suggestion; they can certainly achievement to the modern innovative and competitive banking scenario.

Pandey A. (2003) "*A Comparative Analysis of Capital Structure between Lumbini Sugar Mill and Birgunj Sugar Mill*". Main objective of the study was to see the proportion of total debt and equity capital over the study period and has found that both companies have been seeking for optimal capital structure. She concluded that Birgunj Sugar Mill has too much debt equity ratio, so it should change its existing capital structure by issuing the equity capital to make optimal capital structure and Lumbini Sugar Mill has low leverage. So, it should maintain the optimal capital structure by issuing debt capital.

Shrestha T. (2004) having a study on *Capital Structure of Necon Air Limited* found the company is highly levered. Debt capital is proportionality higher than the equity capital consequently, financial risk is also higher and the outsider claim on the assets is more than the shareholders. Considering all the facts Mr. Shrestha conducted that the company's Capital structure is not satisfactory level of debt equity mix. So he suggested such type of higher debt capital may not be an applicable for the future capital explanation. For that, company management should seek for a well-planned capital structure, which can provide the company maximum return with minimum cost.

Singh (2005) conducted a study on *capital structure decision and the impact on risk and return in Hulas steel industry*. General objective of the study was to test the relationship between capital structure and the value of the firm by analyzing the effect of financial leverage on the return and risk. The researcher has found that the higher proportion of short-term debt and lower current ratio in the company. In addition with short-term liquidity position, the return on total assets and return on shareholder's equity is not significant. However, the company is trying to improve the return on total assets and return on equity in the subsequent years. Finally, he has concluded that the short- term financial management of the company is inefficient. Similarly, the long –term financial arrangement of the company seems optimum but the resources utilization capacity of the term is not effective which is clearly reflected in insignificant return on total assets. He has suggested to the company to improve the operating efficiency by applying various techniques of operating resources.

2.9 Research Gap:

Previous researchers analyzed the capital structure by using secondary sources of information in terms of cost of capital. But actually speaking, appropriate capital structure can be determined by various factors. Among of them banking environment and management quality in terms of capital management be the strong determinants for best capital structure in banks. The previous scholars couldn't submit the present facts. Present study tries to define the significance of capital structure by applying those major financial indicators. It can be very useful or important in this area. Thus present study may be useful piece of research work that to identify the best capital mix in the financial industry.

CHAPTER- THREE

RESEARCH METHODOLOGY

3.1 Introduction

A brief introduction of this study has been already presented in the first chapter. Besides, the reviews of literature with possible review of ideas, theories and research finding have also been presented in second chapter. Now, it is important to have choice of research methodology that helps to make the analysis meaningful. So, this chapter deals with the methodology adopted for the study.

Research methodology refers to the various sequential steps to be adopted by the researcher in studying a problem with certain point of view (Kothari 1986/19). In this study, research methodology has been paid due attention to achieve the objectives of the study.

3.2 Research Design

The research design is the specification of methods and procedure for acquiring the information needed to structure and solve the problems. In another words, it is the conceptual framework within which research is conducted. The analytical as well as descriptive research designs have been included in the present study. For the analytical purpose, the annual reports, financial statements and other relevant material of the companies will be studied.

3.3 Samples

Now, 24 commercial banks listed in stock market are operating in Nepal. Due to time limit, it is not possible to study all the listed banks. Therefore, sampling will be done form those commercial banks which are listed in Nepal stock exchange.

Among them, we have Selected 3 commercial banks for our Study. These commercial banks share actively traded then others in Nepalese stock market. The samples selected banks for this study are:

-NABIL BANK Ltd.

-Nepal SBI Bank Ltd.

-Nepal Standard Chartered Bank Ltd. (Previously Nepal Grindland Banks Ltd.)

3.4 Nature and source of data

The research is mainly based on the secondary data which will include the annual reports of the banks, economic report published by Nepal Rastra Bank. The stock price of the whole year listed in the Nepal stock exchange (NEPSE), economic survey published from HMG ministry of finance, Financial status report published from World Bank, financial and other relevant data regarding the dividend policies and the practices of the banks. Besides this, the data are also collected from the various newspapers, magazines and journals published by the concerned agencies as well as websites of Nepal stock Exchange (www.nepalstock.com).

3.5 Analysis Methods

Mainly, financial tools are used to analysis the data to achieve the objective of this study. Appropriate Statistical tools are also used. Among them correlation analysis

and trend analysis between major financial indicators are used for this research to find out the significance of capital structure in financial institutions.

3.5.1 Financial Tools (Ratios)

Capital structure ratios and some others major ratios are used in this study. The capital structure ratio is defined as financial ratio which through light on the long term solvency of the firm as reflected in its ability to assure the long term creditors with regard to periodical payment of interest during the period of the loan and repayment of principle on maturity.

3.5.1.1 Debt-Equity Ratios

Debt-equity ratio is vital tool used 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 all long term debt. Thus it is computed as:

$$\text{D/E ratio} = \frac{\text{Total Debt}}{\text{Net Worth}}$$

3.5.1.2 Leverage Ratio

The financial leverage indicates the relationship between the total Debts to Total Assets of a firm. Financial leverage is simply the use of fixed cost capital such as debt.

$$\text{Leverage} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

3.5.1.3 Interest Coverage Ratio

The interest coverage ratio also known as the time-interest earned ratio is one of the most conventional coverage ratio used to test the firm's debt-servicing capacity. The ratio shows the number of times the interest charges are covered by funds that are ordinarily available for their payment. The interest coverage ratio is thus computed as:

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

3.5.1.4 The Degree of Financial Leverage (DFL)

When the economic condition are good and the firm's EBIT is increasing its EPS increases faster with more debt in capital structure. The degree of financial leverage is defined as the percentage change in EPS due to a given percentage change in EBIT.

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

Or, it can also be calculated as;

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBIT} - 1}$$

Where,

DFL = Degree of financial leverage

EBIT = Earnings before interest and tax

EPS = Earning per share

I = Interest

3.5.2 Profitability Ratio

3.5.2.1 Return on Total Assets Ratio

This ratio measures the Profitability with respect to total assets. This ratio is examined to measure the Profitability of all-financial resources invested in the banks assets.

$$\text{Return on Total Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

3.5.2.2 Return on Shareholder's Equity

A return on shareholder's equity is calculated to see the profitability of owner's investment. The shareholders equity includes paid-up share capital, share premium and reserve and surplus less accumulated losses. The return on shareholder's equity is net profit after taxes divided by shareholder equity.

$$\text{Return on shareholder's equity} = \frac{\text{Net Profit After Tax}}{\text{Shareholder's Equity}}$$

Here, the shareholder's equity includes both ordinary and preference capital but excludes past accumulated losses and deferred expenditures.

3.5.3 Market Related Ratio

3.5.3.1 Earning Per Share (EPS)

The profitability of the common shareholder's investment can also be measured in many other ways. One such measure is to calculate the earnings per share. The earnings per share are calculated by dividing the profit after taxes, by the total number of common shares outstanding.

$$EPS = \frac{\text{Profit After Tax}}{\text{Number of Shares Outstanding}}$$

3.5.3.2 Dividend per Share (DPS)

Dividend per share is the earnings distributed to ordinary shareholders divided by the number of ordinary shares outstanding:

$$DPS = \frac{\text{Dividend}}{\text{Number of Shares Outstanding}}$$

3.5.3.3 Price Earnings Ratio

The price earning is market per share divided by the earning per share. It can be computed as:

$$PER = \frac{\text{Market per Share}}{\text{Earnings per Share}}$$

$$\text{Or, } PER = \frac{MPS}{EPS}$$

3.5.4 The Overall Capitalization Rate under NI Approach

The NI approach known as relevant theory of capital structure is already discussed in former chapter. Hence, the formulas used to compute the value of the firm and overall capitalization rate under NI approach are as given:

Market value of the firm = Market value of debt + Market value of stock.

Or, V= B+S

And,

$$\text{Overall Capitalization Rate} = \frac{\text{EBIT}}{\text{Value of the Firm}}$$

Or, $K_0 = \frac{EBIT}{V}$

3.5.5 Equity Capitalization Rate under NOI Approach

The equity Capitalization Rate under NOI approach can be calculated as;

$$\text{Equity Capitalization rate} = \frac{\text{Earning Before Tax}}{\text{Market Value of Common Share}}$$

Or, $K_e = \frac{EBT}{}$

S

3.6 Statistical Tools

For the purpose of the study simple statistical tools are used. Mainly financial tools and techniques have been used to show the financial condition of the selected commercial banks. Hence, statistical tools used in the study are as follows.

3.6.1 Average

A simple arithmetic average is used to summarize the data as a representation of mass data specially; the average is applied to compare the position of sampled commercial banks. A simple arithmetic average is a value obtained by dividing the sum of the values by their numbers. Thus average is expressed as:

$$\text{Average} = \frac{\text{Sum of the values}}{\text{No of values}}$$

$$= \frac{x_1+x_2+x_3+.....x_n}{n}$$

Here,

n= number of values

x_t= individual value for period.

3.6.2 Correlation Analysis

Correlation analysis measures the relationship between the variables. There are several methods of measuring correlation. In this research, Karl Pearson method known as Karl Pearson coefficient of correlation is used. Karl Pearson's coefficient of correlation is simply denoted by the symbol 'r'. To interpret the result obtained form calculation of 'r', following general rules are applied:

If the value of r = +1, there is perfect correlation between the variables.

If the value of r = -1, there is perfect negative correlation between the variables.

It the value of r = 0, there is no relationship between the variables, i.e., the variables are uncorrelated.

The closer r is to +1 or –1, the closer the relationship between the variables and the close r is to 0, the less close the relationship.

Study of the correlation ship helps in decision making. In this research, the correlation between return and net worth is examined by applying the following formula:

$$r = \frac{\sum dx.dy}{\sqrt{\sum (dx)^2}\ \sqrt{\sum (dy)^2}}$$

Here,

n = Number of pairs of x and y observed

x = Values of loans and advance.

y = Values of total deposits.

r = Karl Pearson correlation coefficient.

3.6.3 Coefficient of Variation

The corresponding relative measure is known as the coefficient of variation. This measure developed by Karl Pearson is the most commonly used measure of relative variation. It is used to compare the variability of two or more than two series or group. Coefficient of variation i.e. denoted by C.V. and is obtained as follows.

C.V. = x 100

3.6.4 The Probable Error

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 a follows:

P.E. = 0.6745

Here,

r = correlation coefficient

N = number of pairs of observations.

If the value of r is less than the probable error, there is no evidence of correlation, i.e., the value of r is not at all significant. Then, if the value of r is more than six times the probable error, the coefficient of correlation is practically certain, i.e. the value of r is significant.

3.7 Trend Analysis

Trend analysis is one quantitative method used to determine patterns in data collection overtime. It is also known as time series analysis. It is used to detect patterns of change in statistical information over regular intervals of time.

3.7.1 Least Square Method

Least square method may be used either to fit a 'straight line trend' or a graphic trend'. But in our study, it is used to fit straight line. Equation for estimating a straight line:

$Y = a + bx$ ……

Where,

Y = Estimated value of the dependent variables.

X = independent variable (time in trend analysis)

a = Y-Intercept (the value of Y when X=0)

b = Slope of the trend line

Following equation are used to estimate slope of the best fitting regression line:

$$b = \frac{\sum XY - nXY}{\sum x^2 - nx^2}$$

$$a = y - bx$$

Where,

Y = Value of the dependent variables.

X = Value of independent variable

n = Number of data points in the time series

a = Y-Intercept

b = Slope

3.8 Limitations of the Methodology

The study is carried out within the frame work of descriptive research design. So, it is difficult to illuminate the limitations of the descriptive research design, in which the study as well as the methodology is bounded.

Only those commercial banks are taken as the sampled, which have completed their six years of operation till 2065 Ashad. There fore, the study may not be able to represent the whole scenario.

Simple random sampling, lottery method without replacement is used to draw the sample which is not free from the criticisms. So, it also imposes to draw the line of limitation. Finally, the different tools are used to analyze the collected data, which are based on certain assumptions. So, reliability of the analysis depends upon the circumstances on which the models are based.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the presentation and analysis of data collected from the different sources. As per the definition, the commercial bank is viewed as a financial

intermediary who provides the financial innovations to its clients, in order to facilitate trade and commerce of the nation. Due to special role they play in the economy, they are heavily regulated by concerned authority thus; the capital structure and composition of the capital components are slightly different in these institutions.

The firm should maintain a sound capital structure to run its business operation. Inadequate capital structure positions are dangerous from the firm's point of view. So, an enlightened management should maintain right capital structure to meet its objectives.

So, the study was carried out according with the classification of concerned authority, presentation and analysis.

4.1 Analysis of Paid up Capital

Paid up capital is a part of issued capital that is actually paid by the owners of a bank. It is a major component of bank capital and is classified under the core capital to measure the capital adequacy of commercial banks. Paid up capital is the pure amount of capital invested by the shareholders.

It provides an assurance to the depositors and outsiders that the bank continues to run even in the time of financial crisis and adversity. Further, it increases the credibility or creditworthiness of the banks. Paid-up capital includes the paid up amount of ordinary shares, bonus shares and the amount of non- redeemable preference shares.

Table 4.1 shows the amount of paid-up capital of the commercial banks in aggregate and individual term during the period of 04/05 to 08/09.

Table 4.1

Amount of Paid up Capital (in million)

Year	Aggregate	NABIL	SBI	NSCBL
04/05	1298.10	491.7	431.8	374.6
05/06	1506.50	491.7	640.2	374.6
06/07	2184.50	491.7	647.8	413.3
07/08	2184.50	689.2	874.5	620.8
08/09	2772.10	965.7	874.5	931.9
Average	1862.80	626.0	693.76	543.04
S.D	542.63	186.28	166.70	214.86
C.V	0.29	0.30	0.24	0.39

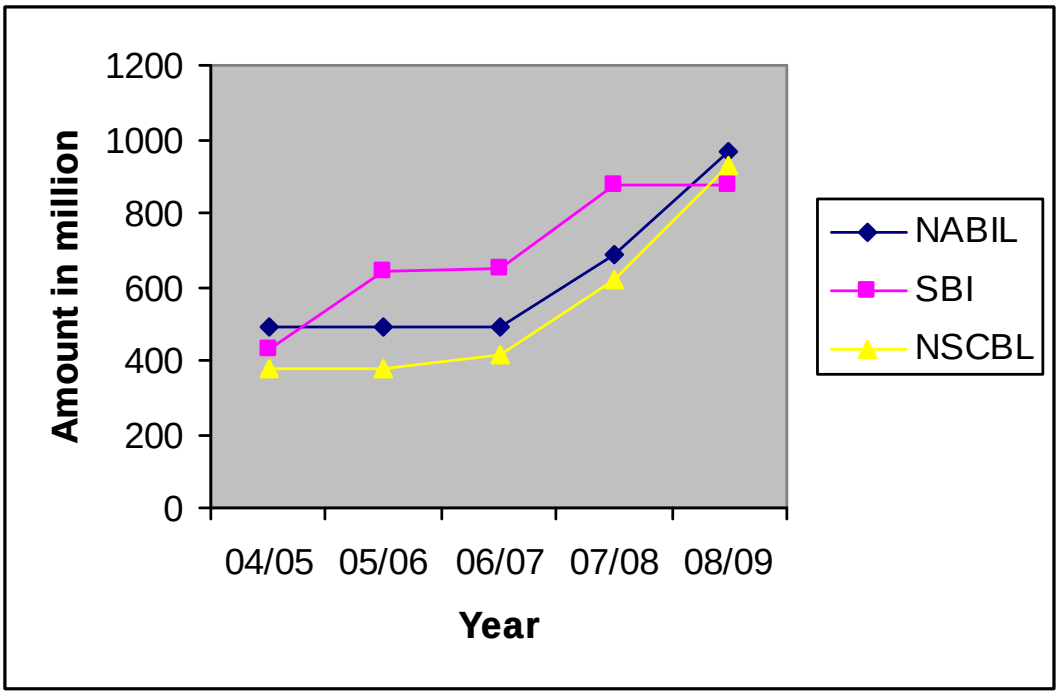
As the shown Table 4.1 the paid up capital of NABIL is constant in first three years, but in the last two years of the study it has in increasing terms. Its variation in absolute term is Rs. 186.28 million and in relative term of 0.30. The paid up capital of SBI is increasing every year. Where in the last two years is constant. Its variation in absolute term is

166.70 million and in relative term of 0.24. Similarly, the paid up capital of NSCBL is constant in first two years and amount increased by Rs.38.7 millions in third years and by Rs.207.5 million in fourth years. It's variation in absolute term is Rs. 214.86 million and it is in relative term of 0.39.

Here the variation in relative term is the lowest in SBI Bank and it is highest in NSCBL Bank. The higher value of variation in relative term indicates the higher deviation or dispersion and low value signifies the lower deviation in paid-up capital. Thus, the paid-up capital of SBI Bank is moving in increasing way with lower deviation and that of NSCBL Bank is moving in the same way with higher deviation in the period of (04/05 to 08/09)

Figure 4.1

Paid-up Capital of NABIL, SBI and NSCBL



In general, the commercial banks are required to increase their capital to provide the assurance to the outsider and to meet the banking activities in global environment. In addition to this , they have to raise their capital as per the requirement of concerned authority .Nepal Rastra bank has made the provision for all the existing commercial bank to raise their paid-up capital to Rs. 2000 million by mid July 2009. The average paid-up capital of NABIL, SBI and NSCBL is Rs. 626 million, Rs. 693.76 million and Rs. 543.04 million respectively.

Average paid-up capital is highest in SBI bank and lowest in NSCBL. This indicates that the SBI bank is using larger amount and NSCBL is using smaller amount of paid-up capital during the study period.

The second column of Table 4.1 shows the amount of paid - up capital of commercial banks in aggregate. The amount is Rs. 1298.10, Rs. 1506.50 Rs. 2184.50 Rs. 2184.50 and Rs.2772.10 (in millions) in years 04/05, 05/06, 06/07, 07/08 and 08/09 respectively. Paid-up capital in aggregate is increasing continuously with the variation of Rs. 542.63 million in absolute measure and 0.29 of relative measure during the period of last five years.

4.2 Analysis of Equity Capital

Commercial banks are heavily regulated by central bank in regard of using debt capital and any other hybrid capital instruments in their capital structure. They are required to obtain the approval from Nepal Rastra Bank in the case of issuing long term debt and hybrid security as a supplementary capital. All the sampled commercial banks have no long term debt in their capital structure. Here, the question may be raised whether all equity financing is considered optimum and sound capital structure. Theoretically, as suggested by traditional capital structure theories, all equity capital structure is not sound capital structure.

According to the capital structure theories, the appropriate mix of debt and equity capital is necessary to maximize the value and return. But in the case of commercial banks the situation is different. The soundness of the capital in these institutions is measured in term of capital adequacy. Commercial banks collect deposits having the different maturity period and borrow from central bank and others. Thus, they are taking the advantage of leverage especially from deposits and they are maximizing their value and return from it.

In this way, the commercial banks are all equity capital structured firms. However, they are using debt in owing their total assets. So, the analysis of total debt and equity capital is essential or important for the study. The total debt of a bank includes long term debt, deposit liabilities and other current liabilities. Similarly, the equity capital includes the paid-up capital, share premium, reserve funds and accumulated profit and loss. The table 4.2 presents the absolute amount of total debt and equity position of selected commercial bank during the period of past five years.

Table 4.2

Debt and Equity Ratio (in times) of Selected Bank (Rs. in million)

FY	NABIL			SBI			NSCBL		
	Debt	Equity	Ratio	Debt	Equity	Ratio	Debt	Equity	Ratio
04/05	15528.70	1657.63	9.37	9274.00	689.02	13.46	20311.16	1582.42	12.84
05/06	20454.98	1874.99	10.91	12053.47	982.38	12.27	24013.21	1754.14	13.69
06/07	25196.35	2057.50	12.25	12737.92	1163.29	10.95	26480.34	2116.35	12.51
07/08	34455.56	2437.20	14.14	15772.80	1414.64	11.15	30843.24	2492.55	12.37
08/09	40737.16	3130.24	13.01	29204.07	1712.61	17.05	37535.00	3052.47	12.30
Mean(x)			11.94			12.98			12.74
S.D			1.63			2.20			0.56
C.V.			13.7%			16.97%			4.39%

As a general rule, there should be an appropriate mix of debt and owner's equity. The above table shows the debt and owner's equity in financing the firm's investment. But the above tables show that debt financing is several times higher than equity financing. Debt includes long term and as well as short term and equity includes issued share as well as kinds of reserve.

The debt- equity ration is the relationship between borrowed funds and owner's capital. It is determined to measure the firm's obligations to creditors in relation to the fund invested by owners. A high debt equity ratio implies that a proportion of long term financing is from debt sources that the firm is using a great deal of financing leverage. Long term creditors generally prepare greater protection and a greatest stake in the company's future for equity holders.

The total debt includes current account, saving accounts, calls and short deposits, over draft, fixed deposit, long and advance borrowing from other banks. Shareholder equity or net worth includes paid-up capital reserve and surplus. The debt equity ratio of three selected commercial banks during the study period was as tabulated below.

Table shows that NABIL has average debt to equity ratio of 11.94 times which is the lowest among the selected banks. In case of NABIL this ratio has ranged between 9.37 to 14.14 times during the study period. NABIL’s 9.37 times is the lowest in comparison with other two banks. In other words debt capital financing is at least 9.37 times greater then equity financing during the study period.

SBI Bank has average debt to equity ratio of 12.98 which is the highest ratio among the banks. This ratio has ranged in between 10.95 and 17.05 times. In case of SBI Bank debt capital financing is at least 10.95 times greater then equity capital financing during the study period. In the fiscal year 08/09, the bank has highest debt and equity ratio i.e. 17.05 times which show total debt is 17.05 times greater than equity. Thus, it is indicate that SBI has been highly claimed by its creditors. Trend of the ratio of SBI is of fluctuating nature in different years.

Similarly NSCBL has average debt to equity ratio of 12.74 which is greatest than NABIL and less than SBI. This ratio has ranged between 12.30 and 13.69 times. The ratio's are almost constant .

On the basis of coefficient of variance, SBI Banks CV of debt equity ratio if higher among selected banks. It explains that SBI's ratio is highly fluctuated over the study period than other selected two banks.

Similarly, NABIL has the lowest Debt Equity Ratio in comparison with other banks. It reveals that all three banks are highly leveraged. Thus, it can be concluded that all the banks have lower ratio of shareholders equity over the claim of creditors. It can be concluded that none of them are maintaining appropriate debt and equity financing in their capital structure. More debt capital is financial by all banks.

4.3 Total Debt to Total Assets Ratio

Total debt to total assets ratio implies how much debt capital has contributed to the total company's assets. When successfully employed, this ratio benefits the

shareholders by raising their expected return-earning per share. But extremely high ratio is risky in terms of the probability of interference of the lenders if the company is not able to pay the debts or interest in time.

Table 4.3

Total Debt to Total Assets Ratio (in %)

FY	NABIL			SBI			NSCBL		
	Total Debt	Total Assets	Ratio	Total Debt	Total Assets	Ratio	Total Debt	Total Assets	Ratio
04/05	15528.70	17186.33	90.35	9274.00	9963.02	93.08	20311.16	21893.58	92.77
05/06	20454.98	22329.97	91.60	12053.47	13035.84	92.46	24013.21	25767.35	93.19
06/07	25196.35	27253.39	92.45	12737.92	13901.20	91.63	26480.34	28596.69	92.60
07/08	34455.56	37132.76	92.79	15772.80	17187.45	91.77	30843.24	33335.79	92.52
08/09	40737.16	43867.40	92.86	29204.07	30916.68	94.46	37535.00	40587.47	32.48
Mean			92.01			92.68			92.71
S.D			0.94			1.03			0.66
C.V			1.02			1.11			0.71

Above table shows financial leverage in terms of total debt to total assets which reveals that the three commercial banks are highly leveraged during the study period. It means

the assets of selected banks have been financed heavily by fund collection from creditors.

NABIL Bank's total debt to total assets ratio has fluctuating trend over the study period. The fluctuating ratio during the study period is 90.35%, 91.60%, 92.45%, 92.79% and 92.86% respectively. On an average 92.01% of debt capital is found financed for its assets.

SBI has the average ratio of 92.68%. On an average 92.68% of debt capital is used to finance its assets and only 7.32% of shareholders equity in financial to the remaining portion of assets. The ratio of SBI has also fluctuating trend. In FY 04/05 it has 93.08%. It decreased to 92.46% and 91.63% in two subsequent years. The ratio increased to 91.77% and 94.46% in two last year respectively. SBI has the highest ratio 94.46% in the FY 08/09. Which reveals only 5.54% has been funded by the shareholders.

NSCBL has the highest average ratio i.e. 92.71% among selected banks. The ratios are in increasing and decreasing trend in subsequent year. Therefore the fluctuating tendency of ratio is zigzag.

In conclusion, it can be identified that all banks have more debt in their total assets. The coefficient of variation shows that ratio of SBI (1.11%) is highly fluctuating in nature compared to other banks.

It can be noticed that the proportion of debt financing while compared with total assets is relatively more in SBI bank than other selected banks. It indicates SBI bank has riskier in comparison to other banks. In all three banks, the creditor's margin of safety is very low which means they have high risk.

4.4 Interest Coverage Ratio

This ratio is calculated to find out organizations ability to meet its interest obligation and to test firm's debt severing capacity. Interest coverage ratio reflects the firm's ability to pay interest out of earnings. This ratio shows the number of times the interest charges are covered by funds that are available for their payment. Following table shows the ICR.

Table 4.4

Interest Coverage Ratio (In times)

FY	NABIL			SBI			NSCBL		
	EBIT	Interest	Ratio(in times)	EBIT	Interest	Ratio(in times)	EBIT	Interest	Ratio(in times)
04/05	1001.32	243.54	4.11	383.63	258.43	1.48	1052.27	254.13	4.14
05/06	1255.16	357.16	3.51	534.53	334.77	1.60	1242.57	303.19	4.10
06/07	1550.76	555.71	2.79	756.85	412.26	1.84	1429.18	413.06	3.46
07/08	1847.43	758.43	2.43	802.95	454.92	1.76	1665.10	471.73	3.53
08/09	2631.95	1153.28	2.28	1267.73	824.70	1.54	2011.00	543.78	3.70
Average			3.02			1.64			3.78
S.D.			0.49			0.22			0.24
C.V.			14.71%			14.47%			6.22%

Above table shows the ICR of the banks under the study period. By looking the table it is found that the Interest coverage ratio of NABIL banks was 4.11 times in year 04/05, which decreased to continuous year i.e. is 2.28 times in FY 08/09.On an average the bank had 3.02 times ICR. It indicated that the bank was not able to maintain the sufficient EBIT as early year, to meet the interest obligations in FY 08/09.

On the other hand SBI bank was 1.48 times in years 04/05, which increased to 1.60 times, 1.84 times in year 05/06 and 06/07 respectively and decreased in last two years of study period. Average ICR of SBI is 1.64 times, which is the lowest average ratio among selected bank. The result implies the use of excessive debt. Only 1.64 times the interest charges are covered by funds that the ordinarily available to pay interest charge on an average during the study period.

Similarly, NSCBL also maintaining average interest coverage ratio is 3.78 times during the study period, which is comparatively higher than other sampled banks. It means the NSCBL has capacity to pay the interest for debt in time. The ratio of NSCBL was fluctuating to same extent. In year 04/05 it has highest 4.14 times and again decreased 4.10 times and 3.46 times in year 05/06 and 06/07 respectively where as again increased in last two years of study period.

The computed ICR of three banks in above table shows how many times the interest charges are covered by funds that the ordinarily available to pay interest charges. Although generalization about what is an appropriate interest coverage ratio is difficult but higher ratio is preferred desirable. The C.V. of NABIL (14.71%) is found highest than other two banks, during the study period.

4.5 Degree of Financial Leverage

Financial leverage refers to the use of interest bearing debts, preferred stock and debt capital. The degree of financial leverage indicates the degree of financial risk i.e. higher the value of degree of financial leverage, higher the degree of financial risk and vice versa. The degree of financial leverage can be calculated as:

$$\text{DFL} = \frac{\%changesofEPS}{\%changeinEBIT}$$

OR

$$\text{DFL} = \frac{EBIT}{EBIT - 1 - \frac{PD}{I - t}}$$

The degree of financial leverage of three banks is shown in the following table:

Table 4.5

Degree of Financial Leverage (in times)

	NABIL	SBI	NSCBL

FY	EBIT	EBT	DFL	EBIT	EBT	DFL	EBIT	EBT	DFL
04/05	1001.32	757.78	1.32	383.63	125.20	3.06	1052.27	798.14	1.32
05/06	1255.16	898.00	1.40	534.53	199.76	2.68	1242.57	939.38	1.32
06/07	1550.76	995.05	1.56	756.83	344.59	2.20	1429.18	1016.12	1.41
07/08	1847.43	1089.00	1.70	802.95	348.03	2.31	1665.10	1193.37	1.40
08/09	2631.95	1478.67	1.78	1267.73	443.03	2.86	2011.00	1467.20	1.37
Average		1.55			2.62				1.36
S.D.		0.19			0.34				0.1
C.V.		12.26%			12.98 %				7.35%

The degree of financial leverage of NABIL bank in fiscal year 04/05 constitutes 1.32 times. It implies that if the bank is able to increase EBIT by 100% then it would lead to 132% increase in EPS and vice versa. In case of this bank 1.78 times of degree of financial leverage represents the highest figure of DFL. NABIL bank's degree of financial leverage on an average is 1.55 times i.e. 155%.

On an average, Nepal SBI bank has the highest C.V i.e. 12.98% of degree of financial leverage. Which reflection the higher degree of financial risk, and NSCBL has the lowest i.e. 7.35%. The variability of ratio in between high and low C.V. is 12.98% to 7.35%.

NSCBL bank's seems lower which reflects the lowest degree of financial risk, expect FY 04/05 and 05/06 the ratio was fluctuating to same extent i.e. 132%, after it ratio has

increasing trend. It is almost same during FY 06/07 and 07/08 i.e. 141%. After it, the ratio is decreased in FY 08/09 i.e. 137%.

SBI banks has the highest degree of average financial leverage 262% hence, it can be concluded that Nepal SBI bank in the riskier bank in terms of other as the degree of financial leverage in very high.

4.6 Profitability Ratio

Profit is the difference between revenue and expenses over a period of time. A company should earn profit to survive and grow over a long period of time. It will have no future if it fails to make sufficient profits. Commercial bank's main objective is to earn profit providing different types of banking service to its customers. To meet various objectives like to have a liquidity positions, meet fixed interest obligation, overcome the future contingencies, hidden investment opportunities, expand banking transaction in different place etc, Commercial banks must have to earn sufficient profit. Following ratio is calculated evaluated and analyzed for the study purpose.

4.6.1 Return on Total Assets (ROA)

Return on total assets ratio measures the overall profitability of the banks with respect to each financial resource investment. If the bank's working fund is a well managed and efficiently utilized, return on such assets will be higher and vice versa. Minimizing taxes with in legal options available will also improve the return. Rate of return on total assets is major tool to judge the operational efficiency of a firm. The return on total assets of selected banks is as follows:-

Table 4.6

Return on Total Assets Ratio (in percent)

FY	NABIL			SBI			NSCBL		
	NPAT	Total Assets	Ratio (in%)	NPAT	Total Assets	Ratio (in%)	NPAT	Total Assets	Ratio (in%)
04/05	518.64	17186.33	3.02	57.38	9963.02	0.57	539.20	21893.58	2.46
05/06	635.26	22329.97	2.84	117.00	13035.84	0.90	658.76	25767.35	2.56
06/07	673.96	27253.39	2.47	254.91	13901.20	1.83	691.67	28596.69	2.42
07/08	746.47	37132.76	2.01	247.80	17187.45	1.44	818.92	33335.79	2.46
08/09	1031.05	43867.40	2.35	316.37	30916.68	1.02	1025.11	40587.47	2.53
Average			2.54			1.15			2.48
S.D.			0.34			0.44			0.17
C.V.			12.55%			38.59%			6.98%

The table 4.6 shows that NABIL bank has return on total assets 2.54% on an average which is highest among the selected banks. The bank has 3.02% return on total assets ratio in year 04/05 and it is in decreasing trend up to FY 07/08, which increased to 2.35% in year 08/09.

Return on total assets of SBI is not satisfactory than other two banks. It has an average ratio 1.15% and 1.83% is the highest ratio recorded in fiscal year 06/07, it has only 0.57% of return on total assets on fiscal year 04/05.

Similarly, NSCBL has return on total assets ratio of 2.48% on an average, the highest ratio is recorded in fiscal year 05/06 i.e. 2.56%. NSCBL has return on total assets ratio ranges between 2.42% and 2.56%. On an average NABIL has higher ratio than that of other sampled banks. NABIL has been able to utilize its resources in most profitable projects than that by rest of the banks.

NSCBL has medium rate than that of selected banks. SBI has the poorest return on total assets of 1.15% which constitutes that it has to be more alert in future to utilize its resource to more profitable projects.

4.6.2 Returns on Shareholders Equity (ROE)

Return on shareholders equity indicates how well the firm has used the resource of owners. In fact, this ratio is a one of the most important relationship in financial analysis. The earning of a satisfactory level of return is the most desirable objective of a firm. The ratio of net profit to owner's equity reflects the extent to which objects have been accomplished. This ratio has great perspective to the present as well as future also. It has great concern to shareholders as well management to maximize the welfare. The shareholder’s equity includes common share, capital preference, share capital and reserve and surplus. But selected commercial banks have not issued preference share capital. Thus, for the banks both ratio of return on common shareholders equity are the same. The following table shows the return on shareholders equity or net worth:

Table 4.7

Return on Shareholders Equity (in percent)

FY	NABIL			SBI			NSCBL		
	Net profit	SH Equity	Ratio (in%)	Net Profit	SH Equity	Ratio (in%)	Net Profit	SH Equity	Ratio (in%)
04/05	518.64	1657.63	31.29	57.38	689.02	8.33	539.20	1582.42	34.07
05/06	635.26	1874.99	33.89	117.00	982.38	11.91	658.76	1754.14	37.55
06/07	673.96	2057.50	32.76	254.91	1163.29	21.91	691.67	2116.35	32.68
07/08	746.47	2437.20	30.63	247.80	1414.64	17.52	818.92	2492.55	32.85
08/09	1031.05	3130.24	32.94	316.37	1712.61	18.47	1025.11	3052.47	33.58
Average			32.30			15.63			34.15
S.D.			1.07			4.85			1. 70
C.V.			3.34%			31.06%			4.97%

On the basis of above listed table return on shareholders equity of NABIL bank has the ratio varied from a minimum 30.63% in fiscal year 07/08 to a maximum of 33.89% in year 05/06. The bank registered decreasing trend for first year and increasing trend for second year i.e. 33.89% in 05/06 again decreased in year 06/07 and 07/08.On an average, it has 32.30% which is medium ratio of ROE in companions with other selected

banks. This ratio indicates NABIL bank has used the resources of owner equity in medium way in compassion with other selected banks.

SBI bank has maintained only 15.63% on an average. This ratio is the lowest ratio among selected banks. It has the highest ration 21.91% in fiscal year 06/07 during the study period. This ratio indicates that SBI bank has not used its resources in proper way. Above listed table shown return on shareholders equity of SBI bank has highest fluctuating nature.

Similarly, NSCBL is capable to maintain the highest ratio among the selected banks. It has higher ratio37.55% in fiscal year 05/06 and lowest ratio 32.68% in fiscal year 06/07. It has average ratio 34.15%. This ratio indicates NSCBL bank has used the resources of owner's equity efficiently.

From the above analysis, NSCBL bank is able to use the resources of owners in best way. On the basis of C.V, SBI bank has highest among all which explains that the variability of return on shareholder's equity is the highest than remaining selected banks while comparing the ratio of ROE on and average among selected banks. NSCBL has the higher percentage of return and SBI has lowest percentage of return. From the analysis, NSCBL has satisfactory ROE during the study period in comparison to other banks. It reveals the NSCBL has been able to utilize its shareholders equity in most efficient manner. After NSCBL, NABIL has better to maintain ROE compared to SBI. SBI bank has low ratio among other two selected bank during the study period.

4.7 Market related Ratios

4.7.1 Earning Per Share

Earning per share simply shows the profitability of the firm on a per share basis. It does not reveal how much is paid to the owners as dividend and how much is retained in the business. EPS is one of the most widely used measures of the banks performance. It is an important index of the banks performance and the investors believe heavily on it for their investment decisions. EPS of selected Commercial Bank's in calculated below:

Table 4.8

Earning Per Share (In Rs.)

	NABIL		SBI		NSCBL	
FY	Debt Ratio	EPS	Debt Ratio	EPS	Debt Ratio	EPS
04/05	90.35	105.49	93.08	13.29	92.77	143.14
05/06	91.60	129.21	92.46	18.27	93.19	175.84
06/07	92.45	137.08	91.63	39.35	92.60	167.37
07/08	92.79	108.30	91.77	28.30	92.52	131.92
08/09	92.88	106.80	94.46	36.20	92.48	110.00
Average		117.38		27.08		145.65
S.D.		13.11		10.03		23.89

C.V.	11.17	37.06	16.41

(Source: Annual Report of selected commercial Bank)

The higher EPS indicate the better achievement of profitability of the banks by mobilizing their funds and vice versa.

Earning per share is calculated by using the following formula:

$$EPS = \frac{NPAT}{\text{No. of share out standing}}$$

The profitability of the common shareholders investment can be measured by calculating the EPS.

NABIL Bank has maximum EPS Rs. 137.08 in fiscal year 06/07, minimum EPS is Rs. 105.49 in fiscal year 04/05 and average EPS is Rs. 117.38 for the period of five years. EPS is in increasing trend for first three years where as debt ratio is in increasing trend for last three years.

SBI bank has maximum EPS is Rs.39.35 in fiscal year 06/07 and minimum EPS is Rs. 13.29 in fiscal year 04/05 and average EPS is Rs.27.08 during the study period.

SBI bank's debt ratio has fluctuating trend over the study period i.e. 93.08%, 92.46%, 91.63%, 91.77% and 94.46% respectively. EPS is in growing trend during the first three years and decreased in the last two years.

Similarly, NSCBL has maximum EPS is Rs. 175.84 in fiscal year 05/06 and minimum EPS is Rs. 110.00 in fiscal year 08/09 and an average EPS is Rs. 145.65 for the five year study period.

Debt ratio of NSCBL has crisscross trend, on FY 04/05 i.e.92.77 %. It is increasing in FY 05/06 i.e. 93.19%, on the FY 06/07 it is decreased i.e.92.60%.Similarly it goes down accordingly in continuous year i.e. in FY 08/09 is 92.48% in other hand EPS is increased in FY 05/06 i.e.175.84 and gradually decreased in continuous year with Rs. 110.00 in FY 08/09.

EPS of the three banks are in zigzag trend. Regarding CV, EPS of NABIL are found more consistent among the banks, as it has the lowest CV. As such EPS of NSCBL bank give the strength of the share better in the market than other banks.

4.7.2 Dividend Per Share

The net profit after taxes belong to share holder the amount of earning is distributed as cash dividend. Therefore a large number of present and potential invertors may be interested in DPS rather than EPS. DPS earning is distributed to ordinary share out standing. A stable dividend policy does not constitute constant DPS earning is distributed to ordinary share outstanding. A stable dividend policy does not constitute constant DPS, but a reasonably predictable dividend policy.

Dividend per share can be calculated by using following formula.

$$\text{DPS} = \frac{Earningpaidtoshareholder}{No.ofshareouts\tan ding}$$

The DPS would be better indicator than EPS as the former show what exactly is received by the owners. In general, higher the DPS better it is and vice versa.

Table 4.9

Dividend Per Share (In Rs.)

FY	NABIL		SBI		NSCBL	
	Debt Ratio	DPS	Debt Ratio	DPS	Debt Ratio	DPS

04/05	90.35	70	93.08	0	92.77	120
05/06	91.60	85	92.46	5	93.19	130
06/07	92.45	100	91.63	12.59	92.60	80
07/08	92.79	63	91.77	0	92.52	82
08/09	92.86	37	94.46	2.11	92.48	51
Average		71		3.94		92.60
S.D		21.25		4.69		28.81
C.V		30.00		119.24		31.00

(Source: Annual Report of selected banks)

On the basis of above listed table NABIL bank has paid highest DPS Rs.100 in fiscal year 06/07 and DPS at least Rs.37 in fiscal year 08/09. NABIL bank was able to pay divided regularly till 08/09 during study period. NABIL bank's Dividend pay ratio is in increasing trend for first three years and decreased in last two years of study period where as debt ratio is in zigzag trend.

SBI Bank has distributed dividend on equity share for only three year during the study period. It was unable to pay dividend in fiscal year04/05 and 07/08, paid highest DPS is Rs. 12.59 in fiscal year 06/07. SBI have to do hard work to compete with other banks.

SBI bank's debt ratio has fluctuating trend over the study period i.e. with maximum 94.46% in FY 08/09 and minimum with 91.63% in FY 06/07.

NSCBL was able to pay dividend regularly till 08/09, NSCBL has paid highest DPS Rs.130 in fiscal year 05/06 and paid DPS Rs. 51 (lowest) in fiscal year 08/09. NSCBL has paid maximum DPS Rs. 130 in fiscal year 05/06 among other selected commercial Banks.

Debt ratio of NSCBL has crisscross trend, on FY 04/05 i.e.92.77 %. It is increasing in FY 05/06 i.e. 93.19%, on the FY 06/07 it is decreased i.e.92.60%.Similarly it goes down accordingly in continuous year i.e. in FY 08/09 is 92.48%.

On an average NSCBL in found paying relatively more dividend than other two banks. The issue of bonus share is advantageous in same cases. Sometime issuing bonus share reduces market price of the share and make it more attractive to investors. It is found that these banks are acquainted with paying cash dividend with bonus share.

4.7.3 Price Earning Ratio (PER)

The price earning ratio is analyzed for security purpose to find the value of the company's performance as expected by investors management becomes interested in market appraisal of the company's performance as well as try to find the cause of the PE ratio declines. In short, PE ratio is the reciprocal of the earning yield following table shows the PE ratio of selected commercial Banks.

Price earning ratio is calculated by using the following formula:

P/E Ratio = $\frac{MPS}{EPS}$

Table 4.10

Price Earning Ratio

FY	NABIL	SBI	NSCBL
04/05	14.27	25.21	16.38
05/06	17.34	33.49	21.47
06/07	36.84	29.89	35.25
07/08	17.34	33.49	21.47
08/09	36.84	29.89	35.25
Average	17.60	26.47	19.25
S.D	10.06	4.60	8.80
C.V	57.16	17.38	45.71

(Source: Annual report (key indicators) of banks)

According to the above table, P/E ratio of NABIL is in increasing trend from fiscal year 02/03 to 06/07. NABIL bank has average P/E ratio is 17.60 times during the study period. Average P/E ratio of SBI bank has 26.47 times, which is the highest among the selected bank.

Similarly, NSCBL has the P/E ratio 10.93 times to 35.25 times. P/E ratio of NSCBL is more fluctuating among other selected two banks. NSCBL has 19.25 times average ratio during the study period.

From the above description it is found that P/E ratio of SBI in highest than that of others two banks. It means earning per share is covered by its market price many times on average. NSCBL and NABIL Bank also maintained many times that concerned the EPS by market price during the study period.

4.8 Analysis of Capital Structure

The main focus of this study is to analyze the capital structure management of NABIL, SBI and NSCBL banks. In order to analyze the value of bank under different approaches like Net income approach and Net operating income approach, these approaches are considered to measure total value of overall capitalization rate and equity capitalization rate. Total value of the firm in shown in the following table:

Table 4.11

Computation of Total Value of Banks (Rs. in million)

FY	NABIL			SBI			NSCBL		
	Debt (B)	Equity(S)	T.V (B+S)	Debt (B)	Equity(S)	T.V (B+S)	Debt (B)	Equity(S)	T.V (B+S)

04/05	15528.70	1657.63	17186.33	9274.00	689.02	9963.02	20311.16	1582.42	21893.58
05/06	20154.98	1874.99	22029.97	12053.47	982.38	13035.85	24013.21	1754.14	25767.35
06/07	25196.35	2057.05	27253.40	12737.92	1163.29	13901.21	26480.34	2116.35.	28596.69
07/08	34455.56	2437.20	36892.76	15772.80	1414.64	17187.44	30843.24	2492.55	33335.79
08/09	40737.16	3130.24	43867.40	29204.07	1712.61	30916.68	37535.00	3052.47	40587.47

In order to find how the company should adhere its capital structure, the major elements like long term debt and shareholders' equity are considered. An optimal capital structure constitutes the proper mix of debt and equity, which maximize the market value of the firm and minimize the overall cost of capital. If the company has capital ratio 1:1 between debt and equity there would have been a sound capital structure. But it depends up on the feature of the company. The above table (Table 4.12) shows that the proportion of the debt capital is more than 9.37 times, 10.95 times and 12.51 times of NABIL, SBI and NSCBL respectively, which is calculated in Debt equity ratio (Table No. 4.2), that indicate all banks are highly levered.

4.8.1 Net Income Approach (Overall Capitalization Rate)

The net income approach is focused on overall capitalization rate and measures the degree of leverage of the firm. This approach shows that the increasing trend in debt may not increase risk. The higher use of cheaper debt lowers the cost and

consequently increases value. Considering this implication the overall capitalization rate can be calculated as follows:

Table 4.12

Calculation of Overall Capitalization Rate (K_o) (In %)

FY	NABIL			SBI			NSCBL		
	EBIT	Value	Ko%	EBIT	Value	Ko%	EBIT	SH Equity	Ko%
04/05	1001.32	17186.33	5.83	383.63	9963.02	3.85	1052.27	21893.58	4.81
05/06	1255.16	22029.97	5.70	534.53	13035.85	4.10	1242.57	25767.35	4.82
06/07	1550.76	27253.40	5.69	756.85	13901.21	5.44	1429.18	28596.69	5.00
07/08	1847.43	36892.76	5.01	802.95	17187.44	4.67	1665.10	33335.79	5.00
08/09	2631.95	43867.40	6.00	1267.73	30916.68	4.10	2011.00	40587.47	4.95
Average			5.65			4.43			4.92
S.D.			0.26			0.59			0.10
C.V.			4.60			13.35			2.03

The above table shows the average overall capitalization rate of NABIL is 5.65%, which is the highest average overall capitalization rate among the selected banks. The average overall capitalization rate of SBI is 4.43% and NSCBL bank's is 4.92%.

In conclusion, we can say that NABIL has highest and SBI has lowest (Ko) on an average. All banks have fluctuating nature (Ko) due to the changer of debt and equity .An optimal capital structure is one which maximizes the total market value of firm and minimizes the overall cost of capital. So, all the selected banks try to maximize the value by using optimum debt and equity mix. Above analysis reveals that increase in financial leverage, there is decrease in (Ko). It shows that cost of debt is lower than cast of equity.

4.8.2 Net Operating Income Approach (Equity Capitalization Rate)

The net operating income approach focused on the equity capitalization rate and appears as irrelevant theory of capital structure. According to this approach, overall capital rate (Ko) and debt capitalization rate of (K_1) are independent degree of leverage. However, the equity capitalization rate of (Ke) increases linearly with financial leverage. Equity capitalization rate is obtained simply by dividing the earning before tax by the market value of the equity. Thus under net operating income approach, the equity capitalization rate of bank is calculated and presented as follow,

Here,

Ke = Equity capitalization of common share

Ke= Earning before Tax (EBT)

Market value of per common share

Table 4.13

Net Operating Income Approach [Equity Capital Rate (K_e)]

FY	NABIL			SBI			NSCBL		
	EBT	equity(s)	Ke%	EBT	equity(s)	Ke%	EBT	Equity(s)	Ke%
04/05	757.78	1657.63	45.71	125.20	689.02	18.17	798.14	1582.42	50.44
05/06	898.00	1874.99	47.89	199.76	982.38	20.33	939.38	1754.14	53.55
06/07	995.05	2057.50	48.37	344.59	1163.29	29.62	1016.12	2116.35	48.01
07/08	1089.00	2437.20	44.68	348.03	1414.64	24.60	1193.37	2492.55	47.88
08/09	1478.67	3130.24	47.24	443.03	1712.61	25.87	1467.20	3052.47	48.07
Average			46.78			23.72			49.59
S.D.			1.31			4.05			3.79
C.V.			2.80			17.07			7.64

The above table shows equity capitalization rate of all banks are in fluctuating trends. Maximum and minimum (Ke) of NABIL bank are 48.37% in fiscal year 06/07 and 44.68% in fiscal year 07/08 respectively. Average equity capitalization rate of NABIL is 46.78% during the study period .Average equity capitalization rate of SBI bank is 23.72% and NSCBL is 49.59% during the study period.

Coefficient of variation of NABIL, SBI bank and NSCBL are 2.80%, 17.07% and 7.64% respectively, which indicates that Nepal Standard Charter Bank has more uniformity than others.

From the above description, it can be identified that equity capitalization rate of all banks are in fluctuating nature during the five years study period. Change of equity capital rate the Ke is directly affected by change of leverage. Equity capitalization rate is increased linearly with leverage.

4.9 Statistical Tools

Under this heading source of statistical tools are analyzed, which are related to the capital structure, correlation, regression and coefficient of different variable are applied to achieve the objective of study.

4.9.1 Coefficient of Correlation Analysis

Karl Pearson's coefficient of correlation has been used to find out the relationship between debt and return, EBIT and interest payment, interest payment & interest income and Debt equity ratio & NPAT

4.9.1.1 Coefficient of Correlation Analysis between Debt and Return

Karl person's coefficient of correlation is widely used in practice to measures the degree of relationship between two variables. In correlation analysis, debt and return is assumed as independent variable (X) and dependent variable (Y) respectively.

The value between 0 and 1 indicates the goodness of fit. The higher value or 'r' denotes better for the value of r_{xy}= +1, r_{xy}= -1 and r_{xy}= 0 indicates perfect positive, perfect negative and no relation between the variables respectively. The purpose of composing combination of coefficient of correlation between debt and return and coefficient of determination (r^2) of commercial banks is measure the degree of relationship between variables.

Table 4.14

Coefficient of Correlation between Debt and Return Evaluation Criterion

Banks	r	r^2	PE	6PE	Relation
NABIL	0.94	0.88	0.03	0.18	Significant
SBI	0.78	0.61	0.12	0.72	Significant
NSCBL	0.96	0.92	0.02	0.12	Significant

(See Appendix No.1)

from the above table, it is obvious that the coefficient of correlation between debt (independent variable) and return (dependent variable) the value of r is positive of all banks, which indicates that there is positive relation between these two variables during the study period.

However, by application of coefficient of determination, the value of r^2 is 0.88, 0.61 and 0.92 which indicates that 88%, 61% and 92% of variable in the dependent variable

(Return) has been explained by the independent variable (debt) in case of NABIL, SBI and NSCBL respectively.

On the basis of value PE, the value of r is greater the 6PE of all banks. Hence it can be said that there is significant relationship between debt and return of all there selected banks.

If the value of r is greater than 6PE value, it means that bank could not be able to mobilize its debt in appropriate way for sharing more required return.

4.9.1.2 Coefficient of Correlation between EBIT & Interest Payment

The relationship between EBIT and interest payment is evaluated in order to measure debt servicing capacity of the banks. It is assumed that there is significant relationship between EBIT and interest payment. Here interest payment (X) is dependent variable and EBIT (Y) is independent variable. The following result is obtained for there selected commercial Banks.

Table 4.15

Correlation between EBIT & Interest Payment Evaluation Criterion

Banks	r	r^2	PE	6PE	Relation

NABIL	0.92	0.85	0.05	0.30	Significant
SBI	0.96	0.92	0.02	0.12	Significant
NSCBL	0.95	0.90	0.03	0.18	Significant

(See Appendix No.2)

From the above analysis, it's clear that the correlation between EBIT and interest payment in case of NABIL is 0.92. It shows that increase in EBIT increase interest payment coefficient of determination (r^2) of NABIL is only 85% indicates that 85% of the variation in the interest payment is explained by the independent variable EBIT.

This indicates that there is significant relationship between the variable i.e. the EBIT of NABIL is significant to generate interest payment. Similarly SBI and NSCBL shows significant relationship between the EBIT and interest payment thought the correlation i.e. 0.96 and 0.95.

Considering the probable error, the value or 'r' of all three banks is higher than 6PE. Therefore, it shows that the value of 'r' of three banks is significant i.e. there is significant relationship between EBIT and interest payment. It shows that the all three selected banks are significantly able to service their Debt.

4.9.1.3 Coefficient of Correlation between Interest Payment & Interest Income

The relationship between interest income and interest payment is shown in order to measure interest paying capacity of the banks. It is assumed that there is significant relationship between interest income and interest payment. Here interest payment (X)

is dependent variable and interest income (Y) is independent variable the following result is obtained for the selected commercial Banks.

Table 4.16

Correlation between Interest Payment & Interest Income

Banks	r	r^2	PE	6PE	Relation
NABIL	0.95	0.90	0.03	0.18	Significant
SBI	0.90	0.81	0.06	0.36	Significant
NSCBL	0.98	0.96	0.01	0.06	Significant

From the above analysis, it's clear that the correlation between interest payments and interest income in case of NABIL is 0.93. It shows that increase in interest payment increase in interest income. Coefficient of determination (r^2) of NABIL is 90%, it indicates that 90% of the variation in the interest income is explained by the independent variable interest Payment.

This indicates that there is significant relationship between the variable. The interest payment of NABIL is significant in generation of interest income i.e. 0.95, similarly SBI and NSCBL shows significant relationship between the interest payment and interest income thought the correlation i.e. 0.90 and 0.98 respectively.

Considering the probable error, the value or 'r' of all three banks is higher than 6PE. Therefore, it shows that the values of 'r' of three banks are significant i.e. there is significant relationship between interest payment and interest income. It shows that all three selected banks are able to pay interest.

4.9.1.4 Coefficient of Correlation between Debt Equity Ratio & NPAT

The relationship between debt equity ratio and NPAT is evaluated using correlation coefficient. It is assumed that there is significant relationship between debt equity ratio and NPAT. Here debt equity ratio (X) is dependent variable and NPAT (Y) is independent variable, the following results are obtained:

Table 4.17

Correlation between Debt Equity Ratio & NPAT

Banks	r	r^2	PE	6PE	Relation
NABIL	0.47	0.22	0.23	1.38	Significant
SBI	0.25	0.06	0.28	1.68	Significant
NSCBL	-0.58	0.34	0.20	1.20	Insignificant

(See Appendix No.3)

From the above analysis it's clear that the correlation between debt equity ratio and NPAT in case of NABIL is 0.47. It shows that increase in debt equity ratio is increases NPAT, coefficient of determination (r^2) of NABIL in only 22%. It is indicates that 22% of the variation in the NPAT is explained by the independent variable. However by

application of coefficient of determination, the value of r^2 is 22%, 6% and 34% of NABIL, SBI and NSCBL respectively.

The above table indicates that there is significant relationship between the Debt equity ratio and NPAT of NABIL and SBI but NSCBL has shows insignificant relationship between the Debt equity ratio and NPAT.

4.10 Trend Analysis

Trend analysis is used to determine pattern of data collected overtime. In this topic various data related to capital structure have been analyzed by the method of least square to fit straight line trend of selected banks during five years study period. In our study, variables like D/E ratio, debt to total assets ratio, interest coverage ratio, shareholder's equity, long -term debt, leverage ratio and profitability ratio are analyzed to detect patterns of change in statistical information over regular interval value. For, estimating straight line trend of these variables, following equation is used.

$$Y = a+bx$$

Where,

y = estimated value dependent variables

x= Time in trend analysis

a= y- intercept

b= slope of the trend line.

By solving the above equation for these different variable, the value of y intercept, slope of the trend line and estimated value of dependent variable are obtained which are summarize in the following table.

Table 4.18

Estimated and Forecasted value of different variables (NABIL Banks)

Variables	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12
D/E Ratio	9.82	10.88	11.94	13.00	14.06	15.12	16.18	17.24
Debt/Assets Ratio	90.77	91.39	92.01	92.63	93.25	93.87	94.49	95.11
DFL	1.31	1.43	1.55	1.67	1.79	1.91	2.03	2.15
ROA	2.98	2.76	2.54	2.32	2.10	1.88	1.66	1.44
ROE	32.28	32.29	32.30	32.31	32.32	32.33	32.34	32.35
EPS	121.03	119.20	117.37	115.54	113.71	111.88	110.05	108.22
DPS	88.60	79.80	71.00	62.20	53.40	44.60	35.80	27.00

(See Appendix No.4)

Above table shows the trend of different variables. Among the above given variables the trend D/E ratio shows the increasing trend which means NABIL is decreasing its equity capital structure.

The debt to total assets ratio also shows increasing trend this means assets of NABIL is gradually decrease in other word debt is increasing compare to the assets. The increasing trend of financial leverage indicates NABIL increasing risk. The degree of financial leverage indicates the degree of financial risk i.e. higher the value of degree of financial leverage, higher the degree of financial risk and vice versa.

The decreasing trend of ROA and nominal increase in ROE indicates that the not so satisfactory operational efficiency of the banks.

The decreasing trend of EPS and DPS indicated that earning per share and dividend per share is in decreasing trend which also indicates the dissatisfaction of present and potential investors.

Table 4.19

Estimated and Forecasted value of different variables (SBI)

Variables	**04/05**	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**
D/E Ratio	11.76	12.37	12.98	13.59	14.20	14.81	15.42	16.03
D/A Ratio	92.26	92.47	92.68	92.89	93.10	93.31	93.52	93.73
DFL	2.78	2.70	2.62	2.54	2.46	2.38	2.30	2.22

ROA	0.87	1.01	1.15	1.29	1.43	1.57	1.71	1.85
ROE	10.45	13.04	15.63	18.22	20.81	23.40	25.99	28.58
EPS	15.92	21.50	27.08	32.66	38.24	43.82	49.40	54.98
DPS	4.10	4.02	3.94	3.86	3.78	3.70	3.62	3.54

The table 4.91 shows that trend of different variables. Among the above shows variables, the trend D/E ratio shows the increasing trend which means SBI is increasing its liability.

The debt to total assets ratio also shows increasing trend, this means assets of SBI is gradually decreasing, in other word debt is increasing compare to the assets.

The increasing trend of ROA and ROE indicates that return on assets and return on equity is also increasing which means the profit of SBI is increasing.

Table 4.20

Estimated and Forecasted value of different variables (NCBNL)

Variables	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12
D/E Ratio	13.22	12.98	12.74	12.50	12.26	12.02	11.78	11.54
D/A Ratio	92.97	92.84	92.71	92.58	92.45	92.32	92.29	92.06
DFL	1.32	1.34	1.36	1.38	1.40	1.42	1.44	1.46
ROA	2.47	2.48	2.49	2.50	2.51	2.52	2.53	2.54
ROE	35.29	34.72	34.15	33.58	33.01	32.44	31.87	31.30
EPS	167.69	156.67	145.65	134.63	123.61	112.59	101.57	90.55
DPS	129.40	111.00	92.60	74.20	55.80	37.40	19.00	0.60

The table shows the trend of different variables. Among the above given variables the trend of D/E Ratio shows in decreasing trend which means NSCBL is increasing its equity capital comparison to debt.

The debt to total assets ratio also shows decreasing trend this means assets of NSCBL is gradually increasing, in other word debt in increasing compare to the assets.

The increasing trend of ROA indicates that return on assets. It is in increasing trend but ROE which indicates return of equity is decreasing trend. Which means the profit of NSCBL is decreasing.

4.11 Main findings:

The major findings of this study are presented as follows:-

1. Debt equity ratio calculated in relation to the proportion of total debt and shareholder's equity. It shows that the parentage of debt is greater than ownership capital. It implies a greater claim of creditors than owners. The average debt equity ratio of NABIL, SBI and NSCBL are 11.94, 12.98 and 12.74 times respectively which indicates SBI has the highest average and NABIL has lowest ratio during the study period.

2. Total debt to total assets calculated in relation to the proportion of total debt and total assets shows the percentage of total assets financed by outsider's fund is

increasing as compared to that of financed by owner's side. The average total debt to total assets ratio of NABIL, SBI and NSCBL are 92.01%, 92.08% and 92.71% respectively. Total debt to total assets has shown that claims of creditors are greater than the owners in the total assets of the selected banks during the study period.

3. The interest coverage ratio shows that all selected banks are able to pay interest. Average ratio of interest coverage ratio is only 3.02 times, 1.64 times and 3.78 times of NABIL, SBI and NSCBL respectively. In comparison, NABIL and NSCBL are operating efficiently in terms of interest coverage ratio than SBI bank. SBI should make efforts to retire excessive debt to have comfortable coverage ratio.

4. Degree of financial leverage of NABIL, SBI and NSCBL during the study period on an average is 1.55 times, 2.62 times and 1.36 times respectively, which indicates that SBI has highest DFL. Higher DFL means large amount of interest has to pay to the creditors by the bank. DFL of NABIL ranging from 1.32 times to 1.78 times, SBI's from 2.20 times to 3.06 times and NSCBL from 1.32 times to 1.41 times during the study period which means none of them have maintained the normal level of DFL.

5. Average return on total assets of NABIL, SBI and NSCBL are 2.54%, 1.15% and 2.48% respectively. The average ratio of SBI is lowest among the selected banks, NABIL's return is in some satisfactory level than other two banks and this return is also consistent among them. NABIL's capacity to gain profit seems attractive due to proper mobilization of available resources. SBI bank is unable to generate more return because of lack of proper utilization of its available resources.

6. The return of shareholders equity ratio of NABIL, SBI and NSCBL are 32.30%, 15.63% and 34.15% on an average. The ROE ratio has great impact to show the relative performance and strength of the bank in attractive for future investment. NSCBL's earning of 34.15% shows that the bank has been able to utilize the shareholders equity in efficient way. The ROE of NABIL shows that NABIL have satisfactory return on earning that is most desirable objective of a business. Likewise SBI has low rate of return in comparison with other banks.

7. EPS of commercial banks during the study period is in fluctuating trend. Average EPS of NABIL, SBI and NSCBL are Rs. 117.38, Rs. 27.08 and Rs. 145.65 respectively. This show NSCBL has better EPS. EPS of these three banks are in zigzag trend.Hence, the banks are suggested to collect the funds through issuing shares.

Similarly, DPS of NSCBL is highest than other two banks i.e. average Rs.92.60 during the study Period. SBI has unable to distribute dividend for two years in FY 2004/05 and 2007/08. SBI shows the DPS is Rs. 3.94 on an average, which is lowest DPS among the selected banks.

8. Overall capitalization rate (Ko) of NABIL, SBI and NSCBL are 5.65%, 4.43% and 4.92% in an average during the study period. Overall capitalization rate is in decrease slightly due to relatively more use of cheaper debt and less use of costly shareholders equity. The NI approach implies that proportion of higher leverage consequently increase the value of firm. This approach is well acquainted with this study as the value of the banks has increased in accordance to the increasing position of leverage. The Ko of three banks is positive.

9. Under the net operating income approach the average equity capitalization rate (K_e) of NABIL, SBI and NSCBL are found 46.78%, 23.72% and 49.59% respectively. Equity capitalization rate of NSCBL in an average is attractive but this trend is of fluctuating nature. SBI's equity capitalization rate is very low than other two banks i.e. 23.72%. This indicates that the banks earning power is weak than other selected two banks during the study period.

10. The Correlation between Debt and Return, EBIT and Interest payment, Interest payment and Interest income of all sampled banks is positive and significant. The study shows correlation between Debt equity ratio and NPAT of NABIL and SBI is positive and significant but NSCBL have negative and insignificant relationship between the variables.

CHAPTER – FIVE

SUMMARY, CONCLUSION AND RECOMENDATION

5.1 Summary and Conclusion:

The commercial banks have been a vital ingredient for economic development. They are intermediaries, which mobilize funds through the prudential combination of investment portfolio in advanced countries. In Nepal the role of commercial banks are still to be realized as an essential machine of mobilizing internal saving through various banking schemes in the economy. As the banks are formed as joint stock companies promoted by shareholders investment, it must primarily concerned with determining an optimal capital structure in the view of providing reasonable return on the fund of the shareholders.

Capital structure concept holds a major place in the financial management. Capital structure refers the proportion of dept and equity capital. A perfect balance between dept and equity is required to ensure the trade-off between risk and return to share holders. Thus, optimal capital structure means the capital structure having reasonable proportion of dept and equity. With this activity, the commercial banks can increase its return in its risk level and/or lower its risk level in the same class of return. Further a rational capital structure decision leads to further profit making opportunity and it may choose to increase its capital base to make it stronger and more sustainable for facing any future threat that may come up.

The history of the systematic development of commercial banks in Nepal as compared of other developed countries is of recent origin. In the early 1980s, government permitted the establishment of foreign commercial banks in Nepal. As a result, three commercial banks: NABIL, SBI and NSCBL came into existence by the end of the first half of 1980s.

Henceforth, a number of commercial banks came into existence. The basic objective to allow commercial banks to operate in Nepal was mainly to develop the banking sector, to create healthy competition for further development to already existing old tasks and to introduce new technological efficiency in the banking sector. The objective of this study is to analyze the capital structure of commercial banks and to analyze the comparative capital structure of selected commercial banks. To accomplish these objectives, this study is concentrated with the various aspects and components of capital structure of Nepalese commercial banks. This study covers the period of five years from fiscal year 04/05 to 08/09 A.D. In the introduction chapter, this study gives brief history and introduction of banking and its relation to the economy, brief profile of the concerned banks, general concepts of capital structure, statement of the problems, objective of the study and its limitations and significance.

During the research works, an extensive review of various literatures, books, past thesis, journals have been made and internet materials from relevant web site were also consulted. The works were compiled into the chapter two titled as 'Review of literature' of this study report.

The study gathered data from annual reports of the banks under study publications of NRB and web site of Nepal Stock Exchange is also used Financial tools (ratio analysis) and Statistical tools such as mean, standard deviation, coefficient of variance, correlation coefficient has been used, which are detailly explained in the chapter three titled as 'Research Methodology'.

The chapter 4 is analysis and presentation of data. The amount of paid-up capital of these institutions is in increasing trend over the study period. Average paid-up capital is highest of SBI bank and lowest of SCBNL. This indicates that the SBI bank is using larger amount and SCBNL in using smaller amount of paid-up capital during the study period.

While analyzing the D/E Ratio, we found all three banks are highly levered. Thus, it can be concluded that all the banks have lower ratio of shareholders equity over the claim of creditors. It can be concluded that none of them are maintaining appropriate debt and equity financing in their capital structure. More debt capital is financial by all banks. On the basis of coefficient of variance, SBI Banks C.V. of debt equity ratio is higher among selected banks. It explains that Nepal SBI bank’s ratio is highly fluctuated over the study period than other banks.

The result shows that the proportion of debt financing comparison to total assets is relatively more in NSCBL bank than other selected banks. It indicates NSCBL bank has riskier debt financing position in comparison to other banks. In all three banks, the creditor's margin of safety is very low which means they have high risk.

The computed ICR of three banks shows how many times the interest charges are covered by funds that are ordinarily available to pay interest charges. Although generalization about what is an appropriate interest coverage ratio is difficult, but higher ratio is preferred. Regarding ICR, on an average NABIL, SBI and NSCBL have 3.02, 1.64 and 3.78 times respectively. ICR of NSCBL is comparatively higher than other sampled banks.

SBI banks has the highest degree of average financial leverage 262% hence, it can be concluded that Nepal SBI bank is the riskiest bank in terms of other as the degree of financial leverage is very high and NSCBL shows the lowest degree of average financial leverage.

From the analysis, we found average ROA of NABIL bank is higher than other selected banks i.e. 2.54%. It indicates that NABIL is able to use the resources of owners in best way. SBI has lowest percentage of return i.e. 1.15% and NSCBL has satisfactory ROE i.e.2.48% during the study period.

Study shows that, average return on shareholders equity of SBI is lowest i.e. 15.63%, NABIL's 32.90% which is medium ratio and NSCBL's ratio is the highest i.e. 34.15% during the study period. It indicates, NSCBL has been able to utilize its shareholders equity with most efficient manner and SBI bank has not used its resources in proper way.

We found EPS of all three banks are in zigzag trend. NSCBL is found more consistent among the banks as it has the highest average EPS i.e. Rs.145.65 and SBI has lowest i.e. Rs. 27.08. NSCBL bank gives the strength of the share better in the market than other banks.

Study shows that, NSCBL has paid relatively more dividend than selected other two banks, an average i.e. Rs. 92.60 and SBI paid lowest, averagely i.e. Rs. 3.94 during the five years study period. Debt ratio of NSCBL and SBI has crisscross trend. SBI was unable to pay dividend in FY 04/05 and 07/08.

The zigzag trend of EPS and DPS indicated that earning per share and dividend per share is not more consistent therefore the present and potential investors are not so interested in investment.

From the study we found, price earning ratio (PER) of NABIL and NSCBL has increasing trend during the period of study, an average i.e. 17.60 and 19.25 times. SBI has the zigzag trend of PER, an average i.e. 26.47 times, which is the highest among the selected banks. It means earning per share of SBI banks is covered by its market price many times.

The debt equity ratio shows that proportion of the debt capital is more than 9.37 times, 10.95 times and 12.30 times of NABIL, SBI and NSCBL respectively. An average, debt equity ratio of NABIL, SBI and NSCBL are 11.94, 12.98 and 12.74 times respectively, which indicate all banks are highly levered.

An optimal capital structure is one which maximizes the total market value of firm and minimizes the overall cost of capital. So, all banks try to maximize the value by using optimum debt and equity mix. The result reveals that increase in financial leverage decreases cost of debt (K_o). It implies that financial leverage affect the cost of capital. The study shows the average overall capitalization rate of NABIL is 5.65%, which is the highest average overall capitalization rate among the selected banks. The average overall capitalization rate of SBI is 4.43% and NSCBL bank's is 4.92%.

The analysis of equity capitalization rate (K_e) shows that an average it is 46.78%, 23.72% and 49.59% of NABIL, SBI and NSCBL respectively. NSCBL have the highest and SBI banks have the lowest K_e. We found that C.V. of NABIL, SBI bank and NSCBL are 2.80%, 17.07% and 7.64% respectively, which indicates that standard charter bank has more uniformity than others. From the study, it can be identified that equity capitalization rate of all banks are in fluctuating nature. Equity capitalization rate (K_e) is increased linearly with leverage.

We found correlation between Debt and Return, EBIT and Interest payment, Interest payment and Interest income of all sampled banks are positive and significant. The study shows relationship between Debt equity ratio and NPAT of NABIL and SBI is positive and significant but NSCBL have negative and insignificant relationship between variables. Positive and significant relation indicates those banks are able to service their debt and vise versa.

During the study, we found NABIL bank's debt equity ratio, debt assets ratio, DFL, is in increasing trend but ROA, ROE, EPS and DPS is in zigzag trend.

Similarly, the study shows SBI's debt equity ratio, debt assets ratio and DFL is in increasing trend but in other hand ICR, ROA, ROE, EPS and DPS is in more fluctuating trend.

The study of NSCBL shows that debt equity ratio, debt assets ratio, ICR, ROE , DPS , DFL, ROA and EPS are in fluctuating in nature but on an average financial indicators are more consistent of NSCBL.

The increasing trend of financial leverage indicates to increasing its risk. The degree of financial leverage indicates the degree of financial risk, i.e. higher the value of degree of financial leverage, higher the degree of financial risk and vice versa.

5.2 **Recommendation**

Based on the major findings of this study, some recommendations have been made that is described in following:

1. On the basis of capital structure analysis, it is found that in the capital structure composition, proportion of dept capital is higher than equity capital. For the solution of this problem it is recommended that sample banks should reduce their debt capital portion from capital structure portfolio as well as the cost of debt so that it could increase the profitability.

2. The unstable amount of total debt and the same pattern of total debt to equity ratio indicate the unstable amount of dept policy of the banks. So, it is recommended implement the stable dept policy.

3. Profitability ratios like; return on total assets, return on total deposits and return on share holder's equity are not satisfactory in the selected banks. Only NSCBL seems bit outperforming than other selected banks in case of ROE. Having geared up capital structure position and insufficient returns indicates the weak aspect of the banks. All the selected banks are suggested to use the resources into most profitable sector and be more concerned to get better return and be careful about their financial condition so that their returns would not be depressed anymore.

4. To expand assets and branches which ultimately affect the bank's capital structure, the banks are expected to increase the profitability more than the present. All the banks vary in case of total assets number of staffs and number of bank branches and their volume of transactions.

5. The banks are required to maintain improved capital structure by increasing equity base i.e. issuing more equity capital by expanding general reserve and by retaining more earning with this improvement they will compromise among the conflicting of cost and risk.

7. The bank's net profits are almost in increasing trend due to highly increase in interest rate of loan. Similarly there is so cut throat competitation in the market therefore bank has to be more careful in the prompt services to their customers. So, in this scenario the bank should explore the non-ways of service marketing to increase its income based on fees, and the bank should attract its client on low or non-interest bearing deposits with accepting new technologies in this sector.

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Appendix

Appendix No.1

Coefficient of Correlation Analysis between Debt and Return

NABIL

DEBT(X)	**RETURN (Y)**	**dx(x-x)**	**(dx)2**	**dy(y-y)**	**(dy)2**	**dx.dy**
155.29	5.19	-117.46	1379.85	-0.02	4.08	237.27
204.55	6.35	-68.20	4651.24	-0.86	0.74	58.65
251.96	6.74	-20.79	432.23	-0.47	0.22	9.77
344.56	7.46	71.81	5156.68	0.25	0.06	17.95
407.37	10.31	134.62	18122.54	3.10	9.61	417.32
1363.73	**36.05**		**$\sum (dx)^2$**		**14.71**	**$\sum$dx.dy**
272.75	**7.21**		**42159.54**			**740.96**

Here, We Know

$\text{Average}(\bar{x}) = 272.75$

$\text{Average}(\bar{y}) = 7.21$

$n = \text{No of years} = 5$

Now,

$$\text{Coefficient of correlation (r)} = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}}$$

$$= \frac{740.96}{\sqrt{42159.54}\sqrt{14.71}}$$

$$= \frac{740.96}{205.3 \times 3.84}$$

$$= \frac{740.96}{788.35}$$

$$\therefore r = 0.94$$

$$\therefore r^2 = (0.94)^2 = 0.88$$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1 - 0.88}{\sqrt{5}}$$

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

$$= 0.6745 \times 0.05$$

$$= 0.03$$

$$\text{and } 6\,\text{PE} = 6 \times 0.03$$

$$= 0.18$$

(Note : Debt of Equity is in billion)

SBI

DEBT(X)	RETURN (Y)	dx(x-x)	(dx)2	dy(y-y)	(dy)2	dx.dy
92.74	0.57	-65.34	2469.32	-1.41	1.98	92.13

120.53	1.17	-37.55	1410.00	-0.81	0.65	30.42
127.38	2.55	-30.70	942.49	0.57	0.32	-17.50
157.73	2.48	-0.35	0.123	0.50	0.25	-0.17
292.04	3.16	133.96	17945.28	1.18	1.39	158.07
790.42	**9.93**		**$\sum (dx)^2$**		**$\sum (dy)^2$**	**$\sum dx.dy$**
158.08	**1.98**		**24567.21**		**4.61**	**262.85**

Here, We Know

$\text{Average}(\bar{x}) = 158.08$

$\text{Average}(\bar{y}) = 1.98$

$n = \text{No of years} = 5$

$$r = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}}$$

$$= \frac{262.85}{\sqrt{24567.21}\sqrt{4.61}}$$

$$= \frac{262.85}{156.74 \times 2.15}$$

$$= \frac{262.85}{336.99}$$

$\therefore r = 0.78$

$\therefore r^2 = (0.78)^2 = 0.61$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1 - 0.61}{\sqrt{5}}$$

$$= 0.6745 \times \frac{0.39}{2.24}$$

$$= 0.6745 \times 0.17$$

$$= 0.12$$

$$\text{and } 6\,\text{PE} = 6 \times 0.12$$

$$= 0.72$$

NSCBL

DEBT(X)	**RETURN (Y)**	**dx(x-x)**	**(dx)2**	**dy(y-y)**	**(dy)2**	**dx.dy**
203.11	5.39	-75.25	5662.56	-0.08	4.33	156.52
240.13	6.59	-38.23	1461.53	-0.88	0.77	33.64
264.80	6.92	-13.56	183.87	-0.55	0.30	7.46
308.43	8.19	30.07	904.20	0.72	0.52	21.65
375.35	10.25	96.99	9407.06	2.78	7.73	259.64
1391.82	**37.34**		**$\sum (dx)^2$**		**$\sum (dy)^2$**	**$\sum dx.dy$**
278.36	**7.47**		**17619.22**		**13.65**	**470.21**

Here, We Know

$\text{Average}(\bar{x}) = 278.36$

$\text{Average}(\bar{y}) = 7.47$

$n = \text{No of years} = 5$

$$r = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}}$$

$$= \frac{470.21}{\sqrt{17619.22}\sqrt{13.65}}$$

$$= \frac{470.21}{132.74 \times 3.69}$$

$$= \frac{470.21}{489.81}$$

$$\therefore r = 0.96$$

$$\therefore r^2 = 0.92$$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1 - 0.92}{\sqrt{5}}$$

$$= 0.6745 \times \frac{0.08}{2.24}$$

$$= 0.6745 \times 0.35$$

$$= 0.02$$

$$\text{and } 6\,\text{PE} = 6 \times 0.02$$

$$= 0.12$$

Appendix No.2

Coefficient of Correlation Analysis between EBIT and Interest payment

NABIL

EBIT (X)	**Interest (Y)**	**dx(x-x)**	**(dx)2**	**dy(y-y)**	**(dy)2**	**dx.dy**
10.01	2.44	-6.56	43.03	-3.70	13.69	24.27
12.55	3.57	-4.02	16.16	-2.57	6.6.	10.33
15.51	5.56	-1.06	1.12	-0.56	0.34	0.61
18.41	7.58	1.90	3.61	1.44	2.07	2.74
26.31	11.53	9.74	94.87	5.39	29.05	52.49
82.85	**30.68**		**$\sum (dx)^2$**		**$\sum (dy)^2$**	**$\sum dx.dy$**
16.57	**6.14**		**159.79**		**53.75**	**90.45**

Here, We Know

$\text{Average}(\bar{x}) = 16.75$

$\text{Average}(\bar{y}) = 6.14$

$n = \text{No of years} = 5$

Now,

$$\text{Coefficient of correlation (r)} = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}} = 0.92$$

$$\therefore r^2 = 0.85$$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.6745 \times 0.15$$

$$= 0.6745 \times 0.07$$

$$= 0.05$$

$$\text{and } 6\,\text{PE} = 0.30$$

SBI

EBIT (X)	**Interest (Y)**	**dx(x-x)**	**(dx)2**	**dy(y-y)**	**(dy)2**	**dx.dy**
3.84	2.58	-3.64	13.31	-1.98	3.96	7.10
5.35	3.35	-2.14	4.58	-1.22	1.49	2.01
7.57	4.12	0.08	0.01	-0.45	0.20	-0.04
8.03	4.55	0.54	0.29	-0.02	0.0004	-0.01
12.68	8.25	5.19	26.94	3.68	13.54	19.09
37.47	**22.85**		**$\sum (dx)^2$**		**$\sum (dy)^2$**	**$\sum dx.dy$**
7.49	**4.57**		**45.14**		**19.19**	**28.25**

Here, We Know

$\text{Average}(\bar{x}) = 7.49$

$\text{Average}(\bar{y}) = 4.57$

$n = \text{No of years} = 5$

$$r = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}} = 0.96$$

$$\therefore r^2 = 0.92$$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.02$$

$$\text{and } 6\,\text{PE} = 0.12$$

NSCBL

EBIT (X)	Interest (Y)	dx(x-x)	(dx)2	dy(y-y)	(dy)2	dx.dy
10.52	2.54	-4.28	18.31	-1.43	2.04	6.12
12.43	3.03	-2.37	5.61	-0.94	0.88	2.22
14.29	4.13	-0.51	0.26	0.16	0.02	-0.08
16.65	4.71	1.85	3.42	0.74	0.54	1.36
20.11	5.44	5.31	28.19	1.47	2.16	7.80
74.00	**19.85**		**$\sum (dx)^2$**		**$\sum (dy)^2$**	**$\sum dx.dy$**
14.80	**3.97**		**55.75**		**5.76**	**17.42**

Here, We Know

$\text{Average}(\bar{x}) = 14.80$

$\text{Average}(\bar{y}) = 3.97$

$n = \text{No of years} = 5$

$$r = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}} = 0.95$$

$\therefore r^2 = 0.90$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.03$$

$\text{and } 6\,\text{PE} = 0.18$

Appendix No.3

Coefficient of Correlation Analysis between Debt Equity Raito and NPAT.

NABIL

D/E (X)	NPAT (Y)	dx(x-x)	(dx)2	dy(y-y)	(dy)2	dx.dy
9.37	5.19	-2.57	6.60	-2.02	4.08	5.19
10.91	6.35	-1.03	1.06	-0.86	0.74	0.88
12.25	6.73	0.31	0.10	-0.48	0.23	-0.15
14.14	7.46	2.20	5.04	0.25	0.06	0.55
13.01	10.31	1.07	1.24	3.10	9.61	3.32
59.68	**36.04**		**$\sum (dx)^2$**		**$\sum (dy)^2$**	**$\sum dx.dy$**
11.94	**7.21**		**13.94**		**14.72**	**9.79**

Here, We Know

$\text{Average}(\bar{x}) = 11.94$

$\text{Average}(\bar{y}) = 7.21$

$n = \text{No of years} = 5$

$$r = \frac{\sum dx.dx}{\sqrt{(dx)^2}\sqrt{(dy)^2}} = 0.47$$

$\therefore r^2 = 0.22$

$$\text{Now PE} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.23$$

$\text{and } 6\,\text{PE} = 1.38$

Appendix No.4

Estimated and Forecasted value of Dependent value (NABIL)

Debt-equity ratio

F/Y	D/E Ratio (y)	x (Fy 06/07)	x^2	XY	Yc=a+bx
04/05	9.37	-2	4	-18.74	9.84
05/06	10.91	-1	1	-10.91	10.89
06/07	12.25	0	0	0	11.94
07/08	14.14	1	1	14.14	12.99
08/09	13.01	2	4	26.02	14.04
	∑ y=59.68		∑ $X^{2=}$10	∑ xy=10.51	

Note:

Y: estimated value of dependent variables

x= Time in trend analysis

a= y=intercept

b= slopeof the trend line

n= No.of year 5

Here

$$a = \frac{\sum Y}{n} = \frac{59.68}{5} = 11.94$$

$$b = \frac{\sum xy}{\sum y^2} = \frac{10.51}{5} = 1.054$$

Now, $Y_c = a + bx$

04/05 = Y04/05 = 11.94 + 1.05 x (-2) = 9.84

05/06 = Y05/06 = 11.94 + 1.05 x (-1) = 10.88

06/07 = Y06/07 = 11.94 + 1.05 x 0 = 11.94

07/08 = Y07/08 = 11.94 + 1.05 x 1 = 12.99

08/09 = Y08/09 = 11.94 + 1.05 x 2 = 14.04

Forecasted value of dependent variable for

09/10 = 11.94 + 1.05 x 3 = 15.09

10/11 = 11.94 + 1.05 x 4 = 16.14

11/12 = 11.94 + 1.05 x 5 = 17.19

Debt-Assets Ratio

NABIL

F/Y	D/E Ratio (y)	x (Fy 06/07)	x^2	XY	Yc=a+bx
04/05	90.35	-2	4	-180.70	90.77
05/06	91.60	-1	1	-91.60	91.39
06/07	92.45	0	0	0	92.01
07/08	92.79	1	1	92.79	92.63
08/09	92.86	2	4	185.75	93.25
	∑ y=460.06		∑ $X^{2=}$10	∑ xy=6.21	

Here,

$$a = \frac{\sum y}{n} = \frac{460.05}{5} = 92.01$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{6.21}{10} = 0.62$$

Now $Yc = a = a + bx$

Y04/05 = 92.01 + 0.62 x (-2) = 90.77

Y05/06 = 92.01 + 0.62 x (-1) = 91.39

Y06/07 = 92.01 + 0.62 x 0 = 92.01

Y07/08 = 92.01 + 0.62 x 1 = 92.63

Y08/09 = 92.01 + 0.62 x 2 = 93.25

Forecasted value of dependent varibale for:

Y09/10=92.01+0.62x3=93.87

Y10/11=92.01+0.62x4=94.49

Y11/12=92.01+0.62x5=95.11