

CHAPTER I

INTRODUCTION

1.1 General Background

It is needless to say that our country is a small market where few economic activities are emerging in the recent years. It is obvious that economic development is impossible without the development of different sectors like agriculture, industry, trade etc. Due to the low economic condition, most of the people of our country are engaged in agriculture, which is the paramount feature of our economy and contributes the large portion of GDP around 32.4% and the contribution of industrial, commercial and trading sector is 20.5%, which clearly reflects the domination of agriculture in economy.

Prosperity and progress of the country largely depends on growth and development of various sectors like as economic, socio-cultural, industry etc. for the economic development of any country. Optimum utilization of natural resources, technological development, formation of capital and capital market development are equally important. Among these, capital formation is the most important. The developed economies of the world are the consequences of the development of industrial and commercial sector. Unless there is no shift from agriculture to industrial and commercial sector, the economy of the country will not be enhanced. It is obvious that economic development is impossible without the development of different sectors like agriculture, industry, trade etc. of the country.

The history of industrial development is very short in Nepal. Comparatively, industrialization and commercialization are the new phenomenon in Nepal. Recently many of the multinational company and joint venture bank came into existence. Sound financial structure of the nation is the symbol of rapid economic growth. In the lack of required policies, our country is still in the infant stage of economic prosperity. The banking sector is one of the most significant service industries. Bank offer various types of services to the customer to facilitate the economic transactions.

Service means the mediation between bank and customer. Therefore, customer satisfactions highly depend upon the quality and quantity of service offered by bank. Bank plays the vital role in the economic development and financial health of any country. Therefore, there should not be any misunderstanding in the development of banks. The current situation of Nepalese economy is not satisfactory due to poor infrastructure, unutilized natural resources, trade deficit, illiteracy, political instability and so on.

Due to globalization of economy and market, present world economy has been more competitive and complicated. Even a small change occurring in one sector of the world affects the other. A healthy economy is dependent on efficient transfer of funds from people who are not severs from funds and individual who need capital. Financial management is mainly concerned with the acquisition and utilization of funds. For this financial market plays the 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 the economic growth of the country.

Capital is the lifeblood in business. A business firm cannot run even a step without it. The term capital structure refers to the mix of different types of funds a bank uses to finance its objectives. Capital structure varies from one bank to another. For example, some banks are financed mainly by shareholders funds whereas others make much greater use of borrowings. The optimal capital structure with reasonable proportion of debt and equity minimizes the opportunity cost of capital and maximize the shareholders wealth. An appropriate capital structure decision should be taken by financial manager to maximize the value of firm and minimize the overall cost of capital.

Capital structure plays a vital role in accelerating the economic growth of nation, which in turns is determined among others by saving and investment propensities. Enterprise whether they are government owned or private owned have to make pertinent capital structure decision in identifying exactly how much capital is need to run their operation smoothly. The term capital structure refers to long-term sources of finance such as preference capital, debenture, long-term debt and equity capital including reserves and surpluses that are retained earnings and excluding short-term debt. The capital structure decision affects the total value of firm. The proper balance

between debt and equity is necessary to ensure a tradeoff between risk and return to shareholders. The capital structure of the bank should be such that leads to the value maximization.

A business firm or enterprises cannot run their business without capital. Initially, it is necessary to decide what is mean by the capital structure. This would be the good capital structure, which results in a low overall cost of capital for the bank that is, a low overall rate of return that needs to be paid on funds provided. If the cost of capital is low then the discounted value of future cash flows generated by the bank is high resulting in a high overall bank value. The objective is therefore to find the capital structure that gives the lowest overall cost of capital and consequently the highest bank value.

Some banks do not plan capital structure and financial manager develops the financial decision without any formal planning. Those banks may prosper in the short run but ultimately they will face great difficulties in raising funds to finance their activities. The unplanned capital structure of the banks will also fail to economize the use of their funds. Thus, it is being increasingly realized that a bank should plan its appropriate capital structure to maximize the use of funds and be able to adapt more easily to changing conditions. The capital structure decision affects the total value of bank. 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 wealth.

The capital structure decision of a firm is an essential aspect of corporate financing. Decision regarding the choice of capital components is known as capital structure decision. The components of capital may be debt or equity. It affects the shareholders return risk as a result the market value of the share may be influenced by capital structure decision. Therefore, an appropriate capital structure decision should be taken by financial managers to maximize the value of the firm and minimize the overall cost of capital. Structure decision involves making choices of sources of long-term funds for financing the assets of the firm (Brigham & Eharhardt, 2004:619-621).

1.1.1 History of Bank in Nepal

When, where and how the modern banking actually came in existence cannot be pointed out. However, from the different historical facts it reveals that some banking activities have been carried out since the time immemorial. While tracing back to the history of banking in Nepal, it is found that from the ancient time the financial institution were carried out. During the reign of Gunakarna Dev in about the 8th century, the transactions of money in the form of lending was started and at the end of same century, a merchant named Shankhardhar had started the new era “Nepal Sambat” after freeing all the people of Kathmandu from the debt.

During the course of development at the end of 14th century when Jayasthithi Malla classifies the people in 64 castes according to occupations among them “Tankadhari” worked as moneylender who invested his money on the needy persons by charging some percentage of interest. Furthermore, during the reign of Malla, it is believed that the lending business was done particularly for financing the foreign trade with Tibet, which became quite popular. In the 19th century Ranodeep Singh, prime minister, opened a systematic organization called the “Tejaratha Adda” which granted the loans to the government office and the people at five percent interest against gold, silver, and other ornaments. From this new established office, the government service holders got privilege to take loans, which were repayable in installment out of their salary, but this office had no right to accept deposits of public, and also it had no characteristics of modern banks. Nevertheless, it can be said that the institutional banking system had started from them.

Institutional development of modern banking in Nepal begins from early 1990’s. With the establishment of Nepal Bank Limited in 1994 B.S., the new era of banking sector had started in Nepal. As a central bank, Nepal Rastra Bank was established in 2013 B.S. under the provision of Nepal Rastra Bank Act 2012, with the objectives of helping in the development of monetary and financial sector by undertaking various functions. Another step was added when Rastriya Banijya Bank was established in 1966 (2022B.S.) under the Banijya Bank Act 1965 (2021 B.S.). Likewise Agriculture Development Bank was established in 1965(2024B.S.) under the Agriculture Development Bank Act 1958 (2024) with the objective of increasing the life standard of those people who are involved in agriculture.

The bank opened the decade of 1980's from the government side. No private sectors were permitted to open banks in Nepal. The process of development of banking was not so satisfactory. In the early 1980's the government adapted liberalized economic policies to develop the financial sector. As a precondition to economic liberalization, the Foreign Investment and Technology Transfer Act 1981 came into existence. The government allowed private sectors to open banks. Joint venture projects were also allowed. Many joint venture commercial banks and financial institutions were established. As a result, Nepal Arab Bank Ltd was established as a first joint venture commercial bank in 1985 under the provisions of commercial bank Act 1974 and company Act 1965. Then Nepal Indosuez Bank Ltd was established in 1985 and Nepal Grind lays Bank Ltd in 1986. In 2001, the name of Nepal Grind lays Bank Ltd has been change into Standard Chartered Bank Nepal Ltd and Nepal Indosuez Bank Ltd has been change into Nepal Investment Bank in 2002 (Shrestha, 2011:9-10).

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 government encouraged foreign and private investment by offering attractive incentives and facilities including cent percent foreign ownership in all but in few sectors. This help to create conducive business environment for banking. As a result, additional commercial bank came into existence. When the internal violence shows green, signal to manage and then NRB make easy rules and regulations. Many new commercial banks are coming in existence and existing development banks and financial institutions are upgrading them as commercial banks. At present due to Nepal Rastra Bank new policies, many banks and financial companies are in the process of merge.

1.1.2 Concept of Development Bank

Development bank is composed of two words 'development' and 'bank'. Development banks may be best regarded as the channel through which not only capital but also all other ingredients of economic development flow under planned directions soon as to irrigate, fertilizes the arid regions, and transforms them into economically developed fruitful areas. A development bank is design to supply one or more of the essential ingredients of effective investment. It functions as an agent for promoting a balanced and viable process of economic development. The modern development banks are focus towards achieving all round economic development of

under developed countries and searching an appropriate instrument through which such development can be promoted and financed.

A development bank was register under Bank and Financial Institutions Act 2063 and license issued for operations granted by NRB. The development banks collects the scattered saving and mobilizes them into productive channels in order to maximize their wealth. The collected resources mobilized in various sectors like hire purchase, purchase of land, housing loan, leasing finance, consumptions loan and also investment in government securities and bonds which are considered as the main lending areas approved by NRB. Therefore, it is consider as a complementary to commercial banks. The main source of funds of these institutions beside equity is time deposit.

Development banks are allowed to collect the time deposit of three months to five years in terms of loan and investment. They are allowed to extend loans for hire purchase, housing loan and leasing finance, overdraft, education etc. They are also allowed to invest in securities and issue guarantee. Due to increasing demand of the customers, numbers of development banks are increasing day by day. So, as a result 87 development banks have been established in Nepal until Ashad 2068. Nowadays due to merging of banks, the number is decreasing according to new rules of Nepal Rastra Bank.

1.1.3 Functions of Development Banks

In the beginning, development banks functions were confined to accepting deposits and giving loans. However, their functions have now increased manifold. Development banks are found operating throughout the world. Banks and other financial intermediaries are special kind of middlemen. The development banks in Nepal provide the following main functions:

Accepting Deposits: Development banks principal functions is obtaining deposits from depositors and savers by offering high degree of liquidity, less risky, high denominations and interest rates. Now a day's banks accept different kinds of deposits accounts from its customers. Depositors are allowed to withdraw their money by cheque up to a limited amount during a week or a year. On saving deposits the banks pays interest relatively at low rate to the depositors. Businesspersons keep their deposits in current account known as demand deposits. They can withdraw any

amount available in their current account by cheque without any notice. The bank does not pay any interest on such accounts. A bank accept fixed deposits from savers who do not need money for a stipulated period from six month longer periods ranging up to ten years or more.

Advances and Loans: One of the primary functions of development banks is to advance the loan to its customers. Development banks use deposits to provide loans for the borrowers. In these days bank may provide every type of loan that is legally permissible and for long time. A bank lends a certain percentage of the cash lying in deposits at higher interest rates than it pays on such deposits. This is how it earns profit. The bank advanced loan in the following ways: cash credit, term loans, call loans, overdraft and discounting bill of exchange.

Credit Creation: Credit creation is one of the most important functions of development banks. When a bank advances a loan it opens an account in the name of the customer and does not pay him/her in cash but allows him/ her to draw the money by cheque according to their needs. By guarantying a loan, the bank accepts the deposits.

Agency Service: A bank is a type of financial intermediary; it acts as an object of its customers while collecting and paying cheque, bills of exchange, drafts, dividends etc. It can provide services- buying and selling securities for their customers and many act as a securities dealer. Further, it pays subscriptions, insurance premium, utility bill and other similar charges on behalf of its clients. It also performs as a trustee and executor of the property and wealth of its customers. Moreover, the banks act as consultants to its clients. For these services, the bank charges a nominal fee while it renders other free of charge.

Miscellaneous Service: Banks also act as custodian of valuable of these customers by providing locker facility where they can keep their jewelers and valuable documents. It issues various forms of credit instrument such as cheque, draft and travelers' cheque etc., which facilitate transactions. It renders under writing services to companies and helps in the collection of funds from the public. Lastly, it provides statistics on money market and business trends of the economy.

1.1.4 Brief Profile of Selected Development Banks

Business Development Bank Limited

Business Development Bank Limited was a regional level development bank based in Pokhara and was established in 2062 and had been serving clients in this region for the past 7 years. The main objectives of this bank is to be where growth is, connecting customers to opportunities, enabling businesses to thrive and economies, to prosper and ultimately helping people to fulfill their hopes and realizing their ambitions. Global Strategy, Inc. is a boutique business development-consulting firm that provides customized solutions for the formulation and implementation of business strategies. They utilize unique and proven methodologies to deliver actionable results to clients in a timely, efficient, and cost-effective manner.

This bank assists clients in creating and managing strategic relationships and alliances with other organizations, including startups to multinational companies, research institutions, and government agencies. As a result, they are able to leverage external expertise, technology, and intellectual property to expand their products, services, functionality, and/or market reach without the need to invest in building or acquiring them with internal resources. Market Development, Open Innovation, and Business Intelligence expertise empower clients with a profound understanding of target markets, products and technologies, and competitive environments - providing the tools to achieve an early mover market advantage and capitalize on business opportunities.

The main principles are dependable and do the right thing, stand firm for what is right, deliver on commitments, be resilient and trustworthy, take personal accountability, be decisive, use judgment and common sense, empower others, open to different ideas and cultures, communicate openly, honestly and transparently, value challenge, learn from mistakes, listen, treat people fairly, be inclusive, value different perspectives, connected to stakeholders (customers, communities, regulators, people, shareholders) etc.

BUDBL is name after successful merger of two financial institutions, Business Development Bank and Universal Finance Ltd in 2068. BUDBL is one Nepal's national level development bank established under Banks and Financial Institutions Act, 2063 to provide banking and financial services with eight branches in both

established and faster growing markets throughout the nation. In current times, BUDBL has developed its focus in newer markets and retain its focus on its birthplaces. BUDBL's diversification and its core values of financial strength and stability have stood it in a good stead in the recent turbulence in economies and markets, and it remains well placed to deal with an uncertain world. The convergence of corporate culture between these two institutions resulted in a successful merger and now has become a key player in the market having eight footprints throughout the nation (www.bdbank.com.np).

Gandaki Bikas Bank Limited

Gandaki Bikas Bank Limited is first and one of the leading banks of this region. The Bank is established under the Company Act 2063 and the Bank and Financial Institution Act 2063 at New Road Pokhara in Magh 12 2061 B.S. Gandaki Bikas Bank Limited is first and one of the leading banks of Pokhara. It is "B" class development Bank licensed by Nepal Rastra Bank.

The main objective of the bank is to collect the unproductive small, fragmented and large amount of money scattered in different sector of society and deploy that integrated fund in effective and productive sector. So also to provide better services to its existing clients, prospective clients, various related/ non-related institutions, directly related and non-related different aspects of the society so also to the nation through the best banking services by making them to accustom the sophisticated technology that has been used in banking service sector . Similarly, its objective is also to serve the people of that sector who actually need banking service sector and make their habit of doing and practicing by utilizing the best services ever provided by bank. According to their objective, they have launched many branches in virgin markets of remote area such as Gorkha, Mugling, Beshishar, Kawasoti, Chormara etc.

They have impressive vision and goal to contribute in banking service sector. The bank recently is going to issue right shares to collect capital from the existing shareholders to fulfill its vision. By issuing right shares than bank will have further increment of Rs 100 million as capital. The portion of that capital will be utilized in opening new branches in various parts of the country. Very recently, the bank is going to launch four new branches in feasible area of the country. The bank is going to adopt the ATM machine to provide fast and effective service to its praise worthy

customer and so also internet banking, SMS banking and other new technology adopted by similar banking industry. Similarly, they are going to make various networks to other commercial bank, development bank, financial institutions and various remit service sector to facilitate remittance service to the clients. At present, they are dealing in regional area but in the near future, they are going to make their bank at National level development bank to provide its best services as nationwide. As they are in path of achieving vision and mission, the prestigious magazine nominated them in the best 10-development bank of the country. They put their sincere effort to make the first National development Bank of the country.

The bank authorized capital in fiscal year 066/067 is Rs 300 million and paid up capital is Rs 200 million The bank provide the remittance services also which assist people to get their money within no time. The bank provides the easy services to all the prospective clients and existing clients by which we think it assists in augmenting the corporate image. They provide education loan, foreign employment loan and deprive loan to flourish the particular section of the society to give them chance and utilize their entrepreneurship in their best interest area from which they are contributing to those people who have enthusiasm, knowledge, dynamic attitude, skill and pleasant behavior but lack the economic to shape their ideas and hence to develop the nation as a whole. The main objective of the bank is to collect the unproductive small, fragmented and large amount of money scattered in different sector of society and deploy that integrated fund in effective and productive sector (www.gandakibank.com.np).

1.2 Statement of the Problem

Bank plays the significant role in economic development of any country by extending credit to people. At the present context, the main problem faced by the business sector as well as the bank is the unstable political and economic condition of country. A number of empirical studies have been carried out in the developed and developing capital market to establish a justifiable relationship between capital structures with other financial indicators. However, no conclusive relationship has been developed yet.

Another problem faced by the banking industry is the lack of optimal capital structure in development bank. The success and prosperity of bank relies heavily on maximum wealth of shareholder. Nepalese bank do not take the capital structure concept seriously. The combination of debt and equity used in capital structure is not proportionate which in turn affect the value maximization of bank. The present study has tried to analyze and examine the practice of capital structure in the development bank in Nepal.

Generally, many banks have its own policy in determining capital structure for operating business activities. Some of the banks use only equity capital, some use debt capital and some use both. Unfortunately, there is no model for determining capital structure in Nepalese business organization. In initial period many bank use only equity capital and exclude debt capital due to high interest.

Thus, capital structure is an unsolved economic puzzle and mystery to the time and due to these problems, the focus of this study is to deal with them as far as possible.

- What is the comparative financial position of selected development banks?
- What is the profitability position of selected development banks?
- What is the capital structure analysis of selected development banks?
- What is the correlation between the financial variables of selected development banks?

1.3 Objectives of the Study

The main objective of the study is to make a comprehensive study of capital structure and locating the factors affecting in the Nepalese bank to ascertain the justifiable relationship of capital structure and overall value of the bank. The other general objective is to give necessary suggestions and recommendations for the future capital structure and growth of share market as well as for the better progress and goodwill of selected sample bank. However the specific objectives of this study are:

- To find out the comparative financial position of selected development banks.
- To find out the profitability position of selected development banks.
- To examine the capital structure analysis of selected development banks.
- To find out the correlation between the financial variables of selected development banks.

1.4 Significance of the Study

As capital structure is one of the major and sensitive elements, still Nepalese bank remains a puzzle. Although various studies have been carried out, they have not been able to fully explain the factors affecting the capital structure. It is thus, effective stimuli for the investment and at the same time maintain the goodwill of the bank in market. The goal of the study is to examine the efficiency and performance of the selected bank and contribute towards the field of capital structure.

Due to lack of enough knowledge, people are investing hit or miss in shares. As a result, enough study is essential. Moreover, this study will support the future researcher by providing valuable information. Especially the significance of this study can be summarized in the following points.

- It will be useful art of literature for future researcher relating to same topic.
- Concerned bank and policy maker may use this research as a reference to make necessary policy and provisions regarding capital structure.
- The study will help to specify the entire glory in the field of capital structure and to show the financial position of the selected bank.
- The study enhances to indicate the strength and weakness of the selected bank especially in the field of capital structure.
- The bank under this study will be benefited in the sense that they can use the optimum capital structure to improve the efficiency to meet the shareholder expectation and to maximize the value of the bank.

1.5 Delimitations of the Study

Basically, this research is for the partial requirement of MBS. There were limitations, which weakens the generalization i.e. inadequate coverage area of the bank, time taken, reliability of statistical tools and other variables like cost factors, resources, knowledge and research experience. Hence, the research has its own limitations, which are listed below:

- This study is based on secondary data hence; there may be the reporting error.
- This study covers the latest four fiscal years from 2064/65 to 2067/68.
- This study has been considered out generally for academic purpose and thus lacks practical implications.

- The result obtain from study cannot be generated for all similar bank due to varying nature of their operation and activities.
- The qualitative and external variables that affect capital structure have not been considered.
- This is not a comprehensive study about the capital structure but it is only a supplementary research.
- Conclusions are drawn comparing the results with industry ratio calculated from the ratio of three similar types of banks, which may not represent the whole banking industry.

1.6 Organizations of the Study

This study has been organized into five chapters.

Chapter 1: Introduction—This chapter deals with subject matters of the study consisting background of the study, focus of the study, statement of the problem, objectives of the study, significance of the study and delimitation of the study.

Chapter 2: Review of Literature—This chapter deals with review of the different literature of the study field. Therefore, it includes conceptual framework along with the review of major books, journals, articles, research work, master’s dissertations etc.

Chapter 3: Research Methodology—This chapter deals with research methodology and it includes research design, population and sample, source and methods of data collection, data processing tools etc.

Chapter 4: Data Presentation & Analysis—This chapter deals with analysis and interpretation of the data using financial and statistical tools described in chapter three. Similarly, this chapter also includes the major finding of the study.

Chapter 5: Summary, Conclusion and Recommendation—This chapter deals with summary of the study held, the conclusion made ultimately and the possible suggestions and recommendations.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is a stock taking works of available literature. To make the research work more realistic review of literature is required. It provides significant knowledge in the field of research. The purpose of literature review is to find out what research studies has been conducting in one field of study and what remains to be done. It provides the foundation to the study. To make meaningful research study this chapter deals with the research review of different sources and past studies of literature such as books, journals, research papers and unpublished thesis. A number of research studies have been made in the field of capital structure. Therefore, this chapter has been divided into following sections.

Conceptual Framework/ Theoretical Reviewed

Review of Related Studies

2.1 Conceptual Framework/ Theoretical Reviewed

The capital structure of any bank holds paramount importance for its long-term operation and survival. That is why, lots of conceptual and theoretical association, associated to capital structure were establish and brought in to the practice.

2.1.1 Concept of Capital Structure

An organization employs different types of funding to run a business smoothly. Capital structure is a composition of different types of financing employed by a firm to acquire resources necessary for its operations and growth. Capital structure primarily comprises of long-term debt, preferred stock, and net worth. It can be quantified by taking how much of each type of financing a bank holds as a percentage of all its financing. Capital structure is different from financial structure as this includes short-term debt, accounts payable, and other liabilities. It is the permanent long-term financing of a bank, including long-term debt, common stock and preferred stock and retained earnings.

The term financial structure refers to the composition of all sources and funds to invest in business. Thus, it represents the entire capital and liability side of the balance sheet. On the other hand, the term capital structure is used in a restrictive sense. It refers to the composition of long-term sources of finance such as preference share capital, debenture, long-term debt and equity capital including reserves & surpluses (i.e. retained earnings and exclude short-term debt). Thus, capital structure is a part of financial structure. It is about analysis of the capital composition of the bank. Capital structure or the capitalization of the firm is the permanent financing represented by the long-term debt, preferred stock and shareholder equity. Thus, a firm's capital structure is only a part of its financial structure (Weston & Copeland, 1992:565). The term capital structure is used to represent the proportionate relationship between debt and equity. The market value of share may be affected by the capital structure decision (Pandey, 1995:573).

A financial manager must strive to obtain the best financing mix or optimum capital structure of his/her firm. The firm's capital structure is optimum when the market value of share is maximized. The use of debt affects the risk and return of shareholder, this will increase the return on equity but the risk at the market value per share will be maximized and the firm's capital structure would be optimum (Pandey, 1995:663). Both debt and equity are used in most large corporations. The choice of the amount of debt and equity is made after a comparison of certain characteristics of each kind of security of internal factors related to the firm's operation, and external factors that can affect the firm's (Hampton, 1986:42). The choice of debt and equity largely depends on the three factors such as cost, risk and control. The cost of capital is the required rate of return for the firm. The riskiness of a firm alters with the change in debt-equity mix and so on. Earning and maintaining control can be favorable whenever capital structure decisions are made.

Capital structure of a bank consists of debt and equity securities, which provide funds for a firm. A simple capital structure consists of equity share and preference share. However, a complex capital structure consists of multiple securities as equity share, preference share, debentures, bonds etc. It is one of the most complex areas of financial decision making due to its interaction with other financial decision variables. The success and failure of the enterprise depends on the ability of top management to make appropriate capital structure decisions.

Most of the banks raises fund by equity or debt. Debt comes in the form of bond or long-term notes payable, whereas equity is classify as common stock, preferred stock, or retained earnings. Both financing has advantages and disadvantages over each other. The founders hold the ownership rights and control of the bank if they raise capital by debt. The bank has to pay the principal and interest to the concerned debt holders. This privilege will be lost in equity, as the shareholders become an integral part of the bank. Debt financing is easier and less expensive for small firms. Payment of interest on regular becomes burden for a bank and reduces their earnings. There is no obligation in equity financing to repay the money. Shareholders take a chance on good ideas for better growth opportunities of the firm.

Capital structure represents the relationship among different kinds of long-term sources of capital through the issue of common share, sometimes accompanied by preference shares. The share capital is often supplemented by debt securities and other long-term borrowed capital. In some cases, the firm accepts deposits. In a going concern, retained earnings or surpluses too form a part of capital structure. Except for the common shares, different kinds of external financing i.e. preference shares as well as the borrowed capital carry fixed return to the investors. The term capital denotes the long-term funds of the firm. All of the items on the liabilities side of the firm's balance sheet, excluding current liabilities are sources of capital. Capital constitutes the fund employed by the shareholders and the fund retained in various reserves from its profit. Capital purports to any wealth employed for the production of more wealth. Generally, cooperative capital implies to the member's claim on it. Hence, deposits collected from members or customers and loans taken from other financial institutions are working capital of a cooperative but do not constitute its capital. The total capital can be divided into two components: debt capital and equity capital. Debt capital includes all long-term borrowing incurred by the firm. Debt is a two-edged sword- it increases shareholder returns when the firm has high operating income, but makes them worse when the firm has low operating income. Equity capital consists of the long-term fund provided by the firm's owners, the stockholders.

Financial structure refers to the composition of all sources and amount of funds collected to use or invest in business. It is different from capital structure as capital structure includes only the long-term sources of financing while financial structure

includes both long term and short-term sources of financing. The relationship between capital structure and financial structure can be express in equation form.

Capital Structure = Financial Structure - Current Liabilities.

Following simplified balance sheet also shows the difference between capital structure and financial structure.

Balance Sheet

Capital and Liabilities	Assets
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 60%;"> <p>Common stock</p> <p>Preferred stock</p> <p>Long term debt</p> <p>Non-current liabilities</p> <p>Current liabilities</p> <p>Short term financing</p> </div> <div style="width: 30%; border-left: 1px solid black; border-right: 1px solid black; padding: 0 10px; text-align: center;"> <p>Capital Structure</p> </div> <div style="width: 10%; text-align: center;"> <p>Financial Structure</p> </div> </div>	<p>All assets</p>
Total capital and liabilities	Total assets

2.1.2 Definition of Capital Structure

“Financial structure refers to the way the firm’s assets are financed; it is the entire right hand side of the balance sheet. Capital structure is the permanent financing of the firm, represented primarily by long-term debt, preferred stock and common stock but excluding all short-term credit. Thus, a firm’s capital structure is only a part of its financial structure i.e. common stock, capital surplus and accumulated retained earnings” (Weston and Brigham, 1989:666).

“A part from short term finance from creditors and banks companies are usually financed either by long term loans (debentures) carrying a fixed rate of interest on capital or by ordinary shares carrying membership of the company and dividends at rates which depend upon profits”(Francis, 1980).

“Capital structure is made up of debt and equity securities which compromise 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).

“Capital structure refers to mix of long term source of fund, such as debenture, long term debt, preference share capital and equity share capital including reserves and surpluses i.e. retained earnings” (Pandey, 1999:78).

“Capital structure is the mix (or proportion) of a firm’s permanent long term financing represented by debt, preferred stock and common stock equity” (Van Horne, 2000:240).

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

“Capital structure analysis is the basis for analyzing the usefulness of accumulation from different sources of capital composition as capital is another factor, which affects the profitability. Loan capital dominant enterprises have less chance for prosperity despite of their huge profits” (Kuchhal, 1961:525).

“Sound financial structure is required to operate business smoothly and achieve the business goal. Capital structure is concerned with analyzing the capital composition of the company” (Weston & Brigham, 1978:555).

2.1.3 Optimal Capital Structure

An optimal capital structure will be obtain at the combination of debt and equity that maximize the total value of the firm, (value of debt plus value of stock) or minimizes the WACC (Pandey, 1995:675). Capital structure decision affects the value of firm, earning per share and cost of capital. The objectives of the bank are always related with maximizing the value of firm, earning per share and minimizing the cost of capital. To achieve this objective, bank should make the appropriate composition of capital structure, which is also known as optimal capital structure. The optimal capital structure for a bank is one, which offers a balance between the ideal debt-to-equity ranges and minimizes the firm's cost of capital. In theory, debt financing generally offers the lowest cost of capital due to its tax deductibility. However, it is rarely the optimal structure since a bank's risk generally increases as debt increases.

Optimal capital structure can be defined as that mix of debt and equity, which will maximize the market value of the firm. If such an optimal exists, it maximizes the value of the company and hence the wealth of its owners maximizes. It minimizes the company's cost of capital, which in turn increases its abilities to find new wealth creating investing opportunities (Solomon, 1969). The optimal capital structure is the one that strikes the optimal balance between risks and returns and thereby maximizes the value of the firm, earning per share and minimizes the weighted average or overall cost of capital. Therefore, the firm should determine appropriate capital structure to achieve its targeted objective of maximizing the shareholders wealth. Although, it is theoretically possible to determine the optimal capital structure, as a practical manner we cannot estimate this structure with precision (Weston & Brigham, 1989:719).

2.1.4 Theories of Capital Structure

Capital structure is the proportion of debt, preferred stock and equity in a company's balance sheet. While determining a capital structure, a company tries to develop an optimal capital structure. The optimal capital structure is that structure which maximizes the value of a firm and minimizes the overall cost of capital (i.e. weighted average cost of capital). However, actually, does the mix of debt and equity affect the value and cost of capital of a firm? The theory of capital structure deals with the relevance of the proportion of debt and equity to the value and cost of capital. The relevance of the mix of capital is study under the theory of capital structure (Bhattarai, 2011:343).

Capital structure is an important subject, especially for firms. A bad capital structure is more expensive than a good capital structure. Firms raise investments funds in a number of different ways. The theory of capital structure is closely related to the firms cost of capital. The two principal sources of long-term financing are equity and debt capital. The composition of these two term financing is known as capital structure. Under normal economic condition, the EPS can be increased using higher leverage. However, leverage also increases the financial risk of the shareholders. As a result, it cannot be said whether the value of the firm will increase with leverage. In other words, a great role of controversy has been developing on whether the capital structure affects the 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

maximize by adopting optimal capital structure. On the other hand, MM argue that in perfect capital market, it does not affect value of the firm (Pandey, 1999:675).

Argument between those who believe there is an optimal capital structure for each firm and those who believe no such an optimal capital structure began late in 1950's and there is yet no resolution of the conflict. MM logically, asserts that the value of the firm and cost of capital is independent of capital structure decision of the firm. On the other hand, traditionalists view the value of the firm or cost of capital is affected by capital structure change. In order to understand how firms should adhere the optimal capital structure decision, it is important to know some views about capital structure theories. The following are the basic assumptions of this theory.

Basic Assumptions:

- There are no corporate or personal income taxes.
- There are no bankruptcy costs.
- There are no transactions costs.
- The company pays 100% of its earnings as dividends.
- The ratio of debt to equity of a firm can change many times but the total assets remain constant.
- Operating earnings of the firm remain constant; that is, growth rate is equal to zero.
- The expected value of the subjective probability distributions of expected future operating earnings for each company are the same for all investors' in the market.

Besides these assumptions, the following symbols related to capital structure theories are used:

B = Total market value of debt

S = Total market value of stock

V = Total market value of firm ($B + S$)

K_e = Cost of equity/ Equity capitalization rate

K_o = Weighted average cost of capital/ overall cost of capital

K_d = Cost of debt before tax

I = Total amount of interest

EBIT = Earnings before Interest and Taxes/ Net Operating Income

In respect of capital structure decision, financial wizards have expressed different views. Basically, the theories of capital structure are distinguished into the following different views.

Trade off Theory

This theory is also called static theory. The tradeoff between the costs and returns of debt financing determine the optimum debt ratio. Firms consider this ratio as a target debt ratio, because this ratio will maximize the market value of a corporation. Myers assumes that firms need to adapt their capital structure to reach that ratio. However, an adaptation of the capital structure needs time and costs money. Therefore, it is possible that present temporary debt ratio differ from the target ratios.

This theory proposes to increase debt levels to balance interest to shield against the cost of financial distress. The company should keep on borrowing until the marginal tax advantage of additional debt is offset by the increase in present value of the expected costs of financial distress. “A static trade off framework, in which the firm is viewed 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).

Free Cash Flow Theory

In the contrary of the trade off theory, in which a firm strives 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 decision do not always maximize the market value of the firm. A free cash flow is the balance of money, when all projects (with positive net present values) are finance. Debt reduces the agency costs of the free cash flow by reducing the cash flow available for spending at the discretion of managers. Debt also reduces the freedom of decisions because a firm is reduced to pay at certain times interest and pay offs. There will be always risk that a firm will not be able to pay interest in future times. This risk causes the managers to lead and organize a firm more efficient.

Stakeholder Theory

Cornell and Shapiro (1987) assume that not only investors have an interest in a firm. There are different groups on non-investors stakeholders, and some of them have a lot of influence in the financial policy of a firm. Alternatively, as Cornell and Shapiro wrote: Financial structure may also depend on a firm's net organizational capital and on the nature of its stakeholders. Examples of non-investors stakeholders are customers, employees and suppliers. Non-investors stakeholders hold implicit claims. Implicit claims are non-written promises and rights, such as the right provide service to customers or job-security for employees.

Pecking Order Theory

Pecking order theory is also known as a ladder or class structure of financing. Myers and Majluf first suggested it in 1984. It is also known as pecking order theory for capital structure. This theory is a preference theory because the fund sources are select in preference. The first preference is 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 floatation costs associated with the use of retained earnings. The next preference is given to the straight debt. It is a good signal to the investors and helps to raise the market price. Moreover, debt results in less intrusion into management by suppliers of capital and flotation costs are also less than those with other type of financing.

Next in order of financing preference is preferred stock, which has some of the features of debt. This is follow by the various hybrid securities, like convertible bonds. Finally, the least desirable security to issue is straight equity. It is only a method of financing but it is 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. According to Myers, the following assumptions are made:

- Firms prefer internal ways to finance projects.
- Firms adapt their target dividend payout ratios to available investment resources.

- Internal resources of a firm are fluctuating because of unpredictable fluctuations of profitability.
- When firms need extra resources, they prefer the safest way of getting funds; this means that firms prefer debt to convertible stocks and common stocks.

Baskin researched the validity of this theory in 1989. He made the conclusion that the accumulated evidence in favor of the pecking order hypothesis is now substantial. Now it is possible to provide pecking order behavior with a rationale theoretical basis, and there seems no longer any reason to ignore the manifest empirical evidence. Companies with higher earnings should take less debt, as they require less of funding requirements due to funding met by the internal resources. A high profit making company can generate internal cash to fund their new projects. A balance between risk and return met by capital structure is known as the most favorable capital structure. A sound capital structure aims at minimizing the risk and maximizing the profit margins. It maximizes the price of the stock and minimizes the cost of capital at the same time.

2.1.5 Approaches to Capital Structure

Different approaches have been developed under the relevancy of capital structure to value of firm and cost of capital. Net income approach and traditional approach argued capital structure as relevant matter and net operating income approach and MM approach argued capital structure as irrelevant matter.

Net Income Approach

David Durand suggests the net income approach. It is a relevant theory of capital structure. According to this approach, the capital structure decision is a relevant to the valuation of the firm and overall cost of capital. In other words, a change in the financial leverage (proportion of debt in the capital structure) will lead to a corresponding change in the overall cost of capital as well as the total value of the firm. Therefore, if the increase in the ratio of debt in the capital structure, the weighted average cost of capital will decline and the value of the firm as well as the market price of ordinary shares will increase. In contrast, a decrease in the debt ratio will cause an increase in the overall cost of capital and a decline both in the value of the firm as well as the market price of equity shares. The degree of financial leverage is measured by the ratio of debt to equity.

The financial leverage according to net income approach is an important variable in capital structure decision of a firm with a judicious mixture of debt and equity. A firm can involve in an optimum capital structure, which will be the one at which the value of the firm uses no debt or if the financial leverage is zero and the overall cost of capital will be equal to the equity capitalization rate, the weighted average cost of capital will decline and will approach the cost of debt as the degree of leverage reaches one (Khan and Jain, 1992:476-477). Net income approach focuses the increase in total valuation of the firm through the reduction in the cost of capital leading to an increase in the degree of leverage. It is also known as the dependent hypothesis of capital structure. The essence of this approach is that the firm can reduce its cost of capital by using debt. This approach is base on the crucial assumptions that the use of debt does not change the risk perception of the investors. Consequently, the interest rate on debt (K_d) and equity capitalization rate (K_e) remains constant to debt (Pandey, 1996:28).

There exists positive relationship between capital structure and valuation of firm and change in the pattern of capitalization bring about corresponding change in the overall cost of capital and total value of the firm. This approach assumes no change in the behavior of both stakeholders and debt holders as to the required rate of return in response to a change in debt-equity ratio of the firm. They want to invest since debt holder are exposed to lesser degree of risk, assumed of a fixed rate of interest and are given preferential claim over the profit and assets, the debt holders required rate of return is relatively lower than that of equity holders. 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 stock.

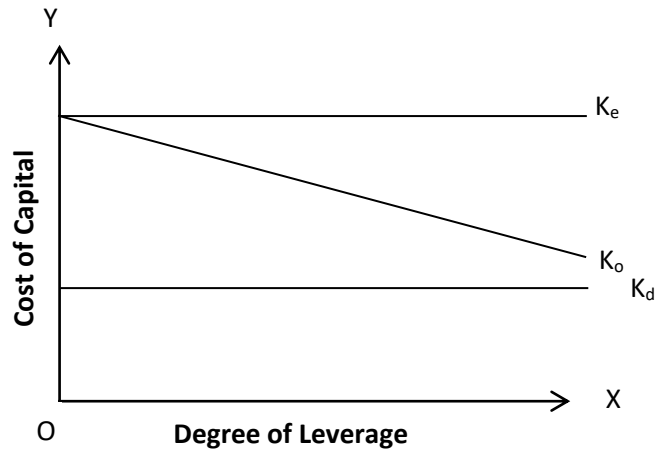
Assumptions of Net Income Approach

The following are the basic assumptions of net income approach. To calculate the value of a firm and WACC, these assumptions are constantly used.

- There are no taxes.
- The cost of debt is less than the equity-capitalization rate or the cost of equity.
- Cost of equity and cost of debt remain constant.

- The use of debt does not change the risk perception of investors.
- Net operating income remains constant.
- Overall cost of capital decreases as leverage increases.

Figure 2.1: Figure of Net Income Approach



In figure 2.1, the degree of financial leverage is plotted along the horizontal axis and the cost of capital figures on the vertical axis. Under net income approach, K_e and K_d are assumed not to change with financial leverage but the overall cost of capital (K_o) will decline with the increase in the debt equity ratio and the value of the firm increase with leverage. The optimal capital structure would occur at the point, where the value of the firm is maximum and overall cost of capital is minimum. Thus, the financial leverage is an important variable in the capital structure decision. If the firm is unlevered the overall cost of capital will be just equal to the equity capitalization rate (i.e. $K_o = K_e$).

Net Operating Income Approach

Net operating income approach is another behavioral approach suggested by David Duran. This approach is diametrically opposite from the net income approach with respect to the assumptions of the behavior of equity holders and debt holders. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant. The overall cost of capital is independent of the degree of leverage; any change in leverage will not lead to change in the value of the firm and the market price per shares. Net operating income is slightly different from the net income 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 the firm and cost of capital.

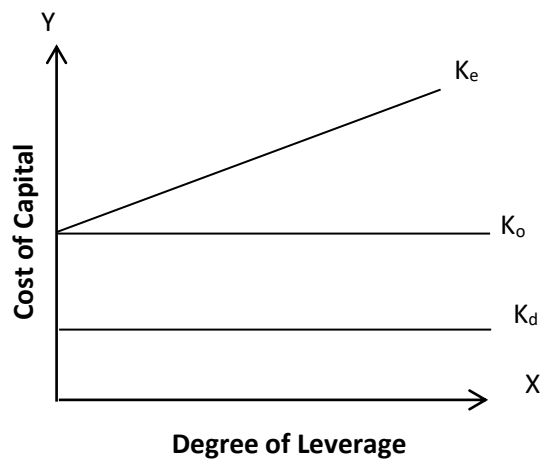
The main difference between NI approach and NOI approach is the base that investors use to value the firm. Under NOI approach, the net operating income i.e. EBIT, instead of net income is taken as the base. Like the NI approach, the NOI approach also assumes a constant rate of K_d , which means that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

Thus, this approach suggests that there is not any optimal capital structure. Under the net operating income approach, the capital structure selected is a more detail since the value of the firm is independent of the firm's capital structure. If the firm increases, its use of financial leverage by employing more debt this is directly offset by an increase in the cost of capital. Furthermore, this approach says that the cost of equity increases with the level of debt, and the higher cost of equity offsets the benefit of cheaper debt financing consequently no effect at all on K_o , in another word overall capitalization rate as well as cost of debt remain constant regardless of the degree of financial leverage.

Assumptions of Net Operating Income Approach

- The market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important.
- The use of less costly debt funds increases the risk of shareholders. This causes the equity capitalization rate to increase.
- The debt capitalization rate (K_d) is a constant and the corporate income tax do not exist.
- The market uses an overall capitalization rate; K_o to capitalize the net operating income; K depends on the business risk. If the business risk is assume to remain unchanged, it is constant.

Figure 2.2: Figure of Net Operating Income Approach



In above figure the degree of financial leverage is plotted along the horizontal axis and the cost of capital figures on the vertical axis. It shows that the line K_o and K_d are constant and are parallel to the horizontal axis and K_e increase with leverage continuously. This is because K_o and K_d remains constant under all circumstances but the K_e increase with the degree of financial leverage increase. As the cost of capital is constant, this approach implies that there is not any optimal capital structure. We know obviously from the figure that under the NOI approaches low cost of debt is use, its advantage is exactly offset by increase in cost of equity in such a way that cost of capital remains constant. Hence, values of the firm also remain constant. At the extreme degree of financial leverage, hidden costs becomes very high hence the firms cost of capital and its market value are not influenced by the use of additional cheap debt fund.

Traditional Approach

This approach assumes the capital structure as relevant matter for the value and cost of capital of the firm. It takes some features of both net income and net operating income approach. This approach strikes a balance between the two different approaches net income and net operating income. Therefore, it is also known as the intermediate approach. It resembles the net income approach in arguing that cost of capital and total value of the firm are not independent of the capital structure. However, it does not subscribe to the view of NI approach that value of a firm will necessarily increase for all degree of leverage. In one respect, it shares a feature with the NOI approach that beyond a certain degree of leverage, the overall cost increases

leading to a decrease in the total value of the firm. According to this approach, there is an optimal capital structure therefore the firm can increase the total value of the firm through the wise use of leverage.

According to this view, the value of firm can be increase or a judicious mix of debt and equity capital can reduce the cost of capital, and that an optimal capital structure exists for every firm. This approach very clearly implies that cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimal capital structure exists, and it occurs when the cost of capital is minimum or the value of the firm is maximum. The statement that debt funds are cheaper than equity funds carries the clear implications that the interest rate of debt plus the increased yield on the capital structure, together on the weighted basis will be less than yield (cost of equity) which existed on the capital structure before debt financing (Barges, 1963:11). That is the weighted average cost of capital will decreased the use of debt up to a limit. According to the traditional position, the manner in which the overall cost of capital reacts to change in capital structure is dividing into three stages (Solomon, 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_e) either remains constant or rises slightly with debt because of the added financial risk. However, it does not increase fast enough to offset the advantage of low cost debt. In other words, the advantage arising out of the use of debt is so large that, even after allowing for higher cost of equity, the benefit of the use of the value of the firm (V) increases as the overall cost of capital falls with the increasing leverage. During this stage, cost of debt (K_d) remains constant or rises only modestly. The combined effect of all these will be reflect in increasing in the market value of the firm and decline in the overall cost of capital.

Second Stage: Optimum Value

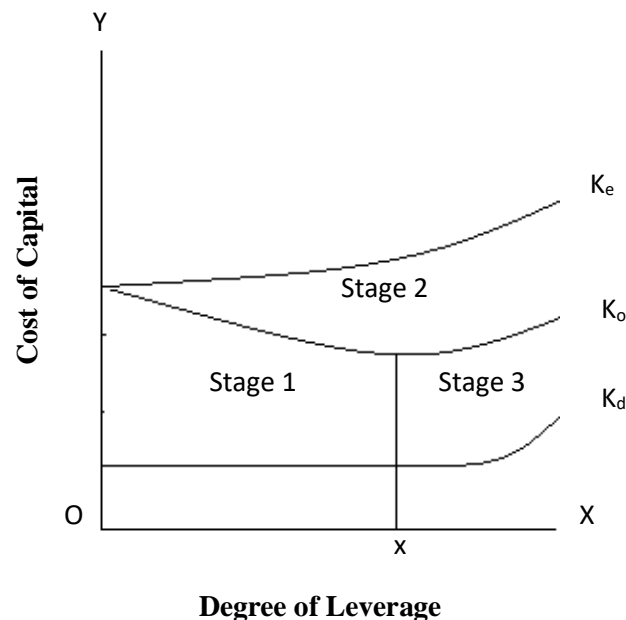
In the second stage, further application of debt will raise cost of debt and equity capital so sharply as to offset the gains in net income. Hence, the total market value of the firm would remain unchanged. While the firm has reached a certain degree of leverage, increase in it has a negligible effect on the value of the firm or overall cost of capital of the firm. The increase in the degree of leverage increases the cost of

equity due to the added financial risk that offsets the advantage of low cost debt. Within the range of such debt level or at 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 of 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 relationship between cost of capital and leverage is graphically shown in figure below:

Figure 2.3: 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 average cost of capital, K_o declines with leverage because the rise in K_e does not entirely offset the use of cheaper debt funds. As a result, K_o 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 K_o begins to rise. The rise in K_o is supported further once K_d begins to rise. The optimal capital structure is point

X; thus, the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure.

Modigliani – Miller Approach

In 1958, two prominent financial researchers, Franco Modigliani and Merton Miller (MM), showed that, under certain assumptions, a firm's overall cost of capital, and therefore, its value, is independent of the capital structure. This 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. Its model is identical with the net operating income approach (Jain, 1997:53). M-M in their original position advocates that the relationship between leverage and the cost of capital is explained by the net operating income approach. They made a formidable attack on the traditional position by offering behavioral justification for having the cost of capital, K_0 remain constant throughout all degree of leverage (Van Horne,2000:255).

M-M without Taxes

In the no tax MM case, the cost of debt and the overall cost of capital are constant regardless of a firm's financial leverage position, measured as the firm's debt-to-equity ratio. As a firm increases its relative debt level, the cost of equity capital increases reflecting the higher return requirement of stockholders due to the increased risk imposed by additional debt. The increased cost of equity capital exactly offsets the benefit of the lower cost of debt, so that the overall cost of capital does not change with changes in capital structure. M-M support the relationship between leverage and cost of capital that explained by NOI approach. They argue that in the absence of taxes, total market value and the cost of capital of the firm remain variant to the cost of capital structure change. They make formidable attack as the traditional position by offering behavioral justification for having the cost of capital remain constant throughout all degree of leverage (Solomon, 1996:92). This approach assumed that:

Basic Assumptions:

- There is a perfect capital market.
- There are no transaction costs of buying and selling securities.
- A sufficient number of buyers and sellers exist in the market; so no single investor can have a significant influence on security prices.

- Relevant information is readily available to all investors and is cost-free to obtain.
- All investors can borrow or lend at the same time.
- All investors are rational and have homogeneous expectations of firm's earnings.
- All firms are homogeneous in riskiness.
- There are no personal or corporate taxes.
- All cash flows are perpetuities, that is, all firms expect zero growth.
- EBIT and bonds are perpetual.

The M-M hypothesis can be best explained in terms of their propositions I and II: (M-M, 1969: 261-279).

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. This is their proposition I. In equation, this can be express as follows.

Value of the firm = Market value of debt (B) + Market value of equity (S).

$$= \frac{\text{Expected Net Operating Income}}{\text{Expected Overall Capitalization Rate}}$$

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

For an unlevered firm, $V_u = \frac{\text{EBIT}}{K_e}$

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

Proposition I can be expressed in terms of the firms overall capitalization rate, K which is the ratio of Net Operating Income to the market value of all its securities.

That is:

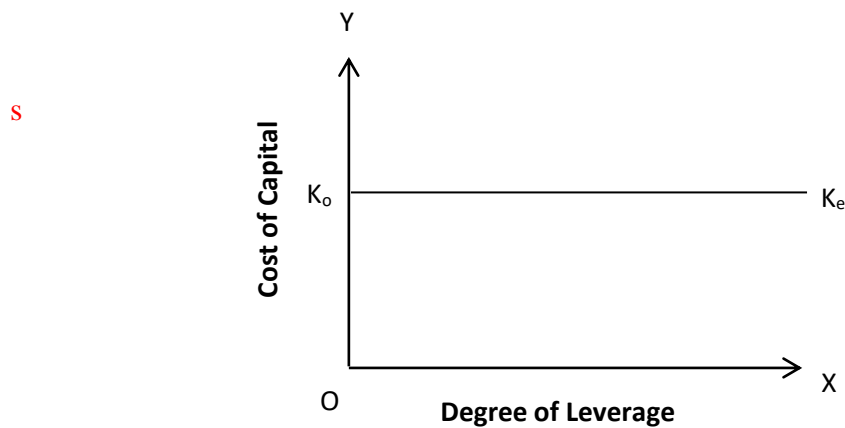
$$K = \frac{\text{NOI}}{\text{S+B}} = \frac{\text{NOI}}{\text{V}}$$

K can also be express as $K = \frac{K_e(S)}{\text{S+B}} + \frac{K_d(B)}{\text{S+B}}$

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 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, 1981:35).

The overall cost of capital function as hypothesis by M-M is shown in the figure below:

Figure 2.4: M-M Approach, Proposition – I

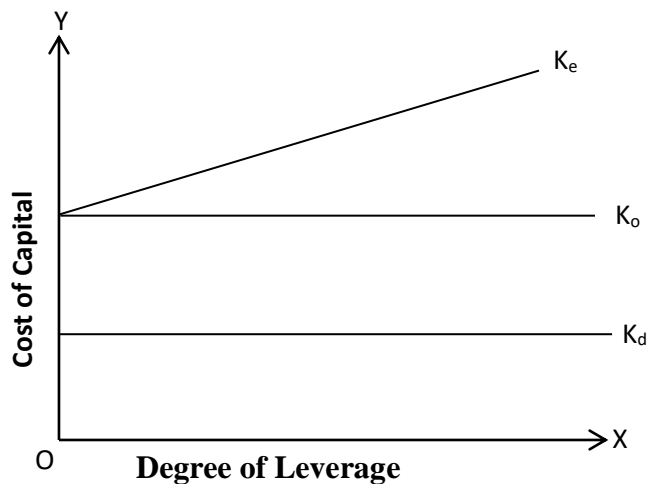


The cost of capital on proposition-I is shown in the figure, which clears that cost of capital is constant and is not attached by leverage.

M-M Proposition II, which defines the cost of equity, “The cost of equity to a levered firm is equal to the equity to an unlevered firm in the same risk class plus risk premium because both sizes depend with both differentials between an unlevered firms cost of debt and equity and the amount of debt leverage used”. The proposition II states that the cost of equity rise 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.

$$K_e(L) = K_e(U) + \text{Risk Premium}$$

Figure 2.5: M-M Approach, Proposition – II



The above figure indicates that higher the leverage ratio higher the cost of equity ratio. It means that the cost of equity (K_e) is linear function of leverage, measured by the market value of debt to equity. Thus, leverage will result not only in more earnings per share to shareholders but also increase the cost of equity. The benefit of leverage is exactly taken off by the increased cost of equity and consequently, the firm's market value will remain unaffected.

2.1.6 Factors Determining Capital Structure

Trading on Equity

The word “equity” denotes the ownership of the company. Trading on equity means taking advantage of equity share capital to borrowed funds on reasonable basis. It refers to additional profits that equity shareholders earn because of issuance of debentures and preference shares. It is based on the thought that if the rate of dividend on preference capital and the rate of interest on borrowed capital is lower than the general rate of company's earnings, equity shareholders are at advantage which means a company should go for a judicious blend of preference shares, equity shares as well as debentures. Trading on equity becomes more important when expectations of shareholders are high.

Degree of Control

In a company, it is the directors who are called elected representatives of equity shareholders. These members have maximum voting rights in a company as compared

to the preference shareholders and debenture holders. Preference shareholders have reasonably less voting rights while debenture holders have no voting rights. If the company's management policies are such that they want to retain their voting rights in their hands, the capital structure consists of debenture holders and loans rather than equity shares.

Flexibility of Financial Plan

In an enterprise, the capital structure should be such that there are both contractions as well as relaxation in plans. Debentures and loans can be refund back as the time requires while equity capital cannot be refunded at any point, which provides rigidity to plans. Therefore, in order to make the capital structure possible, the company should go for issue of debentures and other loans.

Choice of Investors

The company's policy generally is to have different categories of investors for securities. Therefore, a capital structure should give enough choice to all kind of investors to invest. Bold and adventurous investors generally go for equity shares and loans & debentures are generally raising keeping into mind in conscious investors.

Capital Market Condition

In the lifetime of the company, the market price of the shares has an important influence. During the depression period, the company's capital structure generally consists of debentures and loans while in period of boons and inflation the company's capital should consist of share capital generally equity shares.

Period of Financing

When company wants to raise finance for short period, it goes for loans from banks and other institutions; while for long period it goes for issue of shares and debentures.

Cost of Financing

In a capital structure, the company has to look to the factor of cost when securities are raise. It is seen that debentures at the time of profit earning of company prove to be a cheaper source of finance as compared to equity shares where equity shareholders demand an extra share in profits.

Stability of Sales

An established business, which has a growing market and high sales turnover, the company, is in position to meet fixed commitments. Interest on debentures has to be paid regardless of profit. Therefore, when sales are high, thereby the profits are high and company is in better position to meet such fixed commitments like interest on debentures and dividends on preference shares. If company is having unstable sales, then the company is not in position to meet fixed obligations. So, equity capital proves to be safe in such cases.

Sizes of a Company

Small size business firm's capital structure generally consists of loans from banks and retained profits. While on the other hand, big companies having goodwill, stability and an established profit can easily go for issuance of shares and debentures as well as loans and borrowings from financial institutions. The bigger the size, the wider is total capitalization.

2.2 Review of Related Studies

Review of Major International Studies

In this 21st century, information highway or the internet has become the most powerful accessible medium to gain information in any subject matter. The research studies and work papers carried out by different scholars within various geographical regions are also review in this section, which are related with the bank capital management of development bank. The reviews of relevant articles published in different journals are available on line on International Network for the Availability of Scientific Publication (INASP) where database has been reviewed and presented.

1. Modigliani and Miller's Study

Modigliani and Millers (1958) has conducted a study on the cost of capital, corporation finance and the theory of investment. In this 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 base on average figure for the years 1947 and 1948 while Smith designed his study of 42 electric utilities. In the first part of their work MM tested their proposition I, the cost of capital is irrelevant to

the firm's capital structure by correlation after tax cost of capital with leverage B/V . they found that the correlation coefficient is statistically insignificant and positive in sign.

MM conducted the 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.

2. Paul Marsh's Study

Marsh (1982) in the article, "*The Choice between Equity and Debt*" following issues are expressed.

- Whether companies are having the targeted debt ratio
- Whether they have similar targets from the composition of their debt
- Whether debt ratio or the choice of the finance instruments are influenced by other factors
- How accuracy can, we predict whether the company will issue equity or debt?

Then he suggested that while planning their issues, company should consider future as well as current debt ratio. If the companies are looking at book value debt ratio, there will be change during the interest-issuing period of retentions and bank loans. Any overall change in tax level could cause issuing companies to shift their performance towards either debt or equity; small companies rely on bank loan rather than long-term debt because of location, cost and problems of access to capital market. Equity issues seem to be favorable as it provides strong share price and overall market performance.

3. Calem and Rob's Study

Calem and Rob (1996) carried out a study on "*The Impact of Capital Based Regulation on Bank Risk Taking: A Dynamic Model*". In this paper, they attempt a dynamic modeling of the moral hazard problem and how various regulatory instruments might affect it. The model considers banks that operate in a multi period setting with the objective of maximizing the discounted value of their profits. A bank assumed to operate in a multi- period setting; on the realized return on loans, as well

the banks portfolio choices. Thus, they considered the dynamic of bank portfolio choice and the behavior of well-capitalized as well as undercapitalized banks. A severely under capitalized banks typically task on maximal risk in an effort to improve its capital position, even if the risky assets provides a lower expected return than the safe assets. This result suggests that moral hazard is serious problem among banks near to insolvency; then it provides a formal rationale for the prompt corrective action provisions of FDCIA (Poudel, 2011:33).

4. Davis and Lee's Study

Davis and Lee (1997) conducted a study on "*A Practical Approach to Capital Structure for Banks*". In this article, Americans attentions to capital structure are reflected in their high level of stock repurchase in recent years. The most important difference comes from regulation since the implementation by FDCIA of risk based guidelines in the early 1990's the capital ratio of U.S. Banks have increased substantially. In fact, most U.S. banks today carry considerably more capital than is required by the regulations. This tendency to exceed regulatory capital levels is especially pronouce for similar institutions, which can in turn be explained by the riskier profile of smaller banks. They also have a much greater degree of covariance among their riskier assets. This article recommends using a quantitative economic approach to generate a lower bound on the amount of necessary capital. This estimate can then be translate into a target capital structure by taking account of a variety of practical, qualitative considerations, including banks performance to maintain capital levels that provides a comfortable margin above bank regulator's well-capitalized levels. Although such considerations will vary in importance from one bank to another, they will generally include managements risk tolerance, regulatory constraints, market pressures, the banks prospects and investment plants and for larger banks, rating agency requirement.

5. Haynes E. Leland's Study

Leland (1998) conducted a comprehensive study on "*Agency Cost Risk Management and Capital Structure*". He has examined the joint determination of capital structure and investment risk. Optimal capital structure reflects both the tax advantages of debt less default cost and the agency costs resulting from assets substitution.

On a research entitled “Dynamic optimal capital structure and dividend policy under optimal capital structure and maturity”, conducted by Michael P. Ross in 1998, he has explained the interaction between a firm volatility and dividend policies and capital structure and maturity policies. It was found that firm will select a low dividend yield and low assets volatility over a greater range of firm’s assets value, the shorter is the maturity of the firm’s debt. It was also found that better the firm’s ability to hedge the more frequently it will refrain from paying dividends.

6. Green, Marine and Suppakitjarak Study

Green, Marine and Suppakitjarak (2002) have performed research entitled on “*Corporate Financial Structure in India*”. This research has analyzed the financial structure of different firms with assets and liabilities approach over time and as between companies. The findings of the research were as follows: Indian quoted non-financial companies exhibit financial structure, which differs to some extent from their OECD counter parts. During the 1990’s quoted companies made greater use of external funding than did firms in the OECD. Unquoted companies are more heavily reliant on equity whereas quoted companies are made related on internal funds: Both quoted and unquoted companies have experienced changes in financial structure but the changes in unquoted companies’ structure took place more gradually over time.

7. Joshna Abor’s Study

Abor (2005) has conducted a study on “*The Effect of Capital Structure on Profitability: An Empirical Analysis of Listed Firms in Ghana*”. This paper seeks to investigate the relationship between capital structure and profitability of listed firms on the Ghana stock exchange during a five-year period. Throughout the literature, debate has centered on whether there is an optimal capital structure for an individual firm or whether the proportion of debt usage is irrelevant to the individual firm’s value. The capital structure of a firm concerns the mix of debt and equity the firm uses in its operation. Regression Analysis is use in the estimation of functions relating the return on equity with measure of capital structure. The results reveal a significantly positive relation between the ratio of short-term debt to total assets and return on equity. However, a negative relationship between the ratio long-term debt to total assets and return on equity was found with regard to the relationship between total debt and return rates. The results show a significantly positive association

between the ratio of total debt to total assets and return on equity. The research suggests that profitable firms depend more on debt as their main financing option. In the Ghana, case a high proportion of the debt is represented in short term debt.

8. Viet Anh Dang's Study

Dang (2005) in the study, "*Testing the Trade-off and Pecking Order Theories*" examined the performance of two influential but contradicting theories of capital structure known as the trade-off and pecking order theory. In general, our finding suggests that the trade-off theory holds well under both a practical adjustments and an error correction framework. In specifications that next both theories, the former theory outperforms the latter theory. The introduction of the cash flow deficit variable has added little amount of additional explanatory power to the trade-off framework. Furthermore, the estimated coefficient on that variable is not finding to be statistically equal to unity as it would be if the strict interpretation of the pecking order theory were to hold. The results consistently show that the adjustments process prevails with the speed of adjustments coefficient significant and relatively high (above 50). There has also been some compelling evidence in favor of the relationship between gearing and the conventional determining factors except profitability, as predicted by trade-off framework. Non-debt tax shields and growth opportunities are reported to be inversely related to debt to the ratio, while collateral value of assets and size are found to have positive effects upon gearing. In other respect, the study has posed serious questions on the empirical validity of the pecking order theory. However, given the simplicity of the empirical model it is impossible to reject the pecking order theory. However, given the simplicity of the empirical model it is impossible to reject the pecking order theory predictions completely.

9. Gho's Study

Gho (2005) has carried out a study on "*Intellectual Capital Performance of Commercial Banks in Malaysia*". This paper measured the intellectual capital performance of commercial banks in Malaysia for the period 2001 to 2003, using efficiency coefficient called VAICTM developed by Ante Public 1997 (VAICTM is a trademark of Public and International Education Center Inc). The model of data required to calculate human capital, structural capital and capital-employed efficiencies were obtain from annual reports. As a whole, all banks have relatively

higher human capital efficiency than structural and capital efficiencies. Domestic banks were generally less efficient compared to foreign banks. Hong Leong Bank, Public Bank and Southern Bank was the top three efficient domestic banks based on VAIC™ assessment, while Scotia Bank and EON Bank have consistently showed improvement in efficiency in the three years. In view of the findings, that seven out of ten domestic banks did not show improvements in efficiency following the consolidation exercise requires an urgent attention and remedial actions. This study failed to study all foreign banks operating in Malaysia. The findings allowed banks benchmark themselves based on the level of efficiency rankings, to establish priorities and develop strategic plans, which will in turn enhance their future performance. The findings also could help stakeholders and investors assess the value creating potential of banks; and policy makers to formulate and implement policies for establishment of a resilient banking sector. This study also demonstrated that foreign banks were the most efficient banks. However, in terms of value created, domestic banks created more value added than foreign banks. Only Hong Leong Bank, May banks, Public Bank and EON Bank showed improvement in efficiency, while the other six banks are still struggling with redundant resources. Being the first study to review bank performance based on intellectual capital, this paper will be a good source of reference for future study on Malaysian banking sector.

10. Abeysekera's Study

Abeysekera (2007) has explained the *“Intellectual Capital Reporting between a Developing and Developed Nation”*. This paper aims to examine the patterns of Intellectual Capital Reporting (ICR) of large listed firms in a developing nation, Sri Lanka. The aim of this study is to highlight the difference in ICR practice between developing and developed nations. The paper begins by examining each of the top 30 firms by market capitalization listed on the Colombo stock exchange in 1998/1999 and 1999/2000. Using the content analysis method, it reviews the annual report of these firms to determine the types of Intellectual Capital items reported in Sri Lanka. It then compares these findings with a similar study undertaken in Australia during the same period. The findings in this paper highlight the need for a uniform ICR definition and a reporting framework that provides comparative and consistent reporting under the auspices of a regulatory body. ICR differences were identified between Sri Lanka and Australian firms, and it is argued that these differences can be

attributed to economic, social and political factors. This paper highlights important policy issues for Australia, Sri Lanka and other nations. These issues are even more pertinent in the light of the gradual international adoption of the International Financing Reporting Standards (IFRSS), formulated by the International Accounting Standard Board (IASB). Most papers on intellectual capital reporting have focused on firms in developed countries. This paper offers insight into comparative reporting practices between a developed and a developing country.

Review of Major National Studies

Nepalese capital market is in the field of development. There are only few studies done in this field. Due to the lack of information and expertise, no sufficient studies have been carried out in regards to the capital structure. However, recent developments in the fields of capital markets have shown some rays of hope for the future. Some of the studies done in the field of capital structure have been reviewed here under.

Adhikari (1992) conducted a study on “*Capital Structure Effect on Average Cost of Capital*”. The major objective of the study was to analyze the effect of capital structure on the cost of capital in context of Nepal. Specifically, the aim of the study was to test the relationship between capital structure and average cost of capital. The study was based on the pooled data of selected five financial enterprises listed in the security exchange center. The study period was bounded from 1976 to 1978. Sample and multiple regression approaches were used to test the relationship. In the simple regression models, the average cost of capital was regressed with each explanatory variable such as leverage, size, growth, dividend payout ratio, earning variability and liquidity. Similarly, in multiple regression models the average cost of capital was regressed on the leverage together with other explanatory variables. He found negative sign of beta coefficient of leverage under both analyses on the basis of these findings. The researcher concluded that the increasing use of debt decreases the overall cost of capital. In this way, this study indicates that the use of debt in capital structure increases the value and decreases the overall cost of capital.

Shrestha (1993) conducted a study on the topic, “*Focus of Capital Structure of Selected and Listed Public Companies*” in Pravaha Journal of Management in Nepal Commerce Campus. The study use the data from 19 companies, which covered

different sectors such as manufacturing, finance, utility service and other allied areas. It was found that most of these companies have debt capital relatively very higher than equity capital. Consequently, most of them are operating at losses to the extent that payment of interest on loan has been serious issues. Most of the losses are after changing interest on loan. It has suggested that the government has to consider the public enterprises in evaluation the relationship between use of debt and its impact on overall earning of public enterprises. Therefore, government should be sure in knowing how using debt capital will maximize the return. It should develop a suitable capital structure guideline to make public enterprise aware of its responsibility to repay the debt schedules. Government has to analyze cost and risk return trade off. Thus, capital structure needs to be made more determinate by realistic analysis of cost. Lastly, she concluded that policy makers have to be careful in developing the suitable capital structure guidelines in making public enterprises as well as listed companies to be aware of financial accountability.

Paudyal (2002) made an empirical study in his article "*A Study on Capital Structure: It's Impact on Value of a Firm*" concentrated to examine the interrelationship between the objective of achieving an optimal capital structure and to provide conceptual framework for the determination of the optimal capital structure. For this, a hypothetical firm is constructed and different assumptions are laid down to analyze the effect of capital structure. Various statistical and financial tools like ratio analysis are use to extract reasonable figure for the hypothetical firm. It is observe that the minimum overall cost of capital, maximum value of the firm and price per share are attend 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 equity shareholder and financing requirement of a company as well as other concentrated groups.

Pradhan (2003) has conducted the study on "*Role of Saving & Investment and Capital Formation in Economic Development: A Case Study of Nepal*". The purpose of this paper has been to investigate the role and impact of saving, investment and capital formation on economic development. The macro economic variables are introduced wide and extension of the econometric model various regression model. This paper has been based on secondary data only. The necessary data on saving, investment, capital formation and GDP has been collected for the period of 1974/75 to 2000/01 at

current price and in real terms with the entire study period divided into different sub periods. The result presented in this paper suggest that in all cases, GDP is significantly associated with saving, investment and capital formation both at current price and in real terms. The result of the empirical analysis led to three important conclusions: saving, investment and capital formation, which have positive impact on economic development, the current values and past values of saving, investment, and capital formation have the positive impact on economic development but the current values have the largest impact. There is a strong role played by saving and capital formation on economic development while weak role played by investment (Poudel, 2011:29).

Baral (2004) conducted a study on “*Determinants of Capital Structure*”. The objective of the study was to examine the determinants of capital structure of the companies listed in Nepal Stock Exchange. The study was based on secondary data. Eight variables, multiple regression models were used to assess the influence of defined explanatory variables on capital structure. Based on calculation research has conclude that growth size, earning rate are statistically significant determination of financial leverage. Researcher has also concluded that the corporate size growth rate and profitability pay financial leverage in financial instructions and on risk, dividend payout ratio, debt source capacity and degree of operating leverage do a dismal role.

Review of Master’s Dissertations

This section is concerned with the previous research works done by different scholars. Therefore, it includes the review of dissertations submitted by research pioneers in the field of development bank. Various researchers regarding different aspect of commercial bank such as financial performance, profitability, resource mobilization etc have conducted several thesis works. Among them, the research works about capital structure are present here, which are relevant for this study.

Rajlawat (1999) made a study on “*The Capital Structure of Necon Air Ltd*” based on the primary as well as secondary data. The main objective of the study is to analyze and examine the capital structure of Necon Air Ltd, examine the financial position, highlight their growth and policies and review various previous studies relation to the study. The methodology used includes financial tools such as Ratio Analysis and Statistical tools such as correlation coefficient and price earnings ratio. The study has

found that Necon Air Ltd has debt equity ratio higher than required. This higher debt capital is a serious implication from the firm's point of view. In this condition, the capital structure will lead to inflexibility in the operation of the firm as creditors would exercise pressure and interfere with management. Necon Air has raised debt from different commercial bank and has to pay heavy portion of profit as interest. So the payment of the interest will be hazardous when profit is declining. So it is suggested that Necon Air Ltd should decrease in debt capital as far as possible. It has added that ratio of 2:1 is the best ratio for optimal capital structure.

Pandey (2003) conducted a research entitled "*The Study on Capital Structure of Standard Chartered Bank and Nepal Bangladesh Bank Ltd*". In her research, the basic objective of the study made by Ms. Pandey was to analyze the interrelationship of capital structure with various important variables such as earning per share, dividend per share and net worth of the joint venture banks and to provide suggestions to overcome various issues and gaps. The study has used financial tools such as ratio analysis, EBIT-EPS analysis, overall capitalization rate, total value calculations etc. and statistical tools such as Karl Pearson's correlation and probable error. The study concluded that all the joint venture banks are using high percentage of total debt in raising the assets and all the banks are able to pay the interest. The study suggested that the bank must control total deposit and the bank must control investment. The bank needs to reduce its expenses and control fluctuations in the earning per share to improve its market price per share.

Shah (2004) conducted her master's research on "*A Study on the Capital Structure of Selected Manufacturing Companies*". In this research, she made the study with a purpose to access the debt servicing capacity of the mentioned manufacturing companies examining the relation between return on equity and total debt, return on equity and debt ratio, earning after tax and total debt and interest and earnings before interest and taxes. Both financial tools such as ratio analysis as well as statistical tools such as correlation coefficient and regression analysis have been used as the methodology. The study revealed that Nepal Lever Ltd is fully equity based and has not been using long-term debt. The Bottlers Nepal Ltd is free of long-term debt because of improved cash flows and effective management. The Sriram Spinning Mill has 66.33% of assets financed with debt and hence there is less flexibility to the owners. The degree of financial leverage and analysis of Jyoti Spinning Mills shows

that the failure of the company to gain expected profits and the Arun Vanaspati Udhyog has a fluctuating debt equity ratio. Its long-term debt is decreasing and only creditors make a small share of finance.

Sharma (2005) has submitted the thesis "*A Study of Capital Structure of Selected Commercial Bank in Nepal*". The study was based on secondary data and necessary sample were taken from NEPSE. The study clarifies the objectives based on various financial and statistical tools. The objective of the study was to analyze the proportion of total debt and equity capital in Nepalese commercial bank, to analyze the debt servicing capacity of selected commercial bank, to measure the capital adequacy of bank in last 5 years. In that study, various financial and statistical tools were used to study the capital structure. In financial tools capital adequacy ratio, core capital adequacy ratio, supplementary capital ratio, total debt to equity ratio, interest coverage ratio were used. On the other hand, average, standard deviation, coefficient of variation, least square, trend analysis was use in statistical tools. Through his study, he brought out the conclusion that the banks are using the higher proportion of total debt in their total financing and the outsiders have invested more in total assets of the banks as compared to owners. Moreover, the Nepalese commercial banks are highly levered and they are taking higher advantage of leverage in owning total assets as a result there is lower margin of safety to the outsiders in these institutions. Furthermore, he drew the conclusion that the supplementary capital of the banks is sufficient or adequate. However, the banks are trying to decrease the contribution of supplementary capital in capital adequacy due to declining tendency of the ratio.

Gurung (2009) in her thesis, she has studied about "*A Study on Capital Structure Management of Commercial Bank*". The major objective of her studies was to analyze the relationship of capital structure and cost of capital of JVBs, to analyze the comparative capital structure of JVBs in terms of financial and statistical tools, to analyze the profitability positions of banks and to examine the financial strength and weakness of bank. In her study, financial and statistical tools were use for analyzing the data like Ratio Analysis, Leverage Analysis, Standard deviation, Regression etc. She found and conclude that all JVBs used high percentage of total debt in rising the assets, higher ratio constitute the outsiders claim in total assets of the banks is higher than owners claim, the private sector banks have been successful in increasing their deposit and credit portfolio over the last one year. Most of the banks have been

cautious about loans and advances. The operating profit of all the private sector commercial banks have gone up so as the provisions for loan loss. In short, the banking sector in Nepal is somehow doing well even though it has to face a number of hurdles during the past few years.

Pokhrel (2009) carried out a study on “*Comparative Analysis of Capital Structure Management between Himalayan Bank Ltd and Nepal Investment Bank Ltd*”. The main objectives of the study was to analyze the trend of paid up capital, to examine the ratio of debt and equity capital, to analyze the debt servicing capacity between HBL and NIBL, to measure the capital adequacy of sample bank and to evaluate the profitability position. Pokhrel analyze the factor using different tools like Ratio Analysis, Mean, Median, Standard Deviation, Correlation and other various financial and statistical tools and she conclude that the banks are trying to abide the NRB regulation in regard of paid up capital, the banks have adequately maintained its internal sources and indicates financially sound and strong strictly followed by NRB standard, the total expenses to total income ratio is in fluctuating trend of both banks, the ROE, ROA, Net Interest Margin and P/E ratio are in fluctuating trend. She also found that the earning stream and interest expenses stream are consistence over the study period and the banks are running with the adequate capital strictly followed by NRB directives. Banks have held the adequate capital to support their risk adjusted assets.

Sharma (2010) in his thesis, he has studied about “*A Study on Capital Structure Management of Commercial Bank*”. The major objectives of his studies were to analyze and interpret the different aspects of capital structure management, to see whether the capital structure is optimal or not of selected commercial bank. He found and concluded that the overall cost of capital is high in selected banks, profitability of the banks have low ratio, the banks have properly used their permanent capital to have adequate rate of return. Banks are having return on shareholder’s equity, EPS have being effectively utilized its resources and increased in profitability in per share basis and average return loan and advances were not able to earn sufficient return to pay off interest on deposit.

Shrestha (2011) conducted a research entitled “*A Comparative Analysis of Capital Structure of Commercial Banks*” based on secondary data of two commercial bank viz. Bank of Kathmandu and Himalayan Bank Limited. The main objectives of the

study are to study the prevailing practices of capital structure on overall cost of capital, to find the impact of profitability position of Bank of Kathmandu and Himalayan Bank Limited, to analyze the uniformity among EPS, ROA and other various financial indicators. In his study, financial and statistical tools were use for analyzing the data like Ratio Analysis, Leverage Analysis, Standard deviation, Regression etc. The major findings of the study are: there is no consistency in capital structure of selected commercial banks, most of the Nepalese firm from the very past do not have profit planning and investment strategy which have imbalanced the whole positions of the firm that means there is no any consistency even in the earnings of the firm, informational effect and market inefficiency also makes the effect on market price per share etc.

Though they were above mentioned studies in the context of Nepal it has become now necessary to find out whether their findings are still valid or not. Like other countries Nepal has also followed a policy of economic liberalization, privatization and globalization. Considering all these facts, it is necessary to carry out a fresh study in Nepal. This study tries to analyze the capital structure of selected development bank with the help of sample of each year by employing more strong analytical tools.

Many national and international studies in the field of capital structure have explained the importance of capital as the lifeblood of organization. The concept and practices prevailed on that period when study were made are not exactly same as of today's concepts and practices. Hence, conducting a recent study on capital structure based on the previously developed model is the main aim of reviewing literature in capital structure. Similarly, the different approaches, which have been developed under the relevancy of capital structure to value of firm and cost of capital, may not be relevant in the Nepalese context since Nepalese capital market is in the early stage of development.

So far as the Nepalese studies, which are done in the field of capital structure, can be considered landmark in the field of capital structure. But many changes have been taking place in Nepalese capital market in last few years and the validity of the past result is being weak in the present context. Besides this, different scholars have made a number of empirical studies in different time; however, their conclusion and result are base on their sampled data. Generalizations of those results are impossible since the data are from varied nature of samples.

Research Gap

This current research “*Comparative Analysis of Capital Structure of Selected Development Banks in Nepal*” is different from the above previous studies because researcher has taken two development banks having the head office in Pokhara so frequent visit can be made. This research is conducted comparing the ratios with the industry ratios established in Pokhara only which were established, on some span of time and time might create some opportunities and challenges for those banks. Industry ratios are calculated by taking the data from Garima Bikas Bank, Bishwa Bikas Bank, City Development Bank, Business Development Bank and Gandaki Bikas Bank. Recent four years data have been used to get conclusions that are more accurate. This study tries to analyze and evaluate the relationship of capital structure with other variables like leverage ratio, profitability ratio, capital structure and so on. The main purpose of this study is to evaluate the capital structure of private banks, which affects the overall cost of capital, total value of the firm and earnings per share. The purpose of this study is to develop some expertise in ones arenas to see what new contribution can be made and to receive knowledge and suggestion in relation to the capital structure in Nepal.

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problems. It refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objects in views (Kothari, 1994:19). It is really a method of critical thinking by defining and redefining problems, formulating hypothesis or suggested solution, collecting, organizing and evaluating data, making deduction and making conclusion to determine whether they fit the formulation hypothesis. To attain the objectives of the study, sources of data and data collection procedure, sampling method used, research design applied, tools used etc covers the first part of this chapter. In the next section, the tools and techniques that are use to tabulate, interpret and analyze the collected data are depicted. To address the previously mentioned problems and to achieve the objectives, this section of this study is directed. However, this chapter describes the methodology employed to conduct the study.

3.1 Research Design

Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances (Kerlinger, 1978:300). The research design is the framework for collecting, analyzing & evaluating data after identifying (I) what research wants to know and (II) what has to be deal with in order to obtain required information. The method and definite techniques, which guides to study and gives ways to perform research work is known as research design. It is most necessary to complete the research work and to fulfill the objectives of the research. It helps to enable the researcher to answer research question as variedly, which relates to capital structure of selected development bank in Nepal. It setup the framework to analyze the relationship among the variables. Hence, descriptive and analytical comparative designs have been use employing various historical data from 2064/065 to 2067/68 for analysis of capital structure of selected development bank to complete the study.

3.2 Population and Sample

All the development banks whose securities are listed in NEPSE and whose shares are actively traded in the market are the total population of the study. By the end of Ashad 2068 B.S., total number of development banks in Nepal reached to 87, which represents the entire population of the study. Due to time, resource constraints and due to limited scope of study, study of behavior of those all is impossible. Hence, using judgmental sampling method, based on establishment period and financial performance, two leading private development banks has been selected for the study. The researcher has believed that these two samples would represent each categories of banks in general perception. They are:

Business Development Bank Ltd.

Gandaki Bikas Bank Ltd.

3.3 Sources and Methods of Data Collection

Secondary data is defined as the data collected earlier for a purpose other than one currently being pursued (Pant, 2009:238). This research is mainly base on secondary data. The data relating to capital structure has been obtained from concerned banks. In this study, data has been collected from different sources either in published or unpublished forms. Annual report of the concerned banks, SEBON, NEPSE, NRB, research reports, newspapers, journals, articles, books are the major sources of data for this study. In addition to this, data from websites of NEPSE, NRB, SEBON and concerned banks are other sources of data. The relevant data has been collected by official visit, website search and library visit.

3.4 Data Processing Tools and Techniques

The purpose of processing the data is to change it from an unprocessed form to an understandable presentation to obtain answers to the research questions. Presentations of available data in tables and different diagrams help in analyzing and interpreting to draw meaningful conclusions there from. All the collected data, relevant facts have been systematically figured, and tabulated under the different headings for the purpose of analysis. As far as computation is concerned, it has been done with the help of computer program and scientific calculator. Financial and statistical tools have been use to analyze the collected data. The contents of these tools are as follows.

3.4.1 Financial Tools

Financial tools are those, which help to study the financial strength and weakness of the sample firms. In this study, ratio analysis is use as the financial tools for the data analysis. The financial tools used in this study are briefly presented below.

- I) Ratio Analysis
- II) Leverage Analysis
- III) Profitability Analysis
- IV) Capital Structure Analysis

I) Ratio Analysis

Ratio analysis is a widely used tool of financial analysis. The systematic use of ratios helps to interpret the financial statements so that the strength and weakness of a firm can be determined and assessed. The ratios describe the significant relationship that exists between figures shown on a balance sheet and income statement or any part of financial statement. Ratios are customarily express in the form of times, proportions and percentage. Even though there are many ratios, only those ratios, which are relate to investment operations of the bank, have been covered in this study. This study contains following ratios.

a) Debt to Total Assets Ratio

Debt to total assets ratio also known as debt ratio. It measures the percentage of the firm's assets financed by creditors. The lower the ratio, the greater the protection afforded to the creditors in the event of liquidation. The total debt includes the long-term debt and current liabilities and the total assets consist of permanent assets and other assets. It is calculated as:

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

Creditors prefer a low debt ratio since it implies a greater protection of their position. A higher debt ratio generally means that the firm must pay a higher interest rate on its borrowings, beyond some point; the firm will not be able to borrow at all.

b) Debt Equity Ratio

The debt equity ratio measures the long-term financial solvency of a firm. Debt to equity ratio indicates the relative proportions of debt and equity. Equity consists of

equity capital, preference share capital and undistributed profits. This ratio is also known as debt to net worth ratio.

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

Debt equity ratio is use to measure the financial risk of the firm and creditors. High debt equity ratio indicates greater contributions at a firms financing by debt holders than those of equity holders. Creditors' viewpoint, high equity ratio of the firm is riskier to them. Low debt equity ratio provides a cushion of protection to the creditors against losses.

c) Interest Coverage Ratio

This ratio indicates the ability of the company to meets its annual interest costs or it measures the debt servicing capacity of the firm. It is determined by using following formulas:

$$\text{Interest Coverage Ratio} = \frac{\text{Earning before Interest \& Taxes (EBIT)}}{\text{Interest Charges}}$$

Hence, higher ratio indicates the banks strong capacity to meet interest obligations. A firm always prefers high interest coverage ratio because low interest coverage ratio means is a danger signal and it means the firm is using excessive debt and does not have an ability to offer assured payment of interest to the creditors.

II) Leverage Analysis

The degree of financial leverage is a part of leverage analysis which reflects the leverage of the firm as similar as above ratios. The degree of financial leverage analyzes the burden of interest expenses and financial risk of the bank. This is the relationship between EBIT and EBT. It can be express as:

$$\text{Degree of Financial Leverage (DFL)} = \frac{\% \text{ Change in EPS}}{\% \text{ Change in EBIT}} \text{ or } \frac{\text{EBIT}}{\text{EBT}}$$

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

III) Profitability Analysis

Profitability ratios measure the success of the firm in earning, net return on sales or on investment. Since the profit is the ultimate objective of the firm, poor performance indicates a basic failure that, if not corrected, would probably result in the firms going out of business. It measures the earnings of the bank for a certain period.

a) Return on Assets

Return on assets measures the profitability of the bank and the overall effectiveness of management in generating profit with its available assets. It is the ratio of net income on total assets. It measures the return on all the firm's assets after interest and taxes. The return on total assets ratio is calculated using the following formulas.

$$\text{Return on Assets} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

The higher the firms return on assets the better it is doing in operation and vice versa.

b) Return on Equity

It measures the rate of return on common stockholders' investment. Management's objective is to generate the maximum return on shareholders' investment in the firm. Return on equity is therefore the best single measure of the bank success in fulfilling its goal. It is calculated as:

$$\text{Return on Equity} = \frac{\text{Net Profit after Tax}}{\text{Shareholders Equity}}$$

Increasing ratio is preferable for a bank, which shows that the net profit is increasing and the bank's owners always prefer higher ratio of return on equity.

c) Earnings per Share

The Earning per Share (EPS) after income taxes is one of the most important determinates of a common stock's value because it measures the earning power under each value of stock. EPS of an organization gives the strength of the share in the market. It shows how much of the total earnings belong to the ordinary shareholders. It can be calculated by the following formula:

$$\text{Earnings per Share} = \frac{\text{Net Income}}{\text{Number of Common Shares}}$$

Higher earnings per share are preferable and vice versa.

d) Price Earnings Ratio

Price Earnings Ratio (P/E Ratio) is also called the earnings multiplier. It is the ratio between market price per share and earnings per share. In other words, this represents the amount which investors are willing to pay for each rupee of the firms earnings. The P/E ratio measures investor's expectations and market appraisal of the performance of the firm. This ratio can be computed as:

$$\text{Price Earnings Ratio} = \frac{\text{Market Price per Share}}{\text{Earnings per Share}}$$

The higher P/E ratio implies the high market share price of a stock given the earning per share and the greater confidence in the firms future.

e) Net Worth to Total Assets Ratio

This is the ratio of funds belonging to shareholders to the total assets of the selected banks. It focuses attention on percentage of assets supplied by shareholders. A high ratio indicates the less likelihood of financial difficulty resulting from fixed charges. A low ratio indicates a more speculative situation because of possibility of high profit or losses. The shareholders receive little return due to very low ratio in the case of financial difficulties.

$$\text{Net Worth to Total Assets Ratio} = \frac{\text{Net Worth}}{\text{Total Assets}}$$

f) Shareholder Reserve to Share Capital Ratio

This ratio shows the relationship between shareholder reserves to share capital. It shows the relative amount of fund provided from internal funding as compared to funds provided by external shareholders. The high ratio indicates the firm has comparatively used more internal funds whereas the low ratio indicates the use of more funds from external shareholders. Thus,

$$\text{Shareholder Reserve to Share Capital Ratio} = \frac{\text{Shareholder Reserve}}{\text{Share Capital}}$$

IV) Capital Structure Analysis

Capital Structure of the firm is the mix of long-term sources of fund such as debentures, long-term debt, preferred stock and equity share capital. Optimal capital structure is that combination of debt and equity that maximizes total value of the firm and minimizes overall cost of capital. Following financial tools have been used to analyze the capital structure of the firm.

a) Net Income Approach [Overall Capitalization Rate, K_o]

Net Income Approach is known as dependent hypothesis of capital structure. According to this theory, optimal capital structure is that where the total value of the firm is highest and overall capitalization rate is lowest. This theory assumes that the cost of debt and cost of equity remain constant as change in the firm's capital structure. In other words, the firm can increase its value or lower the overall cost of capital by increasing the proportion of debt in the capital structure. It gives attention on overall capitalization rate. The overall capitalization rate can be calculated simply by dividing EBIT by the value of the firm.

$$\text{Overall Cost of Capital } (K_o) = \frac{EBIT}{\text{Value of Firm}}$$

b. Net Operating Income Approach [Equity Capitalization Rate, K_e]

It is an independent hypothesis of capital structure decision of the firm and which is irrelevant to the value of the firm and overall cost of capital. Change in leverage will not lead to any change in total value of the firm and MPPS, as the K_o is independent of the degree of leverage. Increase in K_o are exactly offset by using cheaper debt fund and keeping constant. According to NOI approach, the market value of the firm is unaffected by the capital structure changes. The market value of the firm is found out by capitalizing the net operating income at the overall, or the weighted average cost of capital that is constant. So equity capitalization rate is calculated here by simply dividing net income by the value of equity.

$$\text{Equity Capitalization Rate } (K_e) = \frac{\text{Net Income}}{\text{Value of Equity}}$$

3.4.2 Statistical Tools

Besides the financial tools, various statistical tools have been used to conduct this study. In this study, the following statistical tools are used to analyze the relationship between two or more variables.

I) Arithmetic Mean

The arithmetic mean, often simply referred as mean, is the total of the values of a set of observations divided by their total number of observations. Thus, if X_1, X_2, \dots, X_N represents the values of N items or observations; the arithmetic mean denoted by \bar{X} is defined as:

$$\text{Arithmetic Mean } (\bar{X}) = \frac{\sum X}{N}$$

Where, N = Number of items

$\sum X$ = Sum of the observation

II) Coefficient of Correlation

The correlation analysis is the technique use to measure the closeness of the relationship between the variables. Karl Person's coefficient of correlation (r) is widely used in practice to measure the degree of relationship between two variables. It is a tool that can be use to describe the degree to which one variable is linearly related to one another. The value of coefficient of correlation always lies between ± 1 . So the degree of relationship is measure by using following formula:

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

Where, N = Number of observations

X and Y are variables.

The decision criteria:

When, $r = 0$, there is no relationship between the variables.

$r = 1$, the variables have perfectly positive correlated.

$r = -1$, the variables have perfectly negative correlated.

III) Probable Error

The probable error is an old measure of ascertaining the reliability of the value of Pearson's coefficient of correlation. It helps to determine the applicability for the measurement of reliability of computed value of the correlation coefficient. The probable error may lead to fallacious conclusions particularly when the number of pair observations is small. It can be calculated as:

$$P.E. = 6 \times \frac{0.6745 \times (1-r^2)}{\sqrt{N}}$$

Where, r = correlation coefficient

N = Number of pair observations

If $r < P.E. (r)$, then the value of r is not significant.

If $r > 6 \times P.E. (r)$, then r is definitely significant.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

This chapter constitutes the most crucial part of this study. In order to achieve the goal mentioned in the chapter first of this study, necessary and relevant data have been collected from various secondary sources. Therefore, relevant data are collected and these are presented & interpreted in this chapter. Using the tools developed in the chapter- III, the relevant data are processed and analyzed in subjective way. The applications of the major variables taken into account for the purpose of this study are total debt and total assets, EBIT and EBT, NPAT and shareholders equity, EBIT and interest, average cost of capital, coefficient of correlation analysis of different variables of selected banks.

The main objective of the study is to evaluate the capital structure of GBB and BDB and this chapter emphasis the position of capital structure of these banks. As it is already, stated that capital structure is the combinations of preference share, equity share capital including reserve and surpluses as well as the long-term debt. Optimal capital structure refers to that combination of funds, which maximizes the earnings per share, value of the firm and overall cost of capital. Therefore, an enlightened management should maintain right capital structure to meet its objectives.

4.1 Financial Analysis

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

4.1.1 Analysis of Debt Assets Ratio

Debt to total assets ratio also known as debt ratio or leverage ratio. It measures the percentage of the firm's assets financed by creditors. The lower the ratio, the greater the protection afforded to the creditors in the event of liquidation. The total debt includes debenture and bond, borrowings, deposits and other liabilities and the total assets includes all types of assets of the bank. It can be calculated as:

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

Table 4.1: Debt to Total Assets Ratio

Banks / Years	2064/065	2065/066	2066/067	2067/068	Average
BDB	73.91%	83.78%	70.00%	71.33%	74.66%
GBB	91.35%	89.84%	92.25%	86.82%	90.07%
Industry Ratio			84.42%		

Source: Annual Reports 2064-2068

Table 4.1 shows the debt asset ratio of the selected development banks over the study period. The debt ratio of BDB ranges the highest in FY 2065/066 with 83.78% and the lowest in the FY 2066/067 with 70.00%. An average debt ratio of BDB was 74.66% over the study period, which was the lowest among the selected development banks. In other words, creditors finance was 74.66% of the banks asset and remaining 25.34% was shareholders claim. The ratio of the bank was in fluctuating trend.

Likewise, the debt ratio of GBB ranges the highest in FY 2066/067 with 92.25% and the lowest in the FY 2067/068 with 86.82%. An average debt ratio of GBB was 90.07% over the study period, which was the highest among the selected development banks. In other words, creditors finance was 90.07% of the bank asset and remaining 9.93% was shareholders claim. The ratio of the bank was in fluctuating trend.

The industry ratio of the selected banks was 84.42 % and it clearly indicates that the debt ratio of GBB was very high than BDB. Therefore, GBB should try to decrease the debt ratio by providing more finance through internal funds. Creditors prefer a low debt ratio since it implies a greater protection of their position. A higher debt ratio

generally means that the bank must pay a higher interest rate on its borrowings, beyond some point; the bank will not be able to borrow at all.

Figure 4.1: Debt to Total Assets Ratio

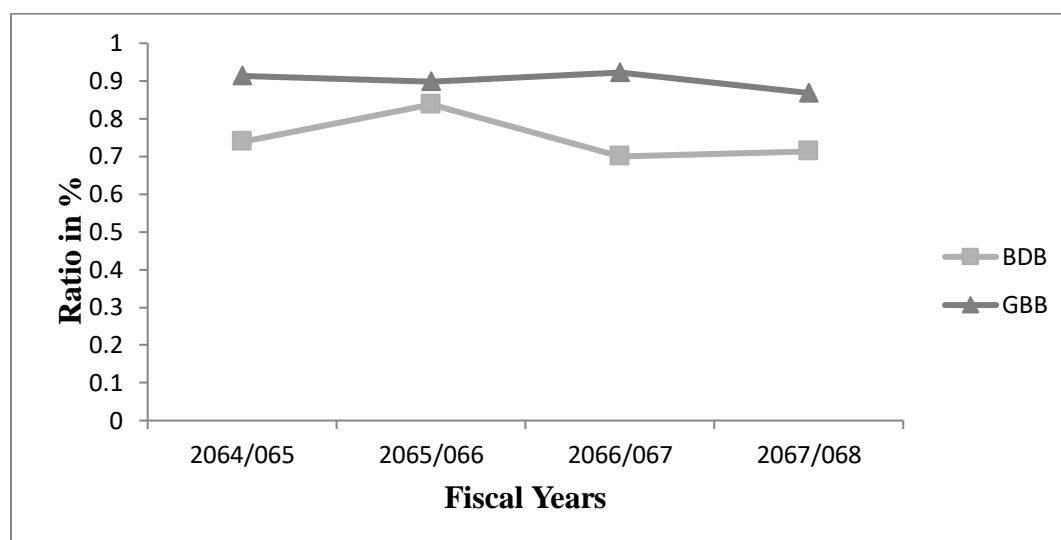


Figure 4.1 also reflects the debt to total assets ratio among the selected development banks. BDB has the lowest return and GBB has the highest return among the selected development banks based on the industry ratios among the four years study period. The fluctuating trend has been seen in both of the banks in regards to the return on equity. The debt to total assets ratio of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 73.91%, 83.78%, 70.00% and 71.33% respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 91.35%, 89.84%, 92.25% and 86.82% respectively.

4.1.2 Analysis of Debt Equity Ratio

Debt equity ratio is use to show the relationship between funds and owners capital. It is an important tool for the financial analysis to appraise the financial structure of a bank. This ratio reflects the relative contributions of owners and creditors capital of business in its financing. In other words, this ratio exhibits the relative proportion of capital contributions by owners and creditors. Debt equity ratio can be calculated based on shareholders equity and total debt. Shareholders equity or net worth includes paid up capital, preference capital, reserve and surplus whereas total debt includes borrowings, bonds & debentures, current liabilities, long-term debt as well as provisions. High debt equity ratio indicates greater contribution at a banks financing by debt holders than those of equity holders.

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

Table 4.2: Debt Equity Ratio

Years / Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	2.83	5.16	2.29	2.49	3.19:1
GBB	10.57	8.84	11.90	6.59	9.48:1
Industry Ratio			6.38:1		

Source: Annual Reports 2064-2068

Table 4.2 shows the debt equity ratio of the selected development banks over the study period. The table reflects that BDB has the lowest debt equity ratio than GBB where debt equity ratio measures the long-term financial solvency position of the bank. The debt equity ratio of BDB ranges the highest in FY 2065/066 with 5.16 times and the lowest in the FY 2066/067 with 2.29 times. The highest ratio indicates great contribution at a banks financing by debt holders than those of equity holders. An average debt equity ratio of BDB was 3.19 times over the study period, which was the lowest among the selected development banks. The ratios of the banks were in fluctuating trend.

Likewise, the debt equity ratio of GBB ranges the highest in FY 2066/067 with 11.90 times and lowest in the FY 2067/068 with 6.59 times. An average ratio of GBB was 9.48 times over the study period, which was the highest among the selected development banks. The debt equity ratio of the bank for the review period was in fluctuating trend. The industry ratio of development banks was 6.38 times which indicates that GBB has the highest ratio than BDB. It indicates that outsiders have provided most resources. The bank should try to improve internal funds by increasing reserves. Since bank accepts deposit, which may be the cause of increasing ratio but high ratio is not favorable to the bank. Hence, GBB should try to decrease the ratio by increasing its internal funds or by decreasing external funds.

Figure 4.2: Debt Equity Ratio

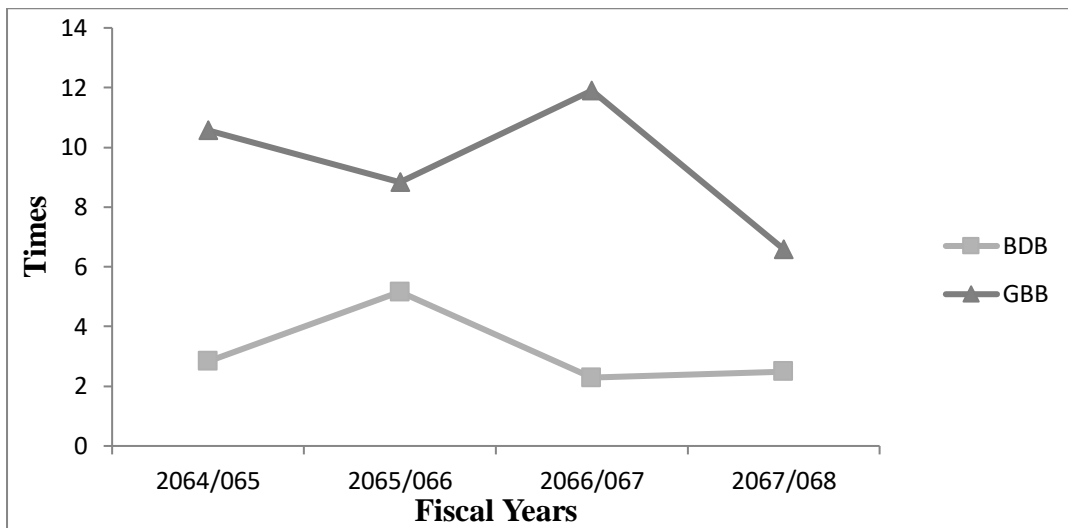


Figure 4.2 also reflects the debt equity ratio among the selected development banks. BDB has the lowest return and GBB has the highest return among the selected development banks based on the average ratios among the four years study period. The fluctuating trend has been seen in both of the banks in regards to the debt equity ratio. The debt equity ratios of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 2.83 times, 5.16 times, 2.29 times and 2.49 times respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 10.57, 8.84, 11.90 and 6.59 times respectively.

4.1.3 Analysis of Interest Coverage Ratio

It is useful tool to measure long-term debt serving capacity of the bank. It is also call interest earned ratio. Interest is fixed charges of the banks, which is charged in long term and short term loans. Generally, interest coverage ratio measured the debt serving capacity of the bank and it is concerned with long-term loans. It shows how many times the interest charges are covered by EBIT out of which they will be paid. This ratio uses the concept of net profit before tax because interest is tax deductible or tax is calculated after paying interest on loan. This ratio examines the interest paying capacity of the bank by how many the interest charges are covered by EBIT.

Too high or too low ratio is unfavorable to the banks. Too high ratio implies unused debt capacity or firms conservations in using debt to its best advantage. Whereas, low ratio imply a danger signal that the bank is using excessive debt and does not have the

ability to offer assured payment of interest to the creditors. The calculated interest coverage ratios of two banks are present in the following table.

$$\text{Interest Coverage Ratio} = \frac{\text{Earning before Interest \& Taxes (EBIT)}}{\text{Interest Charges}}$$

Table 4.3: Interest Coverage Ratio

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	1.63:1	1.90:1	2.02:1	1.89:1	1.86:1
GBB	1.47:1	1.63:1	1.52:1	1.53:1	1.54:1
Industry Ratio			1.38:1		

Source: Annual Reports 2064-2068

Table 4.3 shows the interest coverage ratio of the selected development banks over the 4 years study period. The table reflects that BDB has the highest TIE ratio than GBB where TIE ratio measures the ability of the bank to meet its annual interest payments. The TIE ratio of BDB ranges the highest in FY 2066/067 with 2.02 times and the lowest in the FY 2064/065 with 1.63 times. The highest ratio 2.02 times means that BDB's earnings available to pay interest are 2.02 times the interest that is due. An average TIE ratio of BDB was 1.86 times over the four years study period, which was the highest among the selected development banks. The ratios of the banks were gradually increasing up to the fiscal years 2066/067 from 1.63 times to 2.02 times and then decrease in 2067/068.

Likewise, the TIE ratio of GBB ranges the highest in FY 2065/066 with 1.63 times and lowest in the FY 2064/065 with 1.47 times. An average ratio of GBB was 1.54 times over the study period, which was the lowest among the selected development banks. In other words, the ratio of 1.63 times indicates that the bank is able to satisfy interest claim of debt holders even if the banks current EBIT fails to 1/1.63 level. The TIE ratio of the bank for the review period was in fluctuating trend. The industry TIE ratio of both the selected banks is 1.38 times. High ratio shows that a bank can pay the interest easily so higher ratio is favorable.

Figure 4.3: Interest Coverage Ratio

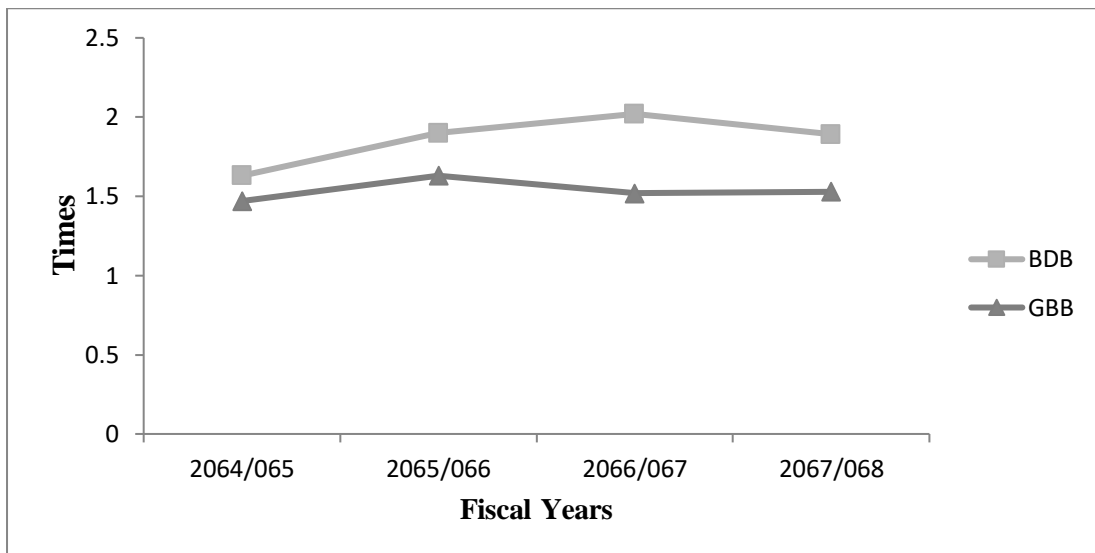


Figure 4.3 also reflects the interest coverage ratio among the selected development banks. BDB has the highest return and GBB has the lowest return among the selected development banks based on the average ratios among the four years study period. The ratios of BDB were gradually increasing up to the fiscal years 2066/067 from 1.63 times to 2.02 times and then decrease in 2067/068. The TIE ratio of GBB for the review period was in fluctuating trend. The interest coverage ratios of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 1.63 times, 1.90 times, 2.02 times and 1.89 times respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 1.47, 1.63, 1.52 and 1.53 times respectively.

4.2 Leverage Analysis

In financial term, leverage is used to describe about utilization of funds for which the bank has to pay fixed cost and to have more return than normal having more risk as well. There are three types of leverage: Operating leverage, financial leverage and combined leverage. Operating leverage is the function of fixed cost, contribution margin and sales volume. Financial leverage is the relationship between EBIT and EBT and combined leverage is the combined effect of both of them. Financial leverage is related to the capital structure of the bank hence it is the relevant issue of this study, which is explained in this section.

4.2.1 Degree of Financial Leverage Analysis

When the bank employs debt or other fund carrying fixed charges i.e. interest in the capital structure, financial leverage exists. If the financial leverage is high the bank can have advantage of tax shield but it will affect to owners return i.e.net profit as well. It explains the relationship between EBIT and net profit of the bank. 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 of sampled banks is presented with the help of following table.

$$\text{Degree of Financial Leverage (DFL)} = \frac{\% \text{ Change in EPS}}{\% \text{ Change in EBIT}} \text{ or } \frac{\text{EBIT}}{\text{EBT}}$$

Table 4.4: Degree of Financial Leverage

Years / Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	2.58:1	2.11:1	1.98:1	2.13:1	2.20:1
GBB	3.12:1	2.58:1	2.93:1	2.89:1	2.88:1
Industry Ratio			2.73:1		

Source: Annual Reports 2064-2068

The above table 4.4 shows the degree of financial leverage among the selected banks over the study period. The industry ratio of Degree of Financial Leverage (DFL) was 2.73 times where BDB has an average of 2.20 times, which was the lowest among the sample development banks. It has the lowest rate in FY 2066/067 rating 1.98 times and highest rate of 2.58 times in FY 2064/065. The DFL of BDB has fluctuating trend over the study period starting from 2.58 times to 2.13 times. On the other hand, GBB has an average DFL of 2.88 times, which was the highest rate among the selected development banks. It has the highest and lowest DFL with 3.12 times and 2.58 times in FY 2064/065 and 2065/066 respectively. The DFL of GBB was in fluctuating trend starting from 3.123 times to 2.89 times that can be clearly glanced from the table above.

Figure 4.4: Degree of Financial Leverage

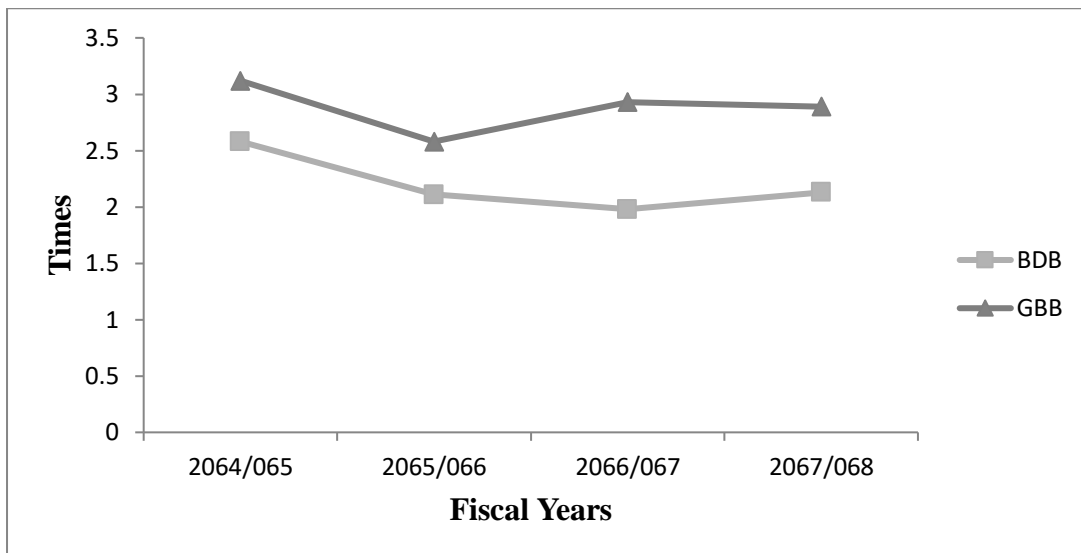


Figure 4.4 also reflects the degree of financial leverage among the selected development banks. BDB has the lowest return and GBB has the highest return among the selected development banks based on the industry ratios among the four years study period. The fluctuating trend has been seen in both of the banks in regards to the degree of financial leverage. The degree of financial leverage of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 2.58 times, 2.11 times, 1.98 times and 2.13 times respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 3.12, 2.58, 2.93 and 2.89 times respectively.

4.3 Profitability Analysis

It is use to measure the profitability position of the bank. Since profit is the ultimate objective of the bank, it measures the earnings of the bank for a certain period. The various tools to measure the profitability analysis are as follows.

4.3.1 Analysis of Return on Assets

Return on Assets (ROA) ratio measures the profitability of the bank that explains a bank to earn satisfactory return on all financial resources invested in the bank's assets, otherwise its survival is threatened. The ratio explains net income for each unit of assets. Higher ratio indicates the efficiency in utilizing its overall resources and vice versa. From the point of view of judging operational efficiency, ROA is a major tool that is more useful. The returns on total assets of selected banks are as follows.

$$\text{Return on Assets} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

Table 4.5: Return on Assets

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	1.49%	2.13%	2.91%	3.39%	2.48%
GBB	0.97%	1.25%	1.72%	2.26%	1.55%
Industry Ratio				1.10%	

Source: Annual Reports 2064-2068

Table 4.5 shows the return on assets of the selected development banks over the study period. The table reflects that BDB has the highest ROA than GBB where ROA measures the return on the owner's investment in the bank. The return on assets of BDB ranges the highest in FY 2067/068 with 3.39% and the lowest in the FY 2064/065 with 1.49%. The highest ratio 3.39% means that the banks investment in total assets offers 3.39 percent return after recovering all operating expenses, interest and taxes. An average ROA of BDB was 2.48% over the study period, which was the highest among the selected development banks. The ratios of the banks were gradually increasing up to the fiscal years 2067/068 from 1.49% to 3.39%.

Likewise, the ratio of return on assets of GBB ranges the highest in FY 2067/068 with 2.26% and lowest in the FY 2064/065 with 0.97%. An average ratio of GBB was 1.55% over the study period, which was the lowest among the selected development banks. In other words, high ROA of 2.26% in FY 2067/068 implies that one-rupee investment in total assets earned 2.26 paisa in one year. The ROA of the bank for the review period was gradually increasing at about constant rate from 2064/065 and increasing ratio is favorable.

The industry ratio of the selected banks was 1.10%. Management's objective is always to generate the maximum return on assets because the higher return on assets the better it is doing in operation and vice versa. Increasing ratio is favorable for a company, which shows that the net profit is increasing. Both the selected banks ratios are higher than industry ratio hence; both the selected banks ratios on return on assets are favorable.

Figure 4.5: Return on Assets

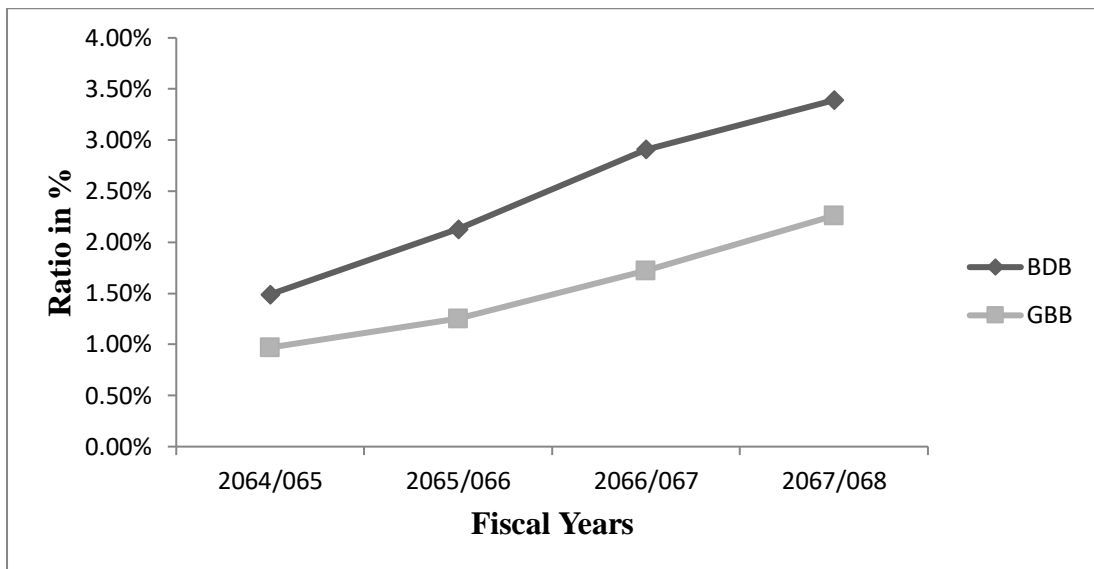


Figure 4.5 also reflects the return on assets among the selected development banks. BDB has the highest return and GBB has the lowest return among the selected development banks based on the average ratios among the four years study period. The ratios of BDB were gradually increasing up to the fiscal years 2067/068 from 1.28% to 3.39%. The ratios of GBB for the review period were gradually increasing at about constant rate from 2064/065. The returns on assets of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 1.49%, 2.13%, 2.91% and 3.39% respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 0.97%, 1.25%, 1.72% and 2.26% respectively.

4.3.2 Analysis of Return on Equity

Shareholders fund represents the part of long-term sources of funds, which is collect by issuing equity shares and preference shares. Shareholders are actually owners of the banks and have ultimate claims in the return of the bank. To measure the return earned by shareholders return on equity is use to find out the profitability of the owners capital or investment. If the banks earning is good, shareholders earning is greater than outside investors because they are ultimate owners and they are bearing high risk as well. Shareholders get the return after paying the fixed interest charges to the creditors and tax to the government so EAT is the profit of the shareholders.

In this study, the sampled banks have not employed the preference share. The high ratio represents the high profitability of the bank and vice versa. Therefore, high ratio is desirable from the point of view of the owners of the bank. This ratio can be calculated simply by dividing the net profit after tax by equity, which is presented in the following table.

$$\text{Return on Equity} = \frac{\text{Net Profit after Tax}}{\text{Shareholders Equity}}$$

Table 4.6: Return on Equity

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	5.71%	13.11%	9.57%	11.84%	10.06%
GBB	11.24%	12.31%	22.16%	17.12%	15.71%
Industry Ratio			9.51%		

Source: Annual Reports 2064-2068

Table 4.6 shows the return on equity of the selected development banks over the study period. The table reflects that GBB has the highest ROE than BDB where ROE measures the rate of return on common stockholders' investment. The return on equity of BDB ranges the highest in FY 2065/066 with 13.11% and the lowest in the FY 2064/065 with 5.71%. The highest ratio 13.11% means that the bank total shareholders' investment offers 13.11 percent return after recovering all operating expenses, interest and tax payments. An average ROE of BDB was 10.06% over the study period, which was the lowest among the selected development banks. The ratios of the bank were in fluctuating trend.

Likewise, the ratio of return on equity of GBB ranges the highest in FY 2066/067 with 22.16% and lowest in the FY 2064/065 with 11.24%. An average ratio of GBB was 15.71% over the study period, which was the highest among the selected development banks. In other words, high ROE of 22.16% in FY 2066/067 implies that one-rupee investment by shareholders equity earned 22.16 paisa in one year. The ROE of the bank for the review period was gradually increasing at about constant rate and higher ratio is better for owner except in the year 2067/068 with 17.12%.

The industry ratio of the selected banks was 9.51% where both BDB and GBB have higher ratios than industry ratio. Here both the selected development banks ratio is favorable which shows that the net profit of both banks is increasing. Management's objective is always to generate the maximum return on shareholders' investment in the bank. Return on equity is therefore the best single measure of the banks success in fulfilling its goal.

Figure 4.6: Return on Equity

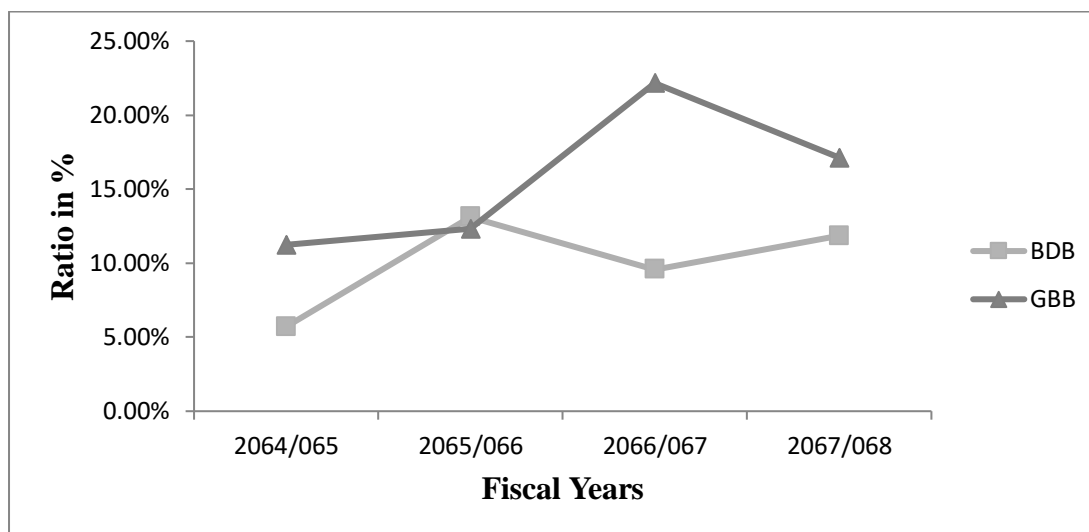


Figure 4.6 also reflects the return on equity among the selected development banks. BDB and GBB have the highest return among the selected development banks based on the industry ratios among the four years study period. The fluctuating trend has been seen in BDB whereas in GBB the ratios were gradually increasing except in the FY 2067/068 in regards to the return on equity. The returns on equity ratios of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 5.71%, 13.11%, 9.57% and 11.84% respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 11.24%, 12.31%, 22.16% and 17.12% respectively.

4.3.3 Analysis of Earnings per Share

EPS is a financial tool used to know the earning capacity of the bank. Directly or indirectly, the market price per share is affect by the earning capacity of the bank. Thus, it helps in determining the market price of equity shares and in estimating the banks capacity to pay dividend to its equity shareholders. The performance and prospects of the bank are also affecting by EPS. It is an important index of the bank's performance and the investors rely heavily on it for their investment decisions as well

as it shows the profitability of the bank on per share basis. In order to see the strength of the share in market, EPS of selected banks are calculating as below:

$$\text{Earnings per Share} = \frac{\text{Net Income}}{\text{Number of Common Shares}}$$

Table 4.7: Earnings per Share

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	21.45:1	16.39:1	9.94:1	12.62:1	15.10:1
GBB	13.80:1	15.73:1	27.51:1	21.09:1	19.53:1
Industry Ratio		13.18:1			

Source: Annual Reports 2064-2068

Table 4.7 shows the earnings per share of the selected development banks over the study period. The table reflects that GBB has the highest EPS than BDB where EPS signify the rate of utilization of capital funds and helps to maximize the shareholders wealth. The earnings per share of BDB range the highest in FY 2064/065 with Rs.21.45 per share and the lowest in the FY 2066/067 with Rs.9.94 per share. An average earnings per share of BDB was Rs 15.10 per share over the study period, which was the lowest among the selected development banks. The earnings per share of the bank were in fluctuating trend.

Likewise, the earnings per share of GBB range the highest in FY 2066/067 with Rs.27.51 per share and lowest in the FY 2064/065 with Rs.13.80 per share. An average EPS of GBB was Rs.19.53 per share over the study period, which was the highest among the selected development banks. In other words, EPS of Rs.27.51 in FY 2066/067 reveals the earning capacity of the fund was very high and strong too. Profitability position was also strong because such a huge amount of EPS was not possible without earning capacity. The EPS of the bank for the review period was gradually increasing at about constant rate, which indicates that the earning capacity of the bank was also increasing. The industry ratio of the selected banks was Rs.13.18 per share and BDB bank has the fluctuating trend over the study period. Higher earnings per share are preferable and vice versa.

Figure 4.7: Earnings per Share

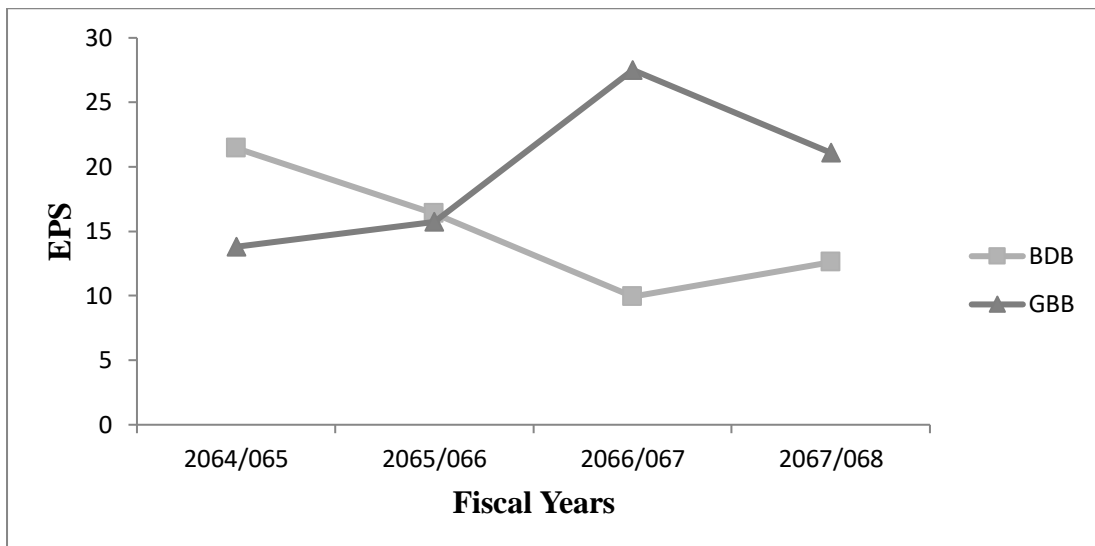


Figure 4.7 reflects the earnings per share among the selected development banks. BDB has the lowest return and GBB has the highest return among the selected development banks based on the industry ratios among the four years study period. The fluctuating trend has been seen in both of the banks in regards to the earnings per share. The EPS of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are Rs.21.45 per share, Rs.16.39 per share, Rs. 9.94 per share and Rs.12.62 per share respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are Rs.13.80, Rs.15.73, Rs.27.51 and Rs.21.09 per share respectively.

4.3.4 Analysis of Price Earnings Ratio (P/E Ratio)

Price earnings ratio is also called the earnings multiplier. It is the ratio between market price per share and earnings per share. In other words, this represents the amount which investors are willing to pay for each rupee of the bank earnings. The P/E ratio measures investor's expectations and market appraisal of the performance of the bank. The higher P/E ratio implies the greater confidence of investors in the banks future. Thus,

$$\text{Price Earnings Ratio} = \frac{\text{Market Price per Share}}{\text{Earnings per Share}}$$

Table 4.8: Price Earnings Ratio

Years/ Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	23.77:1	39.66:1	19.31:1	11.18:1	23.48:1
GBB	65.19:1	33.59:1	18.29:1	8.11:1	31.30:1
Industry Ratio			13.95:1		

Source: Annual Reports 2064-2068

Table 4.8 shows the price earnings ratio of the selected development banks over the study period. The table reflects that GBB has the highest P/E ratio than BDB where P/E ratio signifies to explain the relation of MPS and EPS. The P/E ratio of BDB ranges the highest in FY 2065/066 with Rs.39.66 and the lowest in the FY 2067/068 with Rs.11.18. An average P/E ratio of BDB was Rs.23.48 over the study period, which was the lowest among the selected development banks. The P/E ratios of the bank were in fluctuating trend.

Likewise, the P/E ratio of GBB ranges the highest in FY 2064/065 with Rs.65.19 and lowest in the FY 2067/068 with Rs.8.11. An average P/E ratio of GBB was 31.30 times over the study period, which was the highest among the selected development banks. In other words, P/E ratio of GBB decreased to 8.11 times from 65.19 times due to the decline in both MPS and EPS in those fiscal years.

The industry P/E ratio of the selected banks was 13.95 times and BDB bank has the fluctuating trend over the study period. Both the selected banks have good performance in the market since the P/E ratio of both banks is higher than industry ratio. The increasing P/E ratio signifies that market price per share was increasing at a higher rate than the growth rate of earning. It means the shareholders and investors had more expectation towards bank performance as a result MPS will also be high.

Figure 4.8: Price Earnings Ratio

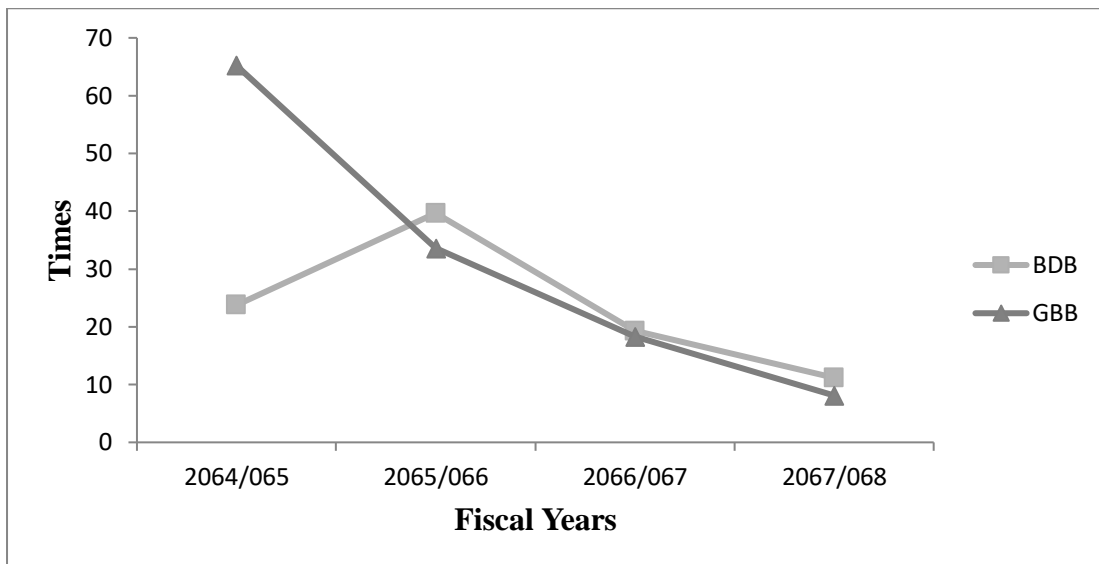


Figure 4.8 reflects the price earnings ratio among the selected development banks. BDB and GBB have the highest return among the selected development banks based on the industry ratios among the four years study period. The fluctuating trend has been seen in BDB in regards to the price earnings ratio. The price earnings ratios of BDB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 23.78 times, 39.66 times, 19.32 times and 11.18 times respectively. Similarly, the ratios of GBB in FY 2064/065, 2065/066, 2066/067 and 2067/068 are 65.22, 33.38, 18.28 and 8.11 times respectively.

4.3.5 Analysis of Net Worth to Total Assets Ratio

This is the ratio of funds belonging to shareholders to the total assets of the selected banks. It focuses attention on percentage of assets supplied by shareholders. A high ratio indicates the less likelihood of financial difficulty resulting from fixed charges. A low ratio indicates a more speculative situation because of possibility of high profit or losses. The shareholders receive little return due to very low ratio in the case of financial difficulties.

$$\text{Net Worth to Total Assets Ratio} = \frac{\text{Net Worth}}{\text{Total Assets}}$$

Table 4.9: Net Worth to Total Assets Ratio

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	26.09%	16.22%	30.39%	28.67%	25.34%
GBB	8.65%	10.16%	7.75%	13.18%	9.94%
Industry Ratio			15.59%		

Source: Annual Reports 2064-2068

The above table 4.9 shows that the net worth to total assets ratio of GBB was low than BDB compared to industry ratio. It was 8.65% in 2064/065, which increased to 10.16% in 2065/066. It has decreased to 7.75% in 2066/067 then it was slightly increased to 13.18% in FY 2067/068. The average ratio was 9.94% over the study period, which was below than industry ratio, which clearly indicates that GBB heavily relied upon debt for financing its assets. The ratio has been fluctuating over the study period. The increase in the net worth to total assets ratio is due to faster increase in net worth as compared to total assets.

The BDB average ratio 25.34% was higher than GBB as compared to industry ratio. It was 26.09% in 2064/065, which decreased to 16.22% in 2065/066. It has again increased to 30.39% in 2066/067 then it was slightly decreased to 28.67% in FY 2067/068. The ratio has been fluctuating over the study period. The increase in the net worth to total assets ratio is due to faster increase in net worth as compared to total assets. The average ratio of GBB was found to be lower than that of BDB. This means that GBB has relied more on debt to finance its assets as compared to BDB. Since the ratio was low, GBB should try to increase its internal fund by increasing its internal reserves.

4.3.6 Analysis of Shareholder Reserve to Share Capital Ratio

This ratio shows the relationship between shareholder reserves to share capital. It shows the relative amount of fund provided from internal funding as compared to funds provided by external shareholders. The high ratio indicates the bank has comparatively used more internal funds whereas the low ratio indicates the use of more funds from external shareholders. Thus,

$$\text{Shareholder Reserve to Share Capital Ratio} = \frac{\text{Shareholder Reserve}}{\text{Share Capital}}$$

Table 4.10: Shareholder Reserve to Share Capital Ratio

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	1.99%	5.27%	3.59%	6.11%	11.74%
GBB	5.12%	8.49%	11.19%	8.92%	8.43%
Industry Ratio			6.33%		

Source: Annual Reports 2064-2068

The above table 4.10 shows that the shareholder reserve to share capital ratio of BDB and GBB was high compared to industry ratio. BDB has 1.99% in 2064/065, which increased to 5.27% in 2065/066. It has decreased to 3.59% in 2066/067 then it increased to 6.11% in FY 2067/068. The average ratio was 11.74% over the study period, which was higher than industry ratio. This may be due to increase in shareholder reserve due to increase in profit as compared to increase in share capital. The ratio has been fluctuating over the study period.

The GBB average ratio 8.43% was higher than industry ratio. It was 5.12% in 2064/065, which increased to 8.49% in 2065/066. The ratio has followed increased trend up to the FY2066/067 then it decreased to 8.92% in FY2067/068. The ratio has been fluctuating over the study period. The increase in the ratio is due to increase in shareholder reserve due to increase in profit as compared to increase in share capital. The average ratio of GBB was found to be lower than that of BDB. That is GBB has used more share capital than shareholder reserve as compared to BDB. BDB was better funded than GBB. This was mainly due to higher profit of BDB as compared to GBB.

4.4 Capital Structure Analysis

Capital structure of the bank is the mix of long-term sources of fund such as debentures, long-term debt, preferred stock and equity share capital. Optimal capital structure is that combination of debt and equity that maximizes total value of the

bank and minimizes overall cost of capital. Following financial tools has been used to analyze the capital structure of the bank.

4.4.1 Net Income Approach [Overall Capitalization Rate, K_o]

Net Income Approach is known as dependent hypothesis of capital structure. According to this theory, optimal capital structure is that where the total value of the bank is highest and overall capitalization rate is lowest. This theory assumes that the cost of debt and cost of equity remain constant as change in the bank capital structure. In other words, the firm can increase its value or lower the overall cost of capital by increasing the proportion of debt in the capital structure. It gives attention on overall capitalization rate. The overall capitalization rate can be calculated simply by dividing EBIT by the value of the bank.

$$\text{Overall Cost of Capital } (K_o) = \frac{EBIT}{\text{Value of Firm}}$$

Table 4.11: Overall Capitalization Rate

Years /Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	6.23%	7.07%	9.04%	11.34%	8.42%
GBB	4.98%	6.12%	7.92%	10.07%	7.27%
Industry Ratio			6.73 %		

Source: Annual Reports 2064-2068

The above table 4.10 shows the mean overall capitalization rate of BDB and GBB. The overall capitalization rate (K_o) varied between 6.23% to 11.34%. The BDB followed increasing trend. The increasing trend was due to more decrease in market value as compared to EBIT. The overall cost of capital was 6.23% in FY 2064/065, 7.07% in 2065/066, 9.04% in 2066/067 and 11.34% in 2067/068. The mean overall capitalization rate of BDB was 8.42%. Similarly, the above table shows the mean overall capitalization rate of GBB was 7.27%. It varied between 4.98percent to 10.07percent. The GBB followed increasing trend. The increasing trend was due to more decrease in market value as compared to EBIT. The overall cost of capital was

4.98% in FY 2064/065, 6.12% in 2065/066, 7.92% in 2066/067 and 10.07% in 2067/068. The industry ratio was 6.73%.

From the above analysis, it was found that the overall capitalization rate of BDB was higher than GBB. This means that the cost of capital of BDB was more than that of GBB. The cost of capital of both selected banks was higher than industry ratio that means it was due to more decrease in market value as compared to EBIT and cost of debt was being less used than cost of equity.

4.4.2 Net Operating Income Approach [Equity Capitalization Rate, K_e]

It is an independent hypothesis of capital structure decision of the firm and which is irrelevant to the value of the firm and overall cost of capital. Change in leverage will not lead to any change in total value of the firm and MPPS, as the K_o is independent of the degree of leverage. Increase in K_o are exactly offset by using cheaper debt fund and keeping constant. According to NOI approach, the market value of the firm is unaffected by the capital structure changes. The market value of the firm is found out by capitalizing the net operating income at the overall, or the weighted average cost of capital that is constant. So equity capitalization rate is calculated here by simply dividing net income by the value of equity.

$$\text{Equity Capitalization Rate } (K_e) = \frac{\text{Net Income}}{\text{Value of Equity}}$$

Table 4.12: Equity Capitalization Rate

Years/ Banks	2064/065	2065/066	2066/067	2067/068	Average
BDB	9.25%	20.61%	15.04%	18.61%	15.88%
GBB	18.46%	23.34%	34.85%	26.43%	25.77%
Industry Ratio			16.85%		

Source: Annual Reports 2064-2068

The above table 4.11 shows the mean equity capitalization rate of BDB and GBB. The equity capitalization rate (K_e) varied between 9.25percent to 18.61percent. The BDB followed fluctuating trend. The declining in the rate was due to more decrease in market value of share as well as EPS but the market value declined at the faster rate

than EPS. The equity capitalization rate was 9.25% in FY 2064/065, 20.61% in 2065/066, 15.04% in 2066/067 and 18.61% in 2067/068. The mean equity capitalization rate of BDB was 15.88%. Similarly, the above table shows the mean equity capitalization rate of GBB was 25.77%. It varied between 18.46percent to 26.43percent. The GBB followed increasing trend up to 2066/067. The declining in the rate was due to more decrease in market value of share as well as EPS but the market value declined at the faster rate than EPS. The equity capitalization rate was 18.46% in FY 2064/065, 23.34% in 2065/066, 34.85% in 2066/067 and 26.43% in 2067/068. The industry ratio was 16.85%. From the above analysis, it was found that the equity capitalization rate of BDB was lower than GBB.

4.5 Correlation between Financial Variables and Their Interpretation

Correlation is generally used to describe the degree to which one variable is related to another. The coefficient of correlation shows the magnitude and direction of relationship between variables. It is a statistical tool, which involves various methods and techniques. It helps to determine the positive and negative relationship between the variables. The positive correlation indicates that increase in value of one variable leads to an increase in value of another variables and negative correlation depicts the inverse relationship between variables. Although there are three types of correlation-simple, partial and multiple but here only simple correlation based on 'Pearson's Coefficient of Correlation' has been focused. In the following section correlation between different variables are calculated and presented of the sample selected development banks.

4.5.1 EBIT and Interest Payment

EBIT is the operating profit of the company whereas Interest Payment (I) is the return that the long-term debt holders get after some period. Coefficient of correlation is calculated whether there exists positive or negative relationship between EBIT and Interest based on Karl Pearson's Correlation Coefficient. Here interest payment(X) is dependent variable and EBIT(Y) is independent variable. Positive value shows the positive relation and vice versa. Following table shows the relationship between these financial variable and to check the significance P.E. is also presented.

Table 4.13: Correlation Coefficient between EBIT and I with Probable Error

Banks	Correlation (r)	6 × P.E.	Level of Significance
BDB	0.99	0.04	Significant
GBB	0.99	0.04	Significant

Source: Appendix14

The table 4.13 shows the coefficient of correlation between EBIT (dependent variable) and I (independent variable). The values of ‘r’ are 0.99 in both BDB and GBB respectively, which indicates that there is positive relationship between these two variables during the study period. Moreover, by considering the probable error since the value of ‘r’ (0.99) is less than six times the value of PE(r) in case of both BDB and GBB the value of “r” is significant. This shows most perfect positive relationship between EBIT and Interest payment.

4.5.2 Total Debt and Shareholders’ Equity

The correlation between Total Debt (TD) and Shareholders Equity (SE) are analyze to know whether there is positive or negative correlation between them and their respective probable error is also presented. P.E. interprets the value of correlation coefficient. It helps to determine applicability for the measurement of reliability of the computed value of the correlation coefficient. Here total debt (X) is dependent variable and shareholder equity (Y) is independent variable. Positive value shows the positive relation and vice versa. Detailed calculations are present in the appendix.

Table 4.14: Correlation Coefficient between TD and SE with Probable Error

Banks	Correlation (r)	6 × P.E.	Level of Significance
BDB	0.85	0.56	Significant
GBB	0.84	0.60	Significant

Source: Appendix15

The table 4.14 shows the coefficient of correlation between total debt and shareholders’ equity. The values of ‘r’ are 0.85 and 0.84 in case of BDB and GBB

respectively, which indicates that there is positive relationship between these two variables during the study period. Moreover, by considering the probable error since the value of ‘r’ (0.56 and 0.60)) is less than six times the value of PE(r) in case of both BDB and GBB the value of “r” is significant. This shows positive relationship between total debt and shareholder equity.

4.5.3 Debt Equity Ratio and Return on Assets

The correlation between Debt Equity Ratio (D/E) and Return on Assets (ROA) of selected development banks are analyze to know whether there is positive or negative correlation between them and in order to examine which debt capital is significant in generating more return. It is assume that there is significant relationship between them. Positive value shows the positive relation and negative values shows the negative relation. Detailed calculations are present in the appendix.

Table 4.15: Correlation Coefficient between D/E and ROA with Probable Error

Banks	Correlation (r)	6 × P.E.	Level of Significance
BDB	-0.41	1.68	Insignificant
GBB	-0.53	1.46	Insignificant

Source: Appendix 16

The table 4.15 shows the coefficient of correlation between debt equity ratio (dependent variable) and return on assets (independent variable). The values of ‘r’ are -0.41 and -0.53 in case of BDB and GBB respectively, which indicates that there is negative relationship between these two variables during the study period. Moreover, by considering the probable error since the value of ‘r’ i.e. - 0.41 is less than six times the value of PE(r) i.e. 1.68 in case of BDB the value of “r” is insignificant. Similarly, in case of GBB also the value of ‘r’ i.e. - 0.53 is less than six times the value of PE(r) i.e. 1.46 hence the value of “r” is insignificant.

4.5.4 Overall Cost of Capital and Debt Equity Ratio

The correlation between overall cost of capital and debt equity ratio are analyze in order to examine whether increase in debt ratio decreases the overall capitalization rate of banks and vice versa. It is assume there is significant relationship between

them. Here overall cost of capital is dependent variable and debt equity ratio is independent variable. Applying Karl Pearson's coefficients following results are obtain.

Table 4.16: Correlation Coefficient between Overall Cost of Capital and Debt Equity Ratio with Probable Error

Banks	Correlation (r)	6 × P.E.	Level of Significance
BDB	-0.49	1.54	Insignificant
GBB	-0.54	1.43	Insignificant

Source: Appendix 17

The table 4.16 shows the coefficient of correlation between overall cost of capital (dependent variable) and debt equity ratio (independent variable). The values of 'r' are -0.49 and -0.54 in case of BDB and GBB respectively, which indicates that there is negative relationship between these two variables during the study period. Moreover, by considering the probable error since the value of 'r' i.e. - 0.49 is less than six times the value of PE(r) i.e. 1.54 in case of BDB the value of 'r' is insignificant. Similarly, in case of GBB also the value of 'r' i.e. - 0.54 is less than six times the value of PE(r) i.e. 1.43 hence the value of "r" is insignificant. This depicts that debt equity ratio of bank is not significant in reducing overall cost of capital and indicates there is no significant relationship between them.

4.6 Findings and Major Results

Findings and Results from Financial Indicators Analysis

- Debt assets ratio reveals that the GBB is highly leveraged (i.e. more than 84.42 percent of industry ratio) than BDB on four year time horizon. It means the assets of selected banks have been financed more funds collected from depositors. GBB has the highest average ratio of 90.07 percent in comparison to the lowest of BDB of 74.66 percent.
- GBB has the highest debt equity ratio of 9.48 times on average. It means debt capital financing is more than 9.48 times higher than shareholders equity. The industry ratio is 6.38 times where the GBB's ratio is more than industry ratio

over the study period. BDB has the lowest debt equity ratio among the two development banks with the average ratio of 3.19 times. The ratio shows that BDB has used almost equal amount of debt and equity for financing.

- Both the selected development banks (BDB and GBB) are able to maintain the interest coverage ratio. The industry ratio is 1.38 times. BDB average ratio during four-year time is 1.86 times which is greater than industry ratio. Similarly, GBB has average interest coverage ratio of 1.54 times, which is the lowest, among the selected development banks but higher than industry ratio. Both banks are able to maintain interest coverage ratio, which shows that both banks are able to pay the interest amount. Comparatively, BDB has greater ability to pay off interest as compared to GBB since its ratio is higher than GBB.
- The financial leverage analysis helps to evaluate the degree of financial risk of the firm. The industry ratio of DFL is 2.73 times. The average DFL of BDB is 2.20 times which reflects the bank has low degree of financial risk. GBB constitute the higher degree of financial leverage (i.e. 2.88 times) which represents the higher degree of financial risk.

Findings and Results from Profitability Analysis

- BDB has highest average ROA than GBB i.e. 2.48 percent. However, the industry ratio is 1.10 percent. This seems that both the selected development banks have better utilized their assets to generate profit from other banks also. Both BDB and GBB are able to maintain the industry ratio on return on assets.
- The combined average or the industry ratio on return on equity is 9.51%. Both BDB and GBB seemed greater than combined average. The average ROE of BDB and GBB are 10.06% and 15.71% respectively. Both banks show the strong performance in maximizing the shareholders equity. This indicates that on average both banks are having adequate return on equity i.e. they are using their equity in effective way and in profit yielding sector.
- EPS explains the net income for each unit of share. From the analysis of EPS, it reflects that GBB has highest EPS of Rs. 19.53 than BDB of Rs. 15.10. However, both banks EPS are higher than industry average of Rs. 13.18. Both

of these banks process strong strength on EPS, which helps to maximize the shareholder wealth.

- The analysis of P/E ratio for selected banks shows that on an average the investors were interested to pay higher amount than per rupee of reported earnings in the market. The P/E ratio of BDB and GBB are respectively 23.48 and 31.30 times, which is higher than industry average of 13.95 times.
- The net worth to total assets ratio of GBB is very low. This indicates that GBB is using less shareholder funds to finance their assets or in other words, they are using more creditors' funds as compared to shareholders fund. The mean ratio of GBB (9.94%) is less than BDB (25.34%). So comparatively, BDB has used more shareholder fund to finance its assets.
- The combined average shareholder reserve to share capital ratio of both banks is 6.33%, which means that the banks have used 6.33 times more shareholder reserve as compared to share capital. However, the ratio is being lower in GBB than BDB, which clearly indicates that GBB has not used shareholder reserve in that quantity as compared to share capital. Comparatively, the mean ratio of GBB (8.43%) is found to be lower than BDB (11.74%). Therefore, BDB has used more shareholder reserve. This was mainly due to high profit of BDB as compared to GBB.

Findings and Results from Capital Structure Analysis

- The combined capitalization rate of selected development banks is 6.73 percent, which means the overall cost of capital is high in both BDB and GBB. Comparatively, cost of capital of GBB (7.27%) is less than that of BDB (8.42%). The cost of capital is lower in GBB due to higher debt in capital structure as compared to BDB and cost of debt being less than cost of equity.
- NOI is an independent hypothesis where any changes in leverage will not lead to any change in total value of the firm and market price per share. The combined equity capitalization rate is 16.85% i.e. cost of equity capital of BDB is less than GBB. Comparatively, GBB has 25.77% equity capitalization rate, which is higher than BDB.

Findings and Results from Correlation Analysis

- Correlation coefficient between EBIT and interest payment of both BDB and GBB are 0.99 respectively, which shows positive relationship. It shows that increase in EBIT, interest payment also increase. Since the value of 'r' is greater than 6 times of P.E., then 'r' is definitely significant. It shows that both banks are significantly able to service their debt.
- BDB and GBB have positive correlation between total debt and shareholders equity that is they deviate in the same direction. Likewise 6(P.E.) is 0.56 higher than correlation coefficient i.e. relationship between total debt and shareholders equity is insignificant. In case of GBB the correlation coefficient is 0.84 and 6(P.E.) is 0.60, which shows that the value of 'r' is significant.
- The correlation between Debt Equity Ratio and ROA are -0.41 and -0.53 in case of BDB and GBB respectively. It shows the negative relationship between them. Since the value of 'r' is, less than six times the probable error of selected banks, which shows the value of 'r', is insignificant i.e. there is no significant relationship between debt equity ratio and return on assets.
- Regarding the correlation between cost of capital and debt equity ratio of selected banks, correlation coefficient of BDB and GBB are -0.49 and -0.54 respectively. It shows the negative relationship between them. Correlation coefficient of selected banks i.e. 'r' is less than six times of P.E. in both banks it verifies the relationship is insignificant. Hence, it can be conclude that value of 'r' is insignificant and there is no proper relationship between overall capitalization rate and debt equity ratio of selected banks.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter focuses on summarizing the study held with the researcher's conclusions. The next attempt in this chapter will be made for the recommendations based on findings. For this purpose, the chapter is sub divided into summary, conclusions and recommendation as following:

5.1 Summary

In this study, to analyze about the capital structure, two development banks have been chosen. These banks are Business Development Bank Limited and Gandaki Bikas Bank Limited. Both banks are listed in NEPSE. To make the study more reliable, the whole study has been divided into five chapters. The summaries of each chapter are presented below.

First Chapter: First chapter starts with historical background of this study. In this chapter an introduction to banking industry in Nepal, introductions of banks selected for the study, description of capital structure is presented briefly. This study endeavors to evaluate capital structure of development banks with reference to Business Development Bank and Gandaki Bikas Bank Limited. The statement of the problem deals with the effect of capital structure on the growth of the firm, the extent to which the capital structure policy is followed by development banks and the main problems faced by the development banks in developing and implementing the capital structure. The main objectives of the study are presented to find out the comparative position of BDB and GBB, profitability position, relationship of capital structure with other financial variables and to analyze the overall cost of capital structure of two development banks. Finally, significance of the study and delimitations of the study are also presented in the first chapter.

Second Chapter: In this chapter, various books, research studies, articles, journals as well as Nepalese Studies concerned with the capital structure have been reviewed and presented as the review of literature to make the concept of capital structure more clear. Capital structure theories such as NI approach, NOI approach, MM model and other theoretical approaches to establish appropriate capital structure are described in this chapter.

Third Chapter: In this chapter, the steps to be adopted for realistic study needed for the researchers have been presented. The methodology, tools and techniques for appropriate guidelines and knowledge for systematic analysis has been explained. Most of the data used in this study are secondary in nature and four years data are taken as sample by using financial and statistical tools.

Fourth Chapter: The data mentioned in the third chapter are presented and analyzed in this chapter using various methods such as ratios, leverage analysis, capital structure analysis, correlation and probable error. Detailed calculations presented in this chapter are shown in appendix, which is presented after the fifth chapter.

Fifth Chapter: In this chapter, summary of the study are presented in brief to understand the whole study instantly after which conclusions of the study with recommendations are presented.

5.2 Conclusion

In this study, comparisons among concerned banks have been done taking data of these banks. To evaluate the capital structure different types of tools and techniques are used. The following conclusions can be done.

- Debt to total assets ratio express the relationship between creditors fund and total assets. Debt to total assets ratio shows all the sample-selected banks have fluctuating trend. BDB has not reached combined average debt ratio so it can be conclude that this bank is in lower debt ratio status and GBB has used greater debt financing.
- Debt equity ratio of GBB is very larger between the two banks. It also indicates that the bank has larger amount to be paid as interest on debt. In case of BDB, the claim of creditors is not higher than that of owners of the bank.

- The conclusion drawn by the study is that the average interest coverage ratios of both banks are able to cover the interest but higher ICR is better. BDB seems to have higher ratio than GBB. Both have found better performance on it.
- When the bank employs debt or other fund carrying fixed charges in the capital structure, financial leverage exists. From the calculations, it can be concluded that GBB is using higher debt and so bearing the highest risk among the two and the banks should take corrective actions to decrease the financial risk.
- In regards of the comparative position of return on assets of two development banks both BDB and GBB seems to have the highest return. Analyzing of ROA it can be conclude that both banks have high profitability position and have better performance.
- The ROE of BDB shows the average ratio of 10.06% and it has fluctuating trend. The data indicates that BDB has instable return. GBB has increasing trend up to 2066/067 and decrease in 2067/068. By analyzing the average ROE, it can be conclude that ROE of BDB is least and that of GBB is highest but both banks have higher ratio than combined average.
- Earnings per Share of an organization show the strength of share in the market. The EPS explains net income per unit of share and shows the market position of share. Both BDB and GBB have the highest EPS since they are higher than combined average.
- BDB has the fluctuating trend while GBB has the decreasing trend. However, both selected banks have good performance in market due to higher P/E ratio than industry ratio.
- Both BDB and GBB have the fluctuating trend. The average ratio of GBB was found to be lower than that of BDB. The increase in ratio is due to increase in net worth as compared to total assets. Since, GBB has low ratio it should try to increase its internal fund by increasing its internal reserves.
- The mean ratio of GBB is less than BDB. BDB has used more shareholder fund to finance its assets. This was mainly due to high profit of BDB as compared to GBB, which lead to more retained earnings in BDB. GBB has not used shareholder reserve in that quantity as compared to BDB.

- Net Income Approach is the dependent hypothesis of capital structure, which states that the bank with the highest value and the least cost of capitalization rate is considered to have the best capital structure. From the calculations, it can be concluded that BDB has the better capital structure in comparison with GBB.
- Net Operating Income Approach is the independent hypothesis of capital structure. According to this hypothesis, any change in the leverage will not lead to any change in the total value of the bank and market price per share, as the overall cost of capital is independent of the degree of leverage. From the position of average equity capitalization rate it can be concluded that BDB has a lesser ratio than GBB.
- In case of EBIT and Interest payment, the correlation coefficients of both banks are positive which conclude that there is positive correlation exists between the two variables. Since P.E. in all banks is greater than correlation, the relation between them is significant.
- Considering the calculated correlation coefficient and probable error, the correlation coefficient are positive and correlation are greater than probable error which conclude that when debt portion is increase the equity capital also increase due to retained earnings, issue of new share and other reserve funds.
- In case of debt equity ratio and ROA there is negative relationship between both selected development banks.
- There exists negative correlation between debt equity ratio and cost of capital in both the selected banks. It can be concluding that both banks are not succeeding to take tax advantage by using higher proportion of debt.

5.3 Recommendation

The recommendations are the guidelines that are helpful in taking prompt and appropriate decision about capital structure. Based on analysis and findings of the study, following strategies have been recommended to overcome weakness, inefficiency and to improve present capital structure of Business Development Bank and Gandaki Bikas Bank. These recommendations are given below.

- BDB should try to increase the debt ratio so that BDB can enjoy the leverage advantage. Hence, BDB is recommended to increase its debt serving capacity. Creditors prefer a low debt ratio since they receive a cushion of protection against possible losses at the time of liquidation.
- The low level of interest coverage ratio is an indicator of poor debt servicing capacity. Therefore, higher ratio is favorable. Here both BDB and GBB's ICR is higher. It is necessary to sustain the business in long run so it is better to use less costly debt and to improve the operating income of the banks, promotional strategy and activities should be introduced as a result it can minimize the operating and financial risk.
- Observing the return on assets, BDB seems to have better capital structure than GBB. The banks along with the return should also consider the risk associated. The banks shareholders not only seek high return from their investment but also consider the risk of the investment. So, it is suggested to all these banks to plan their capital structure well by analyzing the possible financial alternatives.
- Profitability is the most important tools for measuring the performance of bank. Both banks have the fluctuating trend in profitability position during the study period. Trust of equity holders and other stakeholder play vital role for bank survival in long run as they believe in profit. In order to achieve better profitability position both BDB and GBB are recommended to manage their resource effectively in profit yielding and productive sector.
- There is stiff competition between development banks. So, to overcome the competition both BDB and GBB are recommended to avoid duplication among banks, maintain a sound capital structure and diversify their investment.
- P/E ratio gives an idea of investor's perception of the EPS and one of the most widely used measure of financial analysis. Therefore, higher ratio indicates greater confidence of investors in the banks future and have high and growth prospects as compared to no growth or slow growth banks.
- The net worth to total assets ratio of BDB was higher than GBB. To improve the capital structure both banks should try to improve their internal funds by

increasing shareholder reserve. So both banks are recommended to further increase its internal funds by expanding general reserve.

- To increase shareholder funds profitability position of banks has to be improved. The banks should also reduce their expenses and should collect funds at cheaper rate. The banks can reduce their expenses by reducing unnecessary operating expenses as well as other expenses. To increase profit of the banks, both banks are recommended to explore modern ideas of profitable earnings and initiate different schemes like micro finance, home banking, tele banking, all time banking, e banking etc.
- For effective capital structure management, the banks are recommended to develop sound management information system, which helps to correctly predict the effect of capital structure on profitability and cost of capital. So, when banks can effectively predict the effects, optimal capital structure can be maintain.
- Obviously, the banks lack theoretical and practical knowledge regarding the capital structure. They have not given significant attention to the capital structure, which is a serious matter. It affects EPS, value of firm, cost of capital etc. hence it is recommended that these banks should follow theoretical aspects of capital structure management or give it more attention in this matter and try to manage accordingly and be able to make optimum capital structure.
- There exists positive relationship between the EBIT and interest payment and the relation is significant. The banks are also recommending to minimizing the financial and other expenses. Therefore, the interest coverage ratio should be increased. They are recommended to use less cost of debt, improve strategy of promotional activities, analyze and evaluate before making investment etc. to increase the return and decrease risk.
- There exists negative correlation between debt equity ratio and cost of capital in both the selected banks. It can be recommended that both banks are not succeeding to take tax advantage by using higher proportion of debt.
- The capital structure decision is not found to be considered perfectly by the banks. It affects the value of firm and overall cost of capital. Therefore, every investment and financing decision of the bank should be taken by considering the capital structure of banks.

BIBLIOGRAPHY

- Barges, A. (1963). *The effect of capital structure on the cost of capital*. New Delhi: Prentice- Hall Inc.
- Bhattarai, R. (2011). *Capital structure management*. Kathmandu: Dhaulagiri Books and Stationary.
- Brigham, E.F. (2004). *Financial management*, 10th ed. Bangalore: Mike Roche.
- Francis, J.C. (1980). *Financial management*. New Delhi: Prentice Hall of India Private Limited.
- Green, C., Marine., Suppakitjarak, J. (2002). *Corporate financial structure in India*. Department of Economics, Leoghborough, UK.
- Hampton, J.J. (1986). *Financial decision-making: Concepts, problems and cases*. New Delhi: Prentice Hall of India Private Limited.
- Jain, P.K. (1997). *Financial management*. New Delhi: Tata MC Graw Hill Publishing Co. Ltd.
- Kerlinger, F.N. (1978). *Foundations of behavioral research*. New Delhi: Surjeet Publications.
- Khan, M.Y. & Jain, P.K. (1992). *Financial management*. New Delhi: Tata MC Graw Hill Publishing Co. Ltd.
- Khan, M.Y. (1995). *Financial management*. New Delhi: Tata MC Graw Hill Publishing Co. Ltd.
- Kotthari, C.R. (1994). *Quantitative techniques*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Kuchhal, M.Y. (1961). *Financial management texts and problems*. New Delhi: Tata MC Graw Hill Publishing Co. Ltd.
- Kulkarni, P.V. (1983). *Financial management*. Bombay: Himalaya Publishing House Ltd.
- Manandhar, K.D., Dhakal, A.P., Thapa, K., Koirala, N., & Basnet, J.B. (2009). *Managerial finance*. Kathmandu: Khanal Books and Stationery.
- Modigliani, F. & Miller, M.H. (1958). *The cost of capital, corporation and theory of the investment*. USA: American Economics Review.
- Modigliani, F. & Miller, M.H. (1969). *The cost of capital, corporation and theory of the investment*. USA: American Economics Review.

- Pandey, I.M. (1981). *Financial management*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Pandey, I.M. (1988). *Financial management*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Pandey, I.M. (1995). *Financial management*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Pandey, I.M. (1996). *Financial management*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Pandey, I.M. (1999). *Capital structure and cost of capital*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Pant, P.R. (2009). *Social science research and thesis writing*. Kathmandu: Buddha Academic Enterprise Pvt. Ltd.
- Pradhan, R.S. (2003). *Research in Nepalese finance*. Kathmandu: Buddha Academic Publishers & Distributors Pvt. Ltd.
- Solomon, E. (1963). *Principle of management finance*. New York: Colombia University Press.
- Solomon, E. (1969). *The theory of financial management*. New York: Colombia University Press.
- Solomon, E. (1996). *Principle of management finance*. New York: Colombia University Press.
- Thapa, K. (2005). *Fundamentals of investment*. Kathmandu: Asmita Books Publishers and Distributors.
- Van Horn, J.C. (1995). *Financial management and policy*. New Delhi: Pearson Education Pvt. Ltd.
- Van Horn, J.C. (1997). *Financial management and policy*. New Delhi: Pearson Education Pvt. Ltd.
- Van Horn, J.C. (2000). *Financial management and policy*. New Delhi: Pearson Education Pvt. Ltd.
- Van Horne, J.C. (2002). *Financial management policy*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Weston, J.F. & Brigham, E.F. (1972). *Managerial finance*. New York: The Dryden Press.

Weston, J.F. & Brigham, E.F. (1978). *Essentials of management finance*. Chicago: The Dryden Press.

Weston, J.F. & Brigham, E.F. (1989). *Essentials of management finance*. Chicago: The Dryden Press.

Weston, J.F. & Copeland, T.E. (1992). *Managerial finance*. New York: The Dryden Press.

Unpublished Thesis / Masters Dissertations

Gurung, D.D. (2009). Analysis of capital structure in selected joint venture bank in Nepal. Unpublished Master's Degree Thesis, Prithvi Narayan Campus, TU.

Pandey, M.K. (2003). The study on capital structure of Standard Chartered Bank and Nepal Bangladesh Bank Ltd. Unpublished Master's Degree Thesis. TU.

Pokhrel, P. (2009). Comparative analysis of capital structure management between Himalayan Bank Ltd and Nepal Investment Bank Ltd. Unpublished Master's Degree Thesis, Prithwi Narayan Campus, TU.

Poudel, B. (2011). A study on capital structure management of commercial banks. Unpublished Master's Degree Thesis, Prithvi Narayan Campus, TU.

Rajlawat, K.B. (1999). The capital structure of Necon Air Ltd. Unpublished Master's Degree Thesis. TU.

Shah, A. (2004). A study on the capital structure of selected manufacturing companies. Unpublished Master's Degree Thesis, Shankardev Campus, T.U.

Sharma, N. (2010). A study on capital structure management of Commercial Bank. Unpublished Master's Degree Thesis, Prithvi Narayan Campus, TU.

Sharma, R.R. (2005). A study of capital structure of selected commercial bank in Nepal. Unpublished Master's Degree Thesis, Prithvi Narayan Campus, TU.

Shrestha, N.B.D. (2011). A comparative analysis of capital structure of commercial banks. Unpublished Master's Degree Thesis, Prithvi Narayan Campus, TU.

Journals/Articles/Seminar's

Abor, J (2005). The effect of capital structure on profitability. *The Journal of Risk Finance*. P 438-445.

Adhikari, M. (1992). Capital structure effect on average cost of capital. *Nepal Rastra Bank Samachar*, 37th Anniversary, 34-37.

Baral, K.J. (2004). Determinants of capital structure. A case study of listed companies of Nepal. *The Journal of Business Studies*, Issue 1.

- Dang, V.C. (2005). Testing the trade-off and pecking order theories, *The Journal of Finance*.
- Davis, D. & Kevin L. (1997). A practical approach to capital structure for banks. *Journal of Applied Corporate Finance*, Issue 1.
- Gho, P. (2005). Intellectual capital performance of commercial banks in Malaysia. *Journal of Intellectual Capital*. Issue 3, April 20, 2008.
- Marsh, P. (1982). The choice between equity and debt, *The Journal of Finance*. Vol. XXVII No.1
- Myer, S.C. (1984). Determinants of corporate borrowing, *Journal of Financial Economics*. Vol.15.
- Paudyal, S. (2002). *A study on capital structure: It's impact on value of a firm*. Paper presented at the seminar on emerging issues and challenges in corporate finance in Nepal, T.U., Kathmandu, Nepal.
- Shrestha, R.D. (1993). Focus of capital structure of selected and listed public companies. *Pravaha Journal of Management*, Nepal Commerce Campus, Kathmandu.

Electronic Websites and Annual Report

Annual Report of BDB

Annual Report of GBB

Annual Report of CDB

Annual Report of GBBL

Annual Report of BBB

<http://www.google.com>

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

<http://www.investopedia.com>

<http://www.nepalstock.com>

<http://www.journaloffinance.com>

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

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

APPENDICES

Appendix: 1

Calculation of different accounting heads of development banks during 2064/065 to 2067/068

BBB = Bishwa Bikas Bank Ltd

GBBL = Garima Bikas Bank Ltd

CDB = City Development Bank Ltd

GBB = Gandaki Bikas Bank Ltd

BDB = Business Development Bank Ltd.

	2064/065				
	BBB	GBBL	CDB	BDB	GBB
Total Assets	336848	133228	524735	881839	710183
Total Equity	72254	23810	71422	230114	61400
Total Debt	264594	109418	453313	651724	648783
EBIT	4945	(1085)	11992	54938	35383
I	5685	1605	9843	33651	24048
EBT	(740)	(2690)	2149	21288	11335
NPAT	(946)	(2690)	1422	13135	6902
MPPS	-	100	-	510	900
EPS	(1.29)	10.15	2.03	21.45	13.80
Sh. Reserve	-	-	-	4174	2562
Sh. Capital	63200	26500	70000	210000	50000

	2065/066				
	BBB	GBBL	CDB	BDB	GBB
Total Assets	802823	812091	1185936	1618106	1250025
Total Equity	152177	109105	152142	262479	127004
Total Debt	650646	702986	1033794	1355628	1123021
EBIT	39925	36505	58938	114432	76545
I	29932	28666	41925	60323	46907
EBT	9993	7839	17013	54109	29638
NPAT	6723	5796	10817	34420	15630
MPPS	-	100	-	650	525
EPS	4.59	5.44	7.73	16.39	15.73
Sh. Reserve	1483	2691	1325	11058	8490
Sh. Capital	146400	106000	140000	210000	100000

	2066/067				
	BBB	GBBL	CDB	BDB	GBB
Total Assets	1486334	1416913	1698602	2360005	1601227
Total Equity	161383	133219	250575	717270	124113
Total Debt	1324951	1283694	1448027	1642736	1477114
EBIT	94125	117905	158402	213412	126870
I	79562	80012	98765	105531	83616
EBT	14563	37893	59637	107881	43254
NPAT	9206	24114	38433	68616	27506
MPPS	-	100	-	192	503
EPS	6.29	22.75	19.22	9.94	27.51
Sh. Reserve	3763	5982	10134	24781	11189
Sh. Capital	146400	106000	200000	690060	100000

	2067/068				
	BBB	GBBL	CDB	BDB	GBB
Total Assets	2165216	1757774	2036707	2564965	1869956
Total Equity	254193	232503	254666	735316	246382
Total Debt	1911023	1525271	1782041	1829649	1623574
EBIT	219726	182639	200794	290848	188333
I	162262	116503	150233	154011	123213
EBT	57464	66136	50561	136837	65120
NPAT	37105	41283	24091	87052	42188
MPPS	106	130	169	141	171
EPS	15.46	20.64	12.05	12.62	18.50
Sh. Reserve	13632	14239	14953	42191	19626
Sh. Capital	240000	200000	220000	690060	220000

Appendix: 2

Calculation of Industry Ratio of Debt Assets Ratio

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	78.55%	81.04%	89.14%	88.26%	84.25%
GBBL	82.13%	86.56%	90.60%	86.77%	86.52%
CDB	86.39%	87.17%	85.25%	87.50%	86.58%
BDB	73.91%	83.78%	70.00%	71.33%	74.66%
GBB	91.35%	89.84%	92.25%	86.82%	90.07%
Industry Ratio			84.42%		

Appendix: 3

Calculation of Industry Ratio of Debt Equity Ratio

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	3.66:1	4.28:1	8.21:1	7.52:1	5.92:1
GBBL	4.60:1	6.44:1	9.64:1	6.56:1	6.81:1
CDB	6.35:1	6.79:1	5.78:1	7.00:1	6.48:1
BDB	2.83:1	5.16:1	2.29:1	2.49:1	3.19:1
GBB	10.57:1	8.84:1	11.90:1	6.59:1	9.48:1
Industry Ratio			6.38:1		

Appendix: 4

Calculation of Industry Ratio of Interest Coverage Ratio

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	0.87:1	1.33:1	1.18:1	1.35:1	1.18:1
GBBL	(0.68:1)	1.27:1	1.47:1	1.57:1	0.91:1
CDB	1.22:1	1.41:1	1.60:1	1.33:1	1.39:1
BDB	1.63:1	1.90:1	2.02:1	1.89:1	1.86:1
GBB	1.47:1	1.63:1	1.52:1	1.53:1	1.54:1
Industry Ratio			1.38:1		

Appendix: 5

Calculation of Industry Ratio of Degree of Financial Leverage

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	(6.69:1)	4.00:1	6.46:1	3.83:1	1.90:1
GBBL	0.40:1	4.66:1	3.11:1	2.76:1	2.73:1
CDB	5.60:1	3.46:1	2.66:1	3.97:1	3.92:1
BDB	2.58:1	2.11:1	1.98:1	2.13:1	2.20:1
GBB	3.12:1	2.58:1	2.93:1	2.89:1	2.88:1
Industry Ratio			2.73:1		

Appendix: 6

Calculation of Industry Ratio of Return on Assets

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	(2.81%)	0.08%	0.06%	1.71%	(0.24%)
GBBL	(2.02%)	0.07%	1.70%	2.35%	0.53%
CDB	0.27%	0.91%	2.26%	1.18%	1.16%
BDB	1.49%	2.13%	2.91%	3.39%	2.48%
GBB	0.97%	1.25%	1.72%	2.26%	1.55%
Industry Ratio			1.10%		

Appendix: 7

Calculation of Industry Ratio of Return on Equity

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	(1.31%)	4.42%	5.70%	14.60%	5.85%
GBBL	(11.30%)	5.31%	18.10%	17.76%	7.47%
CDB	1.99%	7.11%	15.34%	9.46%	8.48%
BDB	5.71%	13.11%	9.57%	11.84%	10.06%
GBB	11.24%	12.31%	22.16%	17.12%	15.71%
Industry Ratio			9.51%		

Appendix: 8

Calculation of Industry Ratio of Earnings Per Share

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	(1.29:1)	4.59:1	6.29:1	15.46:1	6.26:1
GBBL	10.15:1	5.44:1	22.75:1	20.64:1	14.75:1
CDB	2.03:1	7.73:1	19.22:1	12.05:1	10.26:1
BDB	21.45:1	16.39:1	9.94:1	12.62:1	15.10:1
GBB	13.80:1	15.73:1	27.51:1	21.09:1	19.53:1
Industry Ratio			13.18:1		

Appendix: 9

Calculation of Industry Ratio of Price Earnings Ratio

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	-	-	-	6.86:1	1.72:1
GBBL	9.85:1	18.38:1	4.40:1	6.30:1	9.73:1
CDB	-	-	-	14.02:1	3.51:1
BDB	23.77:1	39.66:1	19.31:1	11.18:1	23.48:1
GBB	65.19:1	33.59:1	18.29:1	8.11:1	31.30:1
Industry Ratio			13.95:1		

Appendix: 10

Calculation of Industry Ratio of Net Worth to Total Assets Ratio

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	21.45%	18.96%	10.86%	11.74%	15.75%
GBBL	17.87%	13.44%	9.40%	13.23%	13.49%
CDB	13.61%	12.83%	14.75%	12.50%	13.42%
BDB	26.09%	16.22%	30.39%	28.67%	25.34%
GBB	8.65%	10.16%	7.75%	13.18%	9.94%
Industry Ratio			15.59%		

Appendix: 11

Calculation of Industry Ratio of Shareholder Reserve to Share Capital Ratio

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	-	1.01%	2.57%	5.68%	2.32%
GBB	-	2.54%	5.64%	7.12%	3.83%
CDB	-	9.46%	5.07%	6.80%	5.33%
BDB	1.99%	5.27%	3.59%	6.11%	11.74%
GBB	5.12%	8.49%	11.19%	8.92%	8.43%
Industry Ratio			6.33%		

Appendix: 12

Calculation of Industry Ratio of Overall Capitalization Rate, K_o (Net Income Approach)

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	1.46%	4.97%	6.33%	10.15%	5.73%
GBB	(0.81%)	4.50%	8.32%	10.39%	5.60%
CDB	2.29%	4.97%	9.33%	9.86%	6.62%
BDB	6.23%	7.07%	9.04%	11.34%	8.42%
GBB	4.98%	6.12%	7.92%	10.07%	7.27%
Industry Ratio			6.73 %		

Appendix: 13

Calculation of Industry Ratio of Cost of Equity, K_e (Net Operating Income Approach)

Bank/Years	2064/065	2065/066	2066/067	2067/068	Average
BBB	(1.02%)	6.57%	9.02%	22.61%	9.30%
GBB	11.30%	7.18%	28.44%	28.45%	18.84%
CDB	3.00%	11.18%	23.80%	19.85%	14.46%
BDB	9.25%	20.61%	15.04%	18.61%	15.88%
GBB	18.46%	23.34%	34.85%	26.43%	25.77%
Industry Ratio			16.85 %		

Appendix: 14

Calculation of Correlation Coefficient between EBIT and Interest with P.E. of BDB

(Rs. '00000)

Fiscal Years	EBIT(X)	Interest(Y)	XY	X ²	Y ²
2064/065	549	336	184464	301401	112896
2065/066	1144	603	689832	1308736	363609
2066/067	2134	1055	2251370	4553956	1113025
2067/068	2908	1540	4478320	8456464	2371600
Total	ΣX= 6735	ΣY= 3534	ΣXY= 7603986	ΣX²= 14620557	ΣY²= 3961130

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

$$= \frac{4 \times 7603986 - 6735 \times 3534}{\sqrt{4 \times 14620557 - (6735)^2} \sqrt{4 \times 3961130 - (3534)^2}}$$

$$= 0.99$$

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

$$= 0.6745 \times \frac{1-(0.99)^2}{\sqrt{4}}$$

$$= 0.0067$$

Again, $6 \times P.E.(r) = 6 \times 0.0067 = 0.04$

Since, $r > 6 \times P.E.(r)$, r is significant.

**Calculation of Correlation Coefficient between EBIT and Interest
with P.E. of GBB**

(Rs. '00000)

Fiscal Years	EBIT(X)	Interest(Y)	XY	X ²	Y ²
2064/065	353	240	84720	124609	57600
2065/066	765	469	358785	585225	219961
2066/067	1268	836	1060048	1607824	698896
2067/068	1883	1232	2319856	3545689	1517824
Total	ΣX=4269	ΣY= 2777	ΣXY=3823409	ΣX²= 5863347	ΣY²=2494281

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

$$= \frac{4 \times 3823409 - 4269 \times 2777}{\sqrt{4 \times 5863347 - (4269)^2} \sqrt{4 \times 2494281 - (2777)^2}}$$

$$= 0.99$$

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

$$= 0.6745 \times \frac{1-(0.99)^2}{\sqrt{4}}$$

$$= 0.0067$$

Again, $6 \times P.E(r) = 6 \times 0.0067 = 0.04$

Since, $r > 6 \times P.E(r)$, r is significant.

Appendix: 15

**Calculation of Correlation Coefficient between Total Debt and
Equity with P.E. of BDB**

(Rs. '00000)

Fiscal Years	Total Debt(X)	Equity(Y)	XY	X ²	Y ²
2064/065	6517	2301	14995617	42471289	5294601
2065/066	13556	2624	35570944	183765136	6885376
2066/067	16427	7172	117814444	269846329	51437584
2067/068	18296	7353	134530488	334743616	54066609
Total	ΣX=54796	ΣY=19450	ΣXY = 302911493	ΣX²= 830826370	ΣY²= 117684170

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

$$= \frac{4 \times 302911493 - 54796 \times 19450}{\sqrt{4 \times 830826370 - (54796)^2} \sqrt{4 \times 117684170 - (19450)^2}}$$

$$= 0.85$$

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

$$= 0.6745 \times \frac{1-(0.85)^2}{\sqrt{4}}$$

$$= 0.0094$$

Again, $6 \times P.E(r) = 6 \times 0.0094 = 0.56$

Since, $r > 6 \times P.E(r)$, r is significant

Calculation of Correlation Coefficient between Total Debt and Equity with P.E. of GBB

(Rs. '00000)

Fiscal Years	Total Debt(X)	Equity(Y)	XY	X ²	Y ²
2064/065	6487	614	3983018	42081169	376996
2065/066	11230	1270	14262100	126112900	1612900
2066/067	14771	1241	18330811	218182441	1540081
2067/068	16235	2463	39986805	263575225	6066369
Total	ΣX = 48723	ΣY = 5588	ΣXY = 76562734	ΣX² = 649951735	ΣY² = 9596346

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

$$= \frac{4 \times 76562734 - 48723 \times 5588}{\sqrt{4 \times 649951735 - (48723)^2} \sqrt{4 \times 9596346 - (5588)^2}}$$

$$= 0.84$$

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

$$= 0.6745 \times \frac{1-(0.84)^2}{\sqrt{4}}$$

$$= 0.0099$$

Again, $6 \times P.E(r) = 6 \times 0.0099 = 0.60$

Since, $r > 6 \times P.E(r)$, r is significant.

Appendix: 16

Calculation of Correlation Coefficient between Debt Equity Ratio and ROA with P.E. of BDB

Fiscal Years	Debt Equity Ratio(X)	ROA(Y)	XY	X ²	Y ²
2064/065	2.83	1.49	4.2167	8.0089	2.2201
2065/066	5.16	2.13	10.9908	26.6256	4.5369
2066/067	2.29	2.91	6.6639	5.2441	8.4681
2067/068	2.49	3.39	8.4411	6.2001	11.4921
Total	ΣX = 12.77	ΣY = 9.92	ΣXY = 30.3125	ΣX² = 46.0787	ΣY² = 26.7172

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

$$= \frac{4 \times 30.3125 - 12.77 \times 9.92}{\sqrt{4 \times 46.0787 - (12.77)^2} \sqrt{4 \times 26.7172 - (9.92)^2}}$$

$$= -0.41$$

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

$$= 0.6745 \times \frac{1-(-0.41)^2}{\sqrt{4}}$$

$$= 0.28$$

Again, 6×P.E(r) = 6×0.281 = 1.68

Since, 6×P.E(r) > r, r is not significant

Calculation of Correlation Coefficient between Debt Equity Ratio and ROA with P.E. of GBB

Fiscal Years	Debt Equity Ratio(X)	ROA(Y)	XY	X ²	Y ²
2064/065	10.57	0.97	10.2529	111.7249	0.9409
2065/066	8.84	1.25	11.05	78.1456	1.5625
2066/067	11.9	1.72	20.468	141.61	2.9584
2067/068	6.59	2.26	14.8934	43.4281	5.1076
Total	ΣX = 37.9	ΣY = 6.2	ΣXY = 56.6643	ΣX² = 374.9086	ΣY² = 10.5694

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

$$= \frac{4 \times 56.6643 - 37.9 \times 6.2}{\sqrt{4 \times 374.9086 - (37.9)^2} \sqrt{4 \times 10.5694 - (6.2)^2}}$$

$$= -0.53$$

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

$$= 0.6745 \times \frac{1-(-0.53)^2}{\sqrt{4}}$$

$$= 0.242$$

Again, $6 \times \text{P.E.}(r) = 6 \times 0.242 = 1.46$

Since, $6 \times \text{P.E.}(r) > r$, r is not significant.

Appendix: 17

Calculation of correlation coefficient between Overall Cost of Capital and Debt Equity Ratio with P.E. of BDB

Fiscal Years	Cost of Capital(X)	Debt Equity Ratio(Y)	XY	X ²	Y ²
2064/065	6.23	2.83	17.6309	38.8129	8.0089
2065/066	7.07	5.16	36.4812	49.9849	26.6256
2066/067	9.04	2.29	20.7016	81.7216	5.2441
2067/068	11.34	2.49	28.2366	128.5956	6.2001
Total	ΣX = 33.68	ΣY = 12.77	ΣXY = 103.0503	ΣX² = 299.115	ΣY² = 46.0787

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

$$= \frac{4 \times 103.0503 - 33.68 \times 12.77}{\sqrt{4 \times 299.115 - (33.68)^2} \sqrt{4 \times 46.0787 - (12.77)^2}}$$

$$= -0.49$$

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

$$= 0.6745 \times \frac{1-(-0.49)^2}{\sqrt{4}}$$

$$= 0.256$$

Again, $6 \times \text{P.E.}(r) = 6 \times 0.256 = 1.54$

Since, $6 \times \text{P.E.}(r) > r$, r is not significant.

Calculation of correlation coefficient between Overall Cost of Capital and Debt Equity Ratio with P.E. of GBB

Fiscal Years	Cost of Capital(X)	Debt Equity Ratio(Y)	XY	X ²	Y ²
2064/065	4.98	10.57	52.6386	24.8004	111.7249
2065/066	6.12	8.84	54.1008	37.4544	78.1456
2066/067	7.92	11.9	94.248	62.7264	141.61
2067/068	10.07	6.59	66.3613	101.4049	43.4281
Total	ΣX = 29.09	ΣY = 37.9	ΣXY = 267.3487	ΣX² = 226.3861	ΣY² = 374.9086

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

$$= \frac{4 \times 267.3487 - 29.09 \times 37.9}{\sqrt{4 \times 226.3861 - (29.09)^2} \sqrt{4 \times 374.9086 - (37.9)^2}}$$

$$= -0.54$$

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

$$= 0.6745 \times \frac{1 - (-0.54)^2}{\sqrt{4}}$$

$$= 0.24$$

Again, $6 \times \text{P.E.}(r) = 6 \times 0.24 = 1.43$

Since, $6 \times \text{P.E.}(r) > r$, r is not significant.