

# CHAPTER-1

## INTRODUCTION

### 1.1 Background of the study

Nepal is one of the countries in the world in terms of rich and unique in natural resources and attributes like it's bio-diversity, socio-cultural, cultural heritage, manifested in its architecture, temples, sculptures, monuments etc. Besides from this, it is also richly gifted with natural resources like worlds topest mountain Everest, green forests, many perennial rivers and source of minerals. Actually slow pace of developing of Nepal is due to illiteracy, lack of finance, landlocked position, poor resources mobilization and its utilization, weak infrastructure development, institutional weaknesses, poor economic policy and unstable eco-political environment. For this to overcome, the process of capital accumulation among other perquisites should be enhanced. The economic development of nation is on initial stage. Nepal has adopted mixed and liberal economic policy with the implicit objective to help the state and private sector. For the economic growth and development, government has now initiated various economic policies such as industrial policy, foreign investment policy, privatization policy and trade and transit policy.

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 establishment 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. It 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 industrialist 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 resources in to different assets with primary objectives of profit generation. They also play an important role for 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 financial 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 affected 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 require 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 inappropriate 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 shareholder is maximized 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 landlocked mountainous country and located between the gigantic countries India and China. It is a small country with an area covering 147,181 square kilometer. The geographical variation has been standing as a challenge for development of the country. About more than 68 % of people are dependent on agriculture. Traditional agriculture system is used till now. The current situation of Nepalese country 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 megawatt 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.

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 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 being, 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 invest 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, saving, 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 32 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. Later the transactions started increasing and they become 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. The terms in banking such as pledges, deposits, rate of interest, loans etc can be found in the ancient Hindu Epic Manu Smriti. Even in 300 B.C. It was in exercise 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. Later, they started advancing money changing 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 a formal institution was originated from Italy. The bank of Venice

which was established in 1157A.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 through was the bank of England which was established in 1844 A.D. Banking has come to the present advanced from 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 Rana Singh around 1872 AD. "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 BS holding 51 % of Government equity, the new era of banking sector had started in Nepal. As a central bank, Nepal Rastra Bank was established in 2013 BS under the provision of Nepal Rastra Bank Act 2012, with the objectives of helping in the development of monetary and financial sector by understanding 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 1980s, to meet the needs of healthy competition in the financial system. Nepal allowed the entry of foreign banks as joint ventures with up to maximum of 50 % 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 central bank in coming day. Government of Nepal budget for the year (FY2005) provides 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 to 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 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 Grind lays Bank Limited in 1986. In 2001, the name of Nepal Grind lays 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). The bank was formed in joint venture of the international finance investment and commerce Bangladesh. Everest bank was established in 2051(1994) under the commercial Bank out and Company Act 2021(1965). It is joint venture of state bank of India and Nepal promoter. Bank of Kathmandu limited 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 Srilanka investors but Srilankan investors have sold their shares to NB group of Nepal and it name has been change into Nepal Credit and Commerce Bank Limited. Under the commercial bank act and the company act other banks was established such as Lumbini Bank, NIC Bank, Kumari Banks, Machhapuchare Bank, Laxmi Bank, and Siddhartha 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 encourage foreign and private investment by offering attractive incentives and facilities including 100% foreign ownership in all but few sectors. This help to create conducive business environment for banking. As a result, additional commercial banks came into existence. When the internal violence shows green signal to manage and Nepal Rastra Bank make ease for rules and regulations, many few commercial banks are coming existence and existing development banks and financial institutions are upgrading them as commercial banks. At present there are 32 commercial banks registered and operating in Nepal.



## 1.5 Function of Commercial Bank

The main function of commercial banks includes:

- I. Accepting deposits in the forms of current,
- II. Saving and fixed deposits, providing short, medium and long term loans,
- III. Acting as an agency in transfer of money, make payment on commission basis for the cheque, draft, bill of exchange etc by the customer,
- IV. Buying and selling shares and debentures of any company and government bonds
- V. Collecting interests on debenture and government bonds, dividend on shares and funds from other banks for its customers
- VI. Making payments on insurance premium, rent, income tax, school fees, telephone bills to the concerned offices on behalf of customers
- VII. Carrying out the foreign currency exchange, and
- VIII. Helping in foreign trade etc.

Moreover, other functions include: to protect the precious jewellery; to provide travelers cheque, to underwrite the debentures; to issue credit card, debit card, master card, visa and etc; to create credit on the specific basis and expand credit and so on.

## 1.6 Profit of concern Banks

### 1.6.1 Nepal SBI Bank Limited

Nepal SBI Bank Limited is joint venture of State bank of India and Nepali promoters. Nepal SBI Bank Ltd. Was registered under The Company Act 1964 in 1964. The bank is managed by state bank of Indian under the joint venture and technical services agreement sign between it and Nepali promoters viz. Employees provident fund and agriculture development bank Nepal. The state bank of India is holding 55% share of total investment. The bank started its operation with authorized capital of Rs. 2,000,000,000, issued capital of Rs. 1,869,303,258 and paid up capital of Rs.1,869,303,258.

The main objective of the bank is carrying out modern banking business in the country under commercial bank act 1974. The bank provide loan to agriculture, commercial and industrial

sectors. The bank started its banking operation on 1994. Presently it has 56 branches serving inside and out of the valley.

Table No. : 1.1

Its share subscription is given as:

Bank of India, India(foreign ownership)	55%
Employees Provident fund	15%
General Public	30%

Source: Annual Report of NSBI Bank Limited.

The following facilities have been providing by the bank are:

- International trade and banking guarantee
- Any branch banking
- Conventional banking facilities
- 365 days banking(available at few branches only)
- Remittance, etc.

### 1.6.2 Everest Bank Limited (EBI)

Everest Bank Limited (A joint venture with Punjab national Bank India) has been established with the objective of expanding 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 2051BS). EBL is a joint venture with Punjab 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 EBL has advantage of the banking expertise and financial strength of its partner currently with 46 branches in various part of the kingdom of Nepal. EBL operated with the objectives of providing the full range of quality banking service to both the business community and the common man.

Table No. : 1.2

Present capital structure of Everest Bank Limited

Capital as at 2010/11	NPRS
Authorized capital	2,000,000,000
Issued Capital	1,281,406,500
Paid up Capital	1,279,609,490

Source: Annual Report of Everest Bank Limited

The following activities and services are provided by EBL including normal functions.

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

### 1.6.3 Nepal Investment Bank Ltd. (NIBL)

NIBL previously Nepal Indosuez Bank Ltd. was established in 2042 BS under company act 2021 as second joint venture bank. The bank had joint venture between Nepalese and French partner. The French partner (holding 50% of the capital in NIBL) was credit Agricola Indosuez to divest a group of companies comprising of banker, professionals, industrialists and businessman has acquired on Bishakh 2059 BS the 50% shareholding of credit Agricola Indosuez in Nepal Indosuez Bank Ltd.

The name of the bank has changed to Nepal Investment Bank Ltd. (NIBL) upon approval of bank's annual general meeting. NRB and company registrar's office have with the following shareholding structure.

- A group of companies holding 50% of the capital.
- Rastriya Banijya Bank (RBB) holding 15% of the capital
- Rastriya Beema Sasthan (RBS) holding 15% of the capital

- The remaining 20% being held by the general public (this means that NIBL is company listed on the Nepal Stock Exchange (NEPSE)).

Table No. : 1.3

Capital Structure of NIBL

Capital as at 2010/11	NPR (Amount in Rs.)
Authorized capital	4,000,000,000
Issued Capital	2,409,097,700
Paid up Capital	2,409,097,700

Source: Annual Report of NIBL

The main objective of the bank is to provide loans and advance to agriculture, industries and commerce to provide modern banking and Financial Statistics (2003). Currently NIBL has 1 city office and 40 branch offices serving its customers in different parts of the kingdom.

#### 1.6.4. 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 service to the country and the people. The founder stockholder own 51% of share, Habib Bank of Pakistan 20%, Karmachari Sanchaya Kosh 14% and general public 15% of the total capital structure, the bank has Rs. 3 Billion authorized and Rs. 2 Billion issued capital and Rs. 2 Billion paid up capital. It is the first joint venture bank having domestic ownership more than 50%. According to annual report 2009/10 there is total 34 branch offices and a city office.

Table No. : 1.4

Capital Structure of Himalayan Bank Limited

Capital as at 2010/11	NPR (Amount in Rs.)
Authorized capital	3,000,000,000
Issued Capital	2,000,000,000
Paid up Capital	2,000,000,000

Source: Annual Report of Himalayan Bank Limited.

## 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 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 services and surpluses (i.e. retained earnings and excluding short term debts).

Firstly, it should be decided the meaning of capital structure. This would be capital structure, which results in a low overall cost of capital for the company, that is low, and 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 shareholder's wealth.

## 1.8 Focus of the Study

As we have started 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 earnings 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 affects 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 all 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 response?
- 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 value of firm with capital structure differs in individual firm, banks and industries. This study has found out also 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.
- IV. To find out factors affecting capital structure management decision.

### 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 maker, stakeholder of the banks and other 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 identity to which bank

they could go. The financial agencies can understand where the funds are more secured and stock exchange, stock broker can find the relative worth 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 Limitations 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:

1. This study is based on published financial documents like: Balance sheet, profit and loss account, other related journals and books etc. (2006/07 - 2010/11)
2. This whole study is based on data of five year (2006/07-2010/011) period.
3. This study is based on secondary data collected from bank and their websites.
4. This study is limited to related variables affecting capital structure of the selected banks.
5. 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.

## 1.2 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 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, signification 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 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**

Review of literature is the process of reviewing the available material relating to the particular research work. The purpose of reviewing the literature is to develop some expertise in one's area, to see what contribution can be made, and to receive some ideas for developing a research design. Literature review is basically a 'stock taking' work 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.

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 is research work, thesis and dissertation etc. So, this chapter 'literature review' has been divided into the following sections.

- Conceptual review
- Theoretical review
- Review of related studies

#### **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 of factor affecting capital structure are reviewed. It helps to assess new idea by examining views of different writers and scholars.

### 2.2.1 Conceptual Framework

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 source 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 financial manager is concerned with determining the best financial mix of 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 condition, the earning 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 area of financial decision making due to its interrelation with other financial decision variables. The success and failures of the enterprise depends on the ability of top management to make appropriate capital structure decision.

A sound or appropriate capital should have 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 of 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 the existing manager. The term capital denotes the long-term fund of the firm. All of the items on the liabilities side of the 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. Debentures, bonds, long term loan etc are major sources of debt or borrowed capital. A firm employs subtotal amount of debt capital of tax deductibility o 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.

## 2.3 Theories of Capital Structure

“The two principal sources of the 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 earning 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

### 2.3. 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 shareholder and debt financiers demand a higher compensation.

### 2.3. 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 cost- on the total value of the firm’s debt and equity. This means that there is no relationship between a firm’ 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 market 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.

### 2.3. III Trade off Theory

The third theory is called the (static) theory. The tradeoff between the cost and returns of debt financing determines the optimum debt ratio. Firms consider this ratio as a target debt ratio, because this ration will maximize the market value of a corporation. Myers assumes that firms need to adopt their capital structure to reach that ratio. But an adoption of the capital structure needs time and costs money. Therefore, it is possible that present temporary debt ratios differ from the target ratios.

Or, as Myers formulated it:

“A static trade off framework, which the firm is reviewed as setting a target debt- to value ratio and moving gradually towards to it, in much the same way that a firm adjusts dividends to move towards a target payout ratio.” (Myers, 1984: 576)

### 2.3. IV Free Cash Flow Theory

In the contrary of the trade off theory, in which a firm survive after a maximization of the market value, the free cash flow theory presumes that there are enormous conflicts of interest between shareholders and stakeholders. This implies that manager’s decisions don’t always maximize the market value of the firm (Jensen, 1986:324).

A free cash flow is the balance of money, when all projects (with positive net present values ) are financed. Debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers (Jensen, 1986:324). Debt also reduces the freedom of decisions, because of firm is forced to pay at certain times interest and payoffs. There will always be risk that a firm won’t be able to pay interest and payoffs in future times. This risk causes managers to lead and organize a firm more efficient.

### 2.3.V Pecking Order Theory

Pecking order is also known as a ladder of class structure of financing. It was first suggested by Myers and Majluf in 1984. It is also known as pecking order theory for capital structure. This theory is preference theory because the fund sources are selected in preference.

The first preference to given to the internal financing that is retained earnings. It is because it avoids the outside scrutiny of suppliers of capital and there is no flotation costs associated with the use of retained earnings. The next preference is also given to the straight debt. As explained in the previous sections it is good signal to the investors and help to raise the market price. Moreover, debt results in less intrusion into management by suppliers of capital and flotation costs are less than those with other types of external financing. Next in order of financing preference is preferred stock which has some of the feature of debt. This is followed by the various hybrid securities, like convertible bonds. Finally, the least desirable security to issue is straight equity. It is not only a method of financing but it also likely to have an adverse signaling effect.

This story is mainly a behavioral explanation of why certain companies finance the way they do. It is consistent with some rational arguments, such as asymmetric information and signaling, as well as flotation costs. The sequence of investment resources is restricted by problems caused by asymmetrical information between managers and potential investors. The following assumptions are made by this theory (Myers, 1984)

1. Firms prefer internal ways to finance projects.
2. Firms adapt their target dividend payout ratios to available investment resources.
3. Internal resources of a firm are fluctuating because of unpredictable fluctuations of profitability.
4. When firms need extra resources, they prefer the safest way of getting funds; this means that firms prefer debt to convertible stock and common stocks.



This result of this pecking order theory is that a firm doesn't have a certain target debt ratio. The target ratio is dependent on the way a firm financed its projects in the past. This theory also pays attention to cost of asymmetrical information and costs of bankruptcy.

When this cost exists, a firm doesn't always choose to finance projects with a positive net present value. Net a positive net present value determines whether a firm finance a project or not, but the way in which a firm is able to finance their projects.

Baskin researched the validity of this theory in 1989 and he made the following conclusions;

The accumulated evidence in favor of the pecking order hypothesis is now substantial. Now it is possible to provide pecking order behavior with a rational basis and there seems no longer any reason to ignore the manifest empirical evidence.

### 2.3. VI Stakeholders Theory

Cornell and Shapiro (1987) assumes 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 Cornell and Shapiro wrote: Financial structure may also depend on a firm's net organizational capital and on the nature of its stakeholders (Cornell and Shapiro 1987).

Examples of non-investors stakeholders are customers, employees and suppliers.

Non investors stakeholder hold implicit claims. Implicit claims are non written promises and rights, such as the right to provide services to customers or job security for employees.

#### 2.3.1. Approaches to Capital Structure

- Traditional Approach
- Net Income Approach
- Net operating income approach
- Modigliani- Miller Approach

All the above approaches are based on some common assumptions, which are as follows:

Basic assumptions and definitions: (Weston and Brigham, 1992)

1. Only two types of capital structures are employed long term debt and common
2. There is no tax on corporate income
3. The ratio of debt to equity for a firm is change by issuing debt to repurchase stock or issuing stock to pay off debt. In other words a change in capital structure is effected immediately. In this regard ,we assume no transaction cost.
4. The firm has a policy of paying 100% of its earning in dividends. Thus, we abstract from the dividend decision.
5. The expected value of the subjective profitability distribution of expected future operating earnings for each company are the same for all investors in the market.
6. The operating earnings of the firm are not expected to grow. The expected value of the profitability distributions of expected operating earnings for all future periods are the same as present operating earnings (Van Horne; 2002:253-254)
7. There are only two sources of funds under by a firm: Perpetual risk less debt and ordinary shares.
8. The dividend payout ratio is 100. That is the total earning is paid out as dividend to the shareholders and there are no retained earnings.
9. The total assets are given and not change. The investment decisions are in other words to be constant.
10. The total financing remains constants. The firm can change its degree of leverage (Capital structure) either by selling shares and use the proceeds to retire debenture or by raising more debt and reduce the equity capital.
11. The operating profit (EBIT) is not expected to grow.
12. The firm has perpetual life (Khan and Jain; 1999: 11.1-112)

S = total market value of the stock. (Equity)

B = total market value of the bonds (Debt)

I = Interest payments

Debt,

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

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

Equity or common stock,

$$\text{cost of Equity capital}(Ks) = \frac{D1}{P0} + g$$

Where,

$d1 = \text{Next Dividend}$

$P0 = \text{Current Price per share}$

$g = \text{Expected growth rate}$

Overall or Weighted Average cost of capital

$$K = Kd(B/V) + Ks(S/V) = \frac{Kd(B)}{B+S} + \frac{Ks(S)}{B+S}$$

The total value of the firm is thus,

$$V = B + S = \frac{I}{Kd} + \frac{EBIT - I}{Ks}$$

### 2.3.1.I 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 remain constant or rises slightly with debts 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 debts is so large that, even after allowing for higher cost of equity, the benefit of the use of the cheaper sources of the 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 cost of debts ( $K_d$ ) 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 gain 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 offset the advantages of low cost debts. Within the range of such debts level or at a specific point, the value of the firm will be maximum or the cost of capital will be minimum.

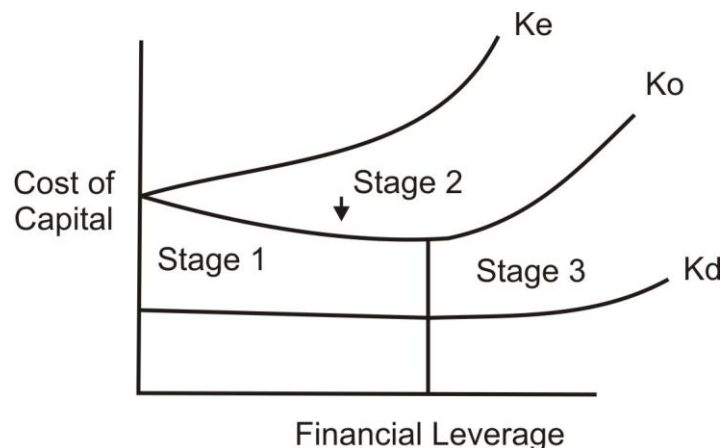
### Third Stage: Declining Value

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



In the above figure, it is assumed that  $K_e$  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,  $K_0$ , declines with leverage because the rise in  $K_e$  does not entirely offset the use of cheaper debt funds. As a result,  $K_0$  declines with moderate use of leverage. After a point, however the increase in  $K_e$  more than offset the use of cheaper debt funds in the capital structure, and the  $K$  begins to rise. The rise in  $K_0$  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 no independent of capital structure of the firm and that there is an optimal capital structure.

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).

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 on response to a change in the debt-equity ratio of the firm. They want to invest since debt holder are exposed to less or 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. From this reason, at constant cost of equity ( $K_e$ ) and cost of debt ( $K_d$ ); the overall cost of capital with the increase 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 optimal capital structure when it uses 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.

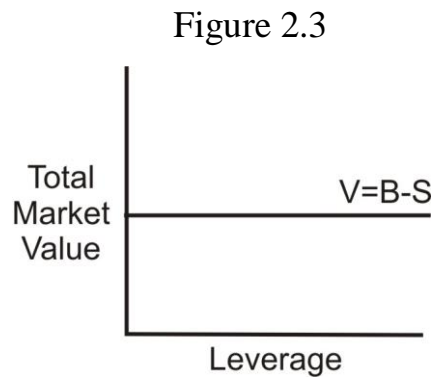
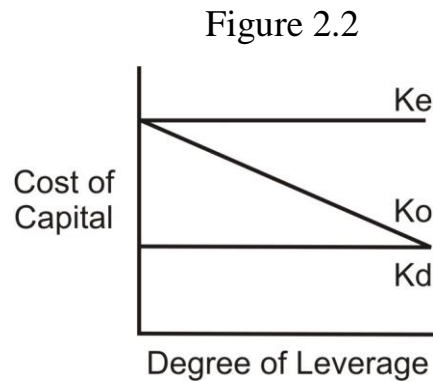
### 2.3.1.II Net Income Approach ( NI Approach)

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:

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

4. 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 total market value of the firms is shown below.



The effect of Leverage on the Capital Structure

Continuous decrease in  $K_0$  with the increase in debt-equity ratio, since any decrease in  $K_0$  directly contributes to the value of the firm; it increases with the increase in the debt-equity ratio (figure 2.3). Thus the financial leverage, according to the NI Approach is an important variable in the capital structure decision of a firm. Under the NI approach, a firm can determine an optimal capital structure. If the firm is unleveled the overall cost of capital will be just equal to the equity capitalization rate.

In brief, the essence of the net income approach is that the firm can lower its cost of capital by using debt. The approach is based on the assumptions that the use of debt does not change the risk perception of the investors. Consequently, the interest rate of debt and the equity capitalization rate remain constant to debt. Therefore, the increased use of debt results in higher market value of shares and as a result, lower overall cost of capital ( $K_o$ ).

### 2.3.1.III 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 changes 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 ration. This approach says that the cost of equity increases 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.

The NOI approach is based on the following assumptions:

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



2. The market uses an overall capitalization rate,  $K$  to capitalize the net operating income.  $K$  depends on the business risk. If the business risk is assumed to remain unchanged,  $K$  is constant.
3. The use of less costly debt funds increases the risk of shareholders. This cause the equity-capitalization rate to increase. Thus, the advantages of debt are offset exactly by the increase in the equity capitalization rate,  $K_s$ .
4. The debt capitalization rate,  $K_d$  is constant.
5. The corporate income taxes do not exist.

The function of  $K_s$  under NOI approach can be expressed in equations as follows:

$$K_s = K + (k - K_d) + B/s$$

The relationship between financial leverage and  $K$ ,  $K_s$  and  $K_d$  has been graphically depicted in the following figures.

Figure 2.4

Effect of Leverage on Cost of Capital

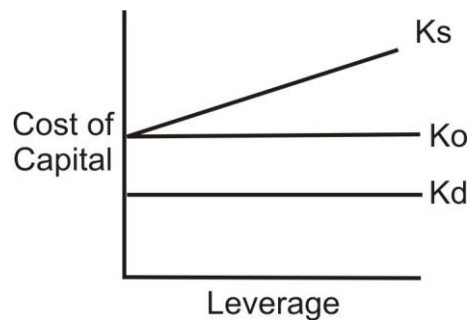
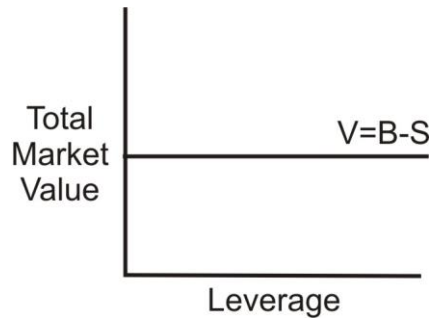


Figure 2.5

Effect of leverage on Total Market Value of the Firm



In the figure 2.4 above, it is shown that the curve  $K_o$  and  $K_d$  are parallel to the horizontal X-axis and  $K_s$  are increasing continuously. This is because  $K$  and  $K_d$  remain constant under all the circumstances but the  $K_s$  increases with the degree of increase in the leverage. Thus, there is no single point or range where the capital structure is optimum. We know obviously from the figure 2.4 under that NOI approach, as low cost of debt is used, its advantage is exactly offset by increase in cost of equity in such a way that the cost of capital remain constant. By this, value of the firm also remain constant. At the extreme degree of financial leverage, hidden cost becomes very high hence the firm's cost of capital and its market value are not influenced by the use of additional cheap debt fund. (Gitman Lawrence, 1988:791).

#### 2.3.1.IV Modigliani and Miller Approach's (M-M Approach)

Modigliani and Miller (MM) in their original position advocates that the relationship between leverage and the cost of capital is explained by net operation 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)

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

II. 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 value of the probability distributions of expected operating earnings for all periods are the same as present operating earnings.

III. 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.

IV. The absence of corporate income taxes is assumed. M-M removes this assumption later

V. 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 consideration. So,

M-M Theory (without taxes)

M-M Theory (with taxes)

The definitions 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.
- Un levered Firm: All equity financed firms are known as un levered firm.
- Risk Premium: Risk premium is that expected additional return by the equity holder 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

- I.  $K_eU$  = The equity capitalization rate of an un levered firm.
- II.  $K_eL$  = The equity capitalization rate of levered firm.
- III.  $K_d$  = The debt capitalization rate.
- IV.  $K_oU$  = The overall capitalization rate of an un levered firm.

- V. KoL = The overall capitalization rate of an levered firm.
- VI. Vu = Value of an un levered firm.
- VII. Vl = Value of a levered firm
- VIII. T = The corporate tax-rate.
- IX. Bt = 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 argue that, in the absence of tax ,a firm’s market value and the cost of capital remain 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:

$$\begin{aligned} \text{Value of the Firm} &= \text{Market Value of Debt}(B) + \text{Market Value of Equity}(S) \\ &= \frac{\text{Expected Net Operating Income}}{\text{Expected Overall Capitalization Rate}} = \frac{EBIT}{K} \end{aligned}$$

For an un levered firm,

$$Vu = \frac{EBIT}{Ks}$$

Where, K= Ks in case of un levered 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:

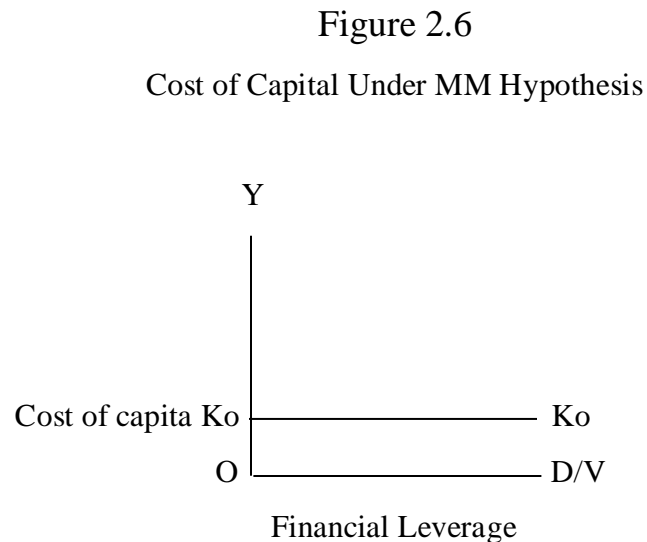
$$K = \frac{NOI}{S + B} = \frac{NOI}{V}$$

K can be also be expressed as:

$$K = \frac{Ks(S)}{S + B} + \frac{Kd(B)}{S + B}$$

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 hypothesis by MM is shown is 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, arbitrary 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 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 definitions of the average cost of capital.

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

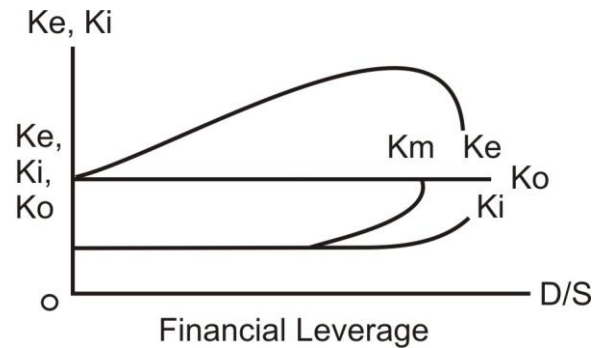
$$K_s = \frac{K(B+S)}{S} - \frac{K_d(B)(B+S)}{(S+B)S}$$

$$K_s = K \left( 1 + \frac{D}{S} \right) - \frac{K_d(D)}{S}$$

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

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 increases, 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 2.7 Behavior 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 ( $K_{im}$ ) is below the cost of capital. As soon as the marginal rate of interest cuts the cost of capital,  $K_s$  will start falling.

## Leverage

The term leverage may be defined as the use of that source of funds in the business for which the firms to pay fixed charges, irrespective to the earning 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.

### 2.3.2.1 Financial Leverage

Financial leverage is the ration 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 earning 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.

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

1. 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 minimize the value of the firm.” (Pandey; 1988:264)
2. 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)
3. Flexibility: “The company’s desire for flexibility in future financing decisions also affects the capital structure of the company. Therefore the company should compare the benefit and cost of attending the desired degree of flexibility and balance the properly.” (Schwartzman and Ball; 1977;65)
4. 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 a new financing. On the other hand, management group that is not concentrated about voting control may decide to use equity rather than debt.
5. Profitability: The firms with very high rate of return on investment use relatively little debt. Their rate of return enable them to do most of their financing with retained earnings.



6. Taxes: Interest is deductible expenses while dividend are not deductible. Hence the higher a firm's tax rate, the greater is the advantage is using debt.
7. 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.
8. 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.
9. Flotation costs: Flotation 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.
10. 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.
11. Growth rate: Faster growing firm's must rely more heavily one external capital. Other factors are stability of sales, cash flows ability of a company, nature of industry and capital requirements etc.

### Optimal Capital Structure

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

- “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)
- “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 structures 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)

- "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." (Pandey ; 1999:277)
- "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 structures are as follows:

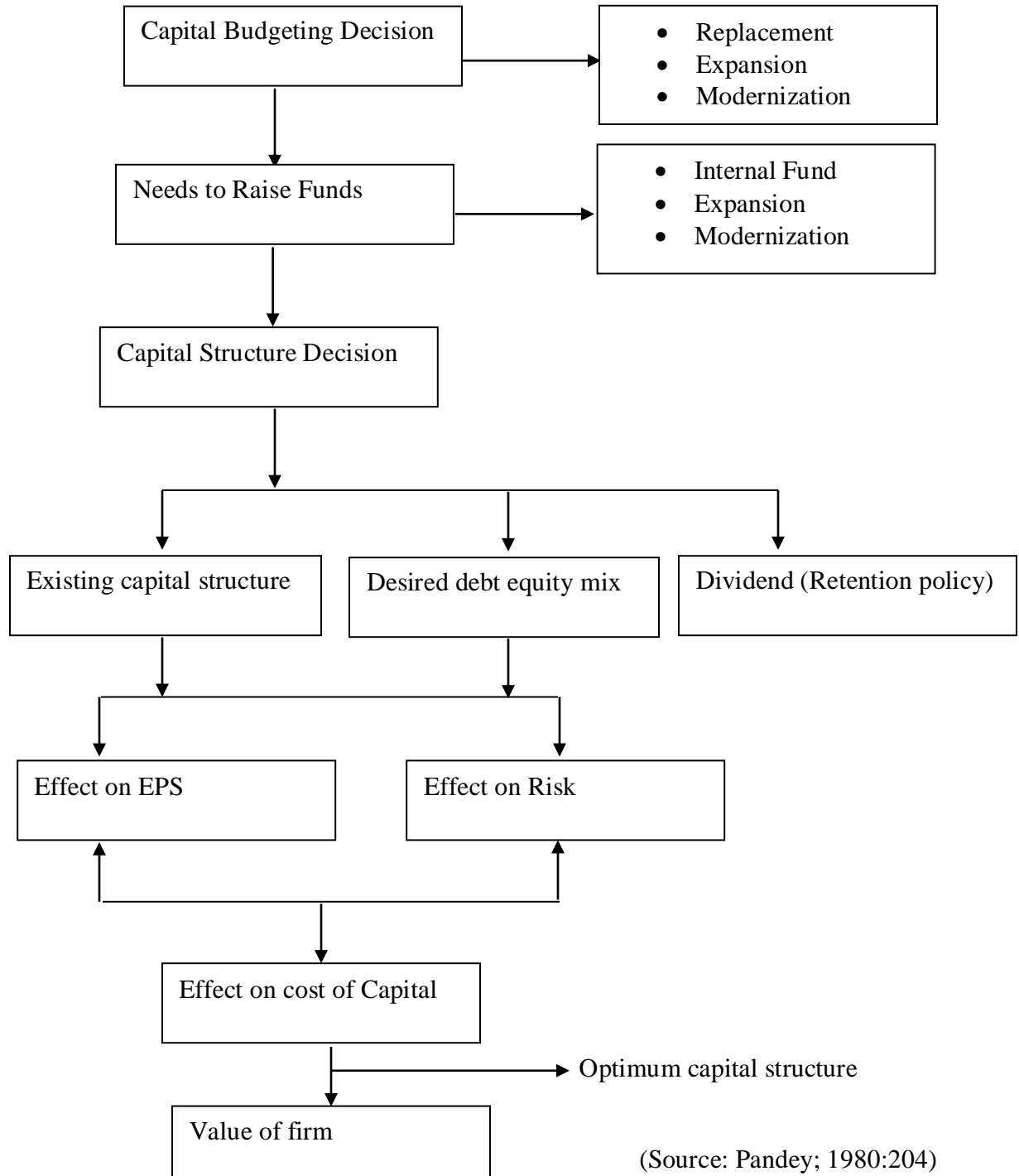
- To maximize return on equity capital
- To minimize cost of capital
- To minimize risk
- To increase flexibility
- To maintain control power.
- To employ high grade security

#### Capital Structures Decision

"A Capital structure with a reasonable proportion of debt and equity is called optimum capital financing mix of optimal capital structures. Since, a proper balance between risk and return to stockholder is necessary, the financing of capital structure decision is a significant managerial decision as its influences the shareholders return and risk. Whenever funds have to capital structures initially at the time, of its promotion and subsequently. Funds have to 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 2.8. Capital Structure  
Capital Structure Decision



(Source: Pandey; 1980:204)

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 existing capital structure and the factor which will govern the decision at the present. The dividend decision bearing on the capital structure may effect 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.

## 2.4 Review of Related Studies:

### 2.4.1 Review of journals & Articles

This section is devoted to review of important empirical works, concerning capital structure and cost of capital since 1958 till 2011. 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 year 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 statically 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 advantage 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 variable 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 over all 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 result were found to be consistent wit their results i.e. cost of equity is the linear function of debt equity ratio.

Wiper (1966) Wiper study is related to test the empirical relationship between ‘financial structure and value of the firm.’ He tried to eliminate the principal 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 non tax advantages and investor prefer corporate to personal leverage. So, it can be concluded that value of 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 objectives 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 annum per share are attended 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 characteristic 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 the 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 1986, 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 capita structure and it should be maintained by every company.

Manohar Krishna Shreshtha (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. Shreshtha, the debt- equity ratio should be 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 with out performance. He used ratio analysis as the tool of analysis and found the selected public enterprise. He further added that in many instances adhocism become the basis of capital structure and most of them want to eliminate debt if possible to relieve financial obligations.

## 2.4.2 Review of Thesis

Under this section various thesis related to this study have been reviewed. There are as follows: Susil Dev Subedi (2005): In his MBA thesis “A Study on Capital Structure of Nabil Bank Ltd.” In this studies specific objective were analyze 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 in 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 measure investor’s expectation and the market appraised of the performance of a firm. This study suggests, deposit it’s 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.

Urmila Kandel (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 objective were to analyze the financial position and the value of the firm with capital structure. The optimal capital structures 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 tools 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 has 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.

Aisha Malik (2009): In her MBS Thesis “Capital Structure Management in Nepal, the specific objective were to analyze 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 questions, period covered, selections of enterprises, types and sources of 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, and Several books, Journals, Magazines and Newspaper in different liabilities. 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 too see the relationship between various variable. Likewise, some financial tools such as ratio analysis and trend analysis have been used. For quantitative analysis and calculation of correlation and regressions, 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 NIBL is highest and so on. She recommended that the capital structure decisions are not found be 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 the firm. The concerned authorities should give continuity in providing both conceptual and practical training to the staff to enhance their knowledge, skill and competency.

Bijay Bista (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 years (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 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 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 from the above previous studies. The study totally revolves around the banking and the named of selected

commercial banks. This study done 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, cost of equality and so on. I used SPSS programmed and calculate the statistical tools which is used in multiple regression. As the above studies are also related with capital structures ,they are mostly done by taking two sample banks and some other are done by taking different sectors combining banking, manufacturing and service sectors. This analysis is not appropriate as each sectors have different capital structure. At last this study will be different from the above in terms of sample companies, data presentations as well as statistical tools used for interpretation and analysis of data.

# **CHAPTER –III**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

Research methodology is a way to solve the research problem systematically. It may be understood as a science of studying how research is done scientifically. The research methodology considers the logic behind the method used in research and explain why particular method or technique is applied.

Research 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.

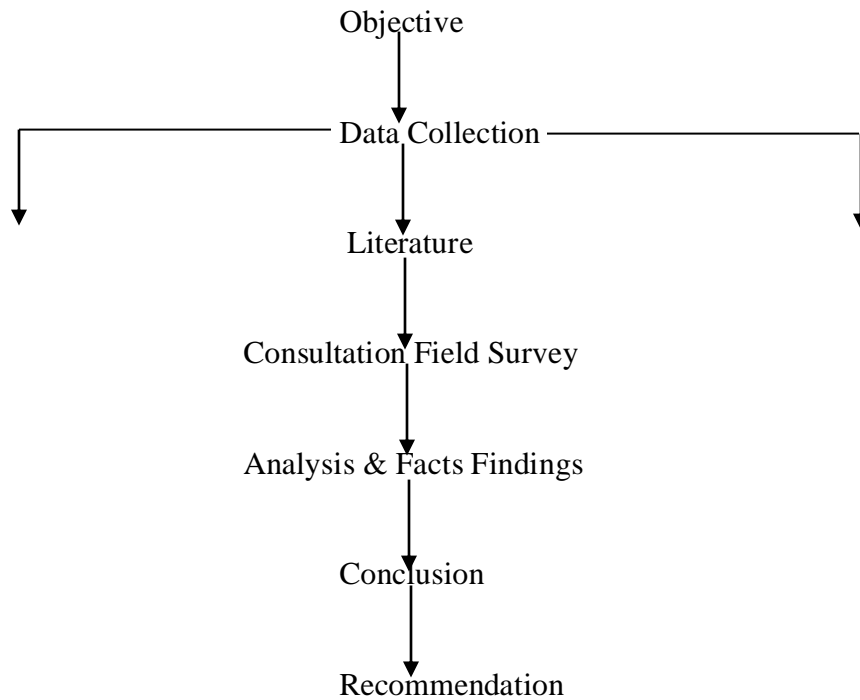
Research refers to systematic and objective attempt, which is used to study a problem for the purpose of driving general principles. The invitation has been guide by previous collected information and aims to add to the body of knowledge on the subject “Research methodology is the way to solve systematically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

“This research for gaining the knowledge about the 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 analysis. To accomplish the goal, this study is follows the research methodology described in this chapter.

Flow chart given shows the entire methodology of this study.

*Figure No. 3.1:*  
*Flowchart of Entire Methodology*



### 3.2 Research Design

Research design is the plan structure 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 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 has been used. First of all information and data are collected. The important information and data are selected. Then data is arranged by using manner. After that data are analyzed by using approach financial and statistical tools. In analysis pat interpretation and comments are also made where ever necessary, Results and conclusions are given after analysis of data recommendation and suggestions is also given. The design has been adopted from previous research work.

### 3.3 Nature and source of Data

This study conducted on the basis of the secondary data for the characteristic study annual report of the selected banks. Supporting data and information are obtained from the office of selected banks, booklets, documents, other published and unpublished materials ,thesis newspaper are the important source of data. The secondary data have been collected from the financial statement Annuals reports and from Nepal Stock.Com of the office websites of Nepal stock exchanged ltd security exchange Board and the related office.

### 3.4 Data Collection Procedure

The data used in this study is primary and secondary nature. The study is based on secondary data provided by Bank and other relevant sources. The data are collected from the balance sheet , Profit and loss a/c, stock exchange security board and Nepal Rastra Bank and informal enquires from the bank personal.

### 3.5 Population and Sample

All together there are 29 commercial banks. The time limited and unavailability of the relevant data has forced me to make research on the few commercial banks functioning all over the kingdom and most of their stock are trade activity in the market out of them commercial banks have been chosen this study on the sample commercial banks selected are as follows:

1. Nepal SBI Bank Ltd
2. Everest Bank Ltd
3. Nepal investment Bank Ltd
4. Himalayan Bank Ltd.

### 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. To research the objective the collected data are computed and analyzed using financial and statistical tools. The various tools applied in this study, has 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's 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 weakness of a firm as well as its historical performance and current financial conditions 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. Concerned with the long-term solvency of a firm. Capital structure ratio are calculated to measure the financial risk and firm's ability of using the debt for the benefit of the shareholders. "The choice between debt and equity depends on the cost risk and control. The cost of capital is the minimum rate of return a project must generate to be acceptable to the shareholders. Changes in the debt equity mix after the riskness of the firm's earnings and with that the cost of two sources of financial capital are affected. Cost or risk consideration would favors equity however maintaining control can be pivotal whenever capital structure decision 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 on 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 implies that lenders and creditors were providing more finance than ordinary shareholders and that too without expectations 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 that the 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. Earning Per Share (EPS)

A part form 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.

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



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 the 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 follow.

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

VII. Return on Share Holder's Funds 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;

$$\text{ROSE} = \frac{\text{Net Profit after tax}}{\text{Shareholder fund}}$$

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 (  $K_o$  )

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

### 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 ( $Ke$ ).

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

### X. Leverage Analysis

The degree of financial leverage (DFL) as part of leverage analysis also reflects the leverage if the firm has similar as above ratios. The degree of financial leverage analyzes the burden of interest expenses and financial risk of the company. The degree of financial leverage (DFL) is defined as the percentage change in EPS due to a given percentage change in EBIT or this is a relationship between EBIT and EBT in this study. Following relationship will be used.

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

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

### 3.6.2 Statistical Analysis

Statistical and Research can not be separated whenever research work is carried on statistic 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 of representing the entire data by one value is called the mean. The value is obtained by adding together all the items and dividing this total by the number of items.

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

Where,  $\Sigma X$  = Sum of all values of the variables

#### 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.

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

#### c. Correlation Coefficient (r)

Correlation coefficient is calculated of relationship between more than two variables. When changes in the value of one variable is accomplished by the change in value of the other two variables are said to have correlation. The study used Karl Pearson'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.

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

Where,  $x = x - x_1, x_1 = \frac{\Sigma x}{n}$

$$Y = y - y_1, y_1 = \frac{\Sigma y}{n}$$

#### 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 it calculated value of is significant or not in the following way.

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

### e. Regression Analysis

Regression is the measures 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 device which is widely used in almost all research work in order to estimate the unknown values of one variable from known value of other variables. In this study includes simple and multiple regression models to examine the empirical relationship between the variables.

#### I. Simple Regression Analysis

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

$$Y = a+bx$$

#### II. Multiple Regression

Generally the form of multiple regression equation with two or more independent variable say,  $X_1, X_2, \dots, X_n$  is as follows.

$$X_o = a + b_1X_1 + b_2Y_2 + \dots + b_n Y_n$$

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

**(a) Regression constant**

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

**(b) Regression constant**

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

## **CHAPTER-IV**

### **DATA PRESENTATION AND ANALYSIS**

This is the most important chapter of the study. This chapter constitutes the most crucial part of the study. It provides mechanism for meeting the basis 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 major variables taken into account for the purpose study are total Debt and Total Assets, EBIT and EBT, Net profit after tax and Shareholder's Equity, EBIT and Interest, 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 position are dangerous from the firm's point of view. So, an enlightened management should, therefore, maintain right capital structure to meet its objectives.

#### **Financial Analysis**

The ratio 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 comparison will reveal whether the firm is significant 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 year's. Hence various as well as statistical tools to analyze the compatibility of the banks.

#### **Calculation of Debt Ratio**

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

Table 4.1

Debt Ratio of Selected Banks

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	0.97	0.92	0.93	0.93	0.92	0.934	0.0021	2.22
HBL	0.93	0.92	0.95	0.92	0.91	0.926	0.0015	1.64
SBIL	0.91	0.92	0.94	0.93	0.94	0.928	0.0013	1.41
NIBL	0.96	0.93	0.92	0.91	0.90	0.924	0.0021	2.24

Source: Annual report and websites of concerned banks

Figure 4.1

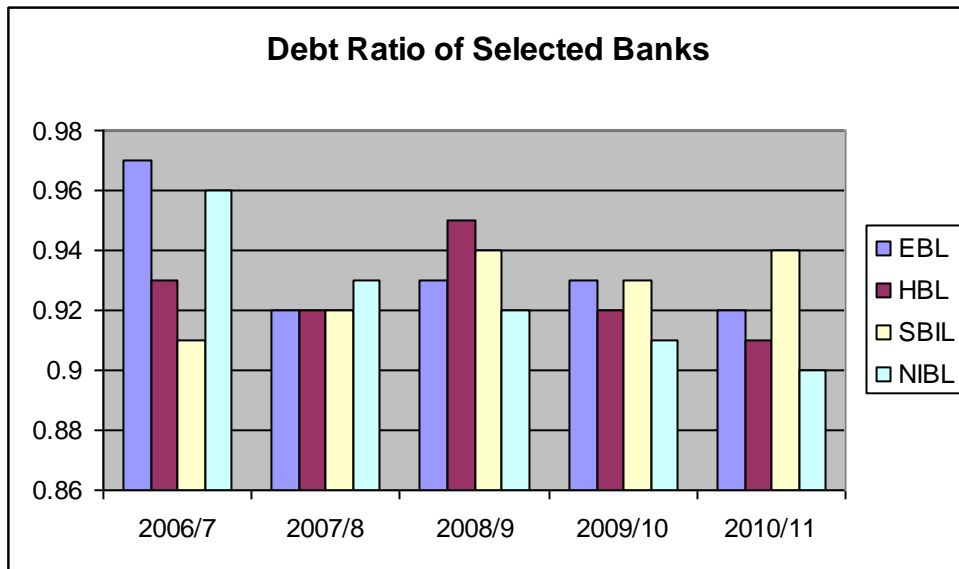


Table & Figure 4.1 indicates debt ratio of the selected banks over the study period. In terms of total debt to total assets levels that the selected banks are highly leveraged (i.e. more than 60 percent in average) on five year's time horizon. It means the assets of selected banks have been financed more funds collected from creditors.

Everest Banks has the highest average ratio of 93.40 percent in comparison to the lowest of 92.40 percent of NIBL. In other words, creditors, finance is 93.40 percent of total bank's fund

and remaining 6.60 percent in shareholder's claim. The ratio of EBL has fluctuating trend over the study period. SBI has average ratio of 92.80 and NIBL less than that of SBI.

The ratio of bank 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 0.0021, 0.0015, 0.0013, 0.0021 and CV are 2.22, 1.64, 1.41, 2.24 percent respectively. EBL, HBL, SBI and NIBL. The CV of NIBL is smallest among selected banks that means the ratio of SBIL has more consistency than other.

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. Everest banks has the highest average ratio of 93.4% in comparison to the lowest of 92.4% of NIBL. HBL and SBIL has average ratios of 92.6% & 92.8% respectively.

### 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 \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	16.30	12.17	14.24	12.69	11.53	13.37	1.92	14.34
HBL	29.05	12.03	11.42	16.75	9.79	15.81	7.84	49.60
SBIL	10.08	11.05	16.43	14.02	14.50	13.22	2.61	19.71
NIBL	13.73	12.18	11.07	10.05	9.13	11.23	1.94	17

Source: Annual report and websites of concerned banks

Figure 4.2

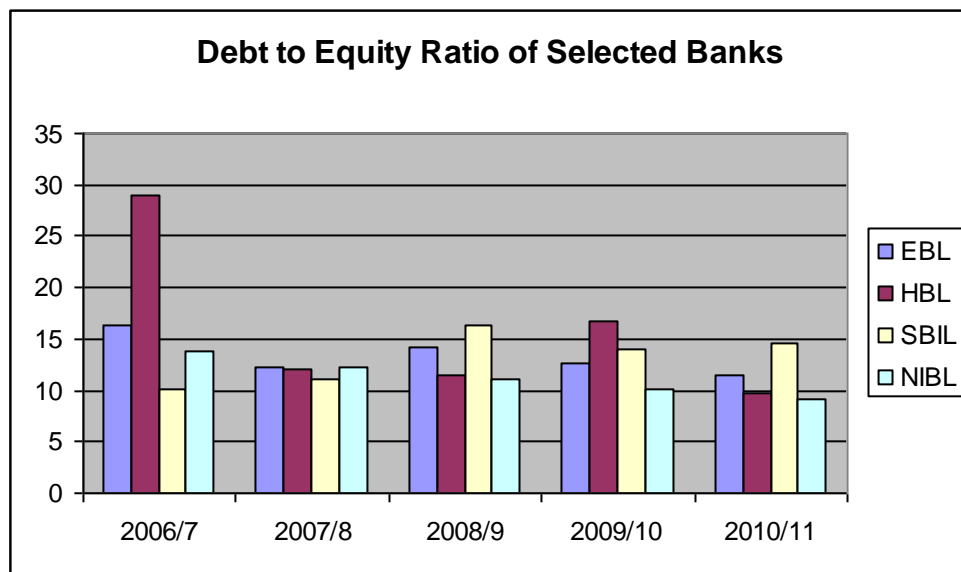


Table 4.2 and figure 4.2 show the debt to equity ratio of selected banks over the study period. EBL has D/E of 13.37 times on an average. It means debt capital financing is more than 13.37 times higher than shareholder's equity. Highest D/E is in the fiscal year 2006/7 and lowest in the fiscal year 2010/11 with 11.53 times.

HBL has an average of 15.81 time D/E ratio. It means debt capital financing is more than 15.81 times higher than shareholder's equity. SBI has average 13.22 times D/E ratio. It means SBIL debt capital financing is 15.81 times higher than equity financing.

NIBL has an average 11.23 times of D/E ratio. It means debt capital financing is more than 11.23 times of equity. NIBL is able to maintain it D/E consistent than the other banks.

The standard deviation is 1.92, 7.84, 2.61, 1.94 and CV is 14.34, 49.60, 19.71 and 17 percent respectively for EBL, HBL, SBIL and NIBL.

EBL has D/E ratio of 13.37 times on an average. It means debt capital financing is more than 13.37 times higher than shareholder's equity. HBL has an average of 15.81 times D/E ratio. It means debt capital financing is more than 15.81 times higher than shareholder's equity. SBIL has average 13.22 times D/E ratio. It means SBIL debt capital financing is 13.22 times higher than equity financing. NIBL has an average 11.23 times of D/E ratio which is lowest among the selected banks. NIBL is able maintain it D/E consistent than the other banks.

### Calculation of Interest Coverage Ratio

The interest coverage ratio also names 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 pf 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

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	1.94	2.14	1.96	1.81	1.56	1.882	0.215	11.42
HBL	1.90	2.09	2.10	1.37	1.42	1.776	0.357	20.12
SBIL	1.73	1.78	1.54	1.40	1.00	1.49	0.319	21.02
NIBL	2.06	2.02	1.78	1.76	1.49	1.822	0.23	12.62

Source: Annual report and websites of concerned banks

Figure 4.3

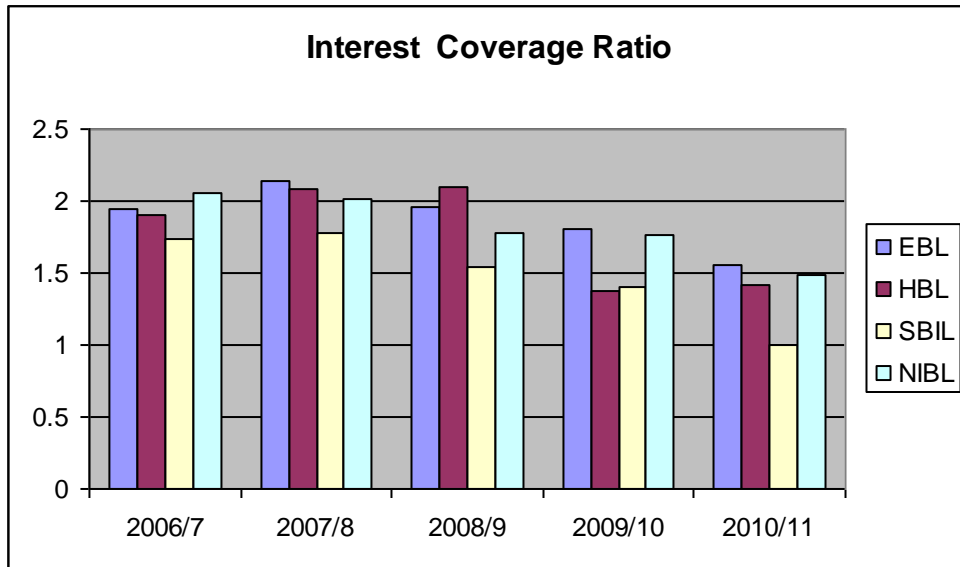


Table 4.3 and figure 4.3 shows the effect of interest coverage ratio of selected banks over five years study period. EBL able to maintain highest interest coverage ratio than other banks. It's average interest coverage ratio during five year's period is 1.882 times. SBIL has average interest coverage of 1.49times, which is lowest among the selected banks. The highest ratio of the year 2008/9 is 2.14 and lowest ratio is 1.56 in the year 2010/11. But this ratio shows consistent trend.

NBIL has interest coverage ratio of 1.822. Interest coverage ratio of NBIL shows the decreasing over the study period. The highest ratio of the year 2006/7 is 2.06 and lowest ratio is 1.49 in the year of 2010/11. HBL has highest average ratio of 1.776. The highest ratio of the year 2008/09 is 2.10 and lowest ratio is 1.42 in the year 2009/10. The standard deviation are 0.215, 0.357, 0.0313, 0.23 and CV are 11.42, 20.12, 21.02, 12.62.

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. EBL is able to maintain highest interest coverage ratio than other banks. It's average interest coverage ratio during the five year period is 1.882 times. SBIL has average interest coverage of 1.49 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.

### 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.

$$DFL = EBIT/EBT$$

$$\text{Here, } EBIT - I = EBT$$

Table 4.4  
Degree of Financial Leverage

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	2.06	1.88	2.04	2.24	2.79	2.202	0.3526	16.012
HBL	2.11	1.91	1.91	3.68	3.38	2.598	0.8613	33.15
SBIL	2.37	2.29	2.86	3.53	3.12	2.834	0.5721	20.19
NIBL	1.94	1.98	2.29	2.32	3.03	2.312	0.4372	18.91

Source: Annual report and websites of concerned banks

Lowest average degree of financial leverage of EBL is 2.202. In this study period shows the increasing trend. The lower ratio of EBL is 1.88 in the year 2007/8. The standard deviation and CV is 0.3526 and 16.012% respectively. Himalayan Bank Limited constitutes second higher degree of financial leverage, which represent higher financial risk for the bank. It's average DFL is 2.598 times. The degree of financial leverage in 2009/10 is 3.38 which represent highest figure of degree of financial leverage over the study period. The standard deviation and CV are 0.8613 and 33.15% respectively.

Average degree of financial leverage of SBIL is 2.834. In this study period shows the fluctuating trend. The lower ratio of the SBIL is 2.29 in the year 2007/8. The standard deviation and CV is 0.5721 and 20.19% respectively. The degree of financial leverage of NIBL has second lowest ratio of 2.312 times on an average, which reflects the bank has lower degree of financial risk than HBL. The DFL ratio is increasing trend over the study period, i.e. 1.94, 1.98, 2.29, 2.32 & 3.03 percent in the fiscal year 2006/7 to 2010/11 respectively. The standard deviation and CV is 0.4372 and 18.91 % respectively. The CV of SBIL is lower than other. That means the ratio of EBL has high consistency and HBL has less consistency than others.

The degree of financial leverage of EBL has the lowest ratio of 2.202 times on an average, which reflects the bank has lower degree of financial risk. SBIL constitutes higher degree of

financial leverage, which represents higher financial risks for the bank. Average DFL is HBL, SBIL & NIBL are 2.598, 2.834 and 2.312 times respectively.

### 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 explain 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 bank is as follows:

Table 4.5  
Return on Assets

Year Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	1.38	1.66	1.73	2.01	2.01	1.758	0.265	15.06
HBL	1.47	1.76	1.91	1.19	1.91	1.648	0.313	18.98
SBIL	1.83	1.44	1.05	1.03	1.01	1.272	0.359	28.24
NIBL	0.57	1.79	1.70	2.21	2.02	1.658	0.6401	38.60

Source: Annual report and websites of concerned banks.

Figure 4.4

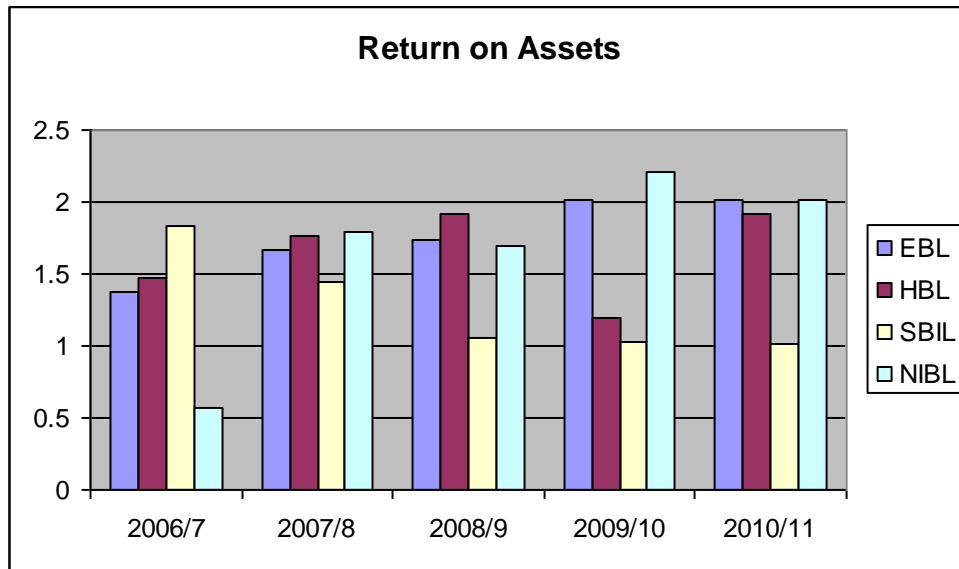


Table 4.5 and figure 4.4 shows the return on assets of selected banks over the study period. EBL has highest average ROA among the selected bank i.e. 1.758 percent. ROA of EBL shows the increasing trend. Standard deviation and Coefficient of variation are 0.265 & 15.06% respectively. EBL has better utilizes its assets to generate profit than other companies. Average ROA of HBL is 1.648 percent. In the fiscal year 2006/7/ 2007/8, 2008/9 ROA is below the average and in the fiscal year 2009/10 & 2010/11 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. HBL has average ROA & SD, CV respectively i.e. 1.648 & 0.313, 18.98%.

SBIL has lowest average ROA among the selected banks i.e. 1.272 percent. In the fiscal year 2006/7, 2007/8, 2008/9, 2009/10 and 2010/11 is 1.83, 1.44, 1.05, 0.13 & 1.01 respectively. Which means SBIL is able to earn 1.272 percent of its total assets. Return on total assets of SBIL is decreasing over the study period. The S.D and CV are 0.359 and 28.24 respectively.

ROA of NIBL is fluctuating tend over the study period. Average ROA of NIBL is 1.658 percent. In the fiscal year 2006/7, 2007/8, 2008/9, 2009/10 and 2010/11 is 0.57, 1.79, 1.70, 2.21 and 2.02 percent. The ratio of first year is below the average and above the average in the

rest of the year. The Standard Deviation and CV are 0.6401 and 38.60% respectively, which measure the consistency of ratio.

EBL has highest average ROA among the selected banks i.e. 1.758 percent. EBL has better utilizes its assets to generate profit than other banks. SBIL has lowest average ROA among the selected banks i.e. 1.272 percent. Average ROA of HBL and NIBL are 1.648 percent and 1.658 respectively.

### 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

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	23.35	21.88	26.24	29.85	25.24	25.312	3.045	12.03
HBL	21.60	22.91	22.94	14.02	20.62	20.418	3.706	18.15
SBIL	20.32	17.36	18.28	15.46	15.62	17.408	2.146	11.57
NIBL	26.09	25.06	20.50	24.40	20.42	23.294	2.656	11.40

Source: Annual report and websites of concerned banks.



Figure 4.5

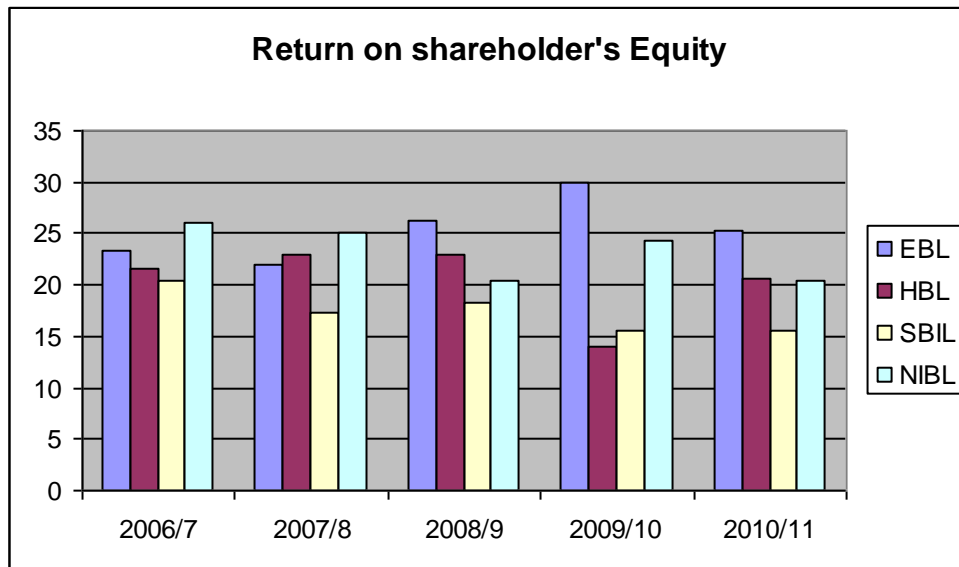


Table 4.6 and figure 4.5 shows the return on total shareholder's equity over the study period. Among the selected banks EBL has highest average ROE i.e. 25.312. ROE of EBL is fluctuating trend. Ratio ranges highest of 29.85 in the fiscal year 2009/10 and lowest of 21.88 in the fiscal year 2007/8. Return on shareholder's equity of HBL ranges highest of 22.94 in the fiscal year 2008/9 to lowest in the fiscal year 2009/10 with 14.02 percent. Average ROE of HBL is 20.418 which mean HBL is able to generate 20.418 percent net profit on its shareholder's equity.

Return on shareholder's equity of SBIL ranges highest of 20.32 in the fiscal year 2006/7 to lowest of 15.46 in the fiscal year 2009/10. Average ROE of SBIL is 17.408 which is least among the selected banks which shows the weak performance of banks, in the maximizing the shareholder's equity. ROE of NIBL ranges highest of 26.09 percent in the fiscal year 2006/7 and lowest 20.42 in the fiscal year 2010/11. Average ROE of NIBL is 23.294 over the five year period. Here NIBL is able to attain 23.294 percent on the shareholder's equity fund.

The standard deviation is 3.045, 3.706, 2.146, 2.656 and CV is 12.03, 18.15, 11.57, 11.40 respectively. EBL, HBL, SBIL and NIBL.

Among the selected banks EBL has highest average ROE i.e. 25.312. Average ROE of HBL, SBIL and NIBL are 20.418, 17.408 & 23.294 percent on shareholder's equity fund respectively. ROE of SBIL is least among the selected bank. Which shows the weak performance of banks, in the maximizing the shareholder's equity.

#### Market Related Ratios

##### Earning Per Share

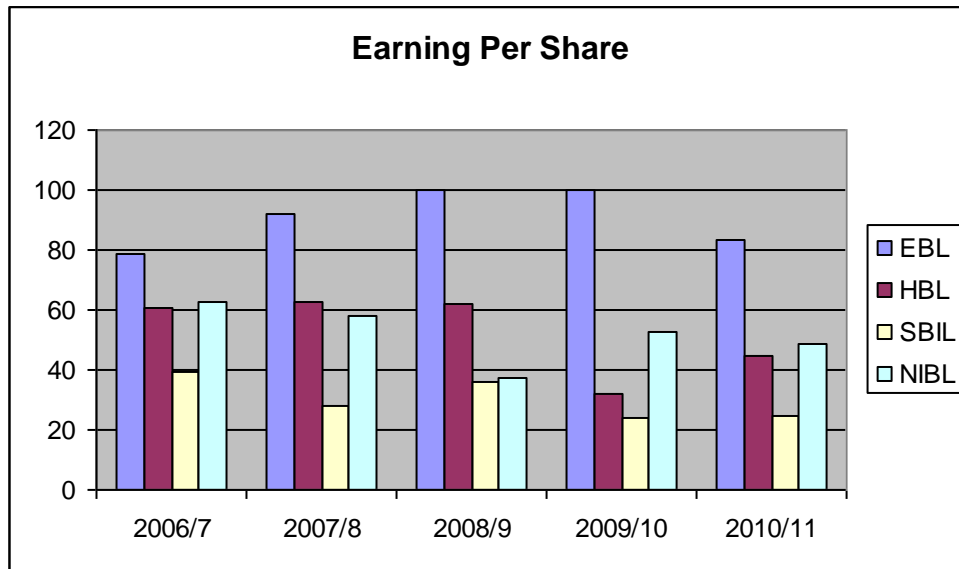
Earning per share shows the profitability of the firm on a per share basis; it does not reflect how much is paid as dividend and how much is retained in the business. EPS is one of the most widely used measure of the bank's performance. It is an important index of the bank's performance and the investors 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  
Earning Per Share

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	78.42	91.82	99.99	100.16	83.18	90.71	8.68	9.5683
HBL	60.66	62.74	61.90	31.80	44.66	52.35	13.69	26.149
SBIL	39.35	28.33	36.18	23.69	24.85	30.48	6.957	22.82
NIBL	62.57	57.87	37.42	52.55	48.84	51.85	9.60	18.52

Source: Annual report and websites of concerned banks.

Figure 4.6



The table and figure shows the Earning Per Share of selected banks over the study period. Earning per share of EBL ranges highest of R.s 100.16 in the fiscal year 2009/10 and lowest in the fiscal year 2006/7 with R.s 78.42. Average earning per share of EBL is 90.71 which is highest among the selected banks.

Earning per share of HBL ranges highest of Rs. 62.74 in the fiscal year 2007/8 and lowest in the fiscal year 2009/10 with Rs. 31.80. Average earning per share of HBL is 52.35 over the study period. Here HBL possess strength on earning per share, which help to maximize the shareholder's wealth.

Average Earning per share of SBIL is lowest among the selected banks over the study period. Earning per share of SBIL ranges highest of R.s 39.35 in the fiscal year 2006/7 and lowest in the fiscal year with 23.69. Earning per share of SBIL is fluctuating trend over the study period. Earning per share of NIBL ranges highest of R.s 62.57 in the fiscal year 2006/7 and lowest of R.s. 37.42 in the fiscal year 2008/9. Average of EPS on NIBL is R.s 51.85 over the study period. Earnings per share of NIBL are fluctuating trend.

Average earning per share of EBL, HBL are R.s. 90.71 and R.s 52.35. Earning per share of EBL is highest among the selected banks. Here EBL possess strength on earning per share, which help to maximize the shareholders wealth. Average earning per share of SBIL is lowest among the selected banks over the study period. Average EPS of SBIL is R.s 30.48 over the study period. Earning per share of SBIL is fluctuating trend.

### Dividend Per Share

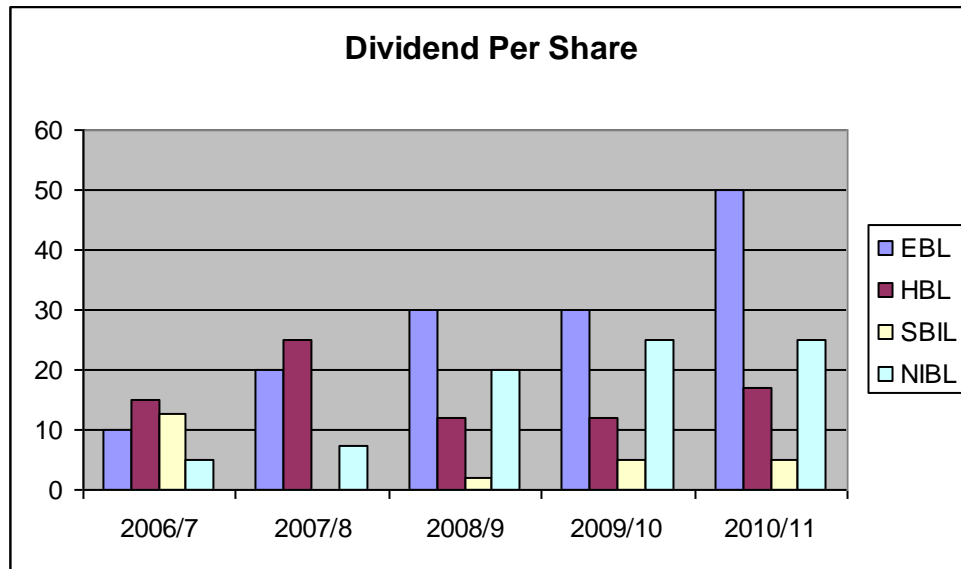
Companies generally prefer to pay cash dividend. They finance their expansion and growth by issuing new shares or borrowings. Companies like to follow a stable dividend policy since investigators generally prefer such policy for certainly reason. A stable dividend policy does not constitute constant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

Table 4.8  
Dividend Per Share (In Rs)

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	10	20	30	30	50	28	14.83	52.97
HBL	15	25	12	11.84	16.84	16.136	5.38	33.36
SBIL	12.55	0	2.10	5	5	4.93	2	40.57
NIBL	5	7.50	20	25	25	16.5	9.62	58.29

Source: Annual report of Selected Banks

Figure 4.7



The table and figure shows the dividend per share of selected banks over the study period. Here EBL found to be paying relatively more dividend in an average of 28. Two years dividend per share Rs 30 in 2008/9 and 2009/10. In 2006/7 dividend per share Rs 10 which is minimum dividend per share of the study period in this banks. The S.D. and C.V is 14.83 and 52.97 respectively.

HBL has average DPS of 16.136. The standard deviation and CV is 5.38 and 33.36 percent respectively. It's distributed bonus share. SBIL found to be paying dividend in average of Rs 4.93. Its gave Rs 12.55 in 2006/7 and no pay cash dividend in 2007/8. The year of 2009/10 & 2010/11 are constant in this study period. The standard deviation and C.V is 2 and 40.57% respectively.

NIBL found to be paying dividend in average Rs 16.5. Dividend per share of NIBL are increasing trend in the study period. In 2009/10 & 2010/11 has constant. The standard deviation and CV is 9.62 and 58.29 respectively. The issue of bonus share is advantageous in some cases. Sometimes issuing bonus shares reduces market price of share and makes it more attractive to investors.

EBL found to be paying relatively more dividend in an over age R.s 28 followed by HBL, SBIL and NIBL are lower dividend. EBL distribute bonus share. The issue of bonus share is advantageous in some cases. Sometimes using bonus share reduces the market price of share now make it more attractive to investor.

### 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 bank 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 investors 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 Earning Ratio

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	30.99	34.11	24.55	16.27	13.15	23.81	9.065	38.07
HBL	28.69	31.56	28.43	25.66	12.88	25.44	7.33	28.80
SBIL	29.89	53.34	52.52	31.98	22.74	37.95	13.92	36.68
NIBL	27.63	42.33	37.10	13.42	10.54	26.20	14.05	53.62

Source: Annual report of selected banks.

Average price earning ratio of EBL is lowest among the selected banks 23.81. P/E ratio of EBL is decreasing trend over the study period. At the beginning of the study period 2006/7 ratio is 30.99 while in the end of the study period it reaches to 13.15. The standard deviation and CV is 9.065 and 38.07% respectively.

Price earning ratio of HBL shows 25.44 in average. At the beginning of the study increases P/E ratio i.e. 31.56 and last of the study 2010/11 fiscal year was decrease i.e. 12.88. Average P/E ratio is higher than EBL & lower than SBIL & NBIL. The S.D and CV is 7.33 and 28.80 respectively.

P/E ratio of selected bank over the study period. Average price earning ratio of SBIL is 37.95 which is highest among the selected banks. Price earning ratio of SBIL ranges highest of 53.34 in the fiscal year 2007/8 and lowest in the fiscal year 2010/11 with 12.74. On an average, the investor were interested to pay 37.95 times the higher than per rupee reported earnings in the market. The S.D and C.V is 13.92 and 36.68 % respectively.

Average price earning ratio of NIBL is R.s 26.20 which was second highest among the selected banks. Overall trend of price earning ratio shows the decreasing trend. It ranges highest of 42.33 in the fiscal year 2007/8 and lowest in the fiscal year 2010/11 is 10.54. The standard deviation and CV is 14.05 and 53.62% respectively.

Average price earning ratio of NIBL i.e. 26.20 times in highest among the selected banks. On an average, the investors were interested to pay 26.20 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 earning ratio of HBL is 25.44. Price earning ratio of EBL is lowest among the selected bank i.e. 23.81. P/E ratio of NIBL is 26.20 which is second highest among the selected banks. Overall trend of price earning ratio shows the fluctuating trend.

### 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.

#### 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.

$$K_o = \text{EBIT}/V$$

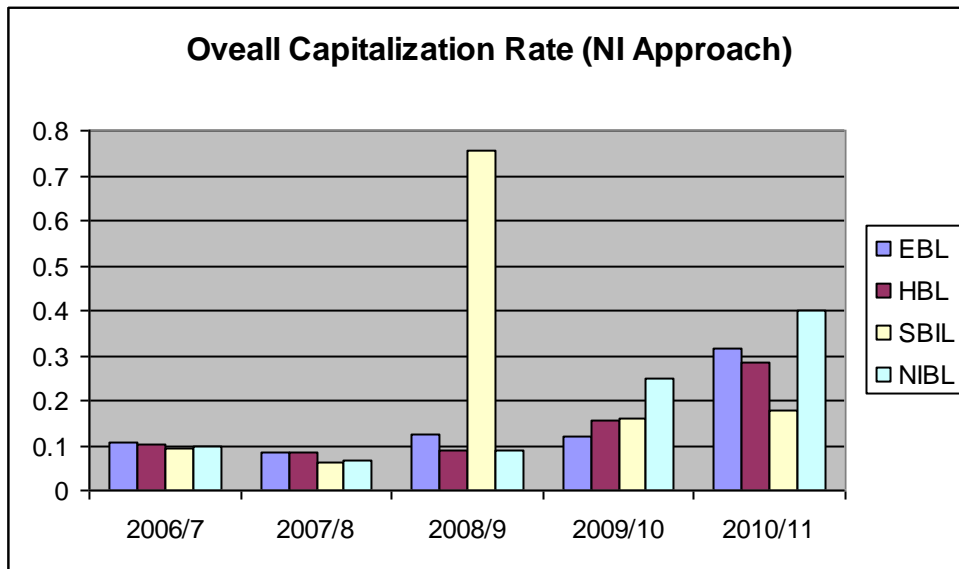
Table 4.10

Overall Capitalization Rate (NI Approach)

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	0.1059	0.0861	0.1242	0.1178	0.3146	0.1497	0.093	62.32
HBL	0.1006	0.0825	0.0896	0.1573	0.2858	0.1432	0.085	59.38
SBIL	0.0912	0.06025	0.7535	0.1617	0.1778	0.1132	0.053	46.86
NIBL	0.0964	0.0679	0.0870	0.2485	0.4016	0.1803	0.143	79.42

Source: Annual report and websites of concerned banks.

Figure 4.8



Average overall capitalization rate of EBL is 0.1497. In this study period highest is 0.3146 in 2010/11 fiscal year and lowest is 0.0861 in fiscal year 2007/8. The standard deviation is 0.093 and coefficient of variation is 62.32 percent.



Average overall capitalization rate of HBL is 0.1432. In the study period highest is 0.2858 in fiscal year 2010/11 and lowest is 0.0825 in fiscal year 2007/8. Fiscal year 2006/7, 2008/9 and 2009/10 are 0.1006, 0.0896 and 0.1573 overall capitalization rate respectively. The standard deviation is 0.085 and coefficient of variation is 59.38 percent.

Table shows the overall capitalization rate of selected banks over the study period. Over viewing the above calculated overall capitalization rate of SBIL is lowest among the selected banks. Highest  $K_o$  is in fiscal year 2010/11. Some of year increase and decreases in overall capitalization. Average overall capitalization rate is 0.1132 which is minimum of selected bank of study period. The standard deviation and CV is 0.053 and 46.86%.

Average overall capitalization rate of NIBL is 0.180 which is the highest among the selected banks. Ratio of NIBL ranges highest of 0.4016 in the fiscal year 2010/11 and lowest capitalization rate is 0.0679 in the fiscal year 2007/8. The standard deviation and CV is 0.143 and 79.42% respectively.

Overall trend doesn't show any clear direction. Over viewing the above calculated overall capitalization rate of NIBL is highest among the selected banks. SBIL is 0.1132 which is lowest then NIBL. Average overall capitalization ratio of EBL is 0.1497. Average overall capitalization rate of HBL is 0.1432 which the least among the selected banks.

### **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,  $K_e$ , increases linearly with financial leverage ,Equity capitalization rate is obtained simply dividing the earning before tax by market value of the equity. Thus, under the net operating income approach, the equity capitalization is computed as follows:

$$\text{Cost of equity } (K_e) = \frac{\text{EBT}}{S}$$

Where,

EBT = Earning before tax

S = Market value of stock.

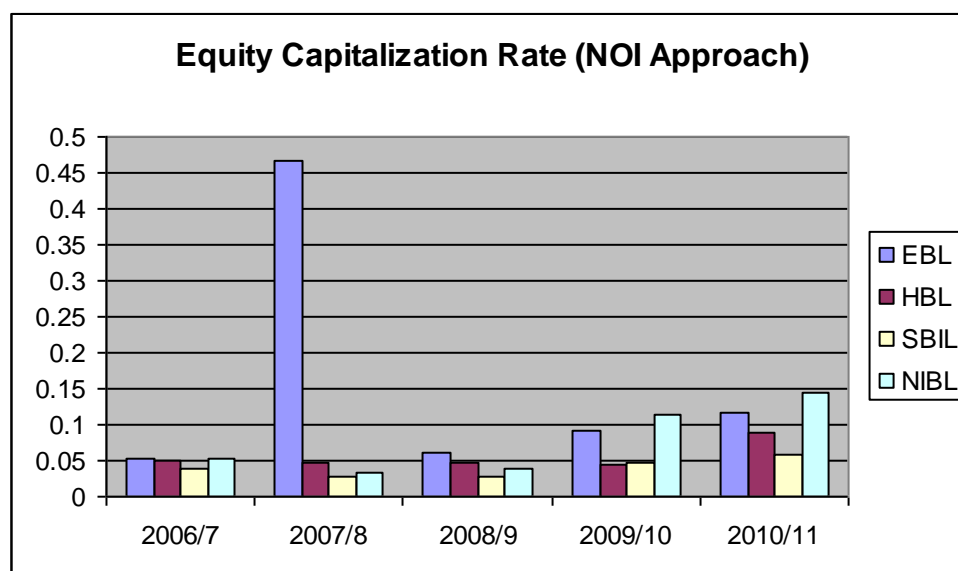
Table 4.11

Equity Capitalization Rate (NOI Approach)

Year \ Banks	2006/7	2007/8	2008/9	2009/10	2010/11	Mean	S.D	CV(%)
EBL	0.0531	0.467	0.0620	0.0918	0.1156	0.0738	0.031	41.76
HBL	0.0488	0.0459	0.0481	0.0444	0.0883	0.0549	0.083	8.29
SBIL	0.0395	0.0267	0.0266	0.0465	0.058	0.1120	0.111	99.38
NIBL	0.0525	0.0344	0.0392	0.1135	0.1437	0.0767	0.049	64.05

Source: Annual report and websites of concerned banks.

Figure 4.9



The equity capitalization rate of EBL has increasing trend over the study period, having average rate of 0.0738. In the fiscal year 2006/7 to 2010/11 the rate of EBL is upward trend. The standard deviation and CV is 0.031 and 41.76 % respectively.

Average equity capitalization rate of HBL is 0.0549. Over the study period ratio highest of 0.0883 in the fiscal year 2010/11 and lowest in the fiscal year 2009/10 i.e. 0.0444. Equity capital of HBL does not show any clear direction. The S.D and CV is 0.083 and 8.29% respectively. Bank has been fluctuating trend of equity capitalization rates and the market is above the par value of the banks. The par value of selected banks is R.s 100 per share.

Average equity capitalization rate of SBIL is 0.112. This is the lowest among the selected banks. Over the study period ratio highest of 0.058 in the fiscal year 2010/11 and lowest in the fiscal year 2008/9 is 0.0266. Beginning of the 4 year increasing trend but 2006/7 fiscal year was decrease of rate. The S.D and CV is 0.111 and 99.38% respectively.

Nepal Investment Bank Ltd has average equity capitalization rate is 0.0767. This banks has a deceasing and increasing trend of equity capitalization rates. It's ranges highest equity capitalization rate is 0.1437 in fiscal year 2010/11 and lowest is 0.0344 in fiscal year 2007/8. The S.D and CV is 0.049 and 64.05 percent respectively.

Equity capitalization rate equality cost of banks was fluctuating in active. Average equality capitalization of EBL is 0.0738. Overall trend shows the decreasing trend over the study period. Average equality HBL is 0.0549 over the study period. Average equality of SBIL is 0.112. This is the highest among the selected companies. Average equal to NIBL is 0.077 equality capitalization rates are decreasing and the market values above the par value in all bonus shares.

## Statistical Analysis

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

- I. If  $r < 6 \text{ P.E.}$ , it is insignificant
- II. If  $r > \text{P.E.}$ , it is significant

Table 4.12

Relationship between EBIT and Interest Payment

Banks	R	R <sup>2</sup>	PE	6 X PE	Level of Significant
EBL	0.9932	0.986	0.0041	0.0253	Significant
HBL	0.9662	0.934	0.0201	0.121	Significant
SBIL	0.9575	0.917	0.025	0.15	Significant
NIBL	0.9917	0.983	0.005	0.03	Significant

From the table analysis; it's clear that the correlation between EBIT and interest payment is case of EBL, HBL, SBIL and NIBL is 0.9993, 0.966, 0.957 and 0.991 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.

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
EBL	-0.4945	0.2445	0.22787	1.367	Insignificant
HBL	-0.3339	0.1115	0.2680	1.608	Insignificant
SBIL	-0.339	0.1149	0.2686	1.612	Insignificant
NIBL	-0.8446	0.7133	0.08647	0.518	Insignificant

Table shows the correlation coefficient between overall capitalization rate and debt equity of selected banks over the period. Here correlation coefficient of EBL, HBL, SBIL and NIBL are -0.495, -0.3339, -0.339 & -0.8446 respectively. Correlation coefficient of EBL, HBL, SBIL and NIBL shows the low negative, low negative, low positive & high negative respectively. Above result, correlation between overall capitalization rate and debt equity ratio of selected banks obtained poor negative & positive relationship i.e. increase in debt capital proportion in capital structure poorly decrease overall capitalization rate. Correlation coefficient of selected banks i.e. 'r' is less than six time P.E. of all banks so that the relationship of  $K_o$  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 EBL, HBL, SBIL and NIBL are -0.495, -0.3339, -0.339 & -0.8446 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.

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

The correlation between ROE (Y) 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 shows the positive relation and negative values shows the negative relations. The following results is obtained for EBL, HBL, SBIL and NIBL.

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
EBL	-0.1735	0.0301	0.2925	1.755	Insignificant
HBL	-0.1038	0.0108	0.2984	1.7904	Insignificant
SBIL	-0.4806	0.2310	0.2319	1.3914	Insignificant
NIBL	-0.1235	0.0153	0.297	1.782	Insignificant

This table shows the relationship between the return on equity and equity ratio of selected banks over the study period. Coefficient of correlation of EBL, HBL, SBIL and NIBL are -0.1735, -0.1038, -0.4806 and -0.1235 respectively. Here relation of EBL, HBL, SBIL and NIBL is low negative relationship . Considering the probable error (P.E.), the value of r is smaller than six times of the probable error of all considerable banks. Therefore, it is depicted that the value of r is insignificant. Whereas insignificant relationship between return on equity and debt equity ratio.

Relationship between the return on equality and debt to equality ratio of selected banks over the study period. Coefficient of Correlation of EBL, HBL, SBIL and NIBL are -0.1735, -0.1038, -0.4806 and -0.1235 respectively. Here relationship of EBL, HBL, SBIL and NIBL is negative relationship. It is depicted that the value of r in EBL, HBL, SBIL and NBIL is insignificant relationship between return on equity and debt to equity ratio.

### 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 shows the positive relation and negative values shows the negative relation. The following result is obtained for EBIT, HBL, SBIL and NIBL.

Table 4.15  
Relationship between Debt- Equity and Return on Assets

Banks	R	R <sup>2</sup>	PE	6 X PE	Level of Significant
EBL	-0.2294	0.0526	0.2858	1.715	Insignificant
HBL	-0.6053	0.3664	0.1911	1.1466	Insignificant
SBIL	-0.897	0.8046	0.0588	0.3528	Insignificant
NIBL	-0.789	0.6225	0.1139	0.6834	Insignificant

From table analysis, it's clear that the correlation between debt equality ratio and return on assets. Correlation coefficient of between debt to equality of EBL is -0.2294; here the relation is moderate negative. Correlation coefficient of HBL, SBIL and NIBL is -0.6053, -0.897 and -0.789 respectively. Here correlation coefficient of HBL, SBIL and NIBL shows the highly negative 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 shows that the selected banks are significant 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 debt to equity of EBL is -0.2294. Here the relation is low negative. Correlation coefficient of HBL, SBIL and NIBL is -0.6053, -0.897 and -0.789 respectively. Here correlation coefficient of HBL, SBIL and NIBL shows the highly negative 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 term of debt to equality to return on assets.

### 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. Everest bank has the highest average ratio of 93.40% in comparisons to the lowest of 92.60% of HBL and NIBL.
- ❖ EBL has D/E ratio of 13.37times on an average. It means debt capital financing is more than 13.37 times higher than shareholder's equity. HBL has an average of 15.81 times D/E ratio. It means debt capital financing is more than 15.81. times higher than shareholder's equity. SBIL has average 13.22 times D/E ratio. It means SBIL debt capital financing is 13.22 times higher than equity financing. NIBL has an average 11.23 times of D/E ratio which is lowest among the selected banks. NIBL is able to maintain it D/E consistent than the other banks.
- ❖ EBL able to maintain highest coverage ratio than other banks. It's average interest coverage ratio during five years period is 1.882 times. SBIL has average interest coverage of 1.49 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.
- ❖ The degree of financial leverage of EBL has the lowest ratio of 2.202 times on an average, which reflects the bank has lower degree of financial risk. SBIL constitutes higher degree of financial leverage, which represents higher financial risks for the bank. Average DFL is HBL, SBIL and NIBL are 2.598, 2.834 and 2.312 times respectively.



- ❖ EBL has highest average ROA among the selected bank i.e. 1.758 percent. EBL has better utilizes it's assets to generate profit than other banks. SBIL has lowest average ROA among the selected banks i.e. 1.272 percent. Average ROA of HBL and NIBL are 1.648 & 1.658 respectively.
- ❖ Among the selected bank EBL has highest average ROE i.e. 25.312. Average ROE of HBL, SBIL and NIBL are 20.418, 17.408 and 23.294 percent on the shareholder equality fund respectively. ROE of SBIL is least among the selected banks, which shows the weak performance of banks, in the maximizing the shareholder's equality.
- ❖ Average earning per share of EBL, HBL are R.s 90.71 and R.s. 52.35. Earning per share of EBL is highest among the selected banks. Here EBL process strength on earning per share, which help to maximize the shareholders wealth. Average earning per share of SBIL is lowest among the selected banks over the study period i.e. 30.48. Average EPS of NIBL is R.s. 51.85 over the study period.
- ❖ EBL found to be paying relatively more dividend in an over age of Rs 28 followed by NIBL. HBL, SBIL is the lowest dividend previous period. EBL 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.
- ❖ Average price earning ratio of SBIL i.e. 37.95 times is the highest among the selected banks. On an average, the investors were interested to pay 37.95 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 25.44. Price earnings ratio EBL is lowest among the selected banks i.e. 23.81. P/E ratio of NIBL is 26.20 which is second highest among the selected banks. Overall trend of price earnings ratio shows the fluctuating trend..

- ❖ Over viewing the above calculated over all capitalization rate of NIBL is highest among the selected companies. EBL is 0.1497 which is lowest then NIBL. Average over all capitalization ratio of HBL is 0.1432. Average overall capitalization rate of SBIL is 0.1132 which the least among the selected companies.
- ❖ Equality capitalization rate equality cost of banks was fluctuating in active. Average equality capitalization of EBL is 0.0738. Overall trend shows the increasing trend over the study period. Average equality HBL is 0.0549 over the study period. Average equality of SBIL is 0.111. This is the highest among the selected companies. Average equal to NIBL is 0.0767. Equality capitalization rates are decreasing and the market values above the par value in all bonus.
- ❖ Correlation coefficient between EBIT and interest payment of EBL, HBL, SBIL and NIBL is 0.9932, 0.9662, 0.9575 and 0.9917 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 significant able to service their debt.
- ❖ Correlation coefficient between overall capitalization ate and debt equality selected banks over correlation of EBL, HBL, SBIL and NIBL are -0.4945, -0.3339, 0.339 and -0.8446 respectively. Correlation of EBL, SBIL and NIBL shows the low negative, low negative, low positive and high 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.
- ❖ Relationship between the return on equity and debt to equity ratio of selected banks over the study period. Coefficient of correlation of EBL, HBL, SBIL and NIBL are -0.1735, -0.1038, -0.4806 and -0.1235 respectively. Here relationship of EBL, HBL,

SBIL and NIBL have low negative relationship. Considering the probable error (P.E), the value of  $r$  is smaller than six times of the probable error of all selected banks. Therefore, it is depicted that the value of ' $r$ ' in EBL, HBL, SBIL and NIBL. insignificant. Whereas insignificant relationship between return on equality and on equity of the selected banks.

- ❖ Correlation between debt to equality ratio return on assets. Correlation coefficient of between debts to equality of EBL is -0.2294. Here the relation is low negative. Correlation coefficient of HBL, SBIL, and NIBL is -0.605, -0.897, -0.789 respectively. Here correlation coefficient of HBL shows the moderate negative relationship, SBIL shows the high negative relation and NIBL shows the high negative 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.

## **CHAPTER –V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

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, EBL, NIBL and SBIL 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 sector 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 function it increases employment opportunity, industrial activities, trade business etc. NBL 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 29 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 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 relation 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 journal, 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 the data are 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 methodology.

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 ratio, leverage analysis, correlations, and probable error 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 section: Summary, Conclusions and Recommendations. In this chapter, we summarize the study in brief. In the last section of this chapter some recommendation have given, which are useful to stakeholders and to concerned companies as well. They can use these recommendations to take corrective action to draw decisions.

## **5.1 Summary**

Basically, concerned on the various aspects of the study on capital structure of selected commercial banks in Nepal. It covers five fiscal years starting from 2006/7 to 2010/11. It includes the data of four commercial banks. To accomplish the setting objectives in first chapter, the necessary data and other various information are collected from the financial statement 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. EBL has held high protection of average debt ratio with 93.4%. HBL has debt to equity financing higher than other selected banks i.e. 15.81 is a average ratio. But NIBL is able to maintain it debt to equity consistent than the other banks. Interest coverage ratio shows consistent trend. EBL is able to maintain highest interest coverage ratio than other banks. It is average during the five year’s period is 1.882 times but SBIL has lower average interest

coverage ratio among the selected banks. Degree of financial coverage of EBL has low ratio which shows low risk and SBIL has highest degree of financial coverage which shows high financial risk to the creditors. Leverage ratio measure the long term solvency of the firm. ROA ratio of selected banks have been mixed trend.. EBL has better utilizes its asset to generate profit than other banks. ROA of SBIL & HBL is fluctuating over the study period. ROA of NIBL is also fluctuating trend over the study period. ROE of SBIL is least among the selected banks which shows the weak performance of banks.

Earning per share of EBL is higher among the selected banks. Here EBL progress strength on earning per share. Which help to maximize the share holder's wealth, average EPS of SBI is lowest among the study period but EPS of allover the bank have an fluctuating trend. Divided per share of NIBL, HBL and SBI is the lowest dividend previous study period. EBL distributes bonus share for the issue of bonus share is advantageous in some cases. It reduces the market price per share and its more attractive to investor. Price earning ratio of SBIL is 37.95 times is higher among the selected banks on an average; the investors were interested to pay 37.95 times higher than per rupee of reported earning in the market. Overall trend of price earning 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 proportion of leverage. The  $K_o$  of selected banks are positive. SBIL is the least among overall capitalization of the selected bank and EBL, is the higher overall capitalization rate in the study period.

The correlation coefficient between EBIT and interest payment of selected banks are positive relationship. And significant relationship all over the selected banks. The relationship between overall capitalization rate and Debt equity ratio are negative value except SBIL or 'r' shows relationship is insignificant. The relationship ROE and debt to equity ratio of selected banks are negative value of 'r' that is negative relationship. Their have insignificant relationship between ROE and debt to equity ratio. Debt equity and ROA of selected banks are negative

relationship because of 'r' is negative whereas all the selected bank have insignificant relationship. Thus it is not sure that if debt to equity increases.

## 5.2 Conclusion

From the study banks are found to be highly levered. The companies 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 objectives 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 banks. In case of ROA and ROE, EBL has higher ratio than any other bank which indicated the EBL best bank among the selected banks. The average EPS of EBL and HBL higher than other selected banks and EPS of EBL is found to be in increasing up to 2009/10 & decreasing in 2010/11 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 materials, 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 coefficient are all statistically significant in more than average bank. A positive correlation means both of the variables are moving towards 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, manager should understand the factor 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 financing position of the company. The capital structure decision in terms 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 recommendations are provide financial position of HBL, SBI and EBL.

- ❖ The capital structure of selected banks is highly leveraged. Still EBL, HBL and SBIL has higher leverage ratio in compared to NIBL. It is good making handsome return by employing outsider's fund but at same time it also bring risk to the bank. The proportion of debt and equity capital should be decided keeping in mind the effort 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.
- ❖ The ROE , ROA and EPS of EBL, SBI, and NIBL are very low in compare to EBL. So they needed to seek more profitable are in order to increase profit of the bank. And they also needed to maintain optimal capital structure considering cost of capital so that it helps to enhance the ROE and profitability of the banks.
- ❖ Dividend payout ratio should be determined considering the shareholder's expectation and the growth requirement of the banks. A higher payment attracts both the existing



and potential investor leading to increase in market price of the share, which consequently leads to the strength of financial capacity. Hence EBL, HBL, SBIL and NIBL banks are recommended to maintain consistent dividend payout ratio.

- ❖ The earning of all the selected banks are decreasing. Yearly this may be due to the providing economic, political conditions of the country. But the banks need to enhance their profitability by increasing efficiency in their productivity and decreasing the cost.
- ❖ The central bank as a regulating supervising and directing banks mandates all the commercial banks to increase their capital fund to R.s 1 (one) billion and also needed to maintain sufficient capital adequacy ratio 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.
- ❖ 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 deposits fund to productive areas. So they are proposed to come forward to match government obligation by financing the priority sector development program.
- ❖ 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 identify its strength and week 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 give continuity in providing both conceptual and practical training to the staff to enhance their knowledge. Skill and competency level. They should remain consistently vigilant in enhancing their more and motivation.

## **BIBLIOGRAPHY**

Baral, K.J. (1996). “*Capital Structure and Cost of Capital in Public Sector Enterprises in Nepal.*” Ph.D. Thesis, New Delhi: University of Delhi

Barges, Alexander (1963), *The Effect of Capital Structure on the Cost of Capital*, Prentice-Hall of India Pvt. Ltd, India.

Bhaduri, S.N. (2002). Determinants of Capital Structure Choice: A Study of the Indian Corporate Sector, *Applied Financial Economics*, Vol. 12, pp. 655-665.

Gautam, Rishi Raj and Thapa, Kiran (2006). *Capital Structure management*. Kathmandu Ashmita Books and Stationery, Putalisadak, Kathmandu.

Harries, Milton and Arthur, Raviv (1991). *The Theory of Capital Structure*. *Journal of Finance*, Vol. (40), No.1.

Kothari. C.R. (1990). *Research Methodology: Method and Techniques*. New Delhi: Wishwa Prakashan.

Modigliani. F and Miller, M.H (1985), *The cost of Capital Corporation Finance and Theory of Investment*. *American Economic Review*. Vol. (40), No.4.

Wolff, Howard K. and Pant, Prem R; (1999), *Social Science Research and Thesis writing*, (2<sup>nd</sup> edition) Kathmandu: Sewa Printing Press.

### **Journals and Articles**

Shrestha, Manohar Krishna (1985). Analysis of Capital Structure in Selected Enterprises. *Prakashan Nepalese Journal of Public Administration*. 42<sup>nd</sup> Issue, Yr16.

Sudir Poudya (2002), “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, T.U. Kathmandu ,Nepal, (2002).

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

### **Review of Thesis.**

Adhikari Keshav Kumar, (April, 2011) “Capital Structure Management of commercial banks of Nepal.” An unpublished Master’s Degree Thesis, Post Graduate Campus; Biratnagar.

Bhatta Archana (August-2011), “Capital Structure of Commercial Bank” An unpublished Master’s Degree Thesis, Post Graduate Campus; Biratnagar.

Thapa Binod (July, 2011), “Capital Structure Management of Commercial Bank in Nepal” An unpublished Master’s Degree Thesis, Kathmandu, Shankar Dev Campus, T.U.

Dware Uma (June 2011), “A study of capital structure management of commercial banks in Nepal” An unpublished Master’s Degree Thesis, Kathmandu, Shankar Dev Campus, T.U.

### **Annual Reports and Publications**

Annual Report of Everest Bank Limited (Fiscal Year 2006/7 to 2010/11)

Annual Report of Himalayan Bank Limited (Fiscal Year 2006/7 to 2010/11)

Annual Report of Nepal SBI Bank Limited (Fiscal Year 2006/7 to 2010/11)

Annual Report of Nepal Investment Bank Limited (Fiscal Year 2006/7 to 2010/11)

## **Websites**

[http://www.everestbank limited .com](http://www.everestbanklimited.com)

[http://www.himalayanbank .com](http://www.himalayanbank.com)

[http://www.nepalsbi. com.. np](http://www.nepalsbi.com.np)

<http://www.nrb.org.np>

<http://www.nibl.com>

## APPENDIX-1

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

**Debt ratio of Everest Bank** (in Rs million)

Fiscal Year	Total Debt	Total Assets	Debt Ratio
2006/7	20691.24	21432.57	0.965
2007/8	25087.31	27149.34	0.924
2008/9	34482.70	36916.85	0.934
2009/10	38347.37	41382.76	0.927
2010/11	42545.77	46236.21	0.920

Source: Annual report of EBL

**Debt ratio of HBL** (in Rs million)

Fiscal Year	Total Debt	Total Assets	Debt Ratio
2006/7	31241.70	33519.14	0.932
2007/8	33399.46	36175.50	0.923
2008/9	37488.15	39330.13	0.953
2009/10	39088.45	42717.12	0.915
2010/11	42403.88	46736.20	0.907

Source: Annual report of HBL

**Debt ratio of SBIL** (in Rs million)

Fiscal Year	Total Debt	Total Assets	Debt Ratio
2006/7	12646.89	13901.20	0.910
2007/8	15760.57	17187.45	0.917
2008/9	28435.42	30166.44	0.943
2009/10	35514.05	38047.68	0.933
2010/11	43115.48	46088.23	0.995

Source: Annual report of SBIL

**Debt ratio of NIBL** (in Rs million)

Fiscal Year	Total Debt	Total Assets	Debt Ratio
2006/7	26390.07	27590.84	0.956
2007/8	36093.05	38873.30	0.928
2008/9	48621.55	53010.80	0.917
2009/10	52117.75	57305.41	0.909
2010/11	52594.79	58356.83	0.901

Source: Annual report of NIBL

**APPENDIX-2**  
Calculation of Debt to Equity Ratio

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

**Debt to Equity Ratio of EBL** (in Rs million)

Fiscal Year	Total Debt	Total Equity	Debt to Equity Ratio
2006/7	20691.24	1269.66	16.30
2007/8	25087.81	2062.03	12.17
2008/9	34482.70	2421.71	14.24
2009/10	38847.37	3035.39	12.63
2010/11	42545.77	3690.44	11.53

Source: Annual report of EBL

**Debt to Equity Ratio of HBL** (in Rs million)

Fiscal Year	Total Debt	Total Equity	Debt to Equity Ratio
2006/7	31241.70	1075.32	29.05
2007/8	33399.46	2776.07	12.03
2008/9	37488.15	3281.98	11.42
2009/10	39088.45	2333.39	16.75
2010/11	42403.88	4332.32	9.79

Source: Annual report of HBL

**Debt to Equity Ratio of SBIL** (in Rs million)

Fiscal Year	Total Debt	Total Equity	Debt to Equity Ratio
2006/7	12646.89	1254.32	10.08
2007/8	15760.57	1426.87	11.05
2008/9	28435.42	1731.02	16.43
2009/10	35514.05	2533.63	14.02
2010/11	43115.48	2973.26	14.50

Source: Annual report of SBIL

**Debt to Equity Ratio of NIBL** (in Rs million)

Fiscal Year	Total Debt	Total Equity	Debt to Equity Ratio
2006/7	26390.07	1921.77	13.73
2007/8	36093.05	2780.25	12.18
2008/9	48621.55	4393.29	11.07
2009/10	52117.75	5187.67	10.05
2010/11	52594.79	5762.03	9.13

Source: Annual report of NIBL

## APPENDIX -3

### Calculation of Interest Coverage Ratio

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest \& tax}}{\text{Interest (charge) Expenses}} = \frac{\text{EBIT}}{\text{Interest}}$$

#### Interest Coverage Ratio of EBL (in Rs million)

Fiscal Year	EBIT	Interest	I/C Ratio
2006/7	1005.14	517.17	1.94
2007/8	1350.88	632.61	2.14
2008/9	1985.82	1012.87	1.96
2009/10	2844.88	1572.79	1.81
2010/11	3954.27	2535.88	1.56

Source: Annual report of EBL

#### Interest Coverage Ratio of HBL (in Rs million)

Fiscal Year	EBIT	Interest	I/C Ratio
2006/7	1456.30	767.41	1.90
2007/8	1726.27	823.74	2.09
2008/9	1964.31	934.78	2.10
2009/10	2132.76	1553.53	1.37
2010/11	3430.02	2414.81	1.42

Source: Annual report of HBL

#### Interest Coverage Ratio of SBIL (in Rs million)

Fiscal Year	EBIT	Interest	I/C Ratio
2006/7	713.05	412.26	1.73
2007/8	808.24	454.92	1.78
2008/9	1267.07	824.70	1.54
2009/10	2013.98	1443.69	1.40
2010/11	2102.78	2096.04	1.00

Source: Annual report of SBIL

#### Interest Coverage Ratio of NIBL (in Rs million)

Fiscal Year	EBIT	Interest	I/C Ratio
2006/7	1413.04	685.53	2.06
2007/8	2005.49	992.16	2.02
2008/9	2997.83	1686.97	1.78
2009/10	4482.27	2553.85	1.76
2010/11	5404.00	3620.34	1.49

Source: Annual report of NIBL

## APPENDIX-4

### Calculation of Return on Total Assets.

$$\text{Return on Total Assets} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100$$

#### Return on Total Assets of EBL (in Rs million)

Fiscal Year	Net Profit After Tax	Total Assets	ROA (%)
2006/7	296.41	21432.57	1.38
2007/8	451.22	27149.34	1.66
2008/9	638.73	36916.85	1.73
2009/10	831.77	41382.76	2.01
2010/11	931.30	46236.21	2.01

Source: Annual report of EBL

#### Return on Total Assets of HBL (in Rs million)

Fiscal Year	Net Profit After Tax	Total Assets	ROA (%)
2006/7	491.82	33519.14	1.47
2007/8	635.86	36175.53	1.76
2008/9	752.83	39330.13	1.91
2009/10	508.80	42717.12	1.19
2010/11	893.12	46736.20	1.91

Source: Annual report of HBL

#### Return on Total Assets of SBIL (in Rs million)

Fiscal Year	Net Profit After Tax	Total Assets	ROA (%)
2006/7	254.91	13901.20	1.83
2007/8	247.77	17187.45	1.44
2008/9	316.37	30166.44	1.05
2009/10	391.74	38047.68	1.03
2010/11	464.56	46088.23	1.01

Source: Annual report of SBIL

#### Return on Total Assets of NIBL (in Rs million)

Fiscal Year	Net Profit After Tax	Total Assets	ROA (%)
2006/7	501.39	27590.84	0.57
2007/8	696.73	38873.31	1.79
2008/9	900.62	53010.80	1.70
2009/10	1265.95	57305.41	2.21
2010/11	1176.64	58356.83	2.02

Source: Annual report of NIBL



## APPENDIX-5

### Calculation of Return on Shareholder Equity (ROE)

$$\text{ROE} = \frac{\text{Net Profit After Tax}}{\text{Shareholder Equity}} \times 100$$

#### Return on Shareholder Equity of EBL (in Rs million)

Fiscal Year	Net Profit After Tax	Shareholder's Equity	ROE (%)
2006/7	296.41	1269.66	23.35
2007/8	451.22	2062.03	21.88
2008/9	638.73	2434.15	26.24
2009/10	831.77	2786.76	29.85
2010/11	931.30	3690.44	25.24

Source: Annual report of EBL

#### Return on Shareholder Equity of HBL (in Rs million)

Fiscal Year	Net Profit After Tax	Shareholder's Equity	ROE (%)
2006/7	491.82	2277.44	21.60
2007/8	635.86	2776.07	22.91
2008/9	152.83	3281.98	22.94
2009/10	508.80	3628.68	14.02
2010/11	893.12	4322.32	20.62

Source: Annual report of HBL

#### Return on Shareholder Equity of SBIL (in Rs million)

Fiscal Year	Net Profit After Tax	Shareholder's Equity	ROE (%)
2006/7	254.91	1254.32	20.32
2007/8	247.77	1426.87	17.36
2008/9	316.37	1731.02	18.28
2009/10	391.74	2533.63	15.46
2010/11	464.56	2973.26	15.62

Source: Annual report of SBIL

#### Return on Shareholder Equity of NIBL (in Rs million)

Fiscal Year	Net Profit After Tax	Shareholder's Equity	ROE (%)
2006/7	501.39	1921.77	26.09
2007/8	696.73	2780.25	25.06
2008/9	900.62	4393.29	20.50
2009/10	1265.95	5187.67	24.40
2010/11	1176.64	5762.03	20.42

Source: Annual report of NIBL

## APPENDIX-6

### Calculation of NI Approach

Market value of Equity (S) = No of share x Closing MPS.

Market value of Firm (V) = Market value of Equity (S) +Market value of Debt (B)

#### Value of Firm of EBL

Fiscal Year	No. of Share	Closing MPS	Market value of Share (S)	Market value of Debt (B)	Market value of Firm (V)
2006/7	3780000	2430	9185400000	300000000	9485400000
2007/8	4914000	3132	15390648000	300000000	15690648000
2008/9	6387938	2455	15682387790	300000000	15982387790
2009/10	8500000	1630	13855000000	300000000	24155000000
2010/11	11214005	1094	12268187110	300000000	12568187110

Source: Annual report of EBL

#### Value of Firm of HBL

Fiscal Year	No. of Share	Closing MPS	Market value of Share (S)	Market value of Debt (B)	Market value of Firm (V)
2006/7	8108100	1740	14108094000	360000000	14468094000
2007/8	10135125	1980	20067547500	860000000	20927547500
2008/9	12162150	1760	21405384000	500000000	21905384000
2009/10	16000000	816	13056000000	500000000	13556000000
2010/11	20000000	575	11500000000	500000000	12000000000

Source: Annual report of HBL

#### Value of Firm of SBIL

Fiscal Year	No. of Share	Closing MPS	Market value of Share (S)	Market value of Debt (B)	Market value of Firm (V)
2006/7	6477984	1176	7618109184	200000000	7818109184
2007/8	8745278	1511	13214115060	200000000	13414115000
2008/9	8745278	1900	16616028200	200000000	16816028200
2009/10	16536239	741	12253353100	200000000	12453353100
2010/11	18693032	622	11627065900	200000000	11827065900

Source: Annual report of SBIL

Value of Firm of NIBL

Fiscal Year	No. of Share	Closing MPS	Market value of Share (S)	Market value of Debt (B)	Market value of Firm (V)
2006/7	8013526	1729	13855386450	800000000	14655386450
2007/8	12039154	2450	29495927300	1050000000	29545927300
2008/9	24070689	1388	33410116330	1050000000	34460116330
2009/10	24090977	705	16984138790	1050000000	18034138790
2010/11	240904977	515	12406853160	1050000000	13456853160

Source: Annual report of NIBL

**APPENDIX-7**  
**Calculation of Overall Capitalization of Rate ( $K_o$ )**

$$K_o = \frac{\text{EBIT}}{V}$$

Overall Capitalization Rate of EBL (Rs in million)

Fiscal Year	EBIT	Value of firm	$K_o$
2006/7	1005.14	9485.40	0.1059
2007/8	1350.88	15690.65	0.0861
2008/9	1985.82	15982.39	0.1242
2009/10	2844.88	24155.00	0.1178
2010/11	3954.27	12568.19	0.3146

Source: Annual report of EBL

Overall Capitalization Rate of HBL (in Rs million)

Fiscal Year	EBIT	Value of firm	$K_o$
2006/7	1456.30	14468.09	0.1006
2007/8	1726.27	20927.55	0.0825
2008/9	1964.31	21905.38	0.0896
2009/10	2132.76	13556.00	0.1573
2010/11	3430.02	12000	0.2858

Source: Annual report of HBL

Overall Capitalization Rate of SBIL (in Rs million)

Fiscal Year	EBIT	Value of firm	$K_o$
2006/7	713.05	7818.11	0.0912
2007/8	808.24	13414.12	0.06025
2008/9	1267.07	16816.03	0.07515
2009/10	2013.98	12453.35	0.1617
2010/11	2102.78	11827.07	0.1778

Source: Annual report of SBIL

Overall Capitalization Rate of NIBL (in Rs million)

Fiscal Year	EBIT	Value of firm	$K_o$
2006/7	1413.04	14655.39	0.0964
2007/8	2005.49	29545.93	0.0679
2008/9	2997.83	34460.12	0.0870
2009/10	4482.27	18034.14	0.2485
2010/11	5404.00	13456.85	0.4016

Source: Annual report of NIBL

**APPENDIX-8**  
**Calculation of 'NOI' Approach**

$$\text{Cost of Equity ( } K_e \text{ )} = \frac{\text{Earning available to common stock holders (MI)}}{\text{Market value of stock (S)}}$$

Equity Capitalization Rate of EBL (R.s in million)

Fiscal Year	EBT	Market value of stock(S)	$K_e$
2006/7	487.97	9185.40	0.0531
2007/8	718.83	15390.65	0.0467
2008/9	972.95	15682.39	0.0620
2009/10	1272.09	13855	0.0918
2010/11	1418.398	12268.19	0.1156

Source: Annual report of EBL

Equity Capitalization Rate of HBL (R.s in million)

Fiscal Year	EBT	Market value of stock(S)	$K_e$
2006/7	688.89	14108.09	0.0488
2007/8	902.53	20067.55	0.0450
2008/9	1029.54	21405.38	0.0481
2009/10	579.23	13056.00	0.0444
2010/11	1015.21	11500.00	0.0883

Source: Annual report of HBL

Equity Capitalization Rate of SBIL (R.s in million)

Fiscal Year	EBT	Market value of stock(S)	$K_e$
2006/7	300.79	7618.11	0.0395
2007/8	353.33	13214.12	0.0267
2008/9	442.37	16616.03	0.0266
2009/10	570.29	12253.35	0.0465
2010/11	674.25	11627.07	0.0580

Source: Annual report of SBIL

Equity Capitalization Rate of NIBL (R.s in million)

Fiscal Year	EBT	Market value of stock(S)	$K_e$
2006/7	727.51	13855.38	0.0525
2007/8	1013.33	29495.93	0.0344
2008/9	1310.85	33410.12	0.0392
2009/10	1928.43	16984.14	0.1135
2010/11	1783.66	12406.85	0.1437

Source: Annual Report of NIBL

**APPENDIX-9**  
**Degree of Financial Leverage (DFL)**

$$\text{DFL} = \frac{\% \text{ change in EBT}}{\% \text{ change in EBIT}} \quad \text{or,} \quad \text{DFL} = \frac{\text{EBIT}}{\text{EBT}}$$

DFL of EBL (R.s in million)			
Fiscal Year	EBIT	EBT	DFL
2006/7	1005.14	487.97	2.00
2007/8	1350.88	718.83	1.88
2008/9	1985.82	972.95	2.04
2009/10	2844.88	1272.09	2.24
2010/11	3954.27	1418.398	2.79

Source: Annual report of EBL

DFL of HBL (R.s in million)			
Fiscal Year	EBIT	EBT	DFL
2006/7	1456.30	688.89	2.12
2007/8	1726.27	902.53	1.91
2008/9	1964.31	1029.54	1.91
2009/10	2132.76	579.23	3.68
2010/11	3430.02	1015.21	3.38

Source: Annual report of HBL

DFL of SBIL (R.s in million)			
Fiscal Year	EBIT	EBT	DFL
2006/7	713.05	300.79	2.37
2007/8	808.24	353.33	2.29
2008/9	1267.07	442.37	2.86
2009/10	2013.98	570.29	3.53
2010/11	2102.78	674.25	3.12

Source: Annual report of SBIL

DFL of NIBL			
(R.s in million)			
Fiscal Year	EBIT	EBT	DFL
2006/7	1413.04	727.51	1.94
2007/8	2005.49	1013.33	1.98
2008/9	2997.83	1310.25	2.29
2009/10	4482.27	1928.43	2.32
2010/11	5404.00	1783.66	3.03

Source: Annual report of NIBL



APPENDIX 10

Correlation coefficient between EBIT & Interest Payment Equity with Probable Error.

$$\text{Correlation coefficient (r)} = \frac{N \sum XY - \sum X \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

Where, N = Number of Observation  
X and Y are variables

Correlation Coefficient Between EBIT & Interest Payment of EBL (R.s in million)

Fiscal Year	Interest Payment (X)	EBIT (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	817.17	1005.14	519828.25	267464.81	1010306.42
2007/8	632.61	1350.88	854580.19	400195.41	1824876.77
2008/9	1012.87	1985.82	2011377.50	1025905.64	3943481.07
2009/10	1572.79	2844.88	4474398.82	2473668.38	8093342.21
2010/11	2535.88	3954.27	10027554.21	6430687.37	15636251.23
Total	ΣX = 6271.32	ΣY = 11140.99	ΣXY = 17887738.97	ΣX <sup>2</sup> = 10597921.61	ΣY <sup>2</sup> = 30508257.70

Source: Annual Report of EBL

$$r = \frac{5 \times 17887738.97 - 6271.32 \times 11140.99}{\sqrt{5 \times 10597921.61 - (6271.32)^2} \sqrt{5 \times 30508257.70 - (11140.99)^2}}$$

$$= \frac{19569981.44}{3695.96449 \times 5331.0065}$$

$$= 0.9932$$

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

$$= \frac{0.6745(1-0.9932^2)}{\sqrt{5}}$$

$$= 0.0041$$

Correlation Coefficient Between EBIT & Interest Payment of HBL (R.s in million)

Fiscal Year	Interest Payment (X)	EBIT (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	767.41	1456.30	1117579.18	588918.11	2120809.69
2007/8	823.74	1726.27	1421997.65	678547.58	2980008.11
2008/9	934.78	1964.31	1836197.70	873813.65	3858513.77
2009/10	1553.53	2132.76	3313306.64	2413455.46	4548665.22
2010/11	2414.81	3430.02	8282846.59	5831307.34	11765037.2
<b>Total</b>	$\Sigma X = 6494.27$	$\Sigma Y = 10709.66$	$\Sigma XY = 15971927.76$	$\Sigma X^2 = 10386042.15$	$\Sigma Y^2 = 25273033.99$

Source: Annual Report of HBL

$$r = \frac{5 \times 15971927.76 - 6494.27 \times 10709.66}{\sqrt{5 \times 10386042.15 - (6494.27)^2} \sqrt{5 \times 25273033.99 - (10709.66)^2}}$$

$$\frac{10308215.15}{3123.25 \times 3416.0852}$$

$$= 0.9662$$

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

$$= \frac{0.6745(1-0.9962^2)}{\sqrt{5}}$$

$$= 0.0201$$

Correlation Coefficient Between EBIT & Interest Payment of SBIL (R.s in million)

Fiscal Year	Interest Payment (X)	EBIT (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	412.26	713.05	293961.99	169958.30	508440.30
2007/8	454.92	808.24	367684.54	206952.21	653251.89
2008/9	824.70	1267.07	1044952.63	680130.09	1605466.38
2009/10	1443.69	2013.98	2907562.79	2084240.82	4056115.44
2010/11	2096.04	2102.78	4407810.99	4393383.68	4421683.63
<b>Total</b>	$\Sigma X = 5231.61$	$\Sigma Y = 6905.13$	$\Sigma XY = 9021672.94$	$\Sigma X^2 = 7534665.1$	$\Sigma Y^2 = 11244957.75$

Source: Annual Report of SBIL

$$r = \frac{N\Sigma XY - \Sigma X.\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$\frac{5x9021672.94 - 5231.61x6905.12}{\sqrt{5x7534665.1 - 5231.61^2} \sqrt{5x11244957.75 - 6905.12^2}}$$

$$= \frac{8983469.86}{3209.92x2923.03}$$

$$= 0.9575$$

$$= 0.96$$

$$P.E. = \frac{0.6745(1 - 0.9575^2)}{\sqrt{5}}$$

$$= 0.025$$

Correlation Coefficient Between EBIT & Interest Payment of NIBL (R.s in million)

Fiscal Year	Interest Payment (X)	EBIT (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	685.53	1413.04	968681.31	469951.38	1996682.04
2007/8	992.16	2005.49	1989766.96	984381.47	4021990.14
2008/9	1686.97	2997.83	5057249.28	2845867.78	8986984.71
2009/10	2553.85	4482.27	11447045.23	6522149.82	20090744.35
2010/11	3620.30	5404.00	19564317.36	13106861.71	29203216
Total	$\Sigma X = 9538.85$	$\Sigma Y = 16302.63$	$\Sigma XY = 39027060.14$	$\Sigma X^2 = 23929212.16$	$\Sigma Y^2 = 64299617.24$

Source: Annual Report of NIBL

$$\frac{5x39027060.14 - 9538.85x16302.63}{\sqrt{5x23929212.16 - 9538.85^2} \sqrt{5x64299617.24 - 16302.63^2}}$$

$$= \frac{39626958.52}{5353.17x7464.74}$$

$$= 0.9917$$

$$P.E. = \frac{0.6745(1 - 0.9917^2)}{\sqrt{5}} = 0.005$$

APPENDIX -11

Coefficient of correlation between overall capitalization rate (X) & Debt equity Ratio (Y) for selected banks.

For EBL

Fiscal Year	(X)	(Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	0.1059	16.30	1.7262	0.0112	265.69
2007/8	0.0861	12.17	1.0478	0.0074	148.11
2008/9	0.1242	14.24	1.7686	0.0154	202.78
2009/10	0.1178	12.63	1.4878	0.0139	159.52
2010/11	0.3146	11.53	3.6273	0.0990	132.94
Total	ΣX =0.7486	ΣY =66.87	ΣXY =9.6578	ΣX <sup>2</sup> =0.1469	ΣY <sup>2</sup> =909.03

Source: Annual report of EBL

$$r = \frac{N\Sigma XY - \Sigma X.\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5 \times 9.6578 - 0.7486 \times 66.87}{\sqrt{5 \times 0.1469 - 0.7486^2} \sqrt{5 \times 909.03 - 66.87^2}}$$

$$= \frac{-1.769882}{0.4173 \times 8.5763} = -0.4945$$

$$P.E. = \frac{0.6745(1 - (-0.4945^2))}{\sqrt{5}}$$

$$= 0.22787$$

For HBL

Fiscal Year	(X)	(Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	0.1006	29.05	2.9224	0.01012	843.9025
2007/8	0.0825	12.03	0.9925	0.00680	144.7209
2008/9	0.0896	11.42	1.0231	0.00802	130.2164
2009/10	0.1573	16.75	2.6348	0.02474	280.5625
2010/11	0.2858	9.79	2.7979	0.08168	95.8441
Total	ΣX = 0.7158	ΣY = 79.04	ΣXY = 10.371	ΣX <sup>2</sup> = 0.13138	ΣY <sup>2</sup> = 1495.45

Source: Annual Report of HBL

$$r = \frac{5 \times 10.371 - 0.7158 \times 79.04}{\sqrt{5 \times 0.13138 - (0.7158)^2} \sqrt{5 \times 1495.45 - (79.04)^2}}$$

$$= \frac{-4.721832}{0.3802 \times 322426}$$

$$= -0.3339$$

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

$$= \frac{0.6745(1 - (-0.3339^2))}{\sqrt{5}}$$

$$= 0.2680$$

For SBIL

Fiscal Year	(X)	(Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	0.0912	10.08	0.9193	0.0083	101.61
2007/8	0.06025	11.05	0.6658	0.0036	122.10
2008/9	0.27515	16.43	1.2347	0.0056	269.94
2009/10	0.1617	14.02	2.2670	0.0261	196.56
2010/11	0.1778	14.50	2.5781	0.0316	210.25
Total	ΣX = 0.5661	ΣY = 66.08	ΣXY = 7.6649	ΣX <sup>2</sup> = 0.0754	ΣY <sup>2</sup> = 900.46

Source: Annual Report of SBIL

$$r = \frac{N\Sigma XY - \Sigma X \cdot \Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5 \times 7.6649 - 0.5661 \times 66.08}{\sqrt{5 \times 0.0754 - 0.5551^2} \sqrt{5 \times 900.46 - (66.08)^2}}$$

$$= \frac{0.9166}{0.2378 \times 11.6505}$$

$$= 0.3309$$

$$P.E. = \frac{0.6745(1 - 0.3309^2)}{\sqrt{5}}$$

$$= 0.2686$$

For NIBL

Fiscal Year	(X)	(Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	0.0964	13.73	1.32357	0.0093	188.5129
2007/8	0.0679	12.98	0.88134	0.0046	168.4804
2008/9	0.0870	11.07	0.96309	0.0076	122.5449
2009/10	0.2485	10.05	2.49742	0.0617	101.0025
2010/11	0.4016	9.13	3.66.661	0.1613	83.3569
Total	ΣX = 0.9014	ΣY = 56.96	ΣXY = 9.33204	ΣX <sup>2</sup> = 0.2445	ΣY <sup>2</sup> = 663.89

Source: Annual report of NIBL

$$\begin{aligned}
 r &= \frac{N\Sigma XY - \Sigma X \cdot \Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}} \\
 &= \frac{5 \times 9.33204 - 0.9014 \times 56.96}{\sqrt{5 \times 0.2445 - 0.9014^2} \sqrt{5 \times 663.89 - 56.96^2}} \\
 &= \frac{-4.683544}{0.64029 \times 8.661} \\
 &= -0.8446 \\
 \text{P.E.} &= \frac{0.6745(1 - (-0.8446^2))}{\sqrt{5}} \\
 &= 0.08647
 \end{aligned}$$

Appendix-12  
Correlation coefficient between ROE (Y) and Debt Equity Ratio (X) for selected banks.

For EBL

Fiscal Year	Debt Equity Ratio (X)	ROE (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	16.30	23.35	380.005	265.69	545.22
2007/8	12.17	21.88	266.279	148.11	478.73
2008/9	14.24	26.24	373.657	202.78	688.54
2009/10	12.63	29.85	377.006	159.52	891.02
2010/11	11.53	29.24	291.017	132.44	637.06
Total	ΣX = 66.87	ΣY = 126.56	ΣXY = 1688.56	ΣX <sup>2</sup> = 909.03	ΣY <sup>2</sup> = 3240.57

Source: Annual Report of EBL

$$r = \frac{N\Sigma XY - \Sigma X.\Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5 \times 1688.56 - 66.87 \times 126.56}{\sqrt{5 \times 909.03 - (66.87)^2} \sqrt{5 \times 3240.57 - (126.56)^2}}$$

$$= \frac{-20.2672}{8.5763 \times 13.6167}$$

$$= 0.1735$$

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

$$P.E. = 0.2925$$



For HBL

Fiscal Year	Debt Equity Ratio (X)	ROE (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	29.05	21.60	627.48	843.90	466.56
2007/8	12.03	22.91	275.60	144.72	524.87
2008/9	11.42	22.94	261.97	130.42	526.24
2009/10	16.75	14.02	234.84	280.56	196.56
2010/11	9.79	20.62	201.87	95.84	245.18
Total	ΣX = 79.04	ΣY = 102.09	ΣXY = 1601.77	ΣX <sup>2</sup> = 1495.44	ΣY <sup>2</sup> = 2139.42

Source: Annual Report of HBL

$$r = \frac{5 \times 1601.77 - 79.04 \times 102.09}{\sqrt{5 \times 1495.44 - 79.04^2} \sqrt{5 \times 2139.42 - 102.09^2}}$$

$$= \frac{-60.3436}{35.0696 \times 16.575}$$

$$= -0.1038$$

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

$$= 0.2984$$

For SBIL

Fiscal Year	Debt Equity Ratio (X)	ROE (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	10.08	20.32	204.83	101.61	412.90
2007/8	11.05	17.36	191.83	122.10	301.37
2008/9	16.43	18.28	300.34	269.94	334.16
2009/10	14.02	15.46	216.75	196.56	239.01
2010/11	14.50	15.62	226.49	210.25	243.98
Total	ΣX = 66.08	ΣY = 87.04	ΣXY = 1140.23	ΣX <sup>2</sup> = 900.46	ΣY <sup>2</sup> = 1531.43

Source: Annual Report of SBIL

$$r = \frac{5 \times 1140.23 - 66.08 \times 87.04}{\sqrt{5 \times 900.43 - (66.08)^2} \sqrt{5 \times 1531.43 - (87.04)^2}}$$

$$= \frac{-50.4532}{11.65 \times 9.01046}$$

$$= -0.4806$$

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

$$= 0.6745$$

$$= 0.2319$$

For NIBL

Fiscal Year	Debt Equity Ratio (X)	ROE (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	13.73	26.09	358.22	188.513	680.688
2007/8	12.98	25.06	325.28	168.480	628.004
2008/9	11.07	20.50	226.94	122.545	420.250
2009/10	10.05	24.40	245.22	101.003	595.360
2010/11	9.13	20.42	186.63	83.357	416.976
Total	ΣX = 56.96	ΣY = 116.47	ΣXY = 1155.65	ΣX <sup>2</sup> = 663.89	ΣY <sup>2</sup> = 3158.25

Source: Annual report of NIBL

$$r = \frac{5 \times 1155.65 - 56.96 \times 116.47}{\sqrt{5 \times 663.89 - (56.96)^2} \sqrt{5 \times 3158.25 - (116.47)^2}}$$

$$= \frac{-855.88}{8.6607 \times 47.1804}$$

$$= -0.1235$$

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

$$= \frac{0.6745(1-(-0.1235^2))}{\sqrt{5}} = 0.297$$

APPENDIX-13

Correlation coefficient between Debt-Equity Ratio (X) and Return on Assets (Y)  
For EBL

Fiscal Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	16.30	1.38	22.494	265.69	1.9044
2007/8	12.17	1.66	20.202	148.11	2.7556
2008/9	14.24	1.73	24.635	202.78	2.9929
2009/10	12.63	2.01	25.386	159.52	4.0401
2010/11	11.53	2.01	23.175	132.94	4.0401
Total	ΣX = 66.87	ΣY = 8.79	ΣXY = 115.89	ΣX <sup>2</sup> = 909.03	ΣY <sup>2</sup> = 15.73

Source: Annual Report of EBL

$$r = \frac{N\Sigma XY - \Sigma X \cdot \Sigma Y}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

$$= \frac{5 \times 115.89 - 66.87 \times 8.79}{\sqrt{5 \times 909.03 - 66.87^2} \sqrt{5 \times 15.73 - 7.79^2}}$$

$$= -0.2294$$

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

$$= \frac{0.6745(1-23.29)^2}{\sqrt{5}}$$

$$= 0.2858$$

For HBL

Fiscal Year	X	Y	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	29.05	1.47	42.7035	843.9025	2.1609
2007/8	12.03	1.76	21.1728	144.7209	3.0976
2008/9	11.42	1.91	21.8122	130.4164	3.6481
2009/10	16.75	1.19	19.9325	280.6525	1.4161
2010/11	9.79	1.91	18.6989	95.8441	3.6481
Total	ΣX = 79.04	ΣY = 8.24	ΣXY = 124.3199	ΣX <sup>2</sup> = 1495.4464	ΣY <sup>2</sup> = 13.9708

Source: Annual Report of HBL

$$\frac{5 \times 124.3199 - 79.04 \times 8.24}{\sqrt{5 \times 1495.4464 - 79.04^2} \sqrt{5 \times 13.9708 - 8.24^2}}$$

$$= \frac{-29.6901}{35.07 \times 1.3987}$$

$$= -0.6053$$

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

$$= 0.1911$$

#### For SBIL

Fiscal Year	DE Ratio(X)	ROA(Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	10.08	1.83	18.4464	101.6064	3.3489
2007/8	11.05	1.44	15.912	122.1025	2.0736
2008/9	16.43	1.05	17.2515	269.9449	1.1025
2009/10	14.02	1.03	14.4406	196.5604	1.0609
2010/11	14.50	1.01	14.645	210.2500	1.0201
Total	ΣX = 66.08	ΣY = 6.36	ΣXY = 80.6955	ΣX <sup>2</sup> = 900.46	ΣY <sup>2</sup> = 8.606

Source: Annual Report of SBIL

$$r = \frac{5 \times 80.6955 - 66.08 \times 6.36}{\sqrt{5 \times 900.46 - 66.08^2} \sqrt{5 \times 8.606 - 6.36^2}}$$

$$= \frac{-16.7913}{11.65 \times 1.606}$$

$$= -0.897$$

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

$$= 0.0588$$

For NIBL

Fiscal Year	DE Ratio(X)	ROA(Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2006/7	13.73	0.57	7.8261	188.51	0.3249
2007/8	12.98	1.79	23.2342	161.48	3.2041
2008/9	11.07	1.70	18.819	122.54	2.8900
2009/10	10.05	2.21	22.2105	101.00	4.8841
2010/11	9.13	2.02	18.4426	83.36	4.0804
Total	ΣX = 56.96	ΣY = 8.29	ΣXY = 90.5324	ΣX <sup>2</sup> = 663.89	ΣY <sup>2</sup> = 15.38

Source: Annual Report of NIBL

$$r = \frac{5 \times 90.5324 - 56.96 \times 8.29}{\sqrt{5 \times 663.89 - 56.96^2} \sqrt{5 \times 15.38 - 8.29^2}}$$

$$= \frac{-19.5364}{8.661 \times 2.8594}$$

$$= -0.789$$

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

$$= 0.1139$$

APPENDIX-14  
Calculation of S.D & Coefficient of variation.

For Debt Ratio

Fiscal Year	EBL $(X - \bar{X})^2$	HBL $(X - \bar{X})^2$	SBI $(X - \bar{X})^2$	NIBL $(X - \bar{X})^2$
2006/7	0.001296	0.000016	0.000324	0.001156
2007/8	0.000196	0.000036	0.000064	0.000016
2008/9	0.000016	0.000576	0.000144	0.000036
2009/10	0.000016	0.000036	0.000004	0.000256
2010/11	0.000196	0.000256	0.000144	0.000256
$\Sigma(X - \bar{X})^2$	0.00172	0.00092	0.00068	0.00172
<b>S.D=</b> $\sqrt{\frac{\Sigma(X - \bar{X})^2}{N - 1}}$	0.0021	0.0015	0.0013	0.0021
<b>CV=</b> $\frac{\sigma}{\bar{X}} \times 100$	2.22	1.65	1.405	2.24
$\bar{X}$	0.934	0.926	0.928	0.924

Debt to Equity Ratio

Year Banks	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\Sigma(X - \bar{X})^2$	<b>S.D</b>	<b>C.V=</b> $\frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
EBL	8.561476	1.449616	0.749956	0.553536	3.40036	14.71	1.92	14.34	13.37
HBL	175.35	14.27	19.25	0.887	36.22	245.98	7.84	49.61	15.81
SBIL	9.8345	4.692	10.33	0.646	1.65	27.15	2.61	19.71	13.22
NIBL	5.466	2.522	0.104	1.801	5.117	15.01	1.94	17.00	11.23

Interest Coverage Ratio

Year Banks	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\Sigma(X - \bar{X})^2$	<b>S.D</b>	<b>C.V=</b> $\frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
EBL	0.0034	0.0666	0.0061	0.0052	0.1037	0.185	0.215	11.42	1.882
HBL	0.0154	0.0986	0.1049	0.1648	0.1267	0.5105	0.357	20.12	1.776
SBIL	0.0576	0.0841	0.0025	0.0081	0.2401	0.3994	0.313	21.02	1.49
NIBL	0.0566	0.0392	0.0018	0.0038	0.1102	0.2116	0.23	12.62	1.822

Return on Total Assets

Year Banks	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\sum (X - \bar{X})^2$	<b>S.D</b>	<b>C.V=</b> $\frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
EBL	0.1429	0.0096	0.00078	0.0635	0.0635	0.2803	0.265	15.06	1.758
HBL	0.0317	0.0125	0.0686	0.2098	0.0686	0.3913	0.313	18.98	1.648
SBIL	0.3114	0.0282	0.0493	0.0586	0.0686	0.51608	0.359	28.24	1.272
NIBL	1.1837	0.0174	0.0018	0.3047	0.1310	1.63869	0.6401	38.60	1.658

Return on Share holder's Equity (ROE)

Year Banks	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\sum (X - \bar{X})^2$	<b>S.D</b>	<b>C.V=</b> $\frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
EBL	3.8494	11.7786	0.8612	20.5934	0.0052	37.088	3.045	12.03	25.312
HBL	1.3971	6.2101	6.3605	40.9344	0.0408	53.9428	3.706	18.15	20.418
SBIL	8.4797	0.0023	0.7604	3.7947	3.1969	16.234	2.146	11.57	17.408
NIBL	7.8176	3.1188	7.8064	1.2232	8.2599	28.226	2.656	11.40	23.294

DPS

Year Banks	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\sum (X - \bar{X})^2$	$S.D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$	<b>C.V=</b> $\frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
EBL	324	64	4	4	484	880	14.83	52.97	28
HBL	1.29	78.57	17.11	18.46	0.496	115.92	5.38	33.36	16.136
SBIL	58.06	24.30	8.01	0.005	0.005	90.38	2	40.57	4.93
NIBL	132.25	81	12.25	72.25	72.25	370	9.62	58.29	16.5

Overall Capitalization ( $K_o$ )

Year	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\sum (X - \bar{X})^2$	$S.D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$	$C.V = \frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
Banks									
EBL	0.0019	0.0040	0.0007	0.001	0.0272	0.0348	0.0933	62.32	0.14972
HBL	0.0018	0.0037	0.0029	0.0002	0.0203	0.0289	0.085	59.38	0.14316
SBIL	0.0005	0.0028	0.0014	0.0024	0.0042	0.0113	0.0531	46.85	0.1132
NIBL	0.0070	0.0126	0.0087	0.0047	0.0490	0.0820	0.1432	79.42	0.18028

Cost of Equity ( $K_e$ )

Year	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\sum (X - \bar{X})^2$	$S.D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$	$C.V = \frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
Banks									
EBL	0.0004	0.0007	0.0001	0.0003	0.0017	0.0038	0.0308	41.76%	0.07384
HBL	0.0006	0.0008	0.0007	0.0252	0.0002	0.0275	0.0829	8.29%	0.05492
SBIL	0.0053	0.0073	0.0073	0.0145	0.0151	0.0495	0.1113	99.38%	0.11198
NIBL	0.0006	0.0018	0.0014	0.0014	0.0045	0.0096	0.0491	64.05%	0.07666

DFL

Year	2006/7 $(X - \bar{X})^2$	2007/8 $(X - \bar{X})^2$	2008/9 $(X - \bar{X})^2$	2009/10 $(X - \bar{X})^2$	2010/11 $(X - \bar{X})^2$	$\sum (X - \bar{X})^2$	$S.D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$	$C.V = \frac{\sigma}{\bar{X}} \times 100$	$\bar{X}$
Banks									
EBL	0.0202	0.1037	0.0262	0.0014	0.3457	0.4973	0.3526	16.012	2.202
HBL	0.2381	0.4733	0.4733	1.1707	0.6115	2.9671	0.8613	33.15	2.598
SBIL	0.2153	0.2953	0.0007	0.7157	0.0818	1.3094	0.5721	20.19	2.834
NIBL	0.1384	0.1102	0.0005	0.0001	0.5155	0.7647	0.4372	18.91	2.312



