

# **CHAPTER-I**

## **INTRODUCTION**

### **1.1 Background of the Study**

Industry is very crucial factor for economic progress and plays the role of the lubricant for economic prosperity of the country. The industrial development is not old as the process started with the establishments of Biratnagar jute mill and industrial council in 1936 A.D. There after industrial growth accelerated with establish if the Morang Cotton Mill in 1941, the Morang Sugar mill in 1946, the Ragupati Jute Mill 1946 etc. The industrial growth took high speed before the Second World War. The year 1956 is said to be "Golden year." Various writers have defined the word "bank" is different ways. "A commercial bank is dealer in money and in substitutes for money, such as cheque or bill of exchange. He also provides a variety of financial service". Commercial bank as a financial institution transfers monetary sources from savers to users. Finance is needed to perform a firm's production marketing and other function. Commercial banks are to land money to merchant, house owners, Farmer's, industrialists and to hold government bonds. Commercial bank can mainly undertake measures such as organizational reforms of banks, maximum utilization of resources and increase in non-cash reserve transactions to reduce the spread between interest rate on deposit and credit.

They deploy funds raised from different sources in to different assets with a primary objective of profit generation. They also pay an important role for the economic development and poverty alleviation of the country through providing credit facilities, quality banking service to a people both business community as well as common man. Today there are altogether 31 banks operating in the country and most of them are joint venture banks. "Capital structure is the composition of the debt and equity securities and is considered as financing decision undertaken by the financial manager. The financial manager must strive to obtain the best financing mix or optimum capital structure for his firm. The firm attains capital structure where the debt-equity proportion maximizes the market value of the shares. The uses of debt affect the return and risk of the equity

shareholder; it increases the return on equity fund and at the same time it also increases risk. A proper balance must be strike between the risk and return in order to maximize the market value of shares". (Pandey; 1995:54)

"Capital structure is very crucial part of financial management as the various composition of debt and equity capital may impact differently on risk and rate of return to equity shareholders. The funds required to business enterprises are raised either through the ownership securities (i.e. equity share and preference shares) and creditor ship securities (i.e. debenture and bond). A business enterprise has to maintain a proper mix of both the securities in a manner that the cost and risk perception to the shareholders are minimized. The mix of different securities is portrayed by the firm's capital structure". (Koirala; 1990:105)

Financial decision must be very sensitive in misappropriate composition of debt equity in capital structure may lead to bankruptcy of the firm. The optimal capital structure is attaining at the level where the risk perception of shareholder is minimized and returns are maximized. As the return to shareholder is maximized automatically the market value of the firm is maximized. The capital structure affects the cost of the firm. The financial manager must be sensible while selecting the optimal capital structure for the firm.

Due to globalization of economy and market, present world economy has been more competitive and complicated. Every sort of change occurring in one sector of the world affects the other. A healthy economy is dependent on efficient transfer of fund from people who are savers to firms and individuals who need capital. Without efficient transfer, the economy is simply impossible for allocating capital within the economy.

Nepal like all underdeveloped countries has been facing problem of accelerating the economic development. Development of industrial sector, among other sectors, is equally essential for the rapid economic development of the country. But it is impossible without the development of different sector like banks, Agriculture and

Industry etc. of the economy. Nepal is a land locked mountainous country and located between the gigantic countries India and China. It is a small country with an area covering 1,47,181 sq kilometer and also ranked to least developing country with per capital income U.S. \$ 210. It is very rich in natural resources but the resources are unutilized. The geographical variation has been standing as a challenge for development of the country. About more than 68percentage of people are dependent on agriculture. Traditional agriculture system is used till now. The current situation of Nepalese economy is not satisfactory due to poor infra-structure, unutilized natural resources miserable agriculture, deficit trade, illiteracy, political instability and so on. It is one of the richest countries for hydropower with potentiality of 83,000 megawatts but due to its developing nature is not being able to utilize its full capacity and has been using only about 0.6% of full capacity.

Nepal like all underdeveloped countries has been facing problem on accelerating the economic development. Development of industrial sector, among other sectors, is equally essential for the rapid economic development of the country. But it is impossible without the development of different sector like banks, Agriculture and Industry etc. of the economy. Capital is one of the prime factors which is necessary for the development and Advancement of the country. Industry is very crucial factor for economic progress and plays the role of the lubricant for economic prosperity of the country. The industrial development in Nepal is not old as the process started with the establishments of Biratnagar jute mill and industrial council in 1936 A.D. There after industrial growth accelerated with establishment of the Morang Cotton Mill in 1941, the Morang Sugar mill in 1946, the Ragupati Jute Mill 1946 etc. The industrial growth took high speed before the Second World War. The year 1956 is said to be "Golden year."

Economic development is the backbone of the development of a nation. The economic development of Nepal is backward in comparison to other developed and developing countries. For the purpose of development of the country many business houses and companies are being established rapidly under different acts. Economic development is a challenging task in Nepal not just due to lack of resources but it is due to lack of

proper utilization of the available resources in efficient manner. This problem needs to be researched and requires proper planning and strategy development. Every development program needs capital however capital could not be collected easily. Due to the scarcity of capital it becomes necessary to collect the fund scattered among different individuals and groups. Capital collection and its mobilization is essential condition for the upliftment of the nation.

Like blood is necessary for human beings, finance is for business organizations and industries. Each and every business organization should base their decision making in financial management. Financial management is mainly concerned with the acquisition and utilization of funds. For this, financial market plays vital role in utilizing financial resources for expanding productive sectors in the country. It mobilizes unproductive and unutilized financial resources towards productive sectors and helps in expanding economic growth and development of the country. The collected capital could be the financial power i.e. worthy and productive if such amount is collected from various people and utilized in best proper way.

Capital structure plays a vital role in accelerating the economic growth of nation, which in turns is basically determined, among others by saving and investment propensities. But the capacity of saving in the country is quite low with relatively higher marginal propensity of consumption. As a result developing countries are badly trapped into the vicious circle of poverty. The basic problem for the developing countries is raising the level of saving and investment. It will either be diverted abroad or used for unproductive consumption or speculative activities. In order to collect the enough saving and put them into productive channels, financial institution like banks is necessary.

Banks are among the most important financial institutions in the economy of the country. Bank is a business establishment that safeguards people's money and uses it to make loans and investments. A bank is an organization concerned with the accumulation of the idle money of the general public for the purpose of advancing to

others for expenditure or investment. A bank is the institution, which accepts deposits from the public and in turn advances loans by creating credit.

Banks are the institutions that provide the funding requirement to those with skills and desire to operate the business collecting from those who hold money but no skill or time to operate the business. Bank is a resource of mobilizing institution, which accepts deposit from various sources, and invests such accumulated resources in the fields of agriculture, commerce, trade and industry.

In other words, banks are the institutions offering deposits subject to withdrawal on demand and making loans of a business nature. Banks offers wide range of financial services like credit, savings, payments services etc.

## **1.2 Commercial Banking Scenario in Nepal**

Commercial bank means a bank which operates currency exchanges transactions, accept deposits, provides loan performs dealing relating to commerce except the banks which have been specified for the cooperative, agriculture, industry or other similar specific objectives. There are 31 commercial banks in Nepal.

## **1.3 History of Bank**

When, where and how the modern banking actually came in existence cannot be pointed out. But from the different historical facts it reveals that some banking activities have been carried out since the time immemorial. At that time merchants, money lenders, goldsmiths, etc performed the banking transactions. Latter the transactions started increasing and they became the activities of money exchange securing the valuable goods, deposit money, lending money and so on. Banking has a long history. The origin of bank is not a new phenomenon. There was a crude form of banking even in ancient VEDIC era. The terms in banking such as pledges, deposits, rate of interest, loans etc can be found in the ancient Hindu Epic **Manuscript**. Even in 300 B.C. it was in existence in India, China, Arabia, Greece, Persia and Egypt even though the procedures of banking were not organized. On the span of time, it has been expanding. For all these

types of activities written receipts began to be used and the modern banking started. In the historic age sources say that goldsmiths and money lenders contributed to large extent in the growth of banking system. They used to store peoples gold charging nominal charges issued receipts to the depositors, which was good for payments. Latter, they started advancing money charging interest on it. So the goldsmiths and money lenders started performing the functions of modern banking i.e. accepting deposits and advancing loans. However, the modern banking originated in Italy.

The word 'bank' was derived from the Italian word "Banco" which means accumulation of money or stock. Bank as an formal institution was originated from Italy. The bank of Venice which was established in 1157 A.D was the first bank in the history of banking and it was established to finance the monarch in the wars. The Bank of Barcelona, Spain which was established in 1404A.D. was the second bank in the World and then The Bank of Genoa was set up in 1407 AD.

The first central bank though was the bank of England which was established in 1844 A.D. Banking has come to the present advanced form through various stages. Some

sorts of banking activities have been carried out since the time immemorial. Traditional forms of banking were traced during the civilization of Greek, Rome and Mesopotania. With large banking firms established in Florence, Rome, Venice and other Italian cities the banking activities spread throughout the Europe and it slowly spread throughout the world.

#### **1.4 Banking Industry in Nepal**

The specific date of beginning of money and banking transaction in Nepal is unknown. The banking functions were carried out in unorganized sectors. It is found that minted coins, copper coins, silver coins, and gold coins were introduced by different kings. It has gone through different stages; during the Prime minister ship of Randip Singh around 1872 A.D. "Tajarath Adda" was introduced which brought reforms in economic and financial sector. The main purpose of "Tajarath Adda" was to provide credit

facilities to the general public at a concessional rate. However the installment of "Kausi toshakhana" as a banking agency during the regime of king Prithvi Narayan Shah could also be regarded as the first step towards banking in Nepal. Institutional development of modern banking in Nepal had begun from early 1990s. With the establishment of Nepal Bank Limited in 1994 B.S holding 51 percent of Government equity, the new era of banking sector had started in Nepal. As a central bank, Nepal Rastra Bank was established in 2013 B.S. under the provision of Nepal Rastra Bank Act 2012, with the objectives of helping in the development of monetary and financial sector by undertaking various functions.

Another step was added when Rastriya Banijya Bank was established in 1966(2022BS) under the Banijya Bank Act 1965(2021BS). Likewise, Agriculture Development Bank was established in 1965(2024BS) with the objective of supporting the agriculture sector and increasing the life standard of those people who are involved in agriculture.

The banks opened before the decade of 1980s were by the government. No private sector was permitted to open banks in Nepal. The process of development adopted liberalized economic policies to develop the financial sector. In early 1980's to meet the need of healthy competition in the financial system, Nepal allowed the entry of foreign banks as joint ventures with up to maximum of 50percentage equity participation. With the arrangement of financial liberalization process of the government, the whole financial industry went through drastic change with credit institutions mushrooming in the country. It has brought crucial change and big milestones in its services during these short spans.

In the liberal financial system, the role of central bank as guardian of financial system comes to be more significance it. The recent experience of south East Asian countries have shown that in the case of weak monitoring and supervision financial crisis is likely to occur immediately. Taking this fact into consideration, it is essential to make financial system health and strong while enhancing the monitoring and supervising capacity of the central bank in coming day. Government of Nepal budget for the year

(FY2005) provided the following justification for allowing the setting up of joint venture banks in the following words. "As present the financial institutions of the country have neither been effortful to mobilize resources. On the one hand, the major part of their commercial loan is concentrated among the few individuals where as the small trade entrepreneurs are facing difficulties to receive loan on the other. The only solution to this problem is to encourage competition in the banking sector. Therefore a policy of allowing new commercial banks under joint venture with foreign collaboration has been adopted. This will promote competition among banks where by the client will get improved facility. In addition, the share of the new banks will also be sold to the general public and in distributing the share. It will be ensured that the ownership is spread out to the maximum intent possible."(Ministry of Finance; 2005:13)

As a pre-condition to economic liberalization, the Foreign Investment and Technology Transfer Act, 1981 came into existence. The government allowed private sectors to open banks. Joint venture projects were also allowed. Many joint venture commercial banks and financial institutions were established. As a result, Nepal Arab Bank Limited was established as a first joint venture commercial bank in 1985 under the provision of Commercial Bank Act, 1974 and Company Act 1965. Then, Nepal Indosuez Bank Limited was established in 1985 and Nepal Grindlays Bank Limited in 1986. In 2001, the name of Nepal Grindlays Bank Limited has been changed into Standard Chartered Bank Nepal Limited and Nepal Indosuez Bank Limited has been changed into Nepal Investment Bank in 2002, which has no foreign share now. Nepal SBI bank Ltd. Also was formed in joint venture. It was established in 2050 (1993). This bank was established with the joint investment the state bank of India and Nepal. Himalayan Bank Limited was established in 2049 (1992). This bank was established in joint participation of the Habib Bank of Pakistan. Nepal Bangladesh bank limited was established in 2051 (1994). This bank was formed in joint venture of the international finance investment and commerce Bangladesh. Nabil Bank was established in 2051 (1994) under 5he commercial Bank out and company act 2021 (1965). It is joint venture of state bank of India and Nepal promoter. Bank of Kathmandu Ltd. was established in 2051 (1994) under joint investment of the Siam commercial Bank Thailand. Nepal credit and

commerce bank of joint investment of Nepal investors and the Srilankan investors but Srilankan investors but Srilankan investors have sold their shares to NB group of Nepal and its name has been changed into Nepal credit and commerce bank limited. Under the commercial bank act and company act other banks were established such as Lumbini bank, NIC bank, Kumari Banks, Machhapuchre bank, Laxmi bank, and Sidhhartha bank ltd.

After the restoration of multiparty democracy, the newly formed government adopted liberalized policies aimed at accelerating economic growth and considerably reducing state interference in business. The governments encouraged foreign and private investment by offering attractive incentives and facilities including 100% foreign ownership in all but few sectors. This helped to create a conducive business environment for banking. As a result, additional commercial banks came into existence. When the internal violence shows a green signal to manage and Nepal Rastra Bank made ease for rules and regulations, many new commercial banks are coming into existence and existing development banks and financial institutions are upgrading them as commercial banks. At present there are 31 commercial banks registered and operating in Nepal.

### **1.5 Function of Commercial Banks**

The main functions of commercial banks include:

- ) accepting deposits in the forms of current,
- ) saving and fixed deposits, providing short, medium and long term loans,
- ) acting as an agency in transfer of money, make payment on commission basis for the cheque, draft, bill of exchange etc. by the customer,
- ) buying and selling shares and debentures of any company and government bonds
- ) collecting interests on debenture and government bonds, dividend on shares and funds from other banks for its customers
- ) making payments on insurance premium, rent, income tax, school fees, telephone bills to the concerned offices on behalf of customers
- ) carrying out the foreign currency exchange, and

- ) helping in foreign trade etc.
- ) Moreover, other functions include: to protect the precious jewelleries; to provide travelers cheque, to underwrite the debentures; to issue credit card, debit card, master card, visa card etc.; to create credit on the specific basis and expand credit and so on

## 1.6 Profile of Concerned Banks

### 1.6.1. Nabil Bank Limited (NABIL)

Nabil Bank Limited (A joint venture with Punjab National Bank India) has been established with the objective of expending professionals banking services to various sections of society in the kingdom of Nepal and there by contributes in the economic development of the country. The bank has come into formal operations from 18<sup>th</sup> October 1994 (Kartik 2051B.S). NABIL is a joint venture with Panjab National Bank" (PNB) one of the largest commercial bank in India having over 3700 branches and more than 300 foreign correspondents around the globe. PNB has a century old tradition of successful banking and is known for its financial strength and will laid down modern banking system and procedures. PNB is providing the top management service to NABIL under a technical services agreement signed between the two institutions. NABIL has advantage of the banking expertise and financial strength of its partner currently with 38 branches in various parts of the kingdom of Nepal. NABIL operated with the objectives of providing the full range of quality banking service to both the business community and the common man.

Present capital structure of Nabil Bank.

Share capital and Reserves	NPRS in Million
Authorized capital	240
Issued and paid up capital	120
Statutory and other reserves	23.15
Retained earring	2.76

#### Shareholding Pattern:

	Percent	Amount
Nepalese promoters	50%	60
Punjab National Bank (Joint neuter partners )	20%	24
General pubic	30%	36

Source: Annual Report of Nabil Bank.

The following activities and service are provides by Nabil including normal functions.

- ) SWIFT transfer
- ) T.T transfer
- ) L.C facilities
- ) Deposit locker
- ) Drawing arrangement
- ) International trade and bond guarantee.

#### **1.6.2. Himalayan Bank Limited (HBL):**

HBL was established in 1992 AD .it is established to maintain the economic welfare of the general people to facilitate loan for agriculture, industry and commerce to provide the banking service to the country and the people. The founder stockholder own 51 percentage of share, Habib Bank of Pakistan 20 percentage , Karmachari Sanchaya Kosh 14%percentage and general public 15 percentage of the total capital structure, the bank has Rs. 120 million authorized and Rs. 60million issued capital . It is the first joint venture bank having domestic ownership more than 50%. According to annul report 2009/10 there are total 34 branch offices and a city office.

#### **1.7 Capital Structure of Commercial Banks**

Every business firm or Bank requires the initial funds for its sound operation. Capital is the blood of the business. A business firm or enterprises cannot run their business without capital. Enterprises whether they are government owned or privately owned have to make pertinent capital structure decision in identifying exactly how much capital is needed to run their operation smoothly.

The funds required are generated usually by two means: equity and debt, equity provides the ownership of the firm to the shareholders. On the other hand, debt is a fund borrowed with fixed charges to be paid periodically to the debtor, the term capital structure refers to the proportion of debt and equity capital or the composition of long term sources of finance, such as preference capital debentures, long term debt and equity capital including reserves and surpluses (i.e. retained earnings and excluding short term debts.)

Firstly, it should be decided the meaning of capital structure. This would be a capital structure, which results in a low overall cost of capital for the company, that is, a low overall rate of return that needs to be paid on funds provided. If the cost of capital is low, then the discounted value of future cash flows generated by the company is high resulting in a high overall company value. The objective is therefore to find the capital structure that gives the lowest overall cost of capital and consequently, the highest company value.

The capital structure decision affects the total value of the firm. The proper balance between debt and equity is necessary to ensure a tradeoff between risk and return to the shareholders. The capital structure of the bank should be such that leads to the value maximization. The optimal capital structure, i.e. the capital structure with reasonable proportion of debt and equity minimizes the opportunity cost of capital and maximizes the shareholders' wealth.

### **1.8. Focus of the Study**

We have stated above the meaning and importance of the capital structure of financial institution. The main purpose of this study is to evaluate the capital structure of the private commercial banks. The capital structure decision is a major decision, which affects the overall cost of capital, total value of the firm and earnings per share.

This study is based upon the study of overall cost of capital structure by using various relative measurement tools. It considered earning per share, dividend per share, return

on total assets etc. Optimal capital structure plays vital role in every organization. So, this study tries to evaluate the optimality of their capital structure using various financial variables for the purpose of comparative evaluation.

Hence the focus of this study mainly deals with the effects of the capital structure on the growth and profitability of the firm and the extent to which the capital structure policy is followed by the commercial banks.

### **1.9 Statement of the Problems**

Capital structure concept is not taken seriously by the Nepalese companies. Therefore optimal capital structure does not exist at all. Among the listed commercial bank in the stock exchange very few are using the debt capital and contrary to this some of the companies are ruined by the excess burden of the cost of debt capital. Generally every company has its own policy in determining capital structure for operating business activities. Some of the business use only equity capital some use only debt and some business use both debt and equity capital. Therefore determination of capital structure largely depends upon the company policy and cost of capital.

The problem faced by the banking industry is the lack of optimal capital structure in the commercial banks. The success and prosperity of a bank relies heavily on maximization of the wealth of the shareholders or return on equity. Nepalese banks do not take the capital structure concept seriously. The combination of debt and equity used in the capital structure is not proportionate which in turn affects the value maximization of the bank. Most of the banks make low cost of capital structure. In the initial period of any company, they want to use only equity capital and do not want to include debit in their capital due to high interest. The key factors; risk and return can be used for decision. The present study will try to analyze and examine the practice of capital structure in the commercial banks in Nepal. This study specially deals with the following problems.

- ) What factors affected capital structure?
- ) What is the financial position of the sample banks?
- ) How far commercial banks have been able to use their resource?

- ) How efficiently these banks are managing their capital structure?
- ) How much is the profitability?
- ) What is the relation between capital structure and other variables?

### **1.10 Objectives of the Study**

The main objective of this study is to know the financial position and the values of firm with capital structure. The optimal capital structure differs in individual firms, banks and industries. These studies also find out the use of debt and equity, effect of capital structure on the various factors etc.

The specific objectives of the study are as follows.

- (i) To examine the current capital structure of sample commercial banks.
- (ii) To analyze the mix of debt and equity of selected banks.
- (iii) To analyze relationship between capital structure, cost of capital and profitability.

### **1.11 Significance of the Study**

First of all, it is the fact that this study is undertaken to apply the theoretical concept and knowledge of Financial Management to the practical aspect as a partial fulfillment of the requirement of Master of Business Study (MBS) under faculty of Management, Tribhuvan University. This study would contribute an overall look at the coming up new capital policies to be taken by the bank and the factors that should be taken in consideration while preparing the next year's policy. The bank which would be included in as sample would likely see the point of their weakness and significance of this study on their future plan.

This study is also important for owners, creditors and potential investors to make their attitude on investment. The study will also have significance for management, policy maker, stakeholder of the banks and others those having investment on capital structure decision. The study has multidimensional significance which can be divided into following broader heading.

### **1.11.1 Its Importance to Outsiders:**

Among outsiders, mainly the customers, financing agencies, stock exchange and stock traders are interested in the performance of banks and the customers both can identify to which bank they could go. The financial agencies can understand where the funds are more secured and stock exchanges, stock broker can find the relative worth of stock of each bank. It will be valuable property for the library use and the study will be used as a pilot work for the future research.

### **1.12 Limitation of the Study**

Each study is conducted under some constraints and limitations. Likewise this study is also limited by some common constraints. This study is prepared for partial fulfillment of MBS degree which has to be finished within a short span of time and under different strains. Some of the basic limitations are as follows:

- ) This study is based on published financial documents likes: Balance sheet, profit and loss account, other related journals and books etc.
- ) This whole study is based on data of five year (2005/06-2009/10) period.
- ) This study is based on secondary data collected from bank and their websites.
- ) This study is limited to related variables affecting capital structure of the selected banks.
- ) The lack of sufficient resources and time is the limitation of the study. The study is to fulfill for business studies (MBS) program which has to be conducted within the prescribed time.

### **1.13 Organization of the Study**

This research study has been divided into five chapters. They are as follows:

#### **Chapter – I**

The first chapter contains the introduction part of the study. It gives some earlier history of concern title and some related term as well. It has introduction of commercial bank as well as selected banks. General background of the study commercial banking scenario

in Nepal, statement of the problem objective of the study, significance of the study, limitation of the study, organization of the study are arranged.

## **Chapter – II**

The second chapter deals with review of literature which presents some principles, theoretical aspects, some pilot studies made under some report, journals and some relevant studies on the topics of this thesis. It also reviews the major relevant studies with fund mobilization of a commercial joint venture bank.

## **Chapter – III**

Similarly, the third chapter explains the research methodology including research design, nature and resource of data, sample size, data collection procedure, tabulation, analysis and interpretation of data, period covered of research and review of literature.

## **Chapter – IV**

The fourth chapter deals with presentation and analysis of data through a definite course of research methodology. This chapter is to analysis different financial ratios and statistical analysis related to capital structure and fund structure of this sample bank.

## **Chapter – V**

The fifth chapter discusses summary of the study and suggestion as well as recommendations. Besides this bibliography on appendices are also included.

## **CHAPTER-II**

### **REVIEW OF LITERATURE**

#### **2.1 Introduction**

As the study focuses on capital structure management, here it is most important to open up with the conceptual thought behind it. Capital is a scarce sources and much more essential to maintain smooth operation of any firm. The available capital and financial sources should be utilized so efficiently that could generate maximum return. Capital structure is considered as the mix of debt and equity and to operate in long run prospect, a firm must concentrate in its proportion.

The purpose of literature review is thus find out what research studies have been to conducted in ones field of study, and what remains to be done. Review of literature provides foundation to the study. The literature survey also minimizes the risk of pursuing the dead end in research. To make meaningful research study conceptual review has been done through the study of various books, journals and articles and researches conducted by the previous researches in the field of capital structure ie research work, thesis and dissertation etc. So, this chapter 'literature review' has been divided into the following sections.

The purpose of reviewing the literature is to develop some expertise in one's area, to see what contributions can be made, and to receive some ideas for developing a research design. Literature review is basically a 'stock taking' works of available literature. To make the research more realistic review of literature is required. It provides significant knowledge in the field of research. Every study is very much based on past study. Thus the past studies cannot be ignored. This chapter helps to take adequate feedback on broaden the information based inputs to my study.

- ) Conceptual review
- ) Review of Journals

- ) Review of Article
- ) Review of Thesis

## **2.2 Conceptual review**

In this section, various books are reviewed those are written by the different writers that make clear about the concept, definitions, composition and assumptions of capital structure, theories and approaches of capital structure and checklist for factors affecting capital structure are reviewed. It helps to assess new idea by examining views of different writers and scholars.

### **2.2.1 Conceptual Framework**

Capital structure is the mix (or proportion) of a firm's permanent long term financing represented by debt, preferred stock and common stock equity (Van Horne, 1997:240).

The financial manager is concerned with determining the best financial mix or capital structure where the optimal financing mix would exist; in which market price per share could be maximized (Pandey, 1988:203).

Capital structure of the firm is the permanent financing represented by long term debt, preferred stock and shareholder's equity. Thus, a firm's capital structure is only part of its financial structure (Weston and Brigham, 1978:565).

"Capital structure is made up of debt and equity securities which comprise a firm's finance of its assets. It is the permanent financing of a firm represented by long term debt plus preferred stock plus net worth" (Kulkarni; 1983:363).

"The term 'capital structure' means the proportion of different types of securities issued by a firm. The optimal capital structure is the set of proportion that maximizes the total value of the firm" (Schall and Haley; 1983: 339).

"The two principal sources of long term financing are equity and debt capital. The composition of these two long term financing is known as capital structure. Under normal economic condition, the earnings per share can be increased using higher

leverage. But leverage also increases the financial risk of the share holder." (Gautam and Thapa; 2060: 223).

Capital structure is one of the most complex areas of financial decision making due to its interrelation with other financial decision variables. The success and failure of the enterprise depends on the ability of top management to make appropriate capital structure decision.

A sound or appropriate capital structure should have the following features. (Pandey; 1999: 719).

**A. Return:**

The capital structure of the company should be most advantageous. Subject to other consideration, it should generate maximum return to the shareholders without adding additional cost to them.

**B. Risk:**

The use of excessive debt threatens the solvency of the company. To the point debt does not add significant risk it should be used otherwise its use should be avoided.

**C. Flexibility:**

The capital structure should be flexible. Flexibility as company can raise helps to grab market opportunity as company can raise required funds wherever it is needed for profitable investment opportunities. It also when funds from debt and preferred stock are no more required in the business.

**D. Capacity:**

The capital structure should be determined within the debt capacity of the company, and this capacity should not be exceeded. The debt capacity of a company depends on its ability to generate future cash flows.

### **E. Control:**

Control power is the one of the most concerned part for the management. Management always wants to maintain control over the firm. The capital structure should involved minimum risk of loss control of the company. Issue of excess equity shares to new investors may bring threats to the control by existing manager. The term capital denotes the long-term fund of the firm. All of the items on the liabilities side of firm's balance sheet, excluding current liabilities are sources of capital. The total capital can be divided into two components: debt and equity capital.

#### **(i) Debt Capital:**

It includes all long term borrowing incurred by the firm. Debenture, bonds, long term loan etc. are major sources of debt or borrowed capital. A firm employs subtotal amount of debt capital of tax deductibility of interest payment, flexibility, and lower effective cost. However excess amount of debt exposes high risk.

#### **(ii) Equity Capital:**

It consists of the long term fund provided by the firm's owners, the stockholders. In other words, equity capital includes common stock, paid in capital or share premium, reserve and surplus and retained earnings. Joint Stock Company cannot be established with any equity financing. Preferred stock is neither purely a debt nor equity.

### **2.2.2 Theories of Capital Structure**

"The two principal sources of long term financing are equity and debt capital. The composition of these two long term financing is known as capital structure. Under normal economic condition, the earnings per share can be increased using higher leverage. But leverage also increases the financial risk of the shareholders. As a result, it cannot be said whether or not the value of the firm will increase with leverage. In other words, a great deal of controversy has been developed on whether the capital structure affects value of the firm or not. Traditionalists agree that capital structure is relevant factor for valuation of the firm. Further they say value of the firm can be maximized by adopting optimal capital structure. Modigliani and miller, on the other

hand argue that in perfect capital market, it does not affect value of the firm. The major theories of capital structure are as follow:" (Pandey; 1999: 675)

Capital Structure is an important subject, especially for firms. A bad capital structure is more expensive than a good capital structure. Firms raise investment funds in a number of different ways. A firm's mix of these different sources of capital is referred to as its capital structure.

Basically, the theories of capital structure are distinguished into 6 different groups.

- ) Traditional theory
- ) Modigliani - Miller theorem
- ) Trade off theory
- ) Free Cash Flow theory
- ) Pecking Order theory
- ) Stakeholder theory

#### **2.2.2. i. Traditional Theory**

The first theory is called the "traditional theory". Supporters of this theory believe that the lowest weighted average cost of capital (WACC) will maximize the firms" market value. This means the existence of an optimum relation between debts and equity but it is very difficult to reach that point. Although it is cheaper to finance with debt, this theory certainly rejects to finance all with debt because after a certain level of debt the risk of non-payment increases. In this case shareholders and debt financiers demand a higher compensation.

#### **2.2.2. ii Modigliani - Miller Theorem**

The next theory is the most important theory, although it is not a realistic theory. The Modigliani -Miller theorem states that if the capital structure decision has no effect on the cash flows generated by a firm, the decision also will have no effect - in absence of transaction costs - on the total value of the firm's debt and equity. This means that there is no relationship between a firm's market value and the capital structure. Profitability of a firm's activities is the only factor that determines the market value.

This theory is based on a perfect capital market. The only market imperfections they admit are corporate taxes. In short, the assumptions of the Modigliani - miller theorem are as follows (JC van Horne, 1995):

1. Capital markets are perfect
  - ) Information is free of costs and widely available.
  - ) No transaction cost.
  - ) Investors behave rational.
2. Every firm has perpetual flows of money with equal time values
3. Companies can be divided in homogeneous risk classes
4. There are no taxes.

### **2.2.2. iii Stakeholder Theory**

Cornell and Shapiro (1987) assume that not only investors have an interest in a firm. There are different groups of non-investor stakeholders, and some of them have a lot of influence in the financial policy of a firm. Or, as Cornet and Shapiro wrote: Financial structure may also depend on a firm's net organizational capital and on the nature of its stakeholders. Examples of non-investor stakeholders are customers, employees and suppliers.

Non-investor stakeholders hold implicit claims. Implicit claims are non-written promises and rights, such as the right provide service to customers or job-security for employees.

### **2.2.3 Approaches to Capital Structure**

- ) Traditional approach
- ) Net income approach
- ) Net operating income approach
- ) Modigliani-Miller's approach

#### **2.2.3. i Net Income approach**

David Durand proposed the Net Income Approach. This approach stated that firm can increase its value or lower the cost of capital by using the debt capital. According to NI

approach, there exists positive relationship between capital structure and valuation of firm and change in the pattern of capitalization bring about corresponding change in the overall cost of capital and total value of the firm. Thus with an increase in the ratio of debt to equity, overall cost of capital will decline and market price of equity stock as well as value of firm will rise. (David Durand, 1959:91-116). The converse will hold true if ratio of debt to equity tends to decline. The approach assumes no change in the behavior of both stockholders and debt holders as to the required rate of return in response to a change in the debt-equity ratio of the firm. They want to invest since debt holder are exposed to lesser degree of risk, assumed of a fixed rate of interest and are given preferential claim over the profit and assets, the debt holders' required rate of return is relatively lower than that of equity holders. So, the debt financing is relatively cheaper than equity. For this reason, at constant cost of equity ( $K_s$ ) and cost of debt ( $K_d$ ), the overall cost of capital ( $K$ ) declines with the increased proportion of the debt in the capital structure. This suggests that higher the level of debt, lower the overall cost of capital and higher the value of firm.

It means that a firm attains an optimal capital structure when it used 100% debt financing. Running a business with 100% debt financing, however, is quite uncommon in the real world. The firm can achieve optimal capital structure by making judicious use of debt and equity and attempt to maximize the market price of its stock.

In sum, as per NI approach, increase in ratio of debt to total capitalization brings about corresponding increase in total value of firm and decline in cost of capital. On the contrary, decrease in ratio of debt to total capitalization causes decline in total value of firm and increase cost of capital. Thus, this approach is appeared as relevancy theory. This approach is based on the following assumptions:

- ) The cost of equity and debt remain constant to the acceptable range of leverage.
- ) The corporate income taxes do not exist.
- ) The cost of debt rate is less than the cost of equity.

- ) The increasing leverage brings about no deterioration in the equity of net earnings so long as borrowing is consigned to the amount below the acceptable limits.

Graphically, the effect of leverage on the firm's cost of capital and the total market value of the firm is shown below.

### **2.2.3. ii. Net Operating Income approach (NOI)**

NOI approach is another behavioral approach suggested by Duran David. This approach is diametrically opposite from the NI approach with respect to the assumption of the behavior of equity holders and debt holders. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant. The overall cost of capital is independent of the degree of leverage; any change in leverage will lead to change in the value of the firm and the market price of the shares. Net operating approach is slightly different from NI approach, unlike the NI approach in NOI approach, the overall cost of capital and value of firm are independent of capital structure decision and change in degree of financing. Leverage does not bring about any change in the value of firm and cost of capital.

The main difference between NI and NOI approach is the base that investors use to value the firm. Under NOI approach, the Net operating income, i.e. the earning before interest and tax (EBIT), instead of net income is taken as the base. Like the NI approach, the NOI approach also assumes a constant rate of  $K_d$ , which means that the debt holders do not demand higher rate of interest for higher level of leverage risk. However, unlike the assumption of NI approach, NOI approach assumes that the equity holders do react to higher leverage risk and demand higher rate of return for higher debt-equity ratio. This approach says that the cost of equity increase with the debt level and the higher cost of equity offset the benefit of cheaper debt financing resulting no effect at all on overall cost of capital.

### **2.2.3. iii Traditional Approach**

"The traditional capital structure theories, which is taken as middle ground position is known as intermediate approach. It is a compromise between the net income approach and the net operating approach. According to this view, the value of firm can be increased or the cost of capital can be reduced by a judicious mix of debt and equity capital, and that an optimum capital structure exists for every firm. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimum capital structure exists, and it occurs when the cost of capital is minimum or the value of firm is maximum.

The statement that debt funds are cheaper than equity funds carries the clear implication that the interest rate of debt plus the increased yield on the common stock, together on the weighted basis will be less than yield (cost of equity) which existed on the common stock before debt financing (Barges, Alexander, 1963:11). That is the weighted average cost of capital will decrease with the use of debt up to a limit.

According to the traditional position, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages (Soloman, Ezra, 1963:94).

#### **First stage: Increasing Value**

The first stage starts with the introduction of debt in the firm's capital structure. In this stage, the cost of equity ( $K_s$ ) either remains constant or rises slightly with debt because of the added financial risk. But it does not increase fast enough to offset the advantage of low cost debt. In other words, the advantage arising out of the use of debt is so large that, even after allowing for higher cost of equity, the benefit of the use of the cheaper sources of funds are still available. As a result the value of the firm ( $V$ ) increases as the overall cost of capital falls with increasing leverage.

During this stage cost of debt ( $K_d$ ) remains constant or rises only modestly. The combined effect of all these will be reflected in increase in market value of the firm and decline in overall cost of capital ( $K$ )

### Second Stage: Optimum Value

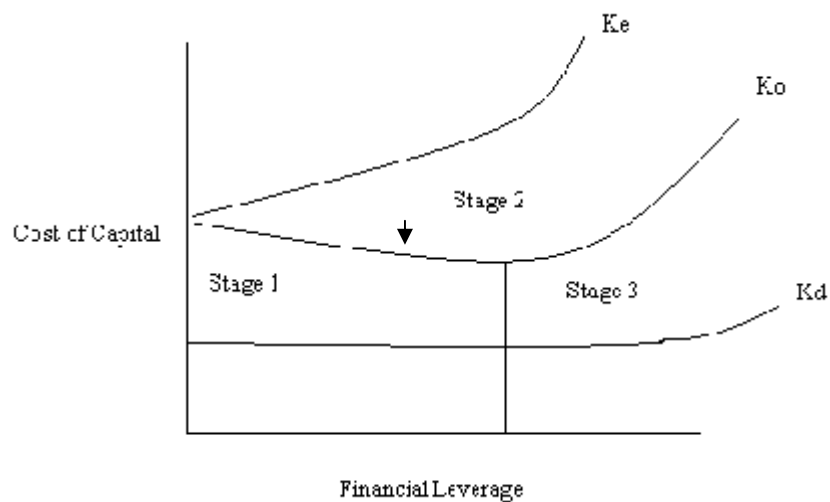
In the second stage, further application of debt will raise cost of debt and equity capital so sharply as to offset the gains in net income. Hence, the total market value of the firm would remain unchanged. While the firm has reached a certain degree of leverage, increase in it has a negligible effect on the value of the firm or overall cost of capital of the firm. The increase in the degree of leverage increases the cost of equity due to the added financial risk that offsets the advantage of low cost debt. Within the range of such debt level or at a specific point, the value of the firm will be maximum or the cost of capital will be minimum.

### Third stage: Declining Value

Beyond the acceptable limit of leverage, the value of the firm decreases with the increase of the leverage or the overall cost of capital increases with the additional leverage, this happens because investors perceive a high degree of financial risk, which increases the cost of equity by more than enough to offset the advantage of low cost debt. The overall effect of these three stages is to suggest that the cost of capital is a function of leverage, i.e. first falling and after reaching minimum point or range it would start rising. The relation between cost of capital and leverage is graphically shown in figure below.

Figure: 2.1

### Effect of Leverage on Cost of Capital under Traditional Theory



#### **2.2.3.iv Effect of Leverage on Cost of Capital Under Traditional Theory**

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

#### **2.2.3. v Modigliani and Miller Approach's (M-M Approach)**

Modigliani and Miller (MM) in their original position advocate that the relationship between leverage and the cost of capital is explained by net operating income approach. They make a formidable attack on the traditional position by offering behavioral justification for having the cost of capital,  $K_o$  remains constant throughout all degree of leverage. (Van Horne. 2000: 255)

"The approach concludes that the total market, value of a firm and the cost of capital are independent (exclusive of tax considerations) of the capital structure. This model is identical with the net operating income approach." (Jain; 1997: 53)

The crucial assumptions of M-M proposition as propounded are :(Pandey, 1985:687)

- ) 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 to behave accordingly.
- ) The average expected future operating income of a firm are represented by subjective random variables. It is assumed that the expected values of the probability distribution of all investors are the same. The M-M illustration implies that the expected values of the probability distributions of expected

operating earnings for all future periods are the same as present operating earnings.

- ) Firms can be categorized into “equivalent return” classes. All firms within a class have the same degree of business risk. As we shall see later this assumption is not essential for the proof.
- ) The absence of corporate income taxes is assumed. M-M removes this assumption later.
- ) Firms distribute all net earnings to the shareholders i.e. 100 % pay out . MM in 1958, proposed the theory without taxes and later, they relaxed the theory with tax considerations. So,

4.1. M-M Theory (without taxes)

4.2. M-M Theory (with taxes)

The definition of some technologies/notions, used in M-M theory is given below:

Terminology:

- ) Levered firm: A firm that uses some percentage of debt in its capital structure is called levered firm.
- ) Unlevered firm: All equity financed firms are known as unlevered firm.
- ) Risk premium: Risk premium is that expected additional return by the equity holders for making a risky investment. In other words, it is the additional return demanded by the equity holders due to inclusion of debt capital in firm’s capital structure.

### **Notation**

KeU = The equity capitalization rate of an unlevered firm.

KeL = The equity capitalization rate of a levered firm.

Kd = The debt capitalization rate.

KoU = The overall capitalization rate of an unlevered firm.

KoL = The overall capitalization rate of a levered firm.

Vu = Value of an unlevered firm.

VL = Value of a levered firm.

T = The corporate tax-rate.

$B_t$  = Present value of tax shield benefits of debt/present value of interest tax shield.

**(i) M-M without Taxes**

"M-M have restated and amplified the NOI approach. MM agree that, in the absence of tax, a firm's market value and the cost of capital remains invariant to the capital structure change. In their 1958 article, they provide analytically sound and logically consistent behavior justification in favor of their hypothesis and reject any other capital structure as incorrect." (Modigliani and Miller; 1969: 261)

**Proposition I**

Given the above assumption, MM argues that for the same risk class, the total market value is independent of the debt-equity mix and is given by capitalizing the expected net operating income by the rate appropriate to the risk class (Ibid, 268).. This is their proposition I. In equation this can be expressed as follows:

$$Value\ of\ the\ Firm = Market\ Value\ of\ Debt(B) + Market\ Value\ of\ Equity(S)$$

$$= \frac{Expected\ Net\ Operating\ Income}{Expected\ Overall\ Capitalization\ Rate} + \frac{EBIT}{K}$$

For an unlevered firm,

$$V_u = \frac{EBIT}{K_s}$$

Where  $K = K_s$  in case of unlevered firm.

Proposition I can be expressed in terms of the firm's overall capitalization rate,  $K$ , which is the ratio of Net operating income to the market value of all its securities. That is:

$$K = \frac{NOI}{S + B} = \frac{NOI}{V}$$

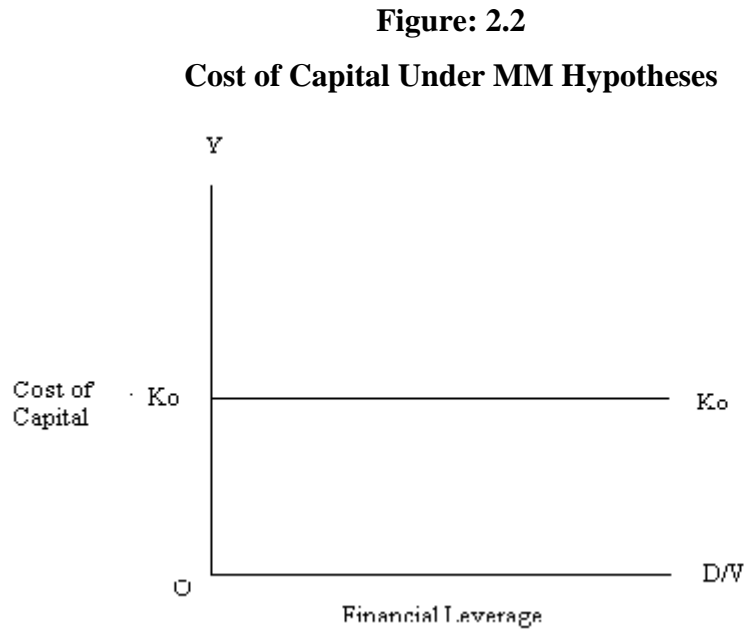
$K$  can also be expressed as

$$K = \frac{K_s(S)}{S + B} + \frac{K_d(B)}{S + B}$$

It means  $K$  is the weighted average of the expected rate of return of equity and debt capital of the firm since the cost of capital is defined as the expected net operating

income divided by the total market value of the firm and since MM conclude that the total market value of the firm is unaffected by the financing mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class. (Pandey I.M, 1981:35)

The overall cost of capital function as hypothesized by MM is shown in figure below:



Thus two firms identical in all respects except for their capital structure cannot command different market values nor have different cost of capital. But if there is a discrepancy in the market values or the 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, 1981:37)

**Proposition II**

MM proposition II, which defines the cost of equity, follows from their proposition I and shows the implications of the net operating approach. The proposition II states that the cost of equity rises proportionately with the increase in the financial leverage in order to compensate in the form of a premium for bearing additional risk arising from the increasing leverage. (Pradhan S., 1992:362) The equation for the cost of equity can be derived from the definition of the average cost of capital.

$$K_s = K + \frac{K_d(B)}{S} \Gamma$$

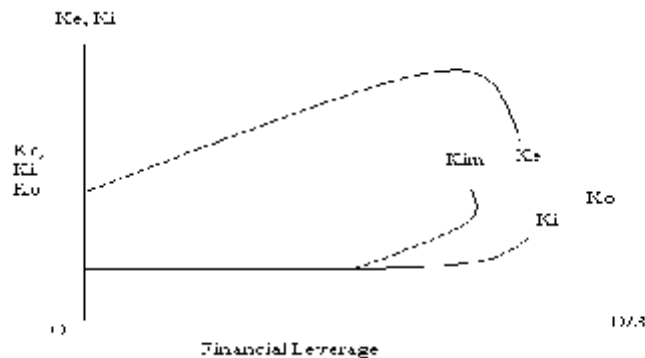
$$K_s = K + \frac{K(B \Gamma S)}{S} Z \frac{K_d(B)(B \Gamma S)}{(S \Gamma B)S}$$

$$K_s = K + K \left( \Gamma \frac{D}{S} \right) Z \frac{K_d(D)}{S}$$

$$K_s = K + \Gamma (K Z K_s) \frac{B}{S}$$

The above equation states that for any firm in a given risk class the cost of equity,  $K_s$ , is equal to the constant average cost of capital,  $K$ , plus a premium for the financial risk, which is equal to debt-equity ratio times the spread between the constant average cost of capital and the interest rate. As their proportion of debt increase, the cost of equity increases continuously even though  $K$  and  $K_D$  are constant, the crucial part of the MM hypothesis is that  $K$  will not rise even if very excessive use of leverage is made. This conclusion could be valid if  $K_d$  remains constant for any degree of leverage. But in practice  $K_s$  increases with leverage beyond a certain acceptable level of leverage. However, MM maintains that even if  $K_s$  are a function of leverage,  $K$  will remain constant as  $K_s$  will increase at a decreasing rate to compensate. This can be shown as:

**Figure: 2.3**  
**Behaviors of  $K_o$ ,  $K_i$  and  $K_e$  under MM Hypothesis**



It is clear from the figure that  $K_s$  will increase till the marginal rate of interest ( $K_m$ ) is below the cost of capital. As soon as the marginal rate of interest cuts the cost of capital,  $K_s$  will start falling.

#### **2.2.4. Leverage**

The term leverage may be defined as the use of that source of funds in the business for which the firm has to pay fixed charges, irrespective to the earnings of firm. There are two types of leverage: Financial leverage and operating leverage. Leverage associated with investment activities is called operating leverage and associated with financial activities is called financial leverage.

##### **2.2.4.1. Financial leverage**

Financial leverage is the ratio of total debt to total assets or the total value of the firm. (Weston and Brigham, 1981:555). The use of fixed sources of funds, such as debt and preference capital along with the owners' equity in the capital structure is described as financial leverage. (Waterman and Martin, 1963:7). Financial leverage refers to the response of shareholders income to change in earnings before interest and tax and is created by debt or preferred stock financing with fixed interest and dividend payment. (Lawrence D. Schell and Haley, 1983:325).

The debt is risky as well as more advantageous in the context of earning. The use of debt and preferred stock financing provide the income advantage over the common stock financing of the firm under the favorable condition and they increase the risk too. Leverage is employed by the company to earn more. The surplus will increase the return on equity. Since the interest and principle payments are the contractual obligation to the firm. It is risky in the viewpoint of the shareholders.

#### **2.2.5 Factors Affecting Capital Structure**

Capital structure of different types of firms varies widely. There are no hard and fast rules about what percentage of capitalization should be represented by bonds and debentures and what should be of equity shares and preference share factors affecting

capital structure revolve principally around the adequacy and stability of earnings. Following are factors which affect the capital structure.

- **Cost of capital:** "The impact of financing decisions on the overall cost of capital should be evaluated and the criteria should be to minimize the overall cost of capital or to maximize the value of the firm". (Pandey; 1988: 264)
- ) **Assets structure:** firms whose assets are suitable as securities for loans tend to use debt heavily. "Borrowed capital should not exceed a reasonable percentage of fixed assets". (Batty; 1963: 159)
- ) **Flexibility:** "The Company's desire for flexibility in future financing decision also affects the capital structure of the company. Therefore the company should compare the benefits and cost of attaining the desired degree of flexibility and balance then properly."(Schwartzman and Ball; 1977: 65)
- ) **Control:** If management has voting control over the company and is not in a position to buy any more stock, debt, may be a choice for new financing. On the other hand, management group that is not concerned about voting control may decide to use equity rather than debt.
- ) **Profitability:** The firms with very high rate of return on investment use relatively little debt. Their rate of return enables them to do most of their financing with retained earnings.
- ) **Taxes:** Interest is deductible expenses while dividend are not deductible. Hence the higher a firm's tax rate, the greater is the advantage in using debt.
- ) **Interest rate:** This affects the choice of securities to be offered to investors. High interest rate makes financing costly. When funds are obtained easily and cheaply. There is greater attitude for choice of types of security to be used.
- ) **Operating leverage:** The Company with a high level of earnings before interest and taxes can make a profitable use the high degree of leverage to increase return on the shareholder's equity.
- ) **Floation costs:** Floation cost is incurred only when the funds are raised. The cost of floating a debt is less than cost of floating and equity issue. This may encourage a company to use debt than issue equity shares.

- J **Market condition:** conditions in the stock and bonds market undergo both long and short term changes which can have an important bearing on a firm's optimum capital structure.
- J **Growth rate:** Faster growing firm's must rely more heavily on external capital. Other factors are stability of sales, cash flow ability of a company, nature of industry and capital requirements etc.

### 2.2.6 Optimum Capital Structure

The overall cost of capital is minimized; theoretically at least. When the firm reaches its optimum capital structure. The optimum capital structure strikes a balance between the risk and returns and thus maximizes the price of the price of the stock.

- J "There is no such thing as the model capital structure for all business undertakings. One way of planning the capital structure is to make it fit into a model compiled from a number of different experiences that may have been drawn from the historical ratio of the firm." (Kuchal; 1977: 390)
- J "Optimum capital structure can be properly defined as that combination of debt and equity that attains the stated managerial goals maximization of the firm's market value, and which minimizes the firm's cost of capital. As the existence of an optimum capital structure implies the simultaneous optimization of both the cost of capital and the firm's market value, occupies a central position in the theory of financial management." (Phillipatos; 1974: 237)
- J "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 minimizes the weighted average cost of capital." (Panday; 1999: 277)
- J "firm has certain structure of assets, which offers net operating earnings of a given size and quality and gives a certain structure of rates in the capital market, there is some specific degree of financial leverage at which the market value of the firm's securities will be higher (or the cost of capital will be lower) than at any other degree of leverage." (Soloman; 1963:92)

Some of important objectives of the optimal structure are as follows:

- J To maximize return on equity capital

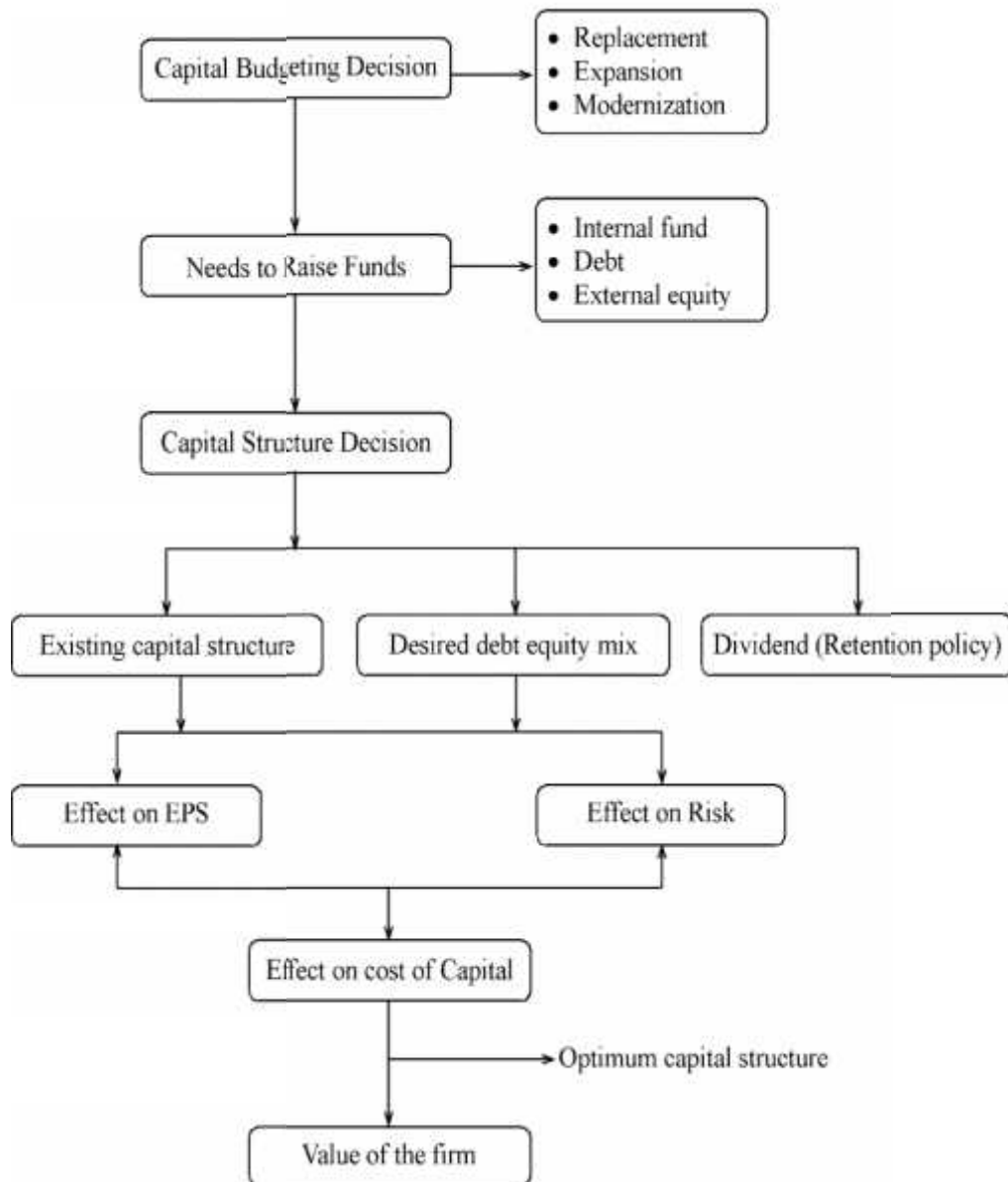
- ) To minimize cost of capital
- ) To minimize risk
- ) To increase flexibility
- ) To maintain control power
- ) To employ high grade security

### **2.2.7 Capital Structure Decision**

"Capital structure with a reasonable proportion of debt and equity is called the optimal capital financing mix of optimal capital structure. Since, a proper balance between risk and return to stockholder is necessary, the financing of capital structure decision is a significant managerial decision as it influences the shareholders' return and risk. When ever funds have to capital structure initially at the time, of its promotion and subsequently. Funds have to be raised to finance investment a capital structure decision is involved." (Van Horne; 1997: 10).

A process of capital structure decision is shown in figure below.

**Figure: 2.4 Capital Structure Decision**  
**Capital Structure Decision**



(Source: Panday; 1988: 204).

According to the above capital structure decision chart, demand for funds generates a new capital structure. Since a decision has to be made as to the equality and forms of financing, the decision will involve an analysis of the exiting capital structure and the factor which will govern the decision at the present. The dividend decision bearing on the capital structure may affect its debt equity mix. The debt equity mix has implication

for the shareholder's earning and risk which in turn will affect the cost of capital and the market value of the firm

### **2.3 Review of Journals and Articles**

This section is devoted to review of important empirical works, concerning capital structure and cost of capital since 1958 till 2010. There are numerous studies in capital structure. So, it is out of the scope of this study to survey and review all the empirical work extensively and give here in detail. Therefore, some important studies and their findings are presented. In this section, review will be made on the foreign studies including Indian studies.

The Modigliani and Miller's Study: Modigliani F and Miller M.H., the cost of capital, corporation finance and the theory of investment. American economic review, XLVIII, June 1958:261-297)

In their first study, MM used the previous works of Allen and Smith in support of their independence hypothesis. Allen's study consisted of an analysis of the relation between security yields and financial structure for 43 large electric utilities, which is based on average figure for the years 1947 and 1948, while smith designed his study of 42 electric utilities.

In the first part of their work MM tested their proposition I, the cost of capital is irrelevant to the firm's capital structure by correlation after tax cost of capital with leverage  $B/V$ . they found that the correlation co-efficient is statistically insignificant and positive in sign.

In the second part of their study, they tested their proposition II the expected yield on common share is linear function of debt to equity ratio. The second part of their study is consistent with their views i.e. if the cost of borrowed funds increases, the cost of equity will decline to offset this increase.

MM conducted the second study in 1963, correcting their original hypothesis for corporate income taxes and expected cost of capital to be affected by leverage of its tax advantages or not. For this they conducted the mathematical analysis regarding the effect of leverage and other variable on the cost of capital, they found that the leverage factors are significant only because of the tax advantage involved. (Miller, M.H. and F. Modigliani, Estimates of the Capital to Electric Utility Industry, 1954-1957, American Economic Review, 56 June 1966:333-391)

**Weston (1963)** the research work done by Weston is 'A Test of Cost of Capital Proposition'. He made some important improvement in the cost of capital model. He included firm size and growth as additional explanatory variables in his model. He found the regression co-efficient of leverage to be positive and significant, when he used MM model. However, when the multiple regressions were run, he found that the correlation coefficient is significant and the regression coefficient is negative and significant. When the influence of growth is isolated, leverage is found to be negatively correlated with the cost of capital. He concluded that the apparent lack of influence of leverage on the overall cost of capital observed by MM was due to the negative correlation of leverage with earning growth. Weston also tested MM proposition II. When he used the MM model, his results were found to be consistent with their results i.e. cost of equity is the linear function of debt equity ratio.

**Wipper (1966)** Wiper study is related to test the empirical relationship between 'financial structure and value of the firm'. He tried to eliminate the principle problem of empirical study on the leverage and attempted to offer what were hoped to be more fruitful alternatives in determining the relationship between leverage and cost of capital. He found that shareholder's wealth can be enhanced by judicious use of debt financing.

**Sharma and Rao(1967)** tested the MM hypothesis that after allowing for the tax advantage from the interest paid on debt the value of a firm is independent its capital structure on the data of 30 engineering companies from Indian engineering

industry. In this cross-sectional study for the year 1963, 1964 and 1965 they concluded that debt has no tax advantages and investors prefer corporate to personal leverage. So, it can be concluded that value of a firm rises up to leverage rate considered prudent.

They found the co-efficient of debt variables to be more than't' the corporate income tax. They introduced debt as a separate independent variable. They used two stages least square as a method of arriving at the true expected future earnings.

Sudhir Poudyal (Poudyal S, "Capital Structure: It's impact on value of a Firm, Seminar on Emerging Issues and Challenges in Corporate Finance in Nepal, Research Paper Submitted to Faculty of Management, TU, Kathmandu, Nepal, 2002)

"A study on Capital Structure: Its impact on value of a Firm," an article by Sudhir Poudyal concentrated to examine the interrelationship between the objective of achieving an optimal capital structure and to provide conceptual framework for the determination of the optimal capital structure.

For this, a hypothetical firm is constructed and different assumptions are laid down to analyze the effect of capital structure. Various statistical and financial tools like ratio analysis are used to extract reasonable figure for the hypothetical firm. It is observed that the minimum weighted average cost of capital, maximum value of the firm and price per share are attained at debt ratio of 30%.

Furthermore, if there is flexibility to select capital structure in any proportion, optimal capital structure range from 30% to 40%. An optimal capital structure would fulfill the interest of equity shareholder and financing requirement of a company as well as other concerned groups.

**Rao and Rao (1975)** found the negligible positive impact of corporate income tax on corporate debt policy of manufacturing sector in India. Mishra(1978) showed that the evidence in favor of the tax avoidance hypothesis for sugar, Tobacco, trading Industries and Aggregate Corporate Sector of India. Chakarborty (1975)

examined the effect of firm's characteristics on capital structure and found that negative association of debt and equity ratio of leverage, retained earnings, profitability scaled by capital employed and corporate tax and positive association with size, profitability scaled by sales and capital intensiveness measured by gross fixed assets to sales. Rao (1979) found the adverse effect of profitability on debt equity ratio. Pandey (1979) observed the adverse relationship between capital structure and cost of equity.

**Pandey's (1981)** study is concerned with the test of relationship between the cost of capital and leverage, effect of leverage, Cost equity and, effect of tax deductibility on cost of capital in Indian context. In the cross-sectional analysis of 131 observations drawn from Cotton, Chemical, Engineering and Electricity industries for the years 1966, 1969 and 1970, he found that the conclusion of MM independent hypothesis does not hold reliable conclusion specially in the context of India. Matta (1984) found the negative relationship between debt, equity ratio and growth rate. Garg (1988) suggested that there existed the relationship between business risk and debt equity ratio. Pandey (1984) did the attitude survey of the practicing managers of 30 Indian companies and drew the conclusion that Indian practicing manager have the concept of optimal capital structure and it should be maintained by every company.

**Monochar Krishna Shrestha (1985)** His study on "analysis of capital structure in selected public enterprises" argue that most of public enterprises have confusing capital structure since the corporation are not guided by any objectives based financial plan and policies. The corporations are using least combination of debt with equity to avoid financial burden as far as possible. According to Mr. Shrestha, the debt-equity ratio should neither be highly levered to create too much financial obligations that lie beyond capacity to meet not should be much lower low levered to infuse operational strategy to bypass responsibilities without performance. He used ratio analysis as the tool of analysis and found the selected public enterprises. He further added that in many

instances aphorism become the basis of capital structure and most of them want to eliminate debt if possible to relieve financial obligations.

## **2.4 Review of Thesis**

Under this section various theses related to this study have been reviewed. There are as follows:

**Subedi Susil Dev (2005)** In his MBA thesis "A Study on Capital Structure of Nabil Bank Ltd." In this studies specific objective were analyzed the capital of Nabil Bank Ltd. to show financial position, examine the different profitability ratio and show overall trend analysis. Under this study used various tools such as graph, percentage, diagram, mean, standard deviation and co-variance are used to analyze the study. He found and concluded that total liabilities and capital item, show the overall situation of bank falling down. Deposit is the biggest amount in the balance sheet. Fixed deposit is taken as long term debt in the banking business. It is key determent factor to capital structure. Debt and equity are properly mixed good capital structure is formed. Price earning ratio reflects the price currently reported EPS. It measures investor's expectations and the market appraised of the performance of a firm. This study suggests, deposit is the major concern to the capital structure. It effects on investment policy. The more the fixed deposit increase, the more the long term investment becomes possible. Bank becomes more successful and competent as per its capacity to collect the fixed deposit. So fixed deposit should be collected more as can as possible.

**Kandel Urmila (2008):** In her MBS Thesis "A Comparative Analysis of capital structure of Commercial Banks (with reference to Himalayan Bank and Bank of Kathmandu) the specific objectives were to analyze the financial position and the values of firm with capital structure. The optimal capital structure differs in individual firms, banks and industries. These studies also find out the use of debit and equity, Capital structure effect the various factors etc. sample banks as mentioned above are taken for the study. Various financial and statistical tools will be used to achieve the objective of the study. Different tools had been selected according to the nature of data

as well as subject matter. The major tool employed for the analysis of the data is ratio analysis, Ratio analysis, Leverage analysis, Capital structure analysis which established the numerical relationship between two variables of the financial statement. Besides financial tools, the statistical tools are also used such as mean, standard deviation, correlation coefficient, probable error etc. Graphical presentation had made the study more attractive and easy to compare. The analysis of two companies reveals the fluctuating trend of long term debt to total debt ratio. Among the two, BOK has used maximum long term debt in comparison to HBL. She had further recommended Capital structure is a serious matter. It affects EPS, Value of the firm, cost of capital etc. So it is recommended that these companies should follow the theoretical aspects of the capital structure management or give bit more attention in this matter and try to manage their activated accordingly.

**Malik Aisha (Feb 2009)** In her MBS Thesis “Capital Structure Management in Nepal, the specific objective were to analyses the capital structure of Nabil bank Ltd., Nepal Investment Bank Ltd., Nepal Electricity Authority, Nepal Telecom and Himalayan General Insurance company Ltd. The study helps to improve and maintain or create the perfect situations, to show the trend of composition of assets and capital structure, to analyze the return on equity and assets, value of the firm, the aggregate liability bearing capacity of the selected organizations, the relationship between liability and assets of the selected organizations and to analyze the profitability of the selected organizations. Appropriate methodology has been followed to meet the purpose objectives of the study and to make this research study meaningful and more scientific.. So, the methodologies of this research include the research design, research question, period covered, selection of enterprises, types and sources of data, data processing procedures, presentation of data and method of analysis. The study of five years data of selected commercial banks and companies show the development trend of Nepal in their respective sector. This study is related to the capital structure management; therefore the sources of data used in this study are basically of secondary nature. All the study analysis and evaluation have been based on the available annual report (P/L A/C and B/S) and progress reports of the concerned companies. The other sources were Unpublished Thesis, Research

Study, Several Books, Journals, Magazines and Newspapers in different libraries. Internet was also an important source. The use of primary source was negligible. Statistical tools such as Karl Pearson's coefficient of correlation and regression analysis have been calculated to see the relationship between various variables. Likewise, some financial tools such as ratio analysis and trend analysis have been used. For quantitative analysis and calculation of correlation and regression, SPSS software is used. Major Findings in her thesis were being big financial houses, NTC and NEA dominates other organizations in volume related issue and total loan liabilities to shareholders fund ratio of NABIL is highest and so on. She recommended that the capital structure decisions are not found to be considered properly by the companies. It affects the value of the firm and overall cost of capital so every investment and financing decision of the company should be taken by considering the capital structure of firm. The concerned authorities should give continuity in providing both conceptual and practical training to the staff to enhance their knowledge, skill and competency.

**Bista Bijay (2009)** In his MBS thesis "Capital Structure Management of Selected Manufacturing Companies listed in NEPSE the specific objective were to examine the capital structure of selected companies, to assess the debt servicing capacity of the selected companies, to analyze cost of capital and return on capital in relation to the capital employed and to analyze the relationship between capital structure and cost of capital in selected Nepalese manufacturing companies. Researcher has used financial as well as statistical tools like: ratio analysis, leverage ratio, interest coverage ratio, Profitability ratio, Mean regression, correlation analysis. Almost all the ratio has been applied to cover analytical part and fulfill the objectives of this study. It involves more recent date of listed companies for five year (2003-2007). Among all 38 listed manufacturing companies in NEPSE as total population, sample drawn from target population is two manufacturing companies -Nepal lube oil Limited (NLOL) and Bottlers Nepal Limited (BNL). The study is based on secondary data. The raw secondary raw data are modified to some extent for the study purpose mostly; data are collected from the balance sheet, income statement and profit and Loss account, auditor general reports and various related journals in a management and other publications.

The major findings of the study with respect to capital structure of the manufacturing companies were the manufacturing companies has low debt equity ratio, it implies greater claims of owner than creditors. A high portion of equity provides a large margin of safety for them. The researcher had concluded that the mix of capital structure, which leads to the maximum value and minimum cost of capital optimal capital structure. A high portion of equity provides a large margin of safety for them. The company should make such policy to earn high amount of profit from the sales revenue by increasing operation efficiency.

## **2.5 Research Gap**

This study is different in the sense that the selected companies are totally different from the above previous studies. The study totally revolves around the banking and the named of selected commercial banks. This study was considering the data of five year (2005/06-2009/10) of all the selected banks. This study tried to analyze and evaluate the relationship of capital structure with various variables on like, leverage ratio, cost of capital, and cost of equality and so on. I used SPSS programmed and calculate the statistical tools which are used in multiple regressions. As the above studies are also related with capital structure, they are mostly done by taking two sample banks and some others are done by taking different sectors combining banking, manufacturing and service sectors. This analysis is not appropriate as each sector have different capital structure. At last this study is also different from the above in terms of sample companies, data presentation as well as statistical tools used for interpretation and analysis of data.

## **CHAPTER- III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Researcher needs sequential steps to adopt realistic study or studying a problem with certain object/objects in view. Therefore, through research methodology researcher can get appropriate guidelines and knowledge about the various sequential steps to adopt a systematic analysis. Research methodology is the investigation tools of any certain area and it means clearly observation of certain object.

Research refers to systematic and objective attempt, which is used to study a problem for the purpose of driving general principles. The invitation has been guide by previously collected information and aims to add to the body of knowledge on the subject "Research methodology is the way to solve systematically about the research problem." (Kothari 1990; 39)

"The research for gaining the knowledge about method of goal methodology."(Joshi 2001; 12.13)

This chapter includes research design. Nature and source of data. Population and sample Data Collection and procedure and method of analyses. To accomplish the goal, this study is follows the research methodology described in this chapter.

#### **3.2 Research Design**

Research design is the plan structure and strategy of investigations conceived so as to obtain answer to research equations and to control variance. "A research design is purely and simply the Framework or plan for a study that guides the collection and analysis of the data." (Goes; 1989:51) The main objective of this study is to analyze and evaluate the capital study of selected commercial Bank. This study follows the analytical and descriptive research design. To complete this study following design and format have been used. First of all information and data have been collect. Then data

were arranged by manner system. Such data have been analyzed by using appropriate financial and statistical tools. In analysis part interpretation and comments also have been made where ever necessary. Result and conclusion have been made after analyses of data. The design have been adopted from previous research works.

### **3.3 Nature and source of Data**

This study has been conducted on the basis of the secondary data. Supporting data and information have been obtained from the office of selected banks. Booklets, Documents and other published and unpublished materials, thesis, newspapers are the important source of data. The secondary data have been collected from financial statement, annuals reports besides Nepal stock. Com and official website of Nepal stock exchange Ltd, security exchange, Board and the related office.

### **3.4 Data Collection Procedure**

The data used in this study one of secondary in nature. The study is based on secondary data provided by Bank and other relevant sources. The data were collected from the balance sheet profit and loss A/C of the banks concerned reports and official records of stock exchange security board have been used by visiting sample banks. Some informal enquiries have operation made from base personal.

### **3.5 Population and Sample**

All together there are 31 commercial banks. The time limited and unavailability of the relevant data forced me to make research limit over few commercial banks functioning in the country. Most of their stocks are trade activity in the stock market. commercial banks selected are as follows.

## List of Commercial Banks

Commercial Banks	Established Date	Operation Date	Head Office
1. Nepal Bank Limited	1994/07/30	1994/07/30	Kathmandu
2. Rastriya Banijya Bank	2022/10/10	2022/10/10	Kathmandu
3. NABIL Bank Ltd.	2041/03/29	2041/03/29	Kathmandu
4. Nepal Investment Bank Ltd.	2042/11/16	2042/11/16	Kathmandu
5. Standard Chartered Bank Ltd.	2043/10/16	2043/10/16	Kathmandu
6. Himalayan Bank Ltd.	2049/10/05	2049/10/05	Kathmandu
7. Nepal SBI Bank Ltd.	2050/03/23	2050/03/23	Kathmandu
8. Nepal Bangladesh Bank Ltd.	2050/02/23	2050/02/23	Kathmandu
9. Everest Bank Ltd.	2051/07/01	2051/07/01	Kathmandu
10. Bank Of Kathmandu Ltd.	2051/11/28	2051/11/28	Kathmandu
11. Nepal Credit & Comm. Bank Ltd.	2053/06/28	2053/06/28	Siddharthanagar
12. Lumbini Bank Ltd.	2055/04/01	2055/04/01	Narayangadh
13. Nepal Ind. & Commerce Bank Ltd.	2055/04/05	2055/04/05	Biratnagar
14. Machhapuchre Bank Ltd.	2057/06/17	2057/06/17	Pokhara
15. Kumari Bank Ltd.	2056/08/24	2057/12/21	Kathmandu
16. Laxmi Bank Ltd.	2058/06/11	2058/12/21	Birgunj
17. Siddhartha Bank Ltd.	2058/06/12	2059/09/09	Kathmandu
18. Agricultural Dev. Bank Limited	2024/11/7	2024/11/7	Kathmandu
19. Global Bank Ltd.	2063/09/12	2063/09/12	Birgunj
20. Bank of Asia Nepal	2064/06/25	2064/06/25	Kathmandu
21. Citizens Bank Limited	2064/01/7	2064/01/7	Kathmandu
22. Prime Bank Limited	2064/06/7	2064/06/7	Kathmandu
23. Sunrise Bank Limited	2064/06/25	2064/06/25	Kathmandu
24. Development Credit Bank Ltd.	2057/9/12	2057/9/12	Kathmandu
25. NMB Bank Ltd.	2053/8/11	2053/8/11	Kathmandu
26. Janta Bank Ltd.	2067/01/12	2067/01/12	Kathmandu
27. KIST Bank Limited	2066/05/07	2066/05/07	Kathmandu
28. Mega Bank Limited	2067/04/12	2067/04/12	Kathmandu
29. Civil Bank Limited	2067/06/23	2067/06/23	Kathmandu
30. Commerce and Trust Bank	2067/07/12	2067/07/12	Kathmandu
31. Century Commercial Bank	2068/01/12	2067/01/12	Kathmandu

(Source: - Mirmire – 2009/10, NRB)

### **3.6 Method of Data Analysis**

As mentioned earlier this study is confined to analysis of capital structure of the few selected commercial Bank in Nepal. The collected data are computed and analyzed using different financial and statistical tools. The various tools applied in this study, have been briefly presented below.

#### **3.6.1 Financial Analysis**

Financial tools are used to examine the financial performance i.e. strength and weakness of bank. In this study financial tools like ratio analysis and financial statement analysis have been used. The analysis of financial mix is performed by using ratio analysis. It is a powerful tool of financial analysis. A ratio analysis is defined as. "The indicated quotient of two mathematical expressions and as the relationship between two or more thing."(Webster's new colloquia Dictionary; 1975:958). It is used to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial condition can be determined. Capital structure ratio.

The ratio indicates the proportion of debt and equity in financing the firm's assets. It is concerned with the long term solvency of a firm. This ratio is Concerned with the long-term solvency of a firm. Capital structure ratio is calculated to measure the financial risk and firm's ability of using the debt for the benefit of the shareholders. Cost or risk consideration would favors equity however maintaining control can be pivotal when ever capital structure decisions are being made and the choice between debt and equity can at times tilt in favors of debt." (Glen and pinto; 1995:41)

##### **(i) Debt to Equity ratio**

This ratio is a measure of the relative amount provided by lenders and owners. It is also known as "External internal Equity Ratio." It is calculated according to the following formula,

$$\text{Debt Equity Ratio} = \frac{\text{Amount of Debt}}{\text{Amount of Equity}}$$

This ratio indicates the cushion of ownership funds available to debt holder. It gives an idea of the amount of capital supplied to a firm by internal funds or owners. An average debt to equity ratio of 1:1 is acceptable.

**(ii) Debt Ratio**

The debt ratio is defined as total debt divided by total assets. It indicates to percentage of assets that are financed through debt. It is calculated as under

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

This ratio should be 1:2 or 0.5:1 A ratio above 1:2 or 0.5:1 It implies that lenders and creditors are providing more finance than ordinary shareholders and that too without expectation of a share in any surplus as compensation to creditors in extending credit. A very low ratio can cause worry to shareholders as it means company is not using debt to best advantage.

**(iii) Interest Coverage Ratio:**

It is also known as time interest Earned ratio. "This ratio measures the debt servicing capacity of a firm is so far as fixed interest on long term loan is concerned. The interest coverage ratio is the sum of net profit interest and taxes divided by interest charges

$$\text{Interest coverage ratio} = \frac{\text{Net profit before interest and tax}}{\text{Interest charge}}$$

This ratio shows how many times the interest charges are covered by fund for ordinarily available to pay the interest charges. A high ratio is desirable but too high ratio indicates that the firm is very conservative in using debt. A lower ratio indicates excessive use of debt or inefficient operations.

**(iv) Earnings per Share (EPS)**

A part from return the profitability of a firm from the point of view of the ordinary shareholders is earning per share. It measures the profit available to equity shareholder per share.

$$\text{EPS} = \frac{\text{Net profit after tax} - \text{Pref. Divident}}{\text{No. of equity share}}$$

**(v) Price Earnings Ratio (P/E Ratio)**

Price-Earnings ratio indicates investor's expectation about the growth of the firm's earnings.

$$\text{P/E ratio} = \frac{\text{Market price per share}}{\text{Earning per share}}$$

**(vi) Return on Total Assets (ROA)**

This ratio measures the productivity of assets. Higher ratio shows the higher return on the assets used in the business there by indicating effective use of the resources available and vice versa. The formula for computation of this ratio is as follows:

$$\text{ROA} = \frac{\text{Net profit after tax}}{\text{Total assets}}$$

**(vii) Return on Share Holder's Fund or Equity (ROSE)**

This ratio is ascertained for measuring the efficiency of the investment made by the shareholders in the business on the basis of the relationship between shareholder's fund and net profit;

$$\text{ROSE} = \frac{\text{Net profit after tax}}{\text{Share holder fund}}$$

**(viii) Net Income Approach (Overall capitalization Rate)**

The overall cost of capital is measured by dividing net operating income by the value of firm is the book value debt and market value of equity overall cost of capital ( $K_o$ ).

$$K_o = \frac{\text{Earning Before Interest and tax (EBIT)}}{\text{Total value of firm (V}_o\text{)}}$$

**(ix) Net Operating Income Approach (Equity Capitalization Rate)**

This approach argues that the value of the firm remains constant to the degree of leverage and equity capitalization rate tends to increase with the degree of leverage Equity capitalization Rate ( $K_e$ ).

$$K_e = \frac{EBIT - I}{S} \text{ or } \frac{EPS}{MVPS}$$

### 3.6.2 Statistical Analysis

Statistical and Research cannot be separated whenever research work is carried on statistics is most to have output of the research .To achieve the objective of the study, some important statistical tools such as mean, standard deviation, coefficient of variance, of correlation, regression analysis of important variables has been used which are as follows:

#### a. Arithmetic mean ( $\bar{X}$ )

The most popular and widely used measure for representing the entire data by on value is called the mean. The value is obtained by adding together all the items and diving this total by the no of items.

$$\bar{X} = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{\phi X}{n}$$

Where  $\phi X$  = Sum of all values of the variables

n = No. of observation years

#### b. Standard Deviation (S.D.)

The standard deviation measures the absolute dispersion or variability of a distribution the greater the amount of dispersion or variability the greater the standard deviation the greater will be magnitude of the deviations of the values from their mean and vice versa.

$$S.D. = \sqrt{\frac{\phi(x - \bar{x})^2}{n}}$$

#### c. Correlation Coefficient (r)

Correlation coefficient is calculated to measure the relationship between the different variables. When change in the value of one variable is accompanied by the change in value of the other two variables are said to have correlation. The study used karl person's correlation coefficient. The correlation coefficient between two variables x and y usually denoted by  $r^{xy}$  is a numerical measure of linear relationship between them.

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

Where,  $\bar{x} = \frac{\sum x}{n}$ ,  $\bar{y} = \frac{\sum y}{n}$

$$Y = y - \bar{y}, \quad y = \frac{\sum y}{n}$$

#### d. Probable Error (P.E.)

The Probable error of the coefficient of correlation helps in interpreting its value. The probable error helps to determine reliability of computed correlation coefficient so far as it depends on the condition of random sampling. The probable error is defined by

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

It can be interpreted to know whether calculated value is significant or not in the following way.

- ) If  $r < P.E.$  There is no evidence of correlation i.e.  $r$  is not at all significant.
- ) If  $r > 6 P.E.$  The existence of correlation is practically certain i.e.  $r$  is significant.
- ) The P.E. of correlation may be used to determine the limits within which the population correlation coefficient lies. The limit of the population correlation is  $\pm P.E.$

#### e. Regression Analysis

Regression is the measure of the average relationship between two or more variables in terms of the original units of the data. In other words Regression analysis is a statistical tool which is widely used in almost all research works in order to estimate the unknown values of one variable from known value of other variables. This study includes simple and multiple regression models to examine the empirical relationship between the variable.

##### (i) Simple Regression Analysis

Simple regression is the estimation of unknown value or prediction of one variable from known value of the other variables.

$$Y = a + bx$$

Where, a = Intercept or Regression constant

b = slope of regression line or Regression coefficient.

**(ii) Multiple Regressions**

The form of multiple regression equation with two or more independent variables say,

$X_1, X_2 \dots\dots\dots X_n$  is as follows.

$$X_0 = a + b_1 X_1 + b_2 Y_2 + \dots\dots\dots + b_n Y_n$$

Coefficient  $b_1, b_2 \dots b_n$  associated with  $X_1, X_2 \dots X_n$  in the above equation are commonly described as regression coefficient and value 'a' represents regression constant. The above multiple regression equation depends upon the number of independent variable i.e.  $X_1 \dots X_n$ .

**Regression constant (a)**

The value of 'a' in regression model indicates the average level of dependent variable when independent variable is zero. In another word, regression constant 'a' represents the mean or average effect on dependent variables if other variable remain constant. It is also called intercept value.

**Regression constant (b)**

The regression coefficient of each independent variable indicates the marginal relationships between dependent variable and independent variable. Alternatively, the coefficient describes how the changes of independent variables affect on the value of Dependent variable.

## **CHAPTER -IV**

### **DATA PRESENTATION AND ANALYSIS**

The data, after collection by different methods have to be processed and analyzed in accordance with the purpose of the research plan. The main purpose of analyzing data is to change it from an unprocessed form to an understandable presentation which consists of organizing, tabulating and performing the statistical data. The presentation of data is the basic organization and classification of the data for analysis. This is the section where, the filtered data are presented and analyzed. This is one of the major chapters of this study because it includes detail analysis and interpretation of data from which concrete result can be obtained. This chapter consists of various calculation made for the analysis of credit risks of the sample banks. To make our study effective, precise and easily understandable, this chapter is categorized in three parts; presentation, analysis and interpretation. The analysis is fully based on secondary data. In presentation section, data have been presented in the form of table and charts. The presented information data then analyzed using different statistical tools mentioned in chapter three. At last the results of analysis have been interpreted. There is no distinct line of demarcation for each section (like presentation section, analysis section & interpretation section).

This chapter constitutes the most crucial part of the study. It provides mechanism for meeting the basic objectives stated earlier in the first chapter of this research. The research has followed the, methodology described in the third chapter in order to attain the objectives. Thus, application of the major variables taken into account for this purpose study are total Debt and Total Assets, EBIT and EBT, Net Profit after tax and Shareholder's Equity, EBIT and Interests, Net Income and Net Operating Income approach, Co-efficient of Correlation analysis of different variables of selected banks.

The firm should maintain a sound capital structure to run its business operation in this competitive world. Both excessive as well as inadequate capital positions are dangerous from the firm's point of view. So, an enlightened management should, therefore, maintain right capital structure to meet its objectives.

## 4.1 Financial Analysis

The ratios of a firm by themselves do not reveal anything. For meaningful interpretation, the ratios of a firm should be compared with the ratios of similar firms and the international and national standard and industry norms. Such comparisons will reveal whether the firm is significantly out of line with its competitors. If it is significantly out of line, the firm should undertake a detailed analysis to spot out the troubled areas. The study is conducted using each of the bank's financial statement for the last six fiscal years.

### 4.1.1 Calculation of Debt Ratio

Debt ratio shows what portion of the capital assets is financed by outside funds. When successfully employed, this ratio benefits the shareholders by raising their expected return-earnings per share. High ratio shows bank's success in exploiting debt to be more profitable as well as it also indicates its riskier capital structure and vice versa.

**Table: 4.1**

**Debt Ratio of Selected Banks**

<b>Year</b>								<b>CV</b>
<b>Bank</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D</b>	<b>(%)</b>
HBL	0.5389	0.5490	0.7309	0.7660	0.7733	0.6716	0.1177	17.52
NABIL	0.6786	0.7459	0.7619	0.7826	0.8201	0.7578	0.0523	6.90

*Source:.. Appendix-1*

**Figure: 4.1**

**Debt Ratio of Selected Banks**

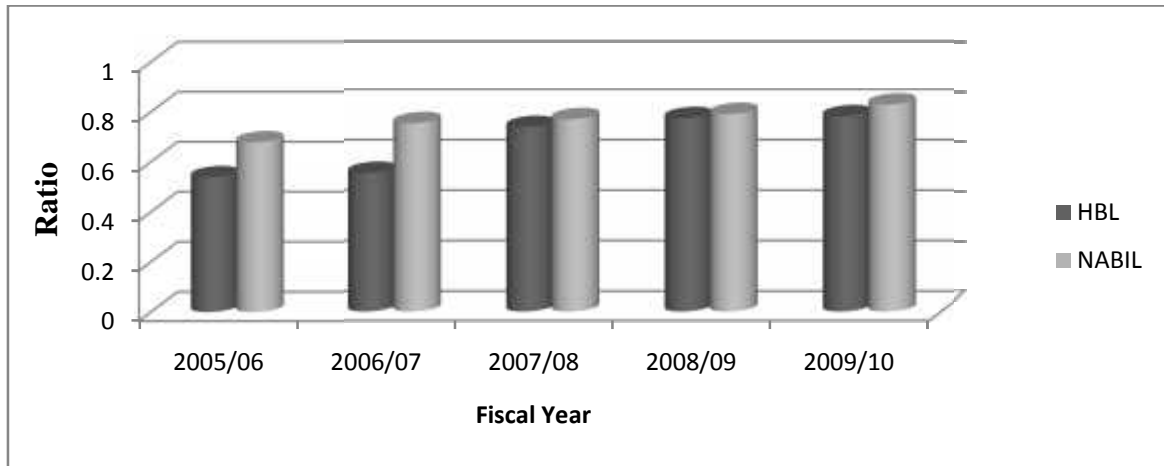


Table & Figure 4.1 indicates debt ratio of the selected banks over the study periods. The term of total debt to total assets reveals that the selected banks are highly leveraged (i.e. more than 60 percent in average) on five years' time horizon. It means the assets of selected banks have been financed funds by collected from creditors.

Nabil Bank has the highest average ratios of 0.8201 percent in comparison with the lowest of 0.5389 percent of HBL. In other words, creditor's finance is 85.36 percent of total bank's fund and remaining 14.54 percent is shareholder's claim. The ratio of banks is slightly fluctuating trend, the creditor's margin of safety is very low, which means they have high risk. The banks are found using higher debt capital to finance their assets.

The standard deviation are 0.1177, 0.0523 and CV are 17.52, 6.90 percent respectively HBL and NABIL. The CV of NABIL is smallest among selected banks that mean the ratio of NABIL has more consistency than other.

**4.1.2 Calculation of Debt- Equity Ratio**

The debt-equity ratio is the relationship between borrowed funds and owner's capital. It is determined to measure the firm's obligation to creditors in relation to the funds invested by owners. A high debt-equity ratio implies that a proportion of long-term

financing is from debt sources that are the firm is using a great deal of financial leverage. Long-term creditors generally prefer to see a modest debt-equity ratio since it means great protection and a greater stake in the company's future for equity holders. The total debt includes current accounts, saving accounts, calls and short deposits, overdraft fixed deposit, loan and advances and borrowing from other banks. Shareholder's equity or net worth includes paid-up capital, reserve and surplus.

**Table: 4.2**  
**Debt to Equity Ratio of Selected Banks**

Year Bank	2005/06	2006/07	2007/08	2008/09	2009/10	Mean	S.D	CV(%)
HBL	12.98	16.71	13.67	13.62	12.90	13.98	1.57	11.22
NABIL	4.78	10.53	13.85	10.88	12.36	10.48	3.45	32.88

*Source: Appendix-2*

**Figure: 4.2**  
**Debt to Equity Ratio of Selected Banks**

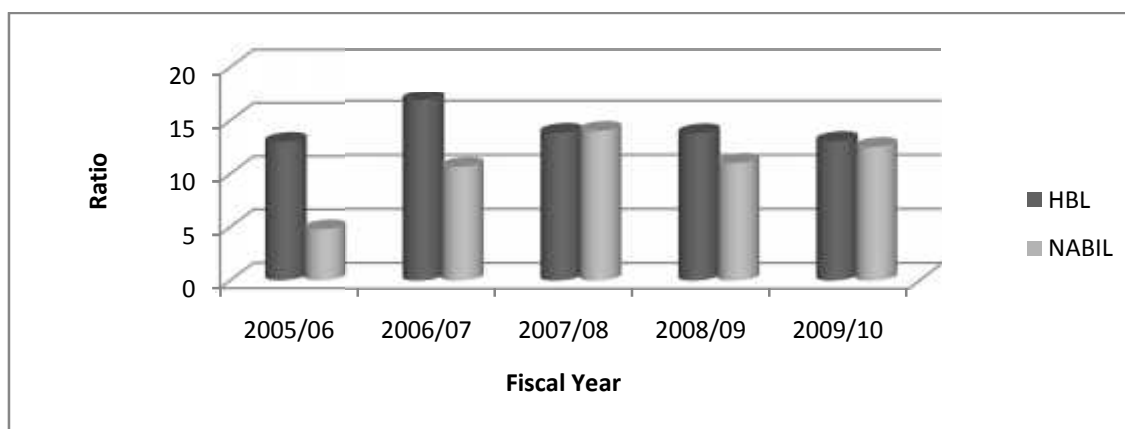


Table 4.2 and Figure 4.2 show the debt to equity ratio of selected banks over the study period. It means debt capital financing is more than 15.86 times higher than shareholder's equity. Highest D/E ratio is in the fiscal year 2009/10 and lowest in the fiscal year 2007/08 with 12.94 times.

HBL has an average of 13.98 times D/E ratio. It means debt capital financing is more than 13.98 times higher than shareholder's equity.

NABIL has an average 10.48 times of D/E ratio. It means debt capital financing is more than 10.48 times of equity. The standard deviation is 1.57, 3.45 and CV is 11.22 and 32.88 percent respectively for HBL and NABIL. The Ratio of both banks is lightly fluctuating trend.

#### 4.1.3 Calculation of Interest Coverage Ratio

The interest coverage ratio also named as the times- interest earned ratio is used to test the firm's debt servicing 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 ordinarily available for their payment. Too high or too low ratio is unfavorable to the banks. Too high ratio implies unused debt capacity or a firm's conservativeness in using debt to its best advantage. Whereas, low ratio imply a danger signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditors.

**Table: 4.3**  
**Interest Coverage Ratio**

<b>Bank \ Year</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D</b>	<b>CV(%)</b>
HBL	2.21	2.42	2.77	3.00	3.31	2.741	0.4409	16.1
NABIL	1.59	1.90	1.71	2.61	2.01	1.963	0.3938	20.1

*Source: Appendix-3*

**Figure: 4.3**  
**Interest Coverage Ratio**

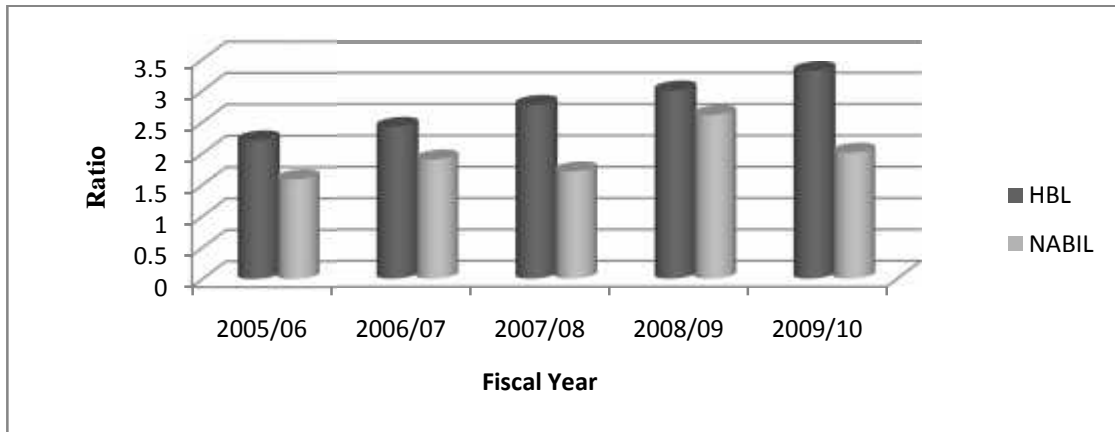


Table 4.3 and Figure 4.3 shows the effects of interest coverage ratio of selected banks over five years study period. HBL is able to maintain highest interest coverage ratio than NABIL banks. Its average interest coverage ratio during five year's period is 2.741 times. The highest ratio of the fiscal year 2009/10 is 3.31 and lowest ratio is 2.21 in the fiscal year of 2005/06. But this ratio shows consistent trend.

NABIL has highest average ratio is 2.61 the highest ratio of the yr 2008/09 is 2.61 and lowest ratio is 1.59 in the yr of 2005/06. The standard deviation is 0.4409, 0.3938 and CV are 16.1, 20.1 percent respectively for HBL, and NABIL.

HBL is able to maintain highest interest coverage ratio than other banks. Its average interest coverage ratio during five years period is 2.741 times. But this ratio shows consistent trend. Ratio the computed interest coverage ratio of both banks in above table shows how many times the interest charges are covered by funds that the ordinary available to pay interest charges.

**4.1.4 Calculation of Degree of Financial Leverage**

It is already stated that financial leverage refers to the use of interest bearing debt and preferred stock along with 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:

$$DFL = \text{Percentage Change in EBT} / \text{Percentage Change in EBIT}$$

Or,

$$DFL = EBIT / EBT$$

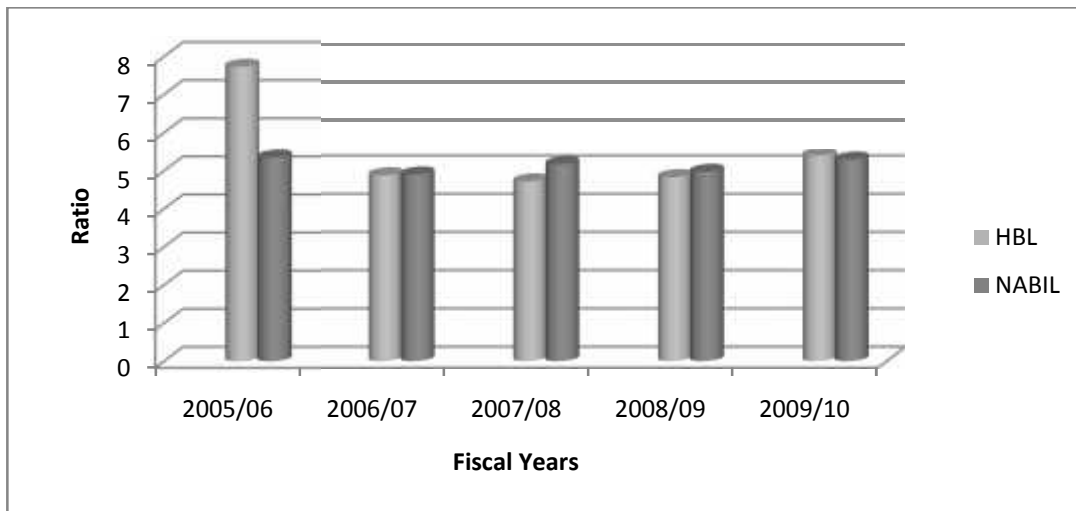
Here,  $EBIT - I = EBT$

**Table: 4.4**  
**Degree of Financial Leverage**

Bank \ Year	2005/06	2006/07	2007/08	2008/09	2009/10	Mean	S.D.	CV (%)
<b>HBL</b>	7.73	4.86	4.70	4.81	5.38	5.49	1.28	23.22
<b>NABIL</b>	2.67	2.11	2.41	2.06	1.97	2.25	0.29	12.84

*Source: Appendix-4*

**Figure: 4.3**  
**Degree of Financial Leverage**



In this study period table and figure 4.4 shows the decreasing trend in both bank. The Himalayan Bank Limited constitutes higher degree of financial leverage, which represents higher financial risk for the bank. Its average DFL is 5.49 times. The degree of financial leverage in 2005/06 is 7.73 which represents highest figure of degree of financial leverage over the study period. In the year 2006/07 to 2009/10

the ratios are 4.86, 4.70, 4.81 and 5.38 respectively. The standard deviation and CV are 12.84 and 23.22 % respectively.

The degree of financial leverage of NABIL has the lowest ratio of 2.25 times on an average, which reflects the bank has lower degree of financial risk. The DFL ratio is decreasing trend over the study period, i.e. 2.67, and 1.97 percent in the fiscal year 2005/06 to 2009/10 respectively. The standard deviation and CV is .0.29 and 12.84 percent respectively. The CV of NABIL is lower than HBL. That means the ratio of NABIL has high consistency.

#### 4.1.5 Calculation of Return on Total Assets

Return on total assets ratio measures the profitability of bank that explains a firm to earn satisfactory return on all financial resources invested in the bank's assets; otherwise its survivable is threatened. The ratio explains net income for each unit of assets. Higher ratio indicates efficiency in utilizing its overall resources and vice-versa. Rate of return on total assets is major tool to judge the operational efficiency of a bank. The return on total assets of selected banks is as follows:

**Table: 4.5**  
**Return on Assets**

Year Bank	2005/06	2006/07	2007/08	2008/09	2009/10	Mean	S.D	CV(%)
<b>HBL</b>	1.14	0.91	1.06	1.11	1.55	1.15	0.24	20.66
<b>NABIL</b>	1.13	1.3	1.15	1.44	1.64	1.33	0.21	15.99

*Source: Appendix-5*

**Figure: 4.5**  
**Return on Assets**

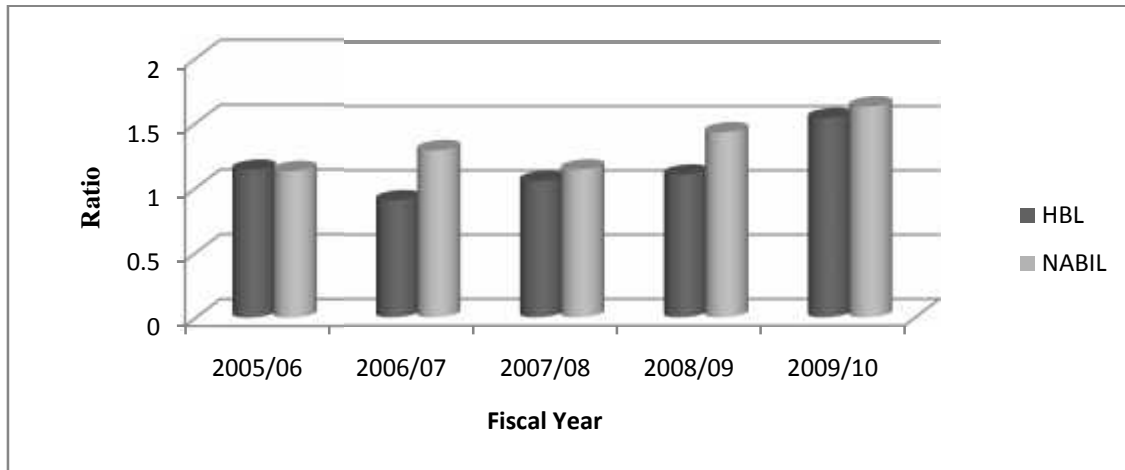


Table 4.5 and figure 4.4 shows the return on assets of selected banks over the study period. ROA of NABIL shows the increasing trend, ratio of beginning two years are below the average and above the average in the rest of the year. Standard deviation and Coefficient of variations shows the consistently increasing trend. The S.D & C.V are 0.21 & 15.99 respectively which means the consistency of ratio. NABIL has better utilizes its assets to generate profit than HBL other. Average ROA of HBL is 1.15 percent. Which is higher than NABIL i.e. 1.33? In the fiscal year 2005/06, 2006/07, 2007/08 and 2008/09 ROA of HBL is below the average and in the fiscal year 2009/010 is above the average. ROA is in increasing trend. Which shows the performance of these banks is satisfactory. ROA of HBL is not consistent over the study period, since the Standard deviation is highest among the selected banks, i. e. 0.24 and CV is 20.66%. In the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 is 1.14, 0 .091, 1.06, 1.11 and 1.55 respectively.

#### **4.1.6 Calculation of Return on Shareholder's Equity**

A return on shareholder's equity is the measure of productivity of shareholder's funds. It carries the relationship of return on shareholder's equity. The shareholder's equity includes common share capital, preference share capital and reserve and surplus. Management's objective is to generate the maximum return on shareholder's investment

in the firm. ROE is therefore the best single measure of the company's success in fulfilling its goal. Thus, this ratio is of great interest and value to the present as well as the perspective shareholders and also of great concern to management, which has the responsibility of maximizing the owner's welfare. The ratio equals the net profit after taxes divided by the common stockholder's equity.

**Table: 4.6**  
**Return on Shareholder's Equity**

<b>Bank \ Year</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D.</b>	<b>CV(%)</b>
<b>HBL</b>	27.388	19.971	19.865	19.996	25.901	22.624	3.708	16.389
<b>NABIL</b>	10.888	18.323	20.986	19.183	24.763	18.829	5.082	26.990

*Source: Appendix-6*

**Figure 4.6**  
**Return on Shareholders' Equity**

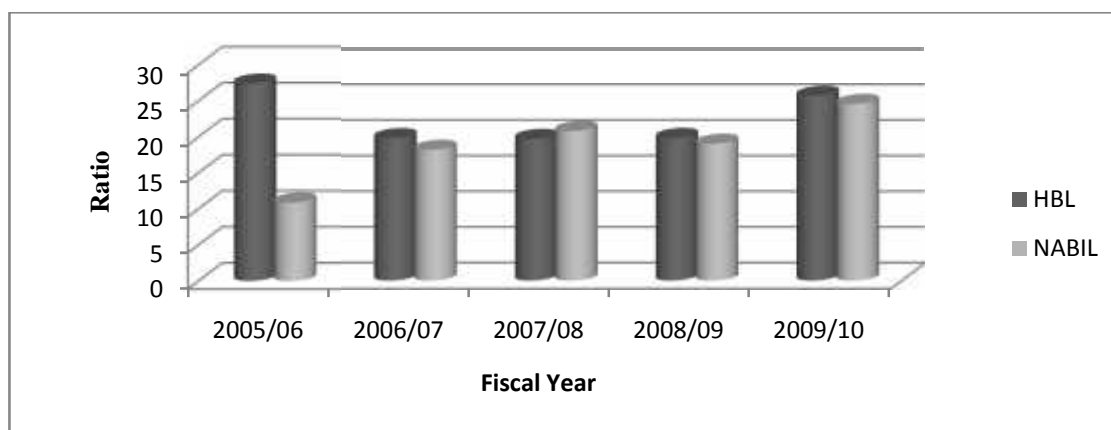


Table 4.6 and Figure 4.5 show the return on total shareholders' equity over the study period. Among the selected banks HBL has highest average ROE i.e. 22.624 NABIL is in increasing trend. Ratio ranges highest of 24.763 in the fiscal year 2009/10 and lowest of 10.888 in the fiscal year 2005/06. Return on shareholders' equity of HBL ranges highest of 27.338 in the fiscal year 2005/06 to lowest in the fiscal year 2007/08 with 19.87 percent. Average ROE of HBL is 22.624 which mean HBL is able to generate 22.624 percent net profit on its shareholders equity. Average ROE of NABIL is 18.829 over the five years period. Here NABIL is able to attain 18.829 percent on the

shareholders equity fund. The standard deviation is 3.708, 5.082 and CV is 16.389, 26.990 respectively NABIL, HBL.

## 4.2. Market Related Ratios

### 4.2.1. Earning Per Share

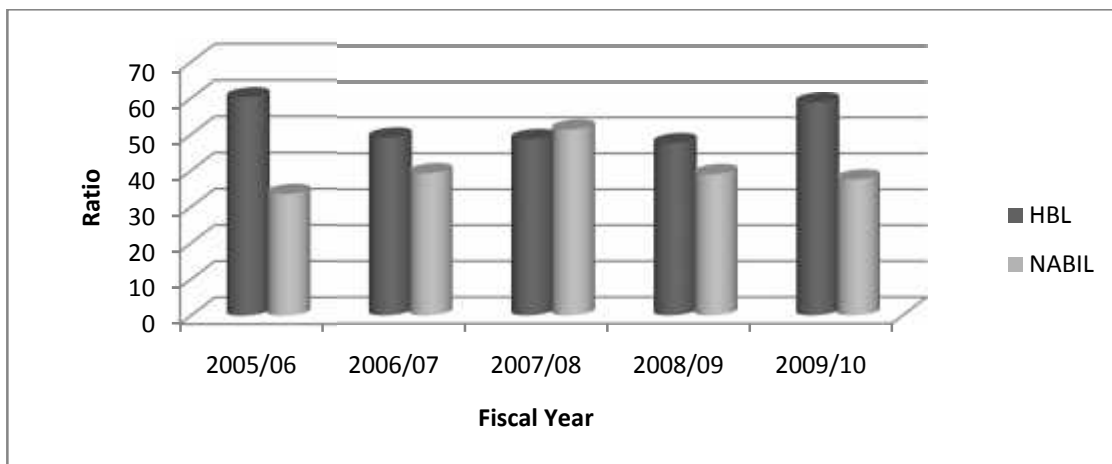
.Earning per share shows the profitability of the firm on a per share basis; it does not reflect how much is paid as dividend and how much is retained in the business. EPS is one of the most widely used measures of the bank’s performance. It is an important index of the bank’s performance and the investors rely heavily on it for their investment decisions. In order to see the strength of the share in the market, EPS of selected banks are calculated as below:

**Table: 4.7**  
**Earnings Per share**

<b>Bank \ Year</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D</b>	<b>CV(%)</b>
HBL	60.26	49.45	49.05	47.91	59.24	53.18	6.0331	11.34
NABIL	33.59	39.56	51.70	39.31	37.81	40.39	6.7577	16.73

*Source: Appendix-7*

**Figure: 4.7**  
**Earnings Per share**



The Table and Figure shows the Earning per share of selected bank over the study period. Earnings per share of NABIL ranges highest of Rs. 51.70 in the fiscal year 2007/8 and lowest in the fiscal year 2005/06 with Rs.33.59 Average earning per share of NABIL is 40.39 Standard deviation and CV shows the moderate level of consistency in the ratio over the study period.

Earnings per share of HBL ranges highest of Rs. 60.26 in the fiscal year 2005/06 and lowest in the fiscal 2008/09 with Rs. 47.91. Average earning per share of HBL is Rs. 53.18 over the study period, which is highest among the selected banks. Here HBL possess strength on earning per share, which help to maximize the shareholders' wealth.

#### 4.2.2 Dividend per Share

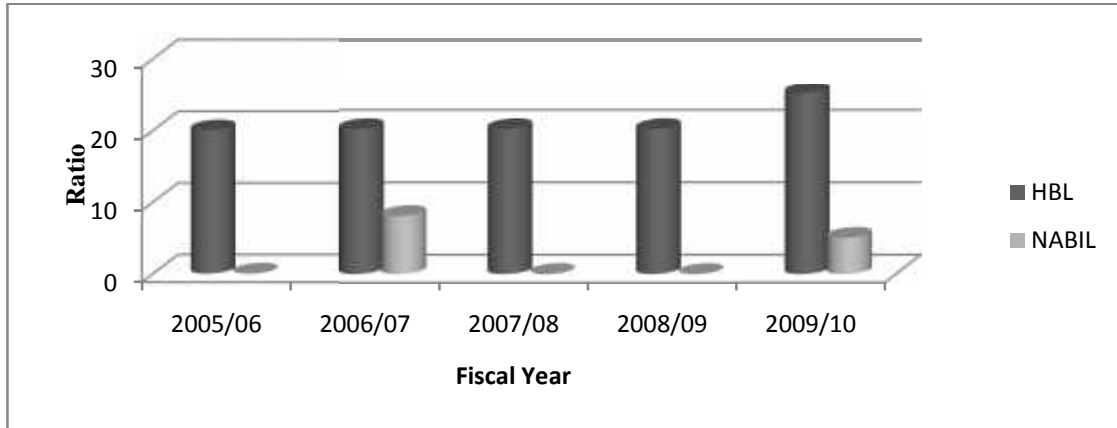
Companies generally prefer to pay cash dividends. They finance their expansion and growth by issuing new shares or borrowings. Companies like to follow a stable dividend policy since investigators generally prefer such policy for certainly reason. A stable dividend policy does not constitute constant DPS, but a reason Nabil predicable dividend policy.

**Table: 4.8**  
**Dividend Per Share**

<b>Year</b> <b>Bank</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D</b>	<b>CV(%)</b>
HBL	20	20	20	20	25	21	2.24	10.65
NABIL	0	8	0	0	5	2.60	3.71	142.88

*Source: Appendix-8*

**Figure: 4.8**  
**Dividend Per Share**



The Table 4.8 and figure 4.7 shows the dividend per share of selected banks over the study period. Here HBL found to be paying relatively more dividend in average Rs. 2.60 two years dividend per share Rs.20 in 2005/06 and 2009/10. In 2007/08 dividend per share Rs. 20 which is minimum dividend per share of the study period in this bank.

HBL has given the Rs.20 in 2005/06 to 2008/09 and increase the DPS in 2009/10 Rs.25. the average DPS is Rs.21. The standard deviation and CV is 2.24 and 10.65 percent respectively. It's distributed bonus share. NABIL found to be paying dividend in average Rs 2.60 .Its gave Rs 20 in 2005/06 and decrease the DPS in 2007/08 to 2008/09. The year of 2009/10 NABIL gave high DPS is Rs. 5 in this study period. The standard deviation and CV is 3.71 and 142.88% respectively.

#### **4.2.3 Price Earnings Ratio**

Price earnings ratio reflects the price currently being paid by the market for the each rupees of currently reported EPS. In other words, it measures investor expectations and the market appraisal of the performance of a firm. It is an indication of the way investors think that the banks would perform better in the future. Higher market price suggest that investor expect earnings to grow and this gives a high P/E implies that

investor feel that earning are not likely to rise. Price earnings ratio is calculated as below:

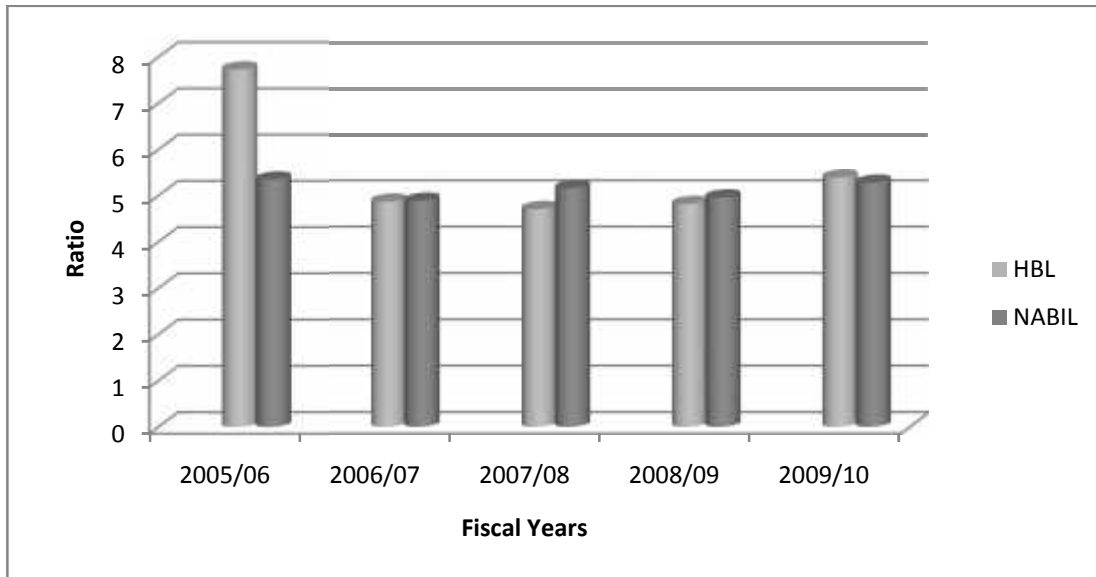
$$\text{P/E ratio} = \text{Market Price of a Share} / \text{Earning per Share}$$

**Table: 4.9**  
**Price Earnings Ratio**

<b>Year</b> <b>Bank</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D</b>	<b>CV(%)</b>
HBL	16.59	16.91	17.12	19.20	18.57	17.68	1.14	6.45
NABIL	22.62	21.01	18.18	20.25	21.23	20.66	1.63	7.88

*Source: Appendix-9*

**Figure: 4.9**  
**Price Earnings Ratio**



Price earnings ratio of NABIL is lowest among the selected banks i.e.18.18 P/E ratio of NABIL is increasing over the study period. At the beginning of the study period 2005/06 ratio is 22.62, while in the end of the study period it reaches to 21.23. The standard deviation and CV is 1.63 and 7.88 percent respectively.

Price earnings ratio of HBL is shows 17.68 in average. Some of the year increase trend and last of 2009/10 fiscal year was decrease i.e 18.57 .In 2005/06,2006/07, 2007/08 and 2008/09 fiscal year was 16.59,16.91, 17.12 and 19.20 respectively. Average P/E ratio is 17.68 which is lower than NABIL. The standard deviation and CV of HBL is 1.14 and 6.45 % respectively. P/E ratio of HBL is consistent in comparison to NABIL.

Average price earnings ratio of NABIL is Rs.20.66. which is highst among the selected banks. Overall trend of price earnings ratio shows the fluctuating trend. It ranges highest of 22.62 in the fiscal year 2005/06 and lowest in the fiscal year 2007/08 is 18.18. The standard deviation and CV is 1.63 and 7.88 %respectively.

### 4.3 Analysis of Capital Structure

The analysis of capital structure is a concept of vital importance for this study. Here, both NI and NOI approach are considered to analyze the capital structure of the overall capitalization.

#### 4.3.1 Net Income Approach (overall Capitalization Rate- $K_o$ )

The total market value of firm is simply obtained by adding the market value of debt to the market value of equity.

$$K_o = EBIT/V$$

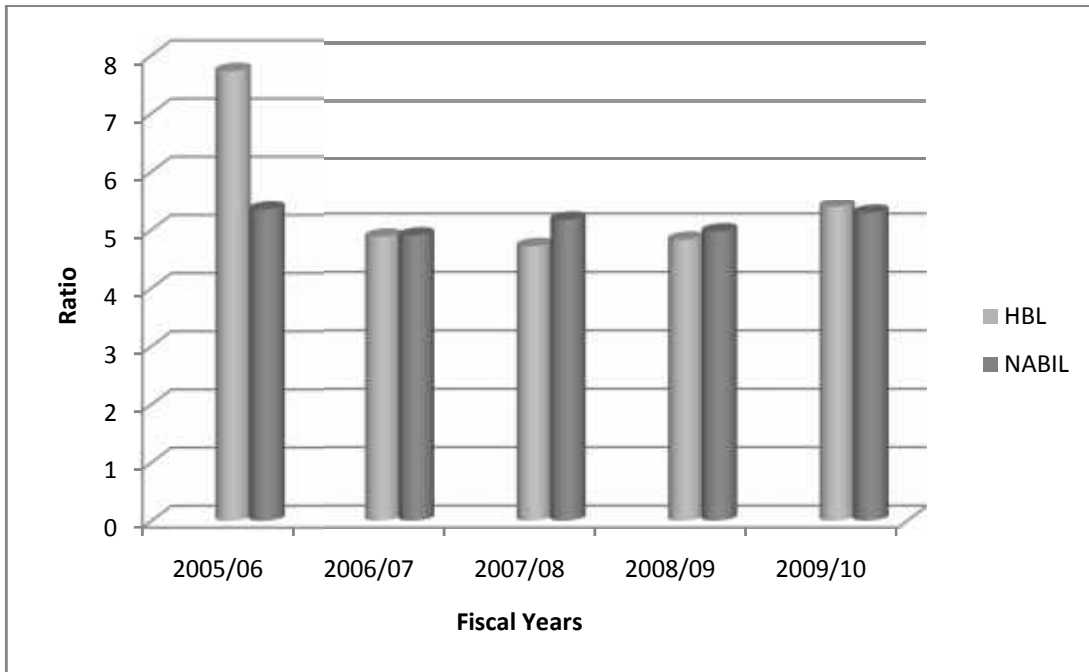
**Table: 4.10**

#### Overall Capitalization Rate (NI Approach)

<b>Bank \ Year</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Mean</b>	<b>S.D</b>	<b>CV (%)</b>
HBL	7.73	4.86	4.70	4.81	5.38	5.49	1.28	23.22
NABIL	5.35	4.88	5.15	4.95	5.27	5.12	0.20	3.92

*Source: Appendix-10*

**Figure: 4.10**  
**Overall Capitalization Rate (NI Approach)**



Above the table and figure shows the overall capitalization rate of selected banks over the study period. Highest  $K_e$  is in fiscal year 2009/10. Some of year increase and decrease in overall capitalization

Average overall capitalization rate of HBL is 5.49. In the study period highest is 7.73 in 2005/06 fiscal year and lowest is 4.70 in 2007/08 fiscal year. Fiscal year 2006/07, 2008/09 and 2009/10 are 4.86, 4.81 and 5.38 overall capitalization rate respectively. The standard deviation is 1.28 and coefficient of variation is 23.22 percent.

Average overall capitalization rate of NABIL is 5.12 which is the least among the selected banks. Ratio of NABIL ranges highest is 5.35 in the fiscal year 2005/06 and lowest capitalization rate is 4.88 in the fiscal year 2006/07. The standard deviation and CV is 0.20 and 3.92 respectively.

### 4.3.2 Net Operating Income (NOI) Approach (Equity Capitalization Rate – $K_e$ )

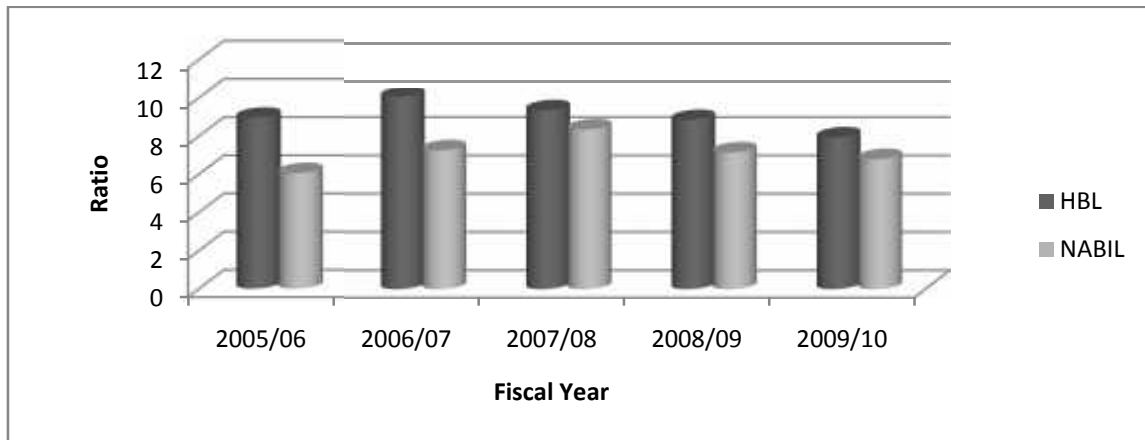
The net operating income approach focus on the equity capitalization rate and appears as irrelevancy theory of capital structure, as already explained in detail in chapter II. According to this approach, overall capitalization rate,  $K_o$  as well as the debt capitalization rate,  $K_i$ , is independent of degree of leverage. However, the equity capitalization rate,  $K_e$ , increase linearly with financial leverage. Equity capitalization rate is obtained simply dividing the earning before tax by market value of the equity. Thus, under net operating income approach, the equity capitalization is computed as follows:

**Table: 4.11**  
**Equity Capitalization Rate (NOI Approach)**

Bank \ Year	2005/06	2006/07	2007/08	2008/09	2009/10	Mean	S.D	CV (%)
HBL	8.95	10.04	9.34	8.83	7.92	9.01	0.77	8.59
NABIL	6.05	7.25	8.34	7.14	6.79	7.10	0.83	11.70

Source: Appendix-11

**Figure: 4.9**  
**Equity Capitalization Rate (NOI Approach)**



The equity capitalization rate of NABIL has decreasing trend over the study period, having average rate of 9.49 where HBL, and NABIL has quite fluctuating trend over the years. Show in above table and figure.

Average equity capitalization rate of HBL is 9.01. Over the study period ratio highest of 10.04 in the fiscal year 2006/07 and lowest in the fiscal year 2009/10 i.e. 7.92. Equity capital of HBL does not show any clear direction. The S.D. and CV is 0.77 and 8.59% respectively. Bank has a decreasing trend of equity capitalization rates are decreasing and the market is above the par value of the banks. The par value of selected banks I Rs. 100 per share..

Nabil Bank Ltd. have average equity capitalization rate is 7.10%. This bank has a decreasing and increasing trend of equity capitalization rates. It's ranges highest equity capitalization rate is 8.34 in 2007/08 fiscal year and lowest is 6.05 in 2009/10 fiscal year. The S.D. and CV is 0.83 and 11.70 percent respectively.

## **4.4 Statistical Analysis**

### **4.4.1 Coefficient of Correlation between EBIT and Interest Payment**

The relation 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. Positive values show the positive relation and negative values shows the negative relation. The following result is obtained for selected banks

**Table: 4.12**

**Relationship between EBIT and Interest Payment**

Banks	r	r <sup>2</sup>	PE	6 X PE	Level of significant
HBL	0.821	0.674	0.098	0.590	Significant
NABIL	0.992	0.985	0.005	0.027	Significant

Form the Table analysis; it's clear that the correlation between EBIT and interest payment in case of HBL and NABIL is 0.821, and 0.992 which showed positive relationship. It shows that increase in EBIT, increase interest payment. On the other hand, the correlation between EBIT and interest payment of bank which shows higher positive. Considering the probable error (P.E.), the value of 'r' is greater than six times of the probable error. Therefore, it is depicted that the value of 'r' in banks is significant, i.e. there is significant relationship between EBIT and interest payment. It shows that the selected banks are significantly able to service their debt.

**4.4.2 Coefficient of Correlation between Overall Capitalization Rate (X) and Debt-Equity Ratio (Y)**

Correlation of coefficient between overall capitalization rate (X) and debt-equity ratio (Y) in terms of total debt to net worth is calculated in order to measure whether increase in the debt-equity ratio decreases overall capitalization rate of the banks. Applying Karl Pearson's correlation coefficient, following result is obtained.

**Table: 4.13**

**Relationship between Overall Capitalization Rate and Debt Equity ratio**

Banks	R	R <sup>2</sup>	PE	6 X PE	Level of significant
HBL	-0.419	0.176	0.249	1.492	Insignificant
NABIL	-0.363	0.132	0.262	1.571	Insignificant

Table shows the correlation coefficient between overall capitalization rate and debt equity of selected banks over the period. Here correlation coefficient of HBL, and

NABIL are -0.419, and -0.363 respectively. Correlation coefficient of HBL, and NABIL shows the highly negative, low negative, highly negative

and low negative respectively. Above result, correlation between overall capitalization rate and debt equity ratio of selected banks obtained poor negative relationship i.e., increase in debt capital portion in capital structure poorly decrease overall capitalization rate. Correlation coefficient of selected banks i.e. 'r' is less than six times P.E. of all banks so that the relationship of  $k_0$  and D/E ratio is insignificant.

Therefore, from above correlation coefficient, it cannot be ascertained to establish the relationship that the capital structure decision strongly affects the profitability. Hence, it can be concluded that the value of 'r' is insignificant and there is no proper relationship between overall capitalization rate and debt-equity ratio of selected banks. Correlation coefficient between overall capitalization rate and debt equality selected banks over correlation coefficient of HBL, and NABIL are -0.419 and -0.363 respectively. Correlation of NABIL shows the highly negative, low negative, highly negative and low negative respectively. Correlation coefficient of selected banks i.e. 'r' is less than P.E. of all banks, show relationship is insignificant. Hence, it can be concluded that value of 'r' is insignificant and there is no proper relationship between overall capitalization rate and debt-equality ratio of selected bank.

#### 4.4.3 Coefficient of Correlation between Return on Equity and Debt-Equity Ratio.

The correlation between ROE (Y) and DER(X). These banks are analyzed in order to know whether increase in debt capital portion in the capital structure increase return on equity. Positive values show the positive relation and negative values shows the negative relation. The following result is obtained for HBL, and NABIL:

**Table: 4.14**

#### **Relationship between Return on Equity Rate and Debt Equity Ratio**

Banks	R	R <sup>2</sup>	PE	6 X PE	Level of significant
HBL	-0.591	0.349	0.196	1.179	Insignificant
NABIL	0.911	0.829	0.052	0.310	significant

This Table shows the relationship between the return on equity and equity ratio of selected banks over the study period .coefficient of correlation of coefficient of HBL, and NABIL are -0.591, and 0.911 respectively. Here relation of NABIL is highly positively whereas HBL has moderately negative relationship. Considering the probable error (P.E.), the value of r is greater than six times of the probable error of two banks NABIL and less than six times of the probable error of HBL. Therefore, it is depicted that the value of r in NABIL is significant .whereas insignificant in the rest of the two banks HBL there significant relationship between on equity and debt to equity ratio of NABIL. Where as insignificant relationship between return on equity and debt of HBL

Relationship between the return on equality and debt to equality ratio of selected banks over the study period. Coefficient of Correlation of HBL and NABIL are 0.591, and 0.911 respectively. Here relationship of NABIL is highly positive where as HBL has moderately negative relationship. Considering the probable error (P.E.), the value of r is greater than six times of the probable error of two banks NABIL and less six times of the probable error of HBL. Therefore, it is depicted that the value of r in NABIL is Significant whereas insignificant in the rest of the two banks HBL i.e. there is significant relationship between return on equality and debt to equality ratio NABIL where as insignificant relationship between return on equality and debt of HBL.

#### **4.4.4 Coefficient of Correlation between Debt-Equity Ratio and return on Assets.**

The correlation between debt equity ratio and return on assets of selected banks are analyzed in order to examine which debt capital is significant in generating more return. It is assumed that there is significant relationship between return and debt capital. Positive values show the positive relation and negative values shows the negative relation. The following result is obtained for HBL and NABIL:

**Table: 4.15**

**Relationship between Debt-Equity Ratio and Return on Assets**

Banks	R	R <sup>2</sup>	PE	6 X PE	Level of significant
HBL	-0.869	0.755	0.074	0.443	Insignificant
NABIL	0.377	0.142	0.259	1.553	Insignificant

From the Table analysis, it's clear that the correlation between debt equality ratio and return on assets. Correlation coefficient of between debts to equality of NABIL is 0.676; here the relation is moderate positive. Correlation coefficient of HBL, NABIL is -0.869, and 0.377 respectively. Here correlation coefficient of HBL and NABIL shows the low positive relationship. Value of 'r' is less than 6 times probable error of selected banks. Which shows the value of r is insignificant, i.e. there is not significant relationship between debt to equity and return on assets. It shows that the selected banks are insignificant in terms of debt to equity to return on assets. It is clear shows that the debt to equity ratio increase return on assets will also increase and vice-versa.

Correlation between debt to equity ratio and return on assets. Correlation coefficient of between debts to equity of NABIL is 0.911 here the relation is moderate positive. Correlation coefficient of HBL, is -0.869, respectively. Here correlation coefficient of HBL shows the highly negative relationship, NABIL shows the low positive relationship. Value of 'r' is less than six times probable error of selected banks. Which shows the value of r is insignificant, i.e. there is not significant relationship between debt to equality and return on assets. It shows that the selected banks are insignificant in terms of debt to equality to return on assets.

## **4.5 Multiple Regression Analysis**

### **4.5.1 Net Profit Function**

The multiple regression analysis is used to predict the value of depended variable i.e. Net Profit ( $X_0$ ) from the independent variables i.e. Interest on income ( $X_1$ ) Exchange Income ( $X_2$ ), other income ( $X_3$ ) for the selected banks. We have multiple regression

equation for selected banks using SPSS program in computer, following result was obtain:

$$X_0 = a + b_1X_1 + b_2X_2 + b_3X_3$$

#### **Regression Equation of NABIL.**

$$X_0 = -722.70 + 6.89X_1 + 11.79X_2 + 3.31X_3$$

From the above equation, if exchange income ( $X_2$ ) and other income ( $X_3$ ) were held constant but increased by rupee one in interest income ( $X_1$ ), net profit of NABIL would increased by Rs.6.89. similarly, if exchange income ( $X_2$ ) and interest income ( $X_1$ ), were held constant but increased by rupee one in other income ( $X_3$ ), net profit of NABIL would increased by Rs.3.31. Finally if ( $X_1$ ) and ( $X_3$ ), were held constant, but increased by rupee one in exchange income, net profit would increased by Rs.11.79. This implies that the bank would earn from exchange income more than the other independent variables i.e. ( $X_1$ ) and ( $X_3$ ). The constant coefficient of - 722.70 obtained. This depicts that net profit of the bank would decreased by -722.70 million if these three independent variable were zero.

#### **Regression Equation of HBL**

$$X_0 = -99.97 + 0.62X_1 + 0.85X_2 + 5.39X_3$$

From the above equation, if exchange income ( $X_2$ ) and other income ( $X_3$ ) were held constant but increased by rupee one in interest income ( $X_1$ ), net profit of HBL would increased by Rs. 0.62. Similarly, if exchange income ( $X_2$ ) and interest income ( $X_1$ ), were held constant but increased by rupee one in other income ( $X_3$ ), Net profit of HBL would increased by Rs. 5.39. Finally if ( $X_1$ ) and ( $X_3$ ), were held constant, but increased by rupee one in exchange income, net profit would increased by Rs. 0.85. This implies that the bank would earn from other income more than the other independents variables i.e. ( $X_1$ ) and ( $X_2$ ). The constant coefficient of -99.97 obtained. This depicts that net profit of the bank would decreased by 99.97 million if these three independent variable were zero.

### **Regression Equation of NABIL**

$$X_0 = 15.87 + 1.90X_1 - 1.03X_2 + 1.81X_3$$

From the above equation, if exchange income ( $X_2$ ) and other income ( $X_3$ ) were held constant but increased by rupee one in interest income ( $X_1$ ), net profit of NABIL would increase by Rs.1.90. Similarly, if exchange income ( $X_2$ ) and interest income ( $X_1$ ), were held constant but increased by rupee one in other income ( $X_3$ ), Net profit of NABIL would increase by Rs.1.81. Finally if ( $X_1$ ) and ( $X_3$ ), were held constant, but increased by rupee one in exchange income, net profit would decrease by Rs.1.03. This implies that the bank would earn from interest income more than the other independent variables i.e. ( $X_1$ ) and ( $X_3$ ). The constant coefficient of 15.87 obtained. This depicts that net profit of the bank would remain at 15.87 million if these three independent variables were zero.

Regression analysis based on the net profit function i.e. Net profit is the function of interest income, Exchange income and other income. Net profit of NABIL depends more on exchange than other two independent variables. HBL net profit depends more on other than other two independent variables. Net profit of depends more on exchange income than interest income and other income. NABIL earns from interest income than from the exchange and other income.

### **4.5.2 Return on Equity Function**

Return on equity (ROE) is the function of debt equity ratio (DER) in terms of debt to equity ratio, dividend payout ratio (DPR) and interest margin (IM). The multiple regression analysis is used to predict the value of dependent variable i.e. ROE ( $X_0$ ) from the independent variables i.e. DER ( $X_1$ ), DPR ( $X_2$ ) and IM ( $X_3$ ).

### **Regression Equation of NABIL**

$$X_0 = 6.03 + 1.76X_1 - 5.29X_2 + 0.83X_3$$

From this equation, if DER ( $X_1$ ) were held constant but increased by one percent IM ( $X_3$ ), ROE of NABIL would increase by 0.83%. Similarly, if DPR ( $X_2$ ) and IM ( $X_3$ ), were held constant but increased by 1% in DER, ROE of NABIL would increase by 1.76 percent. Finally if DER and IM were held constant but increased 1% in DPR, ROE

of the bank would decrease by 5.29% which was more pronounced than the other two variables i.e.  $X_1$  (DPR) and  $X_2$  (IM) to increased ROE of the bank.

#### **Regression Equation of HBL**

$$X_0 = -12.08 + 9.89X_1 + 4.81X_2 - 0.42X_3$$

From this equation, if DER( $X_1$ ) and DPR( $X_2$ ) were held constant but increased by 1% IM ( $X_3$ ), ROE of HBL would decreased by 0.42%. Similarly, if DPR( $X_2$ ) and IM ( $X_3$ ), were held constant but increased by 1 percent in DER, ROE of HBL would increased by 9.89 percent. Finally if DER and IM were held constant but increased 1% in DPR, ROE of the bank would increase by 4.81 percent. Here DER is pronounced than other two variables i.e. DPR and IM to increased ROE of the bank.

#### **4.6 Major Findings of the Study**

) In terms of total debt to total assets reveals that the selected banks are highly leveraged (i.e. more than 60 percent in average) on five year time horizon. It means the assets of selected banks have been financed more funds collected from creditors. Nabil Bank has the highest average ratio of 85.36% in comparison to the lowest of 67.16 % of HBL. NABIL has D/E ratio of 15.86 times on an average. It means debt capital financing is more than 15.86 times higher than shareholder's equity. HBL has an average of 13.98 times D/E ratio. It means debt capital financing is more than 13.96 times higher than shareholder's equity. NABIL has an average 10.48 times of D/E ratio.

) HBL able to maintain highest interest coverage ratio than other banks. Its average interest coverage ratio during five years period is 2.741 times. NABIL has average interest coverage of 1.963 times, which is lowest among the selected banks. But this ratio shows consistent trend. Ratio the computed interest coverage ratio of both banks in above table shows how many times the interest charges are covered by funds that the ordinary available to pay interest charges.

- J The degree of financial leverage of NABIL has the lowest ratio of 1.97 times on an average, which reflects the bank has lower degree of financial risk. HBL constitutes higher degree of financial leverage, which represents higher financial risks for the bank. Average DFL is HBL are 5.49, times respectively.
  
- J NABIL has highest average ROA among the selected bank i.e 1.38 percent NABIL has better utilizes its assets to generate profit than other companies. Average ROA of HBL and NABIL are 1.15 percent. 1.33 percent, ROA of NABIL is in increasing trend over the study period.
  
- J Among the selected banks NABIL has highest average ROE i.e. 18.829. Average ROE of HBL and NABIL are 22.624, and 18.829 percent on the shareholders equality fund respectively. ROE of HBL is least among the selected banks. Which shows the weak performance of banks, in the maximizing the shareholders equality.
  
- J Average earning per share of NABIL, HBL are RS. 40.39 and RS. 53.18. Earnings per share of HBL is highest among the selected banks. Here HBL process strength on earning per share, which help to maximize the shareholders wealth. Average EPS of NABIL is Rs. 40.39 over the study period.
  
- J HBL found to be paying relatively more dividend in an over average Rs.21 followed by NABIL, is the lowest dividend previous period. HBL distribute bonus share. The issue of bonus share is advantageous in some cases. Sometimes using bonus share reduces the market price per share now makes it more attractive to investor.
  
- J On an average, the investors were interested to pay 28.84 times higher than per rupee of reported earnings in the market. Price earning of HBL is consistent in comparison to other banks with an average price earnings ratio of HBL is 17.68. Price earnings ratio NABIL is lowest among the selected bank i.e. 16.03 P/E ratio of

NABIL is 20.66 which is second highest among the selected banks. Overall trend of price earnings ratio shows the fluctuating trend.

- J Average over all capitalization ratio of HBL is 5.49 . Average overall capitalization rate of NABIL is 5.12 which the least among the selected companies.
- J Equality capitalization rate equality cost of banks was fluctuating in active. Average equality capitalization of NABIL is 9.49. Overall trend shows the decreasing trend over the study period. Average equality HBL is 9.01 over the study period. This is the lowest among the selected companies. Average equal to NABIL is 7.10 equality capitalization rates are decreasing and the market values above the par value in all bonuses.
- J Correlation coefficient between EBIT and interest payment of EBIL, HBL, and NABIL is 0.821, and 0.992 which showed positive relationship. It shows that increase in EBIT, increase interest payment. On the other hand, the correlation between EBIT and interest payment of banks which shows higher positive relationship. Therefore, it is depicted that value of 'r' in banks is significant, i.e. there is significant relationship between EBIT and interest payment. It shows that the both banks are significantly able to service their debt.
- J Correlation coefficient between overall capitalization rate and debt equality selected banks over correlation coefficient of HBL, and NABIL are -0.859, and -0.363 respectively. Correlation of NABIL shows the highly negative, low negative, highly negative and low negative respectively. Correlation coefficient of selected banks i.e. 'r' is less than P.E. of all banks, show relationship is insignificant. Hence, it can be concluded that value of 'r' is insignificant and there is no proper relationship between overall capitalization rate and debt-equality ratio of selected bank.
- J Relationship between the return on equality and debt to equality ratio of selected banks over the study period. Coefficient of Correlation of HBL, and NABIL are -

0.591, and 0.911 respectively. Here relationship of NABIL is highly positive where as HBL has moderately negative relationship. Considering the probable error (P.E.), the value of  $r$  is greater than six times of the probable error of two banks NABIL and less six times of the probable error of HBL . Therefore, it is depicted that the value of  $r$  in NABIL is Significant whereas insignificant in the rest of the two banks HBL there is significant relationship between return on equality and debt to equality ratio NABIL where as insignificant relationship between return on equality and debt of HBL .

- J Correlation between debts to equality ratio return on assets. Correlation coefficient of between debts to equality of NABIL is 0.676 here the relation is moderate positive. Correlation coefficient of HBL, ans is -0.869, -0.049, and 0.377 respectively. Here correlation coefficient of HBL shows the highly negative relationship, shows the low negative relation and NABIL shows the low positive relationship. Value of ' $r$ ' is less than six times probable error of selected banks. Which shows the value of  $r$  is insignificant, i.e. there is not significant relationship between debt to equality and return on assets. It shows that the selected banks are insignificant in terms of debt to equality to return on assets.
- J Regression analysis based on the net profit function i.e. Net profit is the function of interest income, Exchange income and other income. Net profit of NABIL depend more on exchange than other two in depended variables. HBL net profit depends more on other than other two in depended variables. NABIL earn from interest income than from the exchange and other income.
- J Regression analysis based on Equality function i.e. return on equality is the function of dividend payout ratio, interest margin and debt to equality ratio shows that ROE of NABIL depends on the debt to equality ratio than the other two variables. Same as in case of HBL. Interest margin of NABIL have major effect to increase return on equality than other two variables.

## **CHAPTER -V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

Every business need capital to operate smoothly and capital is said to be the blood of the business. So, sound capital structure is very crucial for smooth operation of business. As in order firm, capital structure is crucial part for banking industry to the study had been carried based on four commercial bank i.e. HBL, and NABIL a for study of capital structure. Financial sector is a part of the industry and is regarded as the backbone or engine of the growth of the economy whether it is developed or developing or in transition of emerging. It plays a very crucial role in the development of all sectors of the economy and actually works as a lubricator by the financial resources. Banking industry is a part of financial sector and it has great contribution in economic development of the country. By the various functions it increases employment opportunity, industrial activities, trade business etc. NABIL is the first bank established in the year 1937 A.D. and dominated the whole financial sector in the country for almost three decades.

After liberalization policy has been initiated in mid 1980s, it created the path to the foreign investors. In 1984 A.D., the Nepal Arab Bank Limited was established as the first joint venture commercial bank of the country. Today there are altogether 31 commercial banks operating in the country and most of them are joint venture banks. The banks are having competition and most of them were successful in providing customer satisfaction through various service.

Capital is a most blood of any business or organization. It is a planning and decision making for which manager to involve in business. It is not only challenging job for organization but also challenging study for a researcher. A brief introduction of the study and overall introduction of the companies they have undertaken for study purpose have presented in first chapter. Second chapter is good review of the issues related with abstracts of capital structure such as NI approach, NOI approach, MM model and

other theoretical approaches to establish appropriate capital structure are described in this chapter. Review of different management journals, articles as well as related Nepalese studies have been presented as well. In this chapter the steps to adopt realistic study needed for the researchers have been presented. The methodology, researcher can use to get appropriate guidelines and knowledge about the various sequential steps to adopt a systematic analysis has been explained in this chapter. Most of data used in this study are secondary in nature that is annual reports provided by concerned companies. Five years data are taken as sample years and are analyzed by using financial and statistical tools in chapter three research methodologies.

Fourth chapter consists of analytical framework of data and findings mentioned in the third chapter using methods mentioned in the chapter third above such as ratios, leverage analysis, correlations, and probable errors and capital structure analysis. Detail calculations presented in this chapter that is considered as the important part revealing the performance of selected banks. This is the concluding chapter of the study. This chapter is divided into three sections: Summary, Conclusions and Recommendations. In this chapter, we summarize the study in brief. In the last section of this chapter some recommendations have given, which are useful to stakeholders and to concerned companies as well. They can use these recommendations to take some corrective actions to draw decisions.

## **5.1 Summary**

Basically, concerned on the various aspect of the study on capital structure of selected commercial banks in Nepal. It covers five Fiscal years starting from 2005/06 to 2009/10. It includes the data of Two commercial banks. To accomplish the setting objectives in first chapter, the necessary data and others various information are collected from the financial statements and websites of each individual bank. Similarly, the requirement of data is mostly fulfilled from "the annual report and websites of selected banks."

The capital structure position has been analyzed by calculating various ratios. The ratio of debt ratio is slightly fluctuating trend; the creditor's margin of safety is very low, which shows high risk. NABIL has held high protection of average debt ratio with 85.36%. NABIL has debt to equity financing higher than other selected bank i.e. 15.86 is average ratio. HBL is able to maintain highest interest coverage ratio than other bank. It is average ratio during the five year's period is 2.741 times but IBL has lower average interest coverage ratio among the selected banks. Degree of financial coverage of NABIL has low ratio which shows low risk and HBL has highest degree of financial coverage which shows high financial risk to the creditor. Leverage ratio measure the long term solvency of firm. ROA ratio of selected bank have mixed trend. NABIL has better utilizes its assets to generate profit than other banks. ROA of NABIL is increasing trend over the study period. ROE of HBL is least among the selected banks. Which is shows the week performance of banks.

Earnings per share of HBL is higher among the selected bank. Here HBL progress strength on earning per share, which help to maximize the share holder's wealth, average EPS of is lowest among the study period but EPS of allover the bank have an fluctuating trend. Dividend per share of NABIL and HBL distribute bonus share for the issue of bonus share is advantageous is same case. It reduces the market price per share and it's more attractive to investor. Overall trend of price earnings ratio shows the fluctuating trend. The NI approach implies that proportion of high leverage consequently increases the value of the firm. The approach is well acquainted with this study as the value of the banks has increased in accordance to the increasing portion of leverage. The  $K_0$  of selected bank are positive. NABIL is the least among overall capitalization of the selected banks and NABIL is the highest overall capitalization rate in the study period.

The correlation coefficient between NABIL and interest payment of selected banks are positive relationship. And significant relationship all over the selected banks. The relationship between overall capitalization rate and NABIL equity ratio are negative value or 'r' shows relationship is insignificant. The relationship ROE and debt to equity

ratio of HBL is negative value of 'r' that is negative relationship but remaining banks are positive relationship because all value of 'r' is positive. Expect HBL and NABIL have insignificant relationship between ROE and debt to equity ratio. Debt equity and ROA of HBL are negative relationship; remaining NABIL is positive relationship. But the entire selected bank has insignificant relationship. Thus it is not sure that if debt to equity increases. The ROA will increase by the regression analysis net profit function i.e. Net profit is the function of interest, exchange and other income.

## **5.2 Conclusion**

From the study bank are found to be highly levered. The company's financial mix accounts a higher proportion of debt and it is increasing every year. The growth and increasing integration of the world's economy has been parallel by expansion of global banking activities. Nepal though a developing country, couldn't identify the fact that commercial banking which is responded by extending loan and developing new highly innovative financial techniques that laid the foundation for totally new approaches to the provision of banking services on the basis of entire research study, the analysis of capital structure is very significant in project appraisal of shift competition. Most of the banks cannot manage the current assets. Because of the inefficient current management company cannot fulfill the organizational objective, i.e. to earn maximum profit and maximizing the share holder equity.

The debt-shareholder's fund ratio calculated is relation to the proportion of funded debt to shareholder fund which shows % of funded debt is many times greater than shareholder's fund in the bank. The interest coverage ratio during the study period was positive for all selected bank. In case of ROA and ROE, NABIL has higher ratio than any other banks. Which indicated the best bank among the selected banks? The average EPS of and HBL higher than other selected banks and EPS of NABIL is fund to be in increasing trend and EPS of other banks are fluctuating during the study period. In Nepalese banking trend of profit is not increasing, profit level is less than the standard level of return on investment. Cost of existing condition, bank may not be run in long term. The main cause of cost increase may unskilled manpower, overstaffing,

unsystematic arranged of material, level of unnecessary and expenses is high and misuse of the facilities and resources. The correlation coefficient of the variable of selected bank for the statistical analysis is found positive to each other. The coefficients are all statistically significant in more than average banks. A positive correlation means both of the variables are moving toward the same direction.

Finally, it can be said that the study of a capital structure cannot be neglected by selected commercial banks. Otherwise it can seriously ride their financial viability. Thus, managers should understand the factors determining capital structure. Some of the Nepalese joint venture banks are suffering from the huge losses due to their administrative negligence in day to day operation and lack of specific Analysis of capital structure policy.

### **5.3 Recommendations**

The sound capital structure enhances the profitability and growth of any company and it also indicates sound financial position of the company. The capital structure decision in term of banking is very much different from other industry. Bank enjoyed by using outsider's fund by various measures in variety of assets in order to provide good return to their shareholders. As the outsider's fund is very higher than owner's fund financial manager must be very much sensible in each step of investing and lending the funds in various assets. If bank fail to make handsome return, it may bring worse period for the bank. Based on finding following recommendation are provide financial position of HBL, and NABIL.

) The capital structure of selected banks is highly leveraged. Still HBL has higher leverage ratio in compared to NABIL. It is good making handsome return by employing outsider's fund but at same time it also brings risk to the bank. The proportion of debt and equity capital should be decided keeping in mind the efforts of tax advantage and financial distress. The banks, when in difficulty to pay interest and principal, ultimately lead to liquidation or bankruptcy. For such the bank should reduce the high use of debt capital.

- J The ROSE, ROA and EPS of HBL, and NABIL are very low in compare to So they needed to seek more profitable are in order to increase profit of the bank. And they also need to maintain optimal capital structure considering cost of capital so that it helps to enhance the ROS and profitability of the banks.
- J Dividend payout ratio should be determined considering the shareholder's expectation and the growth requirements of the banks. A higher payment attracts both the existing and potential investors leading to increase in market price of the share, which consequently leads to the strength of financial capacity. Hence HBL and NABIL banks are recommended to maintain consistent dividend payout ratio.
- J The earnings of all the selected banks are decreasing. Yearly this may be due to the providing economic, political condition of the country. But the banks need to enhance their profitability by increasing efficiency in their productivity and decreasing the cost.
- J The central bank as a regulating supervising and directing bank mandates all the commercial banks to increase their capital fund to Rs. 1 (One) billion and also needed to maintain sufficient capital adequacy radio as per NRB directives. So all selected banks need to adopt the guidance of the central bank to maintain appropriate capital structure so safe guard the depositor's money.
- J All the selected banks need to review and monitor leverage ratio regularly so that risk to the bank may not increase which may effect in efficient operation of the banks and it is basically not concerned to mobility their deposit fund to productive areas. So they are proposed to come forward to match government obligation by financing the priority sector development program.
- J High risk to make high profit. Thus the management should not consider it as danger. It is the ability to manage the current assets properly and efficiently for the efficient utilization of current assets. The management should identity its

strength and weak points. To develop the managerial ability there should be trained, participating in management, conferences, foreign, enterprise tour and need of the changing time and situation for the managerial level employees.

) All the companies should be given continuity in providing both conceptual and practical training to the staff to enhance their knowledge. Skills and competency level. They should remain consistently vigilant in enhancing their more and motivation.

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<http://www.himalayanbank.com>

<http://www.nibl.com.np>

## Annex- 1

### Debt Ratio of Selected Banks

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	0.5389	-0.1321	0.01745	0.6786	-0.0792	0.006273
2006/07	0.549	-0.122	0.014884	0.7459	-0.0119	0.000142
2007/08	0.7309	0.0599	0.003588	0.7619	0.0041	1.68E-05
2008/09	0.766	0.095	0.009025	0.7826	0.0248	0.000615
2009/10	0.7733	0.1023	0.010465	0.8201	0.0623	0.003881
<b>Total</b>	<b>3.3581</b>		<b>0.055413</b>	<b>3.7891</b>		<b>0.010927</b>

#### Calculation for HBL

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 0.671$$

$$\text{Standard deviations (S.D) } (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.1177$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 17.52\%$$

#### Calculation for NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 0.7578$$

$$\text{Standard deviations (S.D) } (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.0523$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 6.90\%$$

**Annex- 2**

**Debt to Equity Ratio of Selected Banks**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	12.98	-1	1	4.78	-5.7	32.49
2006/07	16.71	2.73	7.4529	10.53	0.05	0.0025
2007/08	13.67	-0.31	0.0961	13.85	3.37	11.3569
2008/09	13.62	-0.36	0.1296	10.88	0.4	0.16
2009/10	12.9	-1.08	1.1664	12.36	1.88	3.5344
<b>Total</b>	69.88		9.845	52.4		47.5438

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 13.98$$

$$\text{Standard deviations (S.D) } (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 1.57$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{\text{M}} \times 100\% = 11.22\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 10.48$$

$$\text{Standard deviations (S.D) } (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 3.45$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{\text{M}} \times 100\% = 32.88\%$$

**Annex- 3**  
**Interest Coverage Ratio**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	2.21	-0.53	0.2809	1.59	-0.37	0.1369
2006/07	2.42	-0.32	0.1024	1.9	-0.06	0.0036
2007/08	2.77	0.03	0.0009	1.71	-0.25	0.0625
2008/09	3	0.26	0.0676	2.61	0.65	0.4225
2009/10	3.31	0.57	0.3249	2.01	0.05	0.0025
<b>Total</b>	13.71	0.01	0.7767	9.82	0.02	0.628

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 2.741$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.4409$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{\bar{X}} \times 100\% = 16.1\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 1.963$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.3938$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{\bar{X}} \times 100\% = 20.1\%$$

**Annex- 4**  
**Degree of Financial Leverage**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	7.73	2.234	4.990756	2.67	0.426	0.181476
2006/07	4.86	-0.636	0.404496	2.11	-0.134	0.017956
2007/08	4.7	-0.796	0.633616	2.41	0.166	0.027556
2008/09	4.81	-0.686	0.470596	2.06	-0.184	0.033856
2009/10	5.38	-0.116	0.013456	1.97	-0.274	0.075076
<b>Total</b>	27.48		6.51292	11.22		0.33592

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 5.49$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 1.28$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 23.22\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 2.25$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.29$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 12.84\%$$

**Annex- 5**  
**Return on Assets**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	1.14	-4.63	21.4369	1.13	-5.53	30.5809
2006/07	0.91	-4.86	23.6196	1.3	-5.36	28.7296
2007/08	1.06	-4.71	22.1841	1.15	-5.51	30.3601
2008/09	1.11	-4.66	21.7156	1.44	-5.22	27.2484
2009/10	1.55	-4.22	17.8084	1.64	-5.02	25.2004
<b>Total</b>	5.77	-23.08	106.7646	6.66	-26.64	142.1194

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 1.15$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.24$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{\text{M}} \times 100\% = 20.66\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 1.33$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.21$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{\text{M}} \times 100\% = 15.99\%$$

**Annex- 6**

**Return on Shareholder's Equity**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	27.388	4.768	22.73382	10.888	-7.932	62.91662
2006/07	19.971	-2.649	7.017201	18.323	-0.497	0.247009
2007/08	19.865	-2.755	7.590025	20.986	2.166	4.691556
2008/09	19.996	-2.624	6.885376	19.183	0.363	0.131769
2009/10	25.901	3.281	10.76496	24.763	5.943	35.31925
<b>Total</b>	113.121		54.99139	94.143		103.3062

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 22.62$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 3.708$$

$$\text{Coefficient of variation (C.V)} = \frac{S.D}{M} \times 100\% = 16.389\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 18.829$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 5.082$$

$$\text{Coefficient of variation (C.V)} = \frac{S.D}{M} \times 100\% = 26.99\%$$

**Annex- 7**  
**Earnings Per share**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	60.26	7.08	50.1264	33.59	-6.8	46.24
2006/07	49.45	-3.73	13.9129	39.56	-0.83	0.6889
2007/08	49.05	-4.13	17.0569	51.7	11.31	127.9161
2008/09	47.91	-5.27	27.7729	39.31	-1.08	1.1664
2009/10	59.24	6.06	36.7236	37.81	-2.58	6.6564
<b>Total</b>	265.91	0.01	145.5927	201.97	0.02	182.6678

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 53.18$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 6.033$$

$$\text{Coefficient of variation (C.V)} = \frac{S.D}{M} \times 100\% = 11.34\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 40.39$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 6.7577$$

$$\text{Coefficient of variation (C.V)} = \frac{S.D}{M} \times 100\% = 16.73\%$$

**Annex- 8**  
**Dividend per Share**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	20	-1	1	0	-21	441
2006/07	20	-1	1	8	-13	169
2007/08	20	-1	1	0	-21	441
2008/09	20	-1	1	0	-21	441
2009/10	25	4	16	5	-16	256
<b>Total</b>	105	0	20	13	-92	1748

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 21$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 2.24$$

$$\text{Coefficient of variation (C.V)} = \frac{S.D}{M} \times 100\% = 10.65\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 2.60$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 3.71$$

$$\text{Coefficient of variation (C.V)} = \frac{S.D}{M} \times 100\% = 142.88\%$$

**Annex- 9**  
**Price Earnings Ratio**

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	16.59	-1.09	1.1881	22.62	1.96	3.8416
2006/07	16.91	-0.77	0.5929	21.01	0.35	0.1225
2007/08	17.12	-0.56	0.3136	18.18	-2.48	6.1504
2008/09	19.2	1.52	2.3104	20.25	-0.41	0.1681
2009/10	18.57	0.89	0.7921	21.23	0.57	0.3249
<b>Total</b>	88.39	-0.01	5.1971	103.29	-0.01	10.6075

**Calculation for HBL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 17.68$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 1.14$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 6.45\%$$

**Calculation for NABIL**

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 20.66$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 1.63$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 7.88\%$$

## Annex- 10

### Overall Capitalization Rate (NI Approach)

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	7.73	2.24	5.0176	5.35	0.23	0.0529
2006/07	4.86	-0.63	0.3969	4.88	-0.24	0.0576
2007/08	4.7	-0.79	0.6241	5.15	0.03	0.0009
2008/09	4.81	-0.68	0.4624	4.95	-0.17	0.0289
2009/10	5.38	-0.11	0.0121	5.27	0.15	0.0225
<b>Total</b>	27.48		6.5131	25.6		0.1628

#### Calculation for HBL

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 5.49$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 1.28$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 23.22\%$$

#### Calculation for NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 5.12$$

$$\text{Standard deviations (S.D)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}} = 0.20$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 3.92\%$$

## Annex- 11

### Equity Capitalization Rate (NOI Approach)

Years	HBL			NABIL		
	X	$X - \bar{X}$	$(X - \bar{X})^2$	Y	$Y - \bar{Y}$	$(Y - \bar{Y})^2$
2005/06	8.95	-0.06	0.0036	6.05	-0.95	0.9025
2006/07	10.04	1.03	1.0609	7.25	0.25	0.0625
2007/08	9.34	0.33	0.1089	8.34	1.34	1.7956
2008/09	8.83	-0.18	0.0324	7.14	0.14	0.0196
2009/10	7.92	-1.09	1.1881	6.79	-0.21	0.0441
<b>Total</b>	45.08	0.03	2.3939	35.57	0.57	2.8243

#### Calculation for HBL

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 9.01$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n - 1}} = 0.77$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 8.59\%$$

#### Calculation for NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} = 7.10$$

$$\text{Standard deviations (S.D)} (\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{n - 1}} = 0.83$$

$$\text{Coefficient of variation (C.V)} = \frac{\text{S.D}}{M} \times 100\% = 11.70\%$$