CHAPTER 1
INTRODUCTION

1.1 Background of the Study

Commercial banks play a vital role in the economic development of a country. They act as intermediaries, which mobilize funds through the prudential combination of investment portfolios in every country. With the emergence of open market and globalization concept, the trend of opening banks in foreign land as a joint venture is in increasing trend. Joint Venture Banks (JVBs) are the mode of trading to achieve mutual exchange of goods and services for sharing competitive advantages by performing joint investment schemes between a domestic and a foreign country as parent and subsidiary bank.

The parent banks which have experience in highly mechanized and efficient modern banking services in many parts of the world have come to Nepal with their technology, advanced management skills, and an international banking institutions. JVBs are formed in Nepal as full fledged commercial banks under the company act 2021 B.S. and operated under the Banijya Bank Act 2032 B.S. All the JVBs are established and operated under the rules and regulations of Nepal Rastra Bank (NRB). HMG of Nepal's deliberate policy of allowing JVBs to operate in Nepal is basically targeted to encourage local traditionally run commercial banks to enhance their banking capacity through competition, efficiency, modernization, mechanization via computerization and prompt customer service. However, in Nepal the role of JVBs are still to be realized as an essential machine of mobilizing internal saving through various competitive banking schemes and uplift the economy. In order to uplift the backward economic condition of the country, the process of capital accumulation among other pre requisition should be expedited.

Capital accumulation plays an essential role in acceleration of the economic growth of nations. But the capacity of saving in the developing country is quite low with a relatively higher marginal propensity of consumption. As a result developing countries are badly trapped into the vicious circle of poverty. The basic problem of these countries is raising the level of saving and investments. In order to collect the enough saving and put them into productive channels, financial institutions like banks are necessary. It will be utilized

within the economy and will either be diverted abroad or used for productive consumption or speculative activities.

Capital structure concept holds a major place in the financial management and it refers the proportion of debt and equity capital. A perfect balance between debt and equity is required to ensure the trade-off between risk and return. Thus, optimal capital structure means the capital structure having reasonable proportion of debt and equity. An optimal financial structure makes better use of society's fund of capital resources and thus it increases the total wealth of the society (*Solomon; 1969:92).* Also, by increasing the firm's opportunity to engage in future wealth-creating investment, it increases the economy's rate of investment and growth.

Commercial banks are the suppliers of finance for trade and industry, which plays a vital role in the economic and financial life of the country. They help in the formation of capital by investing the savings in productive areas. Rural people from under developed countries like Nepal need various banking facilities to enhance its economy. In most of the countries, the banks are generally concentrated in urban and semi-urban sectors. They neglect rural sector due to heavy risk and low return, which is in fact, without it, other sectors of economy cannot be flourished.

The concept of banking is developed from the history with the effort of ancient goldsmith who developed the practice of storing people's gold and valuables. They used to receive valuables and issue a receipt to the depositors. As such receipts are good for payment equipment to the amount mentioned, it becomes like the modern cheque, as a medium of exchange and means of payment.

The history of the systematic development of commercial banks in Nepal as compared to other developed countries is of recent origin. In Nepal, efforts are being made to accelerate the pace of economic development after the adaptation of first five year plan in 1956. Nepal Bank Limited, the first and the oldest bank in modern banking history of Nepal, was established in 1937 A.D. (30^{th} Kartik, 1994 B.S) with 51% government equity. Nepal Bank Limited also used to function as Central bank of the country up to 2012 B.S. On 2013 B.S, Nepal Rastra Bank was established as Central bank of Nepal under the Nepal Rastra Bank Act 2012. Government initiated some corrective measures

to stabilize the economy with the assistance of IMF standby arrangement in mid 1980s. In F/Y 1985, it subsequently embarked upon structured adjustment program encompassing measures to increase domestic resource mobilization, strengthen financial sectors and liberalize industrial and trade policies. Since then several financial institutions and commercial JVBs have been established in the process of development and liberalization policy for the economic development of the nation.

The commercial bank collects the scattered saving and place them into productive channels. They hold the deposit of the people, government establishments and business units. They make funds available through their lending and investing activities to borrowers, individuals, business firms and government establishments. In doing so, they assist both the flows of goods and services from the government. They are the media through which monetary policy is affected. These banks are resources for the development. It maintains economic confidence of various segments and extends credit to people.

At present there are altogether 26 ‘class A category’ Commercials Banks including 3 public sector banks operating in Nepal. The condition of two oldest public sector banks is bad at the moment. But the third public sector development bank, ADB/N (Agriculture Development Bank Limited) which is also operating as a commercial bank is still doing well despite of political and bureaucratic interference and internal problems. The remaining 23 private sector banks are all in a profitable position even when there is cut through neck competition among them. Besides this there are 38 ‘class B category’ Development Banks, 79 ‘class C category’ Finance Companies, 11‘class D category’ Micro Credit Development Banks, and 19 Cooperatives which are licensed by Nepal Rastra Bank and are competing with these ‘A’ class commercial banks.

1.2 Capital Structure

Capital structure refers to the mix of long term sources of funds, such as debentures, long term debt, preference share capital and equity share capital including reserves and surplus. It refers to the relationship among various long term forms of financing which includes mainly three types of securities i.e. equity shares, preference shares and debenture. It is sometimes known as financial plan which refers to the composition of

long term sources of funds such as debentures, long term debt, preference share capital and equity share capital including reserves and surplus.

Banks should have sufficient capital in relation to the volume and risk of their business to absorb the losses without using the depositors' funds. This capital investment gives owners and managers a powerful incentive to run the bank safely and soundly. Capital is simply the difference between the value of a bank's assets and its liabilities to third parties.

The major portion of the capital comprises of owners fund and creditors fund. The owners expect dividend and appreciation in the share price whereas creditors expect interest and return of the fund at the mentioned time. So the capital structure of the firm is important factor in determining the success of the firms. The firm is successful if it can optimize its capital structure and the capital is optimal when the overall cost of capital of the firm is minimized and profitability is maximized. So, analysis of the capital structure of the selected CBs will examine optimal capital structure, which minimizes cost of capital and maximizes profitability.

1.3 Brief Introduction of Sample Banks

Of the leading banks of the Nepalese economy, three 'A category' commercial banks are observed for this study. They are: Nabil Bank Limited (NBL), Himalayan Bank Limited (HBL) and Nepal Investment Bank Limited (NIBL)
They are briefly introduced below.

1. Nabil Bank Limited (NBL)

Nabil Bank Limited is one of the leading commercial banks of Nepal. The arrival of Nabil Bank in Nepal on the 12th of July 1984 through a joint venture with Dubai Bank Ltd. under a Technical Service Agreement (TSA) marks a new dawn in the Nepalese banking industry. The bank has branches all across the nation with its head-office in Kathmandu.

Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a

full range of commercial banking services through its 19 points of representation across the kingdom and over 170 reputed correspondent banks across the globe. Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business.

Highly qualified and experienced management team manages operations of the bank including day-to-day operations and risk management. Bank is fully equipped with modern technology, which includes ATMs, credit cards, state-of-art, world-renowned software from Infosys Technologies System, Banglore, India, Internet banking system and Tele-banking system. NABIL is geared up to cover almost all sectors through an integrated approach from corporate lending through Small & Medium Enterprise Lending, Grameen Micro Lending to Personal Banking, and Infrastructure Financing in the days to come.

Today Nabil entering the 25th year of operation has proved that it has through its past progressions and through different phases in the banking industry achieved two things we can take pride in: first it has a large clientele base and supportive stakeholders, secondly, it has succeeded in positioning itself robustly in the market for which the credit goes to Team Nabil. In order to make its presence felt in every walk of life and serve people across all social strata and segments, it have expanded its network by adding 9 more branches that totals to 28 points of representation in the nation.

2. Himalayan Bank Limited (HBL)

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities- Loans and Deposits. Himalayan Bank Limited holds of a vision to become a Leading Bank of the country by providing premium products and services to the customers, thus ensuring attractive and substantial returns to the stakeholders of the Bank.

All Branches of HBL are integrated into Globus (developed by Temenos), the single Banking software where the Bank has made substantial investments. This has helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the Customers and other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit Scheme, Small Business Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking at the number of Nepalese workers abroad and their need for formal money transfer channel; HBL has developed exclusive and proprietary online money transfer software- Himal Remit TM. By deputing its own staff with technical tie-ups with local exchange houses and banks, in the Middle East and Gulf region, HBL is the biggest inward remittance handling Bank in Nepal. All this only reflects that HBL has an outside-in rather than inside-out approach where Customers' needs and wants stand first.

3. Nepal Investment Bank Limited

Nepal Investment Bank Limited (NIBL), previously Nepal Indosuez Bank Limited, was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital) was Credit Agricole Indosuez, a subsidiary of one of the largest banking groups in the world. With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, in April 2002, acquired 50% of the holdings of Credit Agricole Indosuez in Nepal Indosuez Bank. The name of the bank was changed to Nepal Investment Bank Limited upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's Office.

NIBL is managed by a team of experienced bankers and professionals with a proven track record can match customer's particular needs. Its strategic objectives are to develop a customer oriented service culture with special emphasis on customer care and convenience, to increase market share by disciplined growth strategy, and to develop innovative products and services that attract targeted customers and market segments. It has targeted to explore new avenues for growth and profitability and maintain a high

quality asset portfolio to achieve strong and sustainable returns and to continuously build shareholders' value.

NIBL has maintained highest growth rates of any bank or financial institution in Nepal in terms of Deposits, Lending, Profits and Market Capitalization for the past six years till FY 2006/07. The bank has also registered the highest growth in its core and supplementary capital base of any commercial banks in Nepal.

The bank has a strategy for nationwide expansion of opening over 50 branches by 2010 to serve the people's banking needs. The bank is in the process of bringing out a slew of new products and services to cater the needs of its valued customers and to create a niche among its competitors.

1.4 Statement of the Problem

Capital structure is a barometer which measures the success or failure of a firm in the long run. The major capital structure question is how a firm should go about choosing its debt - equity ratio. The decision of capital structure is crucial as it decides the well being of the business. As in other sectors, the decision of capital structure is equally significant in banking industry as it involves the public's money. As commercial banks are the building pillars of an economy, it is also essential that they are economically sound too. The bank management must ensure that the return on the investor's money is maximized or the cost of capital is minimized. This study is concerned with studying the capital structure management of three JVBs in Nepal namely Nabil Bank Ltd., Himalayan Bank Ltd. and Nepal Investment Bank Ltd. The study highlights on the capital structure of these banks and its effect on the earnings, liquidity, assets, and overall performance of the bank by use of various financial indicators and ratios including capital adequacy, asset quality, earnings and profitability, and liquidity. Other statistical tools are also used such as regression analysis and correlation analysis.

Most of the theoretical and empirical debuts so far are revolved around the maximization of the value of firms through the judicious composition of its debt and equity fund. Net Income (NI) approach and Traditional theory of capital structure claims that there is the

existence of the optimal capital structure. They contend that proper mix of debt and equity can maximize the value of the firms. Whereas, Net Operating Income (NOI) approach and M-M hypothesis contend that capital structure is irrelevant to the value and cost of capital of the firm. Capital structure concept has been the subject of controversy since the publication of M-M's classic paper in 1958 *(Ghimire 1993, 3).* They hold the view that the cost of a firm remains invariant to capital structure changes. On the other hand, the Static Trade off theory states that the firm's capital structure is determined by a trade-off of the value of tax shields against the costs of bankruptcy. This theory claims that tax shield benefits of debt financing need to be adjusted for financial distress costs that rise with increasing debt levels, creating an optimal capital structure that balances both forces. As per the Pecking Order model, there is a strict ordering or hierarchy of sources of finance which results from adverse selection issues which arise when the firm has more information about its value than providers of funds. The result is that firms will have a preference for internal sources of funds followed by debt and then, when such sources are exhausted, equity finance will be used. That is the firms have a preference, or pecking order of preferred sources of financing, when all else is equal. Internally generated funds are the most preferred, new debt is next, debt - equity hybrids are next, and new equity is the least preferred source.

Various studies have been conducted regarding the capital structure. It is found that the capital structure not only affects the earnings and profitability of bank but also determines the liquidity and other qualitative aspects related with banking, for instance psychology of the stakeholders. Capital structure depends upon the owner's willingness to share the control of the management by issuing debt in the market. If management currently has voting control (over 50 percent of the stock) but is not in a position to buy any more stock, it may choose debt for new financings. On the other hand, management may decide to use equity if the firm's financial situation is so weak that the use of debt might subject it to serious risk of default. Generally, aggressive management uses more debt in the quest for higher profits. If the management has ambitious growth vision, then it is likely that capital structure is affected or altered as compared to other players in the industry.

Studies till date have considered the capital structure of the firm and its impact on the overall performance but haven't considered the capital adequacy in terms of its risk

weighted assets. Likewise the impact of capital structure on liquidity and earnings haven't been examined on a broader perspective. As different approaches hold different beliefs related to the impact of capital structure on the value of the firm, this study has been commenced to map out the following questions.

- What is the existing situation of capital structures of sample commercial banks?
- Is the capital of the bank adequate with respect to its risk weighted assets?
- What is the debt servicing capacity of the commercial banks?
- What are the determinants of bank's capital structure?
- What is the linear relationship between capital structure and profitability?
- What is the relationship between the liquidity position of the bank and its capital structure policy?

1.5 Objectives of the Study

The main objective of this study is to analyze capital structures of sample banks. The specific objectives are as follows:

- To examine the capital structure of sample commercial banks.
- To evaluate the capital adequacy ratio as required by Nepal Rastra Bank and Basel Capital Accord and Basel II.
- To analyze the debt servicing capacity and liquidity position of the sample banks.
- To examine the relationship between different ratios related to capital structure.
- To analyze the effects of capital structure on the profitability of sample banks.
- To analyze the effects of capital structure on the liquidity position of the sample commercial banks.

1.6 Significance of the Study

The study has been done in reference to the periodical performance of Nabil Bank Ltd., Himalayan Bank Ltd. and Nepal Investment Bank Ltd. This study has tried to focus on capital structure of the bank so the study could be significant in revising the banks capital structure for past seven years at a glance. The study could be beneficial to various groups of people of the economy.

Firstly, this study provides valuable information about the debt and equity (leverage) ratio of the selected Nepalese enterprise. Investors will be benefited by such information to perform securities analysis before taking investment decision. Likewise, financial managers of Nepalese enterprise will also be benefited because they will get important information regarding optimum capital structure which will help them to make least cost combination of debt and equity.

This study can also be an aid to future researchers. They will get additional information in capital structure and cost of capital in the literature of finance. They will be benefited by getting secondary data in this context.

Besides helping to enhance the level of understanding in capital structure for other researchers, management scholars and other stakeholders, this study will also be a guideline and review of past performance of the respective sampled commercial banks and the pros and cons of their capital structure and its impact in the financial performance. This study will also be assistance to the team of financial strategists for the improvisation of their existing leverage ratio.

1.7 Chapter Plan and Organization of the Study

The entire study is divided into five chapters. Brief information of what each chapter contains is given below.

Chapter 1 It is an introductory chapter, which includes general background of bank. It also discusses about focus and significance of study, statement of problem, objective and limitation of the study.

Chapter 2 This chapter deals with the review of literature. It includes the theories of capital structure, empirical evidence in capital structure, reexamination or appraisal of the existing works in relevant areas and a review of related previous studies.

Chapter 3 It is concerned with research methodology. It includes research design, sources of data, population, sample and method of analysis used for this study purpose.

Chapter 4 This is the heart of the study as it is concerned with presentation and analysis of relevant data and information. In order to find out the true picture of the capital structure of Nabil Bank Ltd., Himalayan Bank Ltd. and Nepal Investment Bank Ltd., various financial and statistical tools, indicators, and techniques are used. Thus, this chapter is concerned with the findings of the analysis.

Chapter 5 This chapter summarizes the overall picture of the study, draws conclusions, and offer suggestions and recommendations for improvement in the future.

CHAPTER 2
LITERATURE REVIEW

This chapter includes review of relevant concepts, assumptions, and major findings of past empirical studies on the relevant field.

The purpose of reviewing the literature is to develop some expertise in one's area to see what new contribution can be made and to receive some ideas for developing a research design. Thus, the previous studies can't be ignored because they provide the foundation to the present study. In other words, there has to be continuity in research. This continuity in research is ensured by linking the present study with the past research studies. From this, it is clear that the purpose of literature review is to find out what research studies have been conducted in one's chosen field of study and what remains to be done.

This chapter is divided into following headings: Firstly, conceptual foundation which deals with the basic concepts of capital, its structure, and definition of financial leverage. Secondly, this chapter deals with the existing theories of Capital Structure. Thirdly, it consists of empirical evidence in capital structure. The studies in general and Nepalese studies will be reviewed in gist. Lastly, this chapter ends with the concluding remarks.

2.1 Conceptual Foundation

Capital refers to the fund which is essential for starting up a business. Bank capital refers to the fund generated by bank through various sources – issuance of equity and preference shares, floatation of debentures and bonds, and acceptance of deposits. A bank needs capital as it is the institution to carryout financial transactions. Bank can't be imagined without capital. The nature or the structure of total capital that is required for any business is called capital structure. In other words, the total sum of equity capital and the borrowed amount is capital structure. In business, necessary capital can be accumulated by issuing different types of securities. The company's management should know as to what sorts of and how many securities is to be issued for the collection of total capital, how many shares to be issued, and how many debentures are to be issued. Capital structure is made o debt and equity securities which comprise a firm's finance of its assets. It is the

permanent financing of a firm, represented by long-term debt plus preferred stock plus net worth *(Kulkarni: 1983, 363).* It refers to the composition or make-up of its capitalization and it includes all long term capital resources, via, loans, reserve, and shares and bonds *(Charles Gerestnberg 1960, 72).*

A firm's capital structure is only a part of its financial structure. The term financial structure refers to the composition of all sources and amount of funds collected to use or invest in business. In other words, financial structure refers to the 'Capital and Liabilities side of Balance Sheet'. Therefore, it includes shareholder's funds, long-term loans as well as short-term loans. 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. Financial leverage involves the use of funds obtained at fixed costs in the hope of increasing the return to stockholders. Weston and Brigham *(Weston and Brigham; 1981:556)* defined financial leverage as the ratio of total debt to total assets or total value of the firm. The use of the fixed charges sources of funds, such as debt and preference share capital along with the owner's equity in the capital structure, is described as financial leverage or 'trading on equity'*(Pandey ; 1999:23).* Trading on equity is derived from the fact that it is the owner's equity that is used as a basis to raise debt, i.e. the equity that is traded upon. The supplier of debt has limited participation in the company's profit, therefore, debt holder will insist on protection in earnings and value represented by ownership capital.

The selection of the capital structure will obviously depend on the firm's objective of maximization of shareholder's wealth. A financing mix which will lead to maximization of shareholder's wealth as reflected in the market price of shares is termed as an optimum capital structure. There has always been controversy between financial theorists and corporate managers regarding capital structure. There are number of capital structure theories proposed by different personalities. This is the area in which several theoretical and empirical works have been done by different personalities. Capital structure theories developed so far are clung to the question of existence of the optimal capital structure. The optimum capital structure may be defined as that capital structure or combination of debt and equity that leads to the maximum value of the firm (*Khan and Jain; 1990:487).* Erza Soloman expresses the optimum capital structure and its implications as: that mix of debt and equity which will maximize the market value of the claims and ownership

interest represented on the credit side of the balance sheet *(Solomon; 1969:132).* Further, the advantages of having an optimum capital structure is two fold: it maximizes the value of the company and hence the wealth of its owners and it minimizes the company's cost of capital which in turn increases its ability to find new wealth creating investment opportunities. Also, by increasing the firm's opportunity to engage in future wealth-creating investment, it increases the economy's rate of investment and growth.

2.2 Theories of Capital Structure

There are number of capital structure theories proposed by different individuals which has also created some controversy due to different concepts of capital structure theory held by different personalities. This is the area in which several theoretical and empirical works have been done by different personalities. Capital structure theories developed so far revolve around the question of existence of the optimal capital structure. Most of the theoretical and empirical debuts so far are revolved around the maximization of the value of firms through the judicious composition of its debt and equity fund. Net Income (NI) approach and Traditional theory of capital structure claims that there is the existence of the optimal capital structure. They contend that proper mix of debt and equity can maximize the value of the firms. Whereas, Net Operating Income (NOI) approach and M-M hypothesis contend that capital structure is irrelevant to the value and cost of capital of the firm. According to the NOI approach, cost of equity increases linearly as debt increases in the capital structure. The use of debt does not affect the value of the firm as the benefit of debt capital is just offset by the increase in the cost of equity. (Ezra Solomon, 1969) Likewise, M-M hypothesis states that there is no level optimal capital structure. They support the NOI approach by providing logically consistent behavioral justifications in its favor. Between the two extreme views, we have the middle position of intermediate version advocated by the traditional writers. . Thus, there exists an optimum capital structure at which the cost of capital is low. But the logic of this view does not seem very sound. The M-M position changes when corporate taxes are assumed.

This section is developed to discuss briefly about the theoretical concept regarding the theories of capital structure and financial leverage. All the approaches are based on some common assumptions, which are as follows:

Basic Assumptions and Definitions:

1. Two types of capital are employed, long term debt and shareholders equity.
2. There is no tax on corporate income.
3. The firm's total assets are fixed but its capital structure can be changed immediately by selling debts to repurchase common stocks or stock to retire debt.
4. All investors have the same subjective probability distribution of expected future operating earnings (EBIT) for a given firm, that is, investors have homogeneous expectations.
5. The operating earnings of the firm are not expected to grow, that is, the firm's expected EBIT is same in all future periods.
6. The firm's business risk is constant over time and is independent of its capital structure and financial risk.
7. The firm is expected to continue indefinitely.

In addition to above assumption, the following symbols are employed.

S = Total market value of the Stocks (Equity)

B = Total market value of the Bonds (Debt)

V = Total market value of the Firm = B+S

EBIT = Earnings before Interest and Taxes = Net Operating Income (NOI)

I = Interest Payments

- Debt

  Cost of debt (k_d) = Interest/Debt = I/B

  So, Value of Debt (B) = Interest/ k_d = I/ k_d

- Equity or common stock

  Cost of equity capital (k_s) $= d_1 / P_o + g$

  Where,

  d_1 = next dividend

  P_o = Current price per share

  g = expected growth rate

- Overall or Weighted Average cost of capital

  $K = K_d(B/V) + K_s(S/V)$

  $= K_d(B)/B+S + K_s(S)/B+S$

- The Total value of the firm is thus,

  $V = B + S$

  $= I/K_d + EBIT\text{-}I/K_s$

Most commonly cited theories of Capital Structure are as follows: Net Income Approach, Net Operating Income Approach, Traditional Approach, Modigliani and Miller Approach, Static Trade-Off Theory, Pecking Order Theory, and Agency Theory. They are briefly discussed follows.

2.2.1 Net Income Approach

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

This suggests that higher the level of debt, lower the overall cost of capital and higher the value of firm. It means that a firm attends an optimal capital structure when it uses 100%

debt financing. Running a business with 100% debt financing, however, is quite uncommon in the real world.

This approach is based on the following assumptions:

1. The cost of equity and debt remain constant over the acceptable range of leverage.
2. The corporate income tax does not exist.
3. The cost of debt is less than the cost of equity.
4. An increasing leverage brings about no deterioration in the equity of net earnings so long as borrowing is consigned to the amount below the acceptable limits.

The firm can achieve optimal structure by making judicious use of debt and equity and must attempt to maximize the market price of its stock *(Durand; 1959:91-116).*

In sum, as per NI approach, increase in ratio of debt to total capitalization brings about corresponding increase in total value of firm and decline in cost of capital *(Pandey; 1999:26)*. On the contrary, decrease in ratio of debt to total capitalization causes decline in total value of firm and increase cost of capital. Thus, this approach is appeared as relevancy theory. Graphically, the effect of leverage on the firm's cost of capital and the total market value of the firm is shown below.

Figure: 1

The effect of Leverage on Cost of Capital

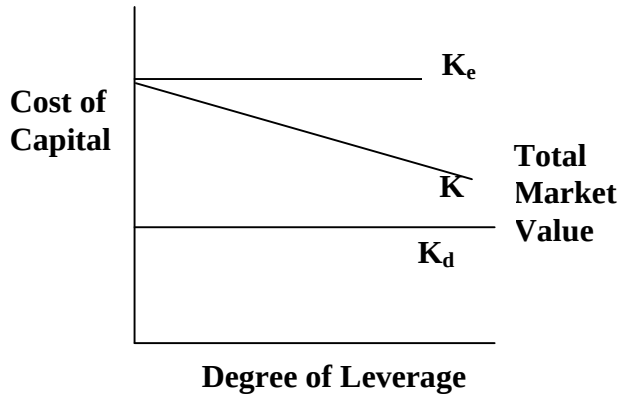


Figure: 2

The effect of leverage on Total Market Value of the Firm

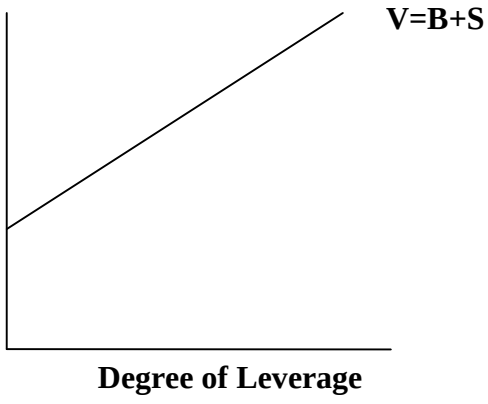


Figure 1 shows a continuous decrease in K with the increase in debt-equity ratio, since any decrease in K directly contributes to the value of the firm. It increases with the increase in the debt-equity ratio (Figure 2). Thus the financial leverage, according to the NI approach is an important variable in the capital structure decision of a firm. Under the NI approach, a firm can determine an optimal capital structure. If the firm is not leveraged, the overall cost of capital will be just equal to the equity capitalization rate.

In brief, the essence of the Net Income approach is that the firm can lower its cost of capital by using debt. The approach is based on the crucial assumption that the use of debt does not change the risk perception of the investor *(Pandey; 1999:26)*. Consequently, the interest rate of debt (K_d) and the equity capitalization rate (K_e) remains constant to debt. Therefore, the increased use of debt results in higher market value of shares which results in lower overall cost of capital (K). As the firm goes on increasing the proportion of cheaper debt, the overall cost of firm (K) decreases and the value of the firm (V) increases. The benefits of using cheaper funds are offset by the decreasing cost of capital and increase in market price per share.

2.2.2 Net Operating Income Approach (NOI)

NOI approach is another behavioral approach suggested by David Durand. This approach is diametrically opposite from the NI approach with respect to the assumption of the behavior of equity holders and debt holders. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant *(Khan & Jain; 1997:481)*. The overall cost of capital is independent of the degree of leverage; any changes in leverage will not lead to change in the value of the firm and the market price of the shares. Net operating income approach is slightly different from NI approach. Unlike the NI approach in NOI approach, the overall cost of capital and value of firm are independent of capital structure decision and change in degree of financing. Leverage does not bring about any change in the value of firm and cost of capital.

This approach specifies that as debt is added to the capital structure, the increased financial leverage results in more risk to common stockholders through an increase in volatility of EPS. This higher risk causes investors in common stock to require higher rates of return. Meanwhile, in the absence of bankruptcy costs, the cost of debt is assumed

to remain constant as financial leverage increases. The higher cost of equity is exactly offset by the addition of cheaper debt to the capital structure. As a result, the weighted average cost of capital remains unchanged. This approach suggests that by increasing the debt ratio, the firm can neither decrease the cost of capital nor increase the market price per share. This approach assumes that with the increase in debt level, the overall cost of capital remains constant and increase in debt will lead to increase in cost of equity. The value of the firm also remains unchanged.

In gist, the total value of the firm is unaffected by capital structure. As a result, the breakdown between debt and equity is unimportant. As the firm increases its degree of leverage, it becomes increasingly more risky. The use of more and cheaper debt funds is offset exactly by the increase in the equity capitalization rate. It means the benefits of using cheaper funds are all taken away by the shareholders. The market price of a share and the cost of capital of the firm cannot be changed by changing leverage. Hence, the net operating income approach implies that there is no optimal capital structure.

The NOI approach is based on the following assumptions:

1. The market capitalizes the value of the firm as a whole. Thus, the split between debt and equity is not important.
2. The market uses an overall capitalization rate, K, to capitalize the net operating income. K depends on the business risk. If the business risk is assumed to remain unchanged, K is constant.
3. The use of less costly debt funds increases the risk of shareholders. This causes the equity-capitalization rate to increase. Thus, the advantages of debt are offset exactly by the increase in the equity capitalization rate, K_e.
4. The debt-capitalization rate K_d is constant.
5. The corporate income taxes do not exist.

The function of Ks under NOI approach can be expressed in equation as follows:

$$K_s = K + (K - K_d)\, B/S$$

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

Figure: 3

The effect of Leverage on Cost of Capital

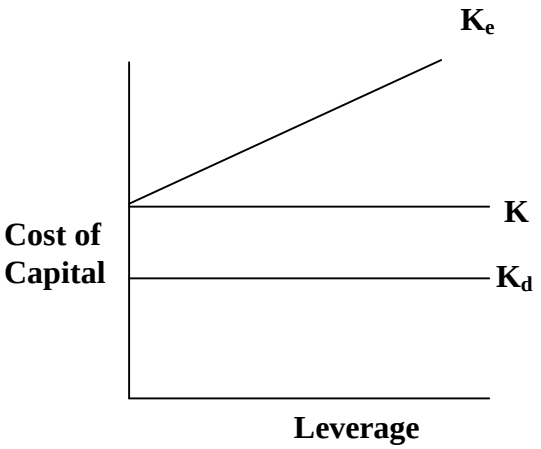
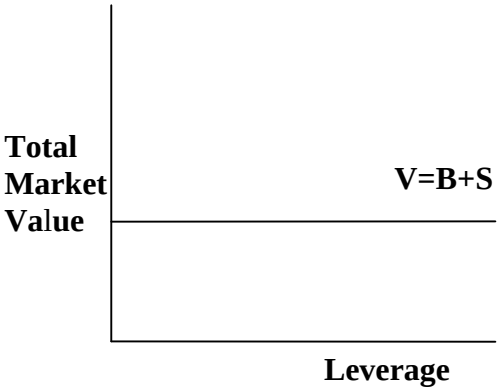


Figure: 4

The effect of Leverage on value of firm



In the Figure 3, it is shown that the line K and K_d are parallel to the horizontal x-axis and K_e is increasing continuously. This is because K and K_d remain constant under all the circumstances but the K_e increases with the degree of increase in the leverage *(Gitman; 1998:791)*. Thus, there is no single point or range where the capital structure is optimum. It is known obviously from Figure 4 that under the NOI approach, as low cost of debt is used, its advantage is exactly offset by increase in cost of equity in such a way that the cost of capital remains constant. By this, value of the firm also remains constant. At the extreme degree of financial leverage, hidden cost becomes very high hence the firm's cost of capital and its market value are not influenced by the use of additional cheap debt fund.

2.2.3 Traditional Approach

The traditional view of capital structure which is also known as an Intermediate approach is a compromise between the Net Income Approach and the Net Operating Income Approach. It states that when a company starts to borrow, the cheap cost of debt, combined with its tax advantage, will cause the WACC to fall. However, as gearing increases, the effect of financial leverage causes shareholders to increase their return (i.e. the cost of equity rises). At high gearing, the cost of debt also rises because the chance of the company defaulting on the debt is higher (i.e. bankruptcy risk). So at higher gearing the WACC will increase.

According to this view, the value of firm can be increased or the cost of capital can be decreased by a judicious mix of debt and equity capital, and that an optimum capital structure exists for every firm. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage *(Barges; 1983:44)*. Thus, an optimum capital structure exists, and it occurs when the cost of capital is minimum or the value of firm is maximum.

The statement that debt funds are cheaper than equity funds carries the clean implication that the cost of debt plus the increased cost of equity together on the weighted basis will be less than the cost of equity which existed on the equity before debt financing. That is, the weighted average cost of capital will decrease with the use of debt up to certain limit.

According to the traditional position, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages.

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. But it does not increase fast enough to offset the advantage of low cost debt *(Soloman; 1969:139)*. 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 cheaper sources of funds are still available. As a result the value of the firm (V) increases as the overall cost of capital falls with increasing leverage.

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

Second Stage: Optimum Value

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

increase in it has a negligible effect on the value of the firm or overall cost of capital of the firm *(Pandey; 1999:358)*. The increase in the degree of leverage increases the cost of equity due to the added financial risk that offsets the advantage of low cost debt. Within the range of such debt level or at a specific point, the value of the firm will be maximized or the cost of capital will be minimized.

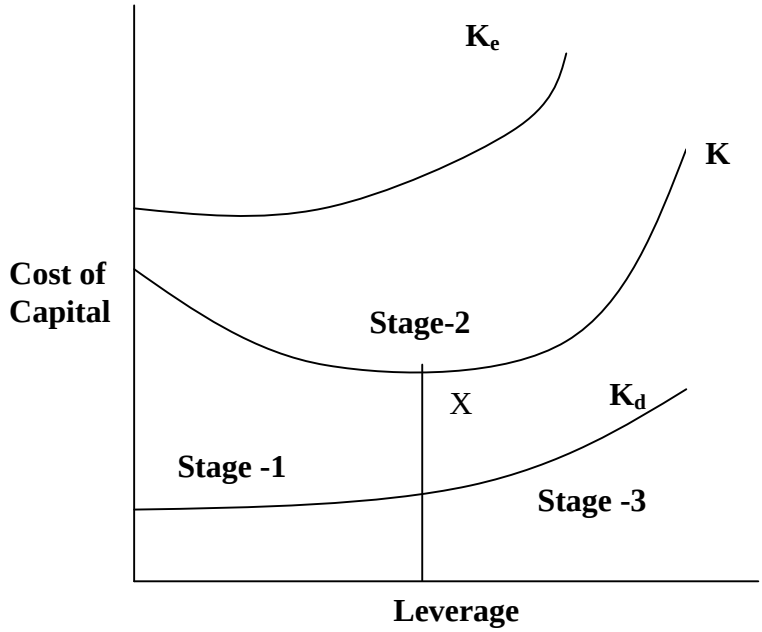
Third Stage: Declining Value

Beyond the acceptable limit of leverage, the value of the firm decreases with the increase of the leverage or the overall cost of capital increases with the additional leverage. This happens because investors perceive a high degree of financial risk, which increases the cost of equity by more than enough to offset the advantage of low cost debt.

The overall effect of these three stages is to suggest that the cost of capital is a function of leverage, i.e. first falling and after reaching minimum point or range it would start rising. The relation between cost of capital and leverage is graphically shown in figure below.

Figure: 5

The effect of Leverage on Cost of Capital under Traditional Theory



In Figure 5, it is assumed that K_e rise at an increasing rate with leverage, whereas K_d is assumed to rise only after significant leverage has occurred. At first, the weighted cost of capital, K, declines with leverage because the rise in K_e does not entirely offset the use of

cheaper debt funds. As a result, K declines with moderate use of leverage *(Srivastav; 1984:881)*. After a point, however, the increase in K_e more than offset the use of cheaper debt funds in the capital structure, and K begins to rise. The rise in K is supported further once when K_d begins to rise. The optimal capital structure is point X where the cost of capital is minimized. Thus the traditional position implies that the cost of capital is not independent of capital structure of the firm and that there is an optimal capital structure.

2.2.4 Modigliani-Miller Approach (MM approach)

The Modigliani-Miller study relating to the relation is akin to net operating income approach. M-M approach, supporting the net operating income approach, argues that, in the absence of taxes, total market value and cost of capital of the firm remain invariant to the capital structure changes. They make a formidable attack on the transitional position by offering behavioral justification for having the cost of capital, K, remains constant through all degree of leverage. M-M contend that cost of capital is equal to the capitalization rate of pure equity stream of income and the market value is ascertained by capitalizing its expected income at the appropriate discount rate of its risk class. M-M position is based on the idea that no matter how you divide up the capital structure of a firm among debt, equity and other claims, there is a conversion of investment value. The M-M cost of capital hypothesis can be best expressed in terms of their proposition I and II *(Modigliani & Miller; 1958:261 297)*. However, the following assumptions regarding the behavior of the investors and the capital market, the actions of the firms and the tax environment are crucial for the validity of the M-M hypothesis.

1. Perfect capital markets: The implication of perfect capital market is that securities are infinitely divisible, investors are free to buy and sell securities, investors can borrow without restrictions on the same terms and conditions as firms can, there are no transaction costs and investors are rational and behave accordingly.
2. Firms can be grouped into homogenous risk classes. Firms would be considered to belong to a homogenous risk class as their expected earnings, adjustment for scale differences have identical risk characteristics. The share of the homogeneous firm would be perfect substitute for one another.
3. Firms distribute all net earning to the shareholders, i.e. divided payout ratio is 100 percent.

4. Absence of growth rates. Expected operating earnings for all future periods are the same as present operating earnings.
5. There are no taxes. MM relaxed this assumption later.
6. The assumption of perfect information and rationality. All investors have the same exception of firm's net operating income with which to evaluate the value of any firm.

Proposition I

M-M 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 *(Pandey; 1999:34)*. In equation this can be expressed as follows:

Value of the Firm = Market value of Debt + Market value of Equity
= Expected net operating income/Expected overall capitalization rate
= EBIT / EBT

For an unlevered Firm,

Value of Firm (V_u) = $EBIT/K_s$

where,

K = Ks in case of unlevered firm.

Proposition I can be expressed in terms of the firm's overall capitalization rate, K, which is the ratio of Net operating income (EBIT) to the market value of all its securities, i.e.;

$K = NOI/S+B$

$= NOI/V$

K can also be expressed as

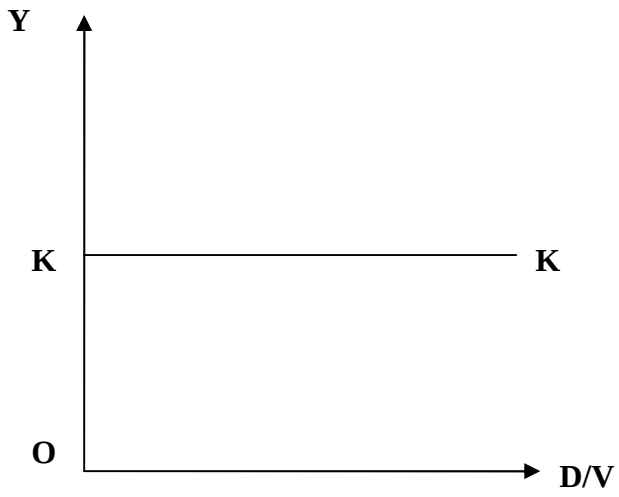
$K = K_e (S)/S+B + K_d (B)/S+B$

It means K is the weighted average of the expected rate of return on equity and debt capital of the firm since the cost of capital is defined as the expected net operating income divided by the total market value of the firm and since M-M conclude that the total market value of the firm is unaffected by the financing mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class.

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

Figure: 6

The cost of capital under the M-M hypothesis



Thus two firms identical in all respects except for their capital structure cannot command different market values nor have different cost of capital *(Pandey; 1999:37)*. But if there is discrepancy in the market values or the cost of capital, arbitrary will take place, which will enable investors to engage in personal leverage to restore equilibrium in the market.

Proposition II

M-M proposition II, which defines the cost of equity, follows from their proposition I and shows the implications of the net operating approach. The proposition II states that the cost of equity 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. The equation for the cost of equity can be derived from the definition of the average cost of capital.

$K = K_e (S)/S+B + K_d (B)/S+B$

$K_e = K (B+S)/S – K_e (B) (B+S)/(S+B) S$

$K_e = K (1+B/S) – K_d (B)/S$

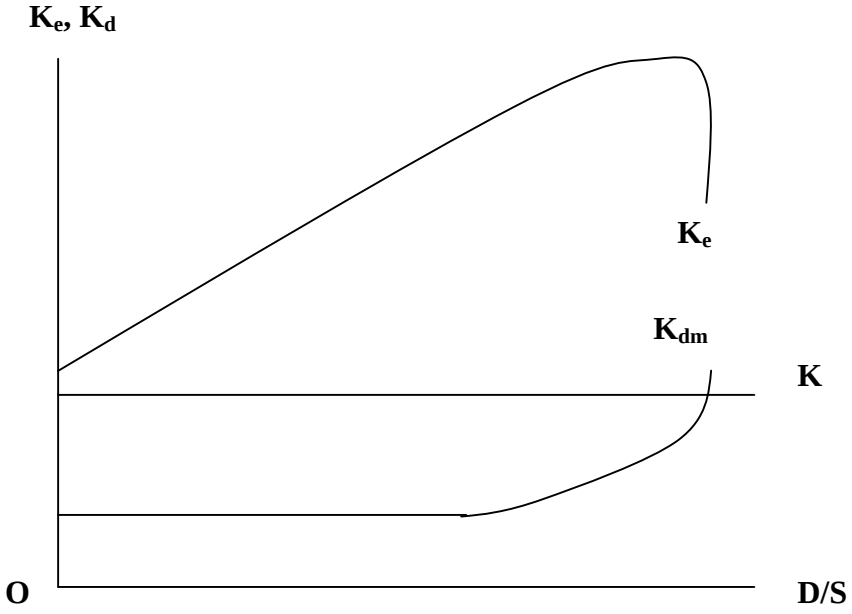
$K_e = K+ (K- K_d) B/S$

K_e (Cost of Equity) = NOI-I/S = NI/S

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

Figure: 7

Behavior of K, K_d and K_s under M-M hypothesis



It is clear from the figure that K_e will increase till the marginal rate of interest (K_{dm}) is below the cost of capital. As soon as, the marginal rate of interest cuts the Cost of Capital, K_e will start falling *(Pandey; 1999:37).*

2.2.5 Static Trade – Off Theory

This theory states that the firm's capital structure is determined by a trade-off of the value of tax shields against the costs of bankruptcy. This theory claims that tax shield benefits of debt financing need to be adjusted for financial distress costs that rise with increasing debt levels, creating an optimal capital structure that balances both forces. Issuing equity

means moving away from that optimum and should therefore be interpreted as bad news. The magnitude of this effect should be related to the size of the tax burden.

Under the tradeoff model, companies equate the marginal benefit of an additional unit of debt with the associated marginal cost, holding constant the firm's assets and investment plans. The key benefits of debt are the tax deductibility of its servicing cost and the mitigation of agency costs. The main cost of additional debt is bankruptcy risk and the costs associated with such bankruptcy. These costs would include the direct costs of re-organization in the event of insolvency as well as indirect costs that arise when companies get into financial difficulty. This has important empirical implications, in particular for the relation between debt, profitability and investment.

Under the tradeoff model, debt or leverage increases in the profitability of the firm.
This reflects three forces. First, bankruptcy risk is lowered when cash flow/profitability increases. An increase in cash flow or profitability which thereby lowers bankruptcy risk should lead to an increase in debt as the firm is better placed to exploit the tax benefits of interest deductibility. Second, the asymmetric tax treatment of profits versus losses is such that greater profitability implies a higher expected tax rate which also increases the benefit of debt. Third, under agency models (eg. Jensen, 1986) additional cash flow is the prime source of agency costs. Debt helps offset these agency costs as the firm is committed to paying out excess cash in the form of interest payments. Again, this implies a positive relation between firms' debt ratios and cash flow or profitability.

Under the tradeoff model, leverage varies inversely with the rate of investment. This is largely due to agency considerations. Firms with higher investments (for given cash flow) have less need for debt as a means of constraining the interests of managers which may diverge from those of shareholders, particularly for firms with large amounts of free cash flow.

2.2.6 Pecking Order Theory

Under the Pecking Order model, developed by Myers (1984) and Myers and Majluf (1984), there is a strict ordering or hierarchy of sources of finance. This results from adverse selection issues which arise when the firm has more

information about its value than providers of funds. These adverse selection issues are absent when retained earnings are used as the marginal source of funds and are greater for equity than debt finance. Providers of finance therefore require a risk premium which is greater for equity than debt finance. The result is that firms will have a preference for internal sources of funds followed by debt and then, when such sources are exhausted, equity finance will be used. That is the firms have a preference, or pecking order of preferred sources of financing, when all else is equal. Internally generated funds are the most preferred, new debt is next, debt – equity hybrids are next, and new equity is the least preferred source.

An implication of the pecking order approach is that firms do not have a target level of leverage and their actual level of debt essentially responds to the difference between investment and retained earnings. The pecking order model implies that leverage is decreasing in company cash flow or profitability and increasing in investment, ceteris paribus. The availability of internal funds, through cash flow or current profitability, implies that firms have less need to make recourse to external debt, implying a lower debt ratio. Moreover, for a given level of cash flow the amount of debt will be increasing in the investment being undertaken by the firm. The important observation is that both of these predictions are in contrast to those described above for the tradeoff model. However, in a refined (i.e. non-static) pecking order model capital structure decisions are influenced by future as well as current financing costs. In this context, firms may wish to maintain a capacity for additional debt with larger expected investments implying lower current indebtedness. This implies the importance of controlling for investment opportunities.

A consideration of the relation between debt and growth opportunities is also of interest in its own right. A case for expecting a positive relation (particularly when the debt ratio is measured at book values) could be expected, especially under the pecking order model. As growth opportunities increase the demand for funds, this may mean that for given availability of internal funds, additional external funds are required including additional debt. Despite some weaknesses, the most common proxy for growth or investment opportunities has been the

Tobin's Q ratio. Under the tradeoff model however, an inverse relation between the debt ratio and Tobin's Q could arise since companies with a high level of Tobin's Q, which may reflect a high level of intangibles, may face greater costs of financial distress. The resale value of the company, ceteris paribus, is lower and this will discourage high levels of debt under the tradeoff model. The model of Myers (1977) also shares this prediction of an inverse relation between debt and Tobin's Q. It is argued that many corporate assets and growth opportunities in particular can be considered as a real option, the value of which depends on discretionary future investment by the firm. Such discretionary investment may be related to the capital structure of the firm as shareholders may perceive that future profits will be used to pay existing debt holders. Debt can then reduce the market value of the company in circumstances when the firm decides to forego investment opportunities. The a priori relation between the corporate debt ratio and Tobin's Q is therefore ambiguous. Indeed, prior research has recorded both positive and negative relations between debt and growth opportunities (Harris and Raviv, 1991, p.336).

2.2.7 Agency Theory

One of the defining characteristics of business in the 1990s was the adoption of prescriptions from agency theory to address the managerial excesses of the 1970's and 1980's. The classic agency theory concept was developed by Berle and Means (1932). They observed that ownership and control had become separated in larger corporations as a result of the dilution in equity positions. This situation provided an opportunity for professional managers, as those in control, to act in their own best interest. Today, the central issue for agency theory is how to resolve the conflict between owners and managers over the control of corporate resources through the use of contracts which seek to allocate decision rights and incentives.

Managers have a number of incentives to pursue growth-oriented strategic options. The larger the organization, the greater the economic and political power of the top management teams, and the greater the ability of the organization to marshal resources necessary to deal effectively with its competitive and social environment. Also, larger

organizations are seen as being able to maintain their freedom from the discipline of the capital markets. As a generalization, it can be said that growth does lead to increasing the wealth of shareholders. However, the concern is that too many of the activities associated with increasing the size of organizations are motivated not by a desire for maximizing shareholder wealth, but by opportunities for the self-aggrandizement of management.

The contractual device suggested by agency theory to accomplish the transfer of wealth from the organization to the investors is debt creation. Debt provides a means of bonding manager's promises to pay out future cash flows. It also provides the means for controlling opportunistic behavior by reducing the cash flow available for discretionary spending. Top managers' attention is then clearly focused on those activities necessary to ensure that debt payments are made. Companies failing to make interest and principal payments can be declared insolvent and can be dissolved. This use of debt as a disciplinary tool makes survival in the short-term the central issue for all concerned.

Agency theory also has important implications for the relationship between stockholders and debt-holders. Stockholders are interested in the return over and above that amount which is required to repay debt. Debt-holders are only interested in the debt payment specified in the contract. Stockholders are seen as sometimes being interested in pursuing riskier business activities than debt-holders would prefer. When this occurs debt-holders may charge higher prices for debt capital and institute greater control measures to prevent top managers from investing capital in riskier undertakings.

However, agency theory does not take into consideration competitive environments, nor does it consider the necessity for managers to make choices beyond a stockholder wealth-maximizing perspective. This would seem to be a serious omission for two reasons. First, debt and equity represent different constituencies with their own competing, and often mutually exclusive, goals. Second, as the level of debt increases, the corporate governance structure can change from one of internal control to one of external control. For firms that adopt debt as a control mechanism, lenders become the key constituents in the corporate governance structure. This can have a significant impact on both managerial discretion, and on the ability of an organization to deal effectively with its competitive environment.

2.3 Empirical Evidence in Capital Structure

Various studies have been conducted in the field of capital structure management. A capital structure study is one of the most puzzling issues in the corporate finance literature. Numerous empirical studies have shown that announcements of seasoned equity offerings cause negative price reactions, whereas the news of an additional debt issue is followed by an increase in stock prices. The majority of these studies use capital structure arguments emphasizing the importance of tax shield benefits from debt financing, as the explanation for this phenomenon.

The available empirical studies in capital structure are categorized into three sub headings: studies in general, Nepalese studies, and studies available in bank capital structure.

2.3.1 Studies in General

The success and failure of the industry mainly depends upon the ability of top management to make appropriate capital structure decision. One of the most perplexing issues facing financial managers is the relationship between capital structure and stock price. How much debt financing, as opposed to equity financing, should a firm use? Should different industries and different firms within industries have different capital structures and if so what are the factors that lead to these differences?

Capital structure concept has been the subject of controversy since the publication of M-M's classic paper in 1958 *(Ghimire 1993, 3).* They hold the view that the cost of a firm remains invariant to capital structure changes. Modigliani and Miller in their first study they used the previous works of "Allen and Smith" in support of their independence hypothesis. In the first part of their work M-M tested their proposition I - the cost of capital is irrelevant to the firms' capital structure by determining the correlation between after tax cost of capital with leverage B/V. They found that the correlation co-efficient are statically insignificant and positive in sign. The regression line doesn't consist of curvilinear "U" Shaped cost of capital key of traditional view, when the data are shown in scatter diagram. In the second part of their study, they tested their proposition II - the expected yield on common share is a linear function of debt to equity ratio. The second

part of their study is consistent with their views i.e. if the cost of borrowed funds increases, the cost of equity will decline to offset this increase Modigliani and Miller second study. M-M were conducting the second study in 1963 while correcting their original hypothesis for corporate income taxes and expected cost of capital to be affected by leverage for its tax advantages, therefore they wanted to test whether leverage had tax advantages or not, for this they conducted the mathematical analysis regarding the effect of leverage and other variable on the cost of capital. They found that the leverage is significant only because of the tax advantage involved *(Modigliani & Miller; 1958:261)*.

There are many empirical works regarding the capital structure supporting and refuting the M-M view and traditional view. Weston in the year 1959 used M-M cost of capital model for his sample of 59 utilities. He found that the regression coefficient of leverage to be positive and significant. However, multiple regressions were run and the results were consistent with the traditional view. Wiper R (1960) in *"Financial Structure and Value of the Firm"* has made a test to empirical relationship between financial structure and value of the firm. He tried to eliminate the principle problem of empirical study on the leverage and attempted to offer what were hoped to be more, alternative's in determining the relationship between leverage and cost of capital. He found that the shareholder's wealth can be enhanced by judicious use of debt financing. In support of this study, Weston J.F. (1963) in "*A Test of Cost of Capital Proposition"* made some important improvement in the cost of capital models. He also included firm size and growth as additional explanatory in his model. He found the regression co-efficient of leverage to be positive and significant, when he used M-M model. However, when the multiple regressions was shown he found that the correlation coefficient is significant and the regression co-efficient of leverage is negative and significant. When the influence of growth is isolated leverage is found to be negatively correlated with the cost of capital. He concluded that the apparent lack of influence of leverage on the overall cost of capital observed by M-M was due to the negative correlation of leverage with earning growth.

Barges in 1963 used simple regression technique to analyze the relationship between leverage and the average cost of capital. The stock yield and debt equity ratio utilized cross section data of the three industries and rejected the M-M hypothesis. In 1968, Sharma and Rao studied M-M tax correction hypothesis and their finding showed that debt has non-tax advantage and investor's prefer corporate to personal leverage. Rao and

Litzaberge (1970) in *"Leverage and the Cost of Capital in Less Developed Capital Market Comment"* conducted the study of the effect of capital structure on the cost of capital in less developed and less efficient capital market (India) and in highly developed and efficient capital market (US). They used 28 Indian utilities and 77 American utilities. They conducted the study for five cross section years 1962-1966. They found that the results for the American utilities are constant to the M-M proposition except for the advantage of debt financing. The cost of capital is independent of capital structure and result also supported the M-M hypothesis that investors are different for the firm's dividend policy in case of Indian utilities. The results are inconsistent to the M-M approach and support the traditional belief that the judicious use of financial leverage will lower the firms cost of capital and investors have a reference for current dividends. In conclusion, they contended that the M-M approach after allowing for the tax advantage of debt, the firms cost of capital is independent of capital structure and does not appear to be applicable in the case of a developing economy.

During 1966 Wippern carried out the cross sectional analysis for the year 1956, 1958, 1961, and 1963 of 50 firms from different industries. In his study, he concluded that shareholders wealth is enhanced by the firm's judicious use of fixed commitment of financing.

A study by DeAngelo – Masulis (1980) contended that the gain from leverage-induced tax shield can be positive. The result is consistent with the existence of optimal capital structure. Pandey (1981) computed multiple regression equation to test the validity of M-M proposition and his results concluded that cost of capital is the function of capital structure. The M-M hypothesis was rejected as per his study. Bradely et al. (1984), Kester (1986), Titman and Wessels (1988), Wedig (1988), and Friend and Land (1988) concluded that there is inverse impact of the volatility of earnings on leverage. Auebach (1985) and Kin and Sorensen (1986) found that the conclusion of aforesaid studies concluded the positive relationship between the volatility and leverage ratio. In general, the results of the studies in regard to the relationship between volatility and leverage are in consistent with tax driven relevant theory of capital structure. The positive relationship between the leverage and volatility of earnings is consistent with the agency cost theory. This theory contended that high variance firm has lower agency cost of debt and hence higher financial leverage.

James C. Vanhorn has also presented controversial decision about capital structure. According to him financial signaling occurs when capital structure change conveys information to security holders *(Van Horne; 1985:277)*. It, assuming as symbolic information between management and stock holders management behavior, result in debt issue being regarded as good news by investors and stock issue as bad news. This empirical evidence seems to be consistent among different nations. Titman and Wessels (1985) studied the relationship between the leverage and profitability. Their results showed that profitability were significantly negatively related to leverage. This result supports the pecking order theory of Myers – Majluf (1984). As per pecking order theory, more profitable firms will tend to use less external financing. Taggart (1985) in his study provides an account on secular trends in leverage by using varieties of measurements. He concluded that there was increasing trend of leverage in U.S.A. since the Second World War. He also found out that debt was 45% of total sources of funds for U.S.A's non-financial corporation. He further showed that there was increasing trend of debt financing after the Second World War till 1974 and decreasing trend thereafter. In his study, he showed that debt financing was used to an unprecedented extent during the period of 1986-74.

Bringham et at. (1999) studied capital structure which leads to the following conclusions: (a) there exists an optimal capital structure or at least an optimal range of structure for every firm; (b) financial theory is not powerful enough at this point to locate a firm's optimal capital structure with precision, and (c) the optimal capital structure is not set in isolation; rather it depends on a set of factors which includes the firm's dividend policy, its capital investment opportunities, and investor's preference for different types of securities at each point in time.

2.3.2 Nepalese Studies on Bank Capital Structure

Dr. Manohar Krishna Shrestha (1980) in his article "Financial management theory and practice" concluded that banks have sufficient liquidity to meet the claim of the depositors excluding the fixed deposits. The bank is explicitly depending more on borrowed funds and has highly geared capital structure. The bank has been able to meet the interest on deposits out of its profits. Similarly, the rate of return on ownership capital

is favorable. Although the performance of the bank is satisfactory, operational efficiency should be enhanced to achieve its higher profit goals. Moreover, the intense competitive environment in the banking sector has also made it mandatory to improve operative efficiency in order to return its market share.

R. L. Shrestha (1986) in his article "Capital adequacy of Bank: the Nepalese context" suggested that the bank should deal in highly risky transactions to maintain strong capital base. However, the capital base should neither be too much leading to inefficient allocation of scarce resources and not too weak as to expose to extreme risk. The study accepts that the operations of bank and the degree of risk associated with are subject to changes country-wise, bank-wise, and period-wise. Henceforth, the study suggests preparing standard capital adequacy ratios for each individual bank keeping in mind various relevant factors.

Again the year 1985, Dr. Manohar Krishna Shrestha conducted another study research on *"Analysis of Capital Structure in Selected Public Enterprises"*. The study found that the public enterprises have a very confusing capital structure. In many instances adhoeism became the basis of capital structure and in that also most of them wanted to eliminate debt if possible to relieve financial obligations. Further more, the determination of capital structure is greatly influenced by the inflow of International Donor Agency's long term credit through the medium of His Majesty's Government of Nepal (HMG/N). In a way, neither the public enterprises nor HMG developed criteria to determine capital structure. This is the reason as to why debt equity ratio became a ticklish problem. Also true that the calculation of equity capitalization rate and overall capitalization rate according to given data provide very fantastic results in many cases, although they carry valid and meaningful results in some instances. As such, the use of Net Operation Income Approach and Net Income Approach on the whole is more an academic exercise rather than proving much valid. While determined and there is growing tendency among most of public enterprises to have least combination of debt with equity to escape financial obligations as far as possible. Again, it is an implied fact that the contribution of debt to procurement of assets shows significant deviations. The earning of the public enterprises in most cases does not prove satisfactory except in limited few. There are many unfavorable side effects such as growing accumulated losses climbing greater heights and little maintenance of tax provisions.

He suggested that debt equity ratio neither should be highly levered to create too much financial obligations that lie beyond capacity to meet nor should it be much low levered to infuse operational strategy to bypass responsibilities without performance. [The Nepalese Journal of Public Administration, March 1985]

Mr. Mahendra Adhikari in his study on the effect of capital structure on cost of capital (1991), conducted the empirical study of M-M proposition in Nepalese context from the time period 1976/77 to 1988/89. He studied the relationship of cost of capital and capital structure and found out that cost of capital is the function of leverage, so the judicious use of leverage may reduce the cost of capital.

Rima Devi Shrestha (1999) conducted a study research on *"Focus on Capital Structure (Selected and listed Public companies)"*. She found that in Nepalese public enterprises the definition of capital structure is not a problem but what matters is the problem of putting the definition of capital structure into practice. As for instance, public enterprises as well as listed public limited companies have higher debt equity mix. As a result their liabilities have increased together with higher fix charges due to failure to utilize borrowed capital properly. Thus in market investors often express dissatisfaction for not getting expected return as per commitment made by the listed companies in the prospectus to the investing public. This is even very serious in government owned companies.

The researcher clearly suggested that the capital structure of both selected public enterprises and listed companies have high proportion of debt mixed with equity. Most of them have to face high interest burden on one side and increasing accumulated losses on the other hand. She further suggested to the government that it is important to monitor the use of debt and its impact on the overall earnings of enterprises. This factor has been neglected by HMG/N. The bitter experience reveals that government in these enterprises has not been able to specify the capital structure mix. [Pravaha Journal of Management, Vol 10: 1, 1999]

In the same year 1999, Shanti Raj Prashai made a study on *"The Capital Structure of Nepal Bank Ltd"*. The basic objective of the study made by him was to analyze the

interrelationship and trends among some of the component parts of capital and assets structure and to provide suggestions for the development of an appropriate capital structure. This study has used financial tools such as ratio analysis and statistical tools such as Karl Pearson's co- efficient, ratio percentage, Index and average to analyze the relation between various variables.

It is known that bank is composition of loan and advances, cash investment and other assets. Between all these components, loan and advance are the major portions. During the study, total assets and capitals were in increasing trend. But increasing rate of component was different. So the interrelationship of the component was found to be fluctuating. The average growth rate of total deposits and other liabilities was higher than the average growth rate of net profit, and higher than the growth rate of total expenses. The total income and total expenses were not under control of the bank, and the net profit was only 40.64% of the total income. The study suggested that the bank must control total deposit and investment. The bank needs to reduce its expenses and control fluctuations in the earnings per share in order to improve its market price per share.

Kamal Raj Pathak in his study on capital structure and profitability conducted in 1999 made a comparative analysis of Nepal Indosuez Bank and Nepal Grindlays Bank. He found out that these banks were highly levered and it was difficult for them to pay interest and principle which ultimately led to bankruptcy. Further he concluded that there is no significant relationship between debts to equity ratio, fixed deposits to net worth and overall capitalization ratio of bank.

Shambhu Prasad Parajuli in his study capital structure and its impact on Nepal Lever Limited (2001) has analyzed that the appropriate mix of capital makes the firm sound and healthy. In the long run, liability may depend on the profitability of firm but to survive and achieve long run profitability it has to depend upon its capital structure to some extent.

Ganesh Prasad Neupane (2002) conducted research on *"A Study on Capital & Assets Structure of Nepal Bank Limited (NBL)"*. The basic objective of this study was to analyze interrelation between different ratio, component parts of capital structure, debt equity ratio, net worth, deposit/investment ratio etc. According to him the research analyzed

different financial aspects of NBL. He remarked that the total deposit and total investment were not significantly related. He concluded that the net worth was used in unproductive assets of the bank and further commended that the bank needs to have productive use of its net worth. In the same year Bindy Shrestha in her study of capital structure analysis of Bottlers Nepal, Nepal Lever, Soaltee Hotel and Yak & Yeti Hotel (2052/3-2057/8) found out that most of them have used no debt in their capital structure.

Dr. Radhe Shyam Pradhan in his book "Capital Structure Management" (2008) has mentioned that capital structure is a difficult issue to test empirically. Often changes in capital structure are made simultaneously with new investment decisions. Capital structure is difficult to test because it is difficult to measure as well. It is hard to get good market value data for publicly held debt while it is almost impossible to get data on privately held debt. He has quoted some empirical evidence on whether capital structure affects the value of the firm. There are two broad approaches to empirical tests of capital structure: Cross sectional studies attempted to explain that observed financial leverage is a function of the firm's tax rate, its non-debt tax shields, potential for agency costs, operating leverage, systematic risk, etc. and time series studies attempted to establish relationship between changes in leverage and simultaneous changes in the value of dent and equity on the announcement date of a leverage - changing event.

Dr. Pradhan concluded that empirical results are mixed on the issue of optimal capital structure and pecking order hypothesis. In order to resolve the capital structure issue, it requires more studies to be conducted. There are various market imperfections which would lead to existence of optimal capital. These imperfections are concerned with the uncertainty of debt tax shield, presence of bankruptcy costs, financial signaling effect, agency costs, incentive issues, and so on. There is also a pecking order hypothesis which suggests that the firm has a preference hierarchy while choosing the financing sources. It is therefore not yet resolved whether the firm goes by optimal capital structure or pecking order hypothesis. The empirical evidences are also mixed.

2.4 Concluding Remarks

From the above discussion and review of studies and various theories, it can be concluded that capital structure is one of the crucial factor for any enterprise. The capital accounts of

a commercial bank play several vital roles in supporting its daily operations and ensuring its long run viability. It provides a cushion against the risk of failure by absorbing financial and operating losses until management can address the bank's problems and restore the institution's profitability. Capital provides the funds needed to bet the bank chartered, organized, and operating before deposits come flowing in. It also promotes public confidence in a bank and reassures creditors of the bank's financial strength so that it is ensured that the bank will be able to meet their credit needs even if the economy turns down. Besides these, banks also require capital for growth and expansion.

The capital structure not only affects the earnings and profitability of bank but also determines the liquidity and other qualitative aspects related with banking, for instance psychology of the stakeholders. It is clear from Van Horn's study that capital structure gives financial signaling. That is, the stakeholders perceive issue of debt as good news whereas issue of equity as bad news. Capital structure depends upon the owner's willingness to share the control of the management by issuing debt in the market. If management currently has voting control (over 50 percent of the stock) but is not in a position to buy any more stock, it may choose debt for new financings. On the other hand, management may decide to use equity if the firm's financial situation is so weak that the use of debt might subject it to serious risk of default.

Likewise, the capital structure also depends upon the attitude of management. Since no one can prove that one capital structure will lead to higher stock prices than another, management can exercise its own judgment about the proper capital structure. Some management tends to be more conservative than others, and thus use less debt than the average firm in their industry, whereas aggressive management uses more debt in the quest for higher profits. As per the Pecking Order Theory, more profitable firms use less external financing. Although there is no theoretical justification for this fact, one practical explanation is that very profitable firms such as Intel, Microsoft, and Coca-Cola simply do not need to do much debt financing. Their high rates of return enable them to do most of their financing with internally generated funds.

Tradeoff model and pecking order theory relaxes conditions under which the Modigliani and Miller (1958) theorem was derived. The tradeoff theory views companies as setting a level of debt where the marginal benefit of debt, in the form of tax deductibility of

interest payments and possible mitigation of agency costs, exactly offsets the marginal cost of debt in the form of bankruptcy costs. The pecking order theory instead views these considerations as of secondary importance being dominated by adverse selection issues arising from the fact that managers have greater information about the value of the firm than outside providers of funds. The resulting premium that such suppliers of finance demand is especially strong where equity finance is concerned such that firms have a strict ranking of preferred source of funds: internal funds, followed by debt and then equity.

On contrary, Weston in his study has included the firm size and growth as additional factors to determine the capital structure. It is obvious that if the management has ambitious growth vision, then it is likely that capital structure is affected or altered as compared to other players in the industry. Other things remaining the same, faster-growing firms must rely more heavily on external capital. Further, the flotation costs involved in selling common stock exceeds those incurred when selling debt, which encourages rapidly growing firms to rely more heavily on debt. However, the capital structure should be determined within the debt capacity of the company, and this capacity should not be exceeded. The debt capacity of a company depends on its ability to generate future cash flows. It should have enough cash to pay creditors' fixed charges and principal sum.

Similarly, the capital structure of the firm also depends upon its sales. A firm whose sales are relatively stable can safely take on more debt and incur higher fixed charges than a company with unstable sales. Utility companies because of their stable demand have historically been able to use more financial leverage than industrial firms. Firms whose assets are suitable as security for loans tend to use debt rather heavily. General-purpose assets that can be used by many businesses make good collateral, whereas special-purpose assets do not. Thus, real estate companies are usually highly leveraged, whereas companies involved in technological research are not.

Likewise capital structure is also determined by the tax bracket within which the firm is operating in. As interest is a deductible expense and deductions are most valuable to firms with high tax rates. Therefore, the higher a firms tax rate, the greater the advantage of debt. However, the borrowed funds must be used optimally so that it may not backfire. As

per Rima Devi Shrestha's study, most of the firms who employ more debt but haven't used it optimally have to face high interest burden on one side and increasing accumulated losses on the other hand. Wiper correctly mentioned that shareholder's wealth can be increased by proper use of debt.

Conditions in the stock and bond markets undergo both long and short run changes that can have an important bearing on a firm's optimal capital structure. For example, during a recent credit crunch, the junk bond market dried up, and there was simply no market at a "reasonable" interest rate for any new long-term bonds rated below triple B. Therefore, low rated companies in need of capital were forced to go to the stock market or to the short-term debt market, regardless of their target capital structures. When conditions eased, however, these companies sold bonds to get their capital structures back on target.

A firm's own internal condition can also have a bearing on its target capital structure. For example, suppose a firm has just successfully completed an R&D program, and it forecasts higher earnings in the immediate future. However, the new earnings are not yet anticipated by investors, hence are not reflected in the stock price. This company would not want to issue stock, it would prefer to finance with debt until the higher earnings materialize and are reflected in the stock price. Then it could sell and issue of common stock, retire the debt, and return to its target capital structure. The capital structure should thus be flexible. Flexibility in capital structure helps to grab market opportunity as it enables the company to raise required funds whenever required for profitable investment opportunities.

CHAPTER 3
RESEARCH METHODOLOGY

Research Methodology is the way to solve the research problem systematically. There are two broad methodologies which can be used to answer any research question – experimental research and non experimental research. Under experimental research, the investigator controls extraneous variables and manipulates at least one variable for research purpose. On the contrary, under non-experimental research there is no intervention beyond that needed for the purpose of measurement. The research method adopted in this study is non experimental in nature. The financial statements of the respective sample banks are as given. The research methodology used for this study is discussed in the following manner.

3.1 Research Design

Research design is defined as the specification of methods and procedures for acquiring the information needed. It is a plan or framework for doing the study and collecting the data. It helps to fulfill the objectives of the study.

This study has adopted descriptive as well as analytical research design. As this study is designed primarily to describe what is going on or what exists in the sample banks with reference to their capital structure, it can be considered as descriptive research. And since various analytical tools such as regression analysis, correlation etc are used to examine the capital structure and financial statements of the sampled banks, this study can be also considered as analytical in nature.

3.2 Population and Sample

There are currently 26 ‘A category’ Commercial banks which are operating under the license of Nepal Rastra Bank. Besides this, there are 38 ‘B category’ Development banks, 79 ‘C category’ Finance companies and 11 ‘D category’ Micro Credit Development Banks, and 19 Cooperatives licensed by Nepal Rastra Bank which are also playing active role of financial intermediation in the Nepalese Economy.

For the purpose of this study three Joint Venture class 'A' commercial banks, namely Himalayan Bank Limited, Nabil Bank Limited, and Nepal Investment Bank Limited are taken as sample.

3.3 Sources and Nature of Data

The study is based on "Secondary Data". Data has been collected from the financial statements of the sampled commercial banks. Other relevant data have also been supplemented from Nepal Stock Exchange Ltd. and various related journal in management and other publications.

In order to support the study more effectively, primary data has also been collected by interviewing related commercial Bank's Manager and other Personals.

3.4 Period Covered

For analyzing the capital structure management of JVBs in Nepal, the period covered is of last seven years i.e. fiscal years 2001/02 to 2007/08. This study has been prepared on the basis of data available of limited time period from their respective Annual Reports and Publications.

3.5 Tools used for the Study and Analysis

Different tools have been selected according to the nature of data and as per the requirement of the analysis. The major tools employed for the analysis of the data are the **Ratio Analysis** which establishes the quantities or numerical relationship between two variables of the financial statement. The study also uses various financial performance indicators as per the requirement of **BASEL** such as capital adequacy, assets quality, earnings, profitability, and liquidity. In addition to these other **Statistical Tools** such as regression analysis and correlation analysis are also considered.

3.5.1 Ratio Analysis

Ratio Analysis is the powerful tool of financial analysis. Financial ratio presents the relationship between two accounting figure expressed mathematically. Ratio analysis is defined as the systematic use of ratio to interpret the financial statements so that the strengths and weakness of a firm as well as its historical performance and current financial condition can be determined and compared.

The financial ratios used for this study are in detail as follows:

a. Debt Equity Ratio (Leverage Ratio)

Debt equity ratio is used to show the relationship between borrowed funds and owners' capital. It reflects the relative claims of creditors and shareholders against the assets of the firm. It is an important tool for the financial analysis to appraise the financial structure of a firm. The ratio reflects the relative contribution of owners and creditor's capital of business in its financing. In other words, this ratio exhibits the relative proportions of capital contributed by owners and creditors. Debt equity ratio can be calculated on the basis of shareholders' equity and long-term debt. Shareholders' equity includes reserve and accumulated profit, preference share and equity share capital where long-term debt includes total debt minus short-term debt or current liabilities. Here debt equity ratio is also computed by simply dividing long-term debt of the firm by shareholders' equity. The high D/E ratio shows the large share of financing in the capital by the creditors than the owners. It also reflects that the creditors claim is higher against the assets of firm.

The leverage ratio can be calculated as follows:

$$\text{Debt equity ratio} = \frac{\text{Long Term Debt}}{\text{Shareholders' Equity}}$$

b. Debt to Total Capital Ratio

The optimal capital structure has important relationship with the long term debt to capital employed ratio. This relationship suggests the portion of long term debt and capital employed used in the capital structure of the firm. This ratio highlights the need of long term debt in the capital employed by the firm. Long term debt includes the debt, which matures in more that one accounting period whereas capital employed includes long term debt and shareholders' equity of the firm. The relationship of the long term debt and capital employed can be analyzed by establishing the ratio between them. This ratio is called the long term debt to capital debt ratio.

As a general rule, debt-equity ratio of 2:1 is considered to be satisfactory. It means that long term funds should not be more than twice of the owners' funds. Larger the ratio, larger the proportion of long term debt in the capital employed and vice versa. A low ratio is considered favorable. It is calculated by dividing long term debt with capital employed by the firm. This ratio is also known as debt to permanent capital ratio whereas permanent capital means total assets minus current liabilities. It is calculated as follows:

$$\text{Debt to total capital ratio} = \frac{\text{Long Term Debt}}{\text{Permanent Capital}}$$

Permanent Capital consists of shareholders equity as well as long term debt.

c. Total Debt to Total Asset Ratio

The total debt of the firm comprises long term debt plus current liabilities while total assets consist of permanent capital plus current liabilities. Assets may be described as valuable resources owned by a business which have been acquired at a measurable money cost. Assets as an economic resource must satisfy three requirements. Firstly, the resources must be valuable or it may provide future benefits to the operations of the firms; secondly, the resources must be owned, and thirdly the resources must be acquired at a measurable money cost. When intangible assets are significant, they are frequently deducted from net worth to obtain the tangible net worth of the firm. A comparison of

debt ratio for a given company with those of similar firms gives us a general indication of the credit worthiness and financial risk of the firm. The reason is that the assets and cash flows of the firm provide the wherewithal for payment of debt.

Debt to total assets ratio express the relationship between creditors fund and total assets. It is also the leverage ratio, which is generally called the debt ratio. This type of capital structure ratio is a variant of debt equity ratio. Calculating debt to total assets is one calculation approach of the debt to capital ratio. Debt includes all loans and Total assets include all types of assets of the firm. It measures the percentage of total funds provided by creditors. This ratio can be calculated by simply dividing long-term debt by the total assets of the firm.

$$\text{TD/TA Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Lower the ration, the role of loaned funds in financing the assets engaged in profit generating activities of the organization is less.

d. Long Term Debt to Total Debt Ratio (LTD / TD)

The relationship between long term debt and total debt has a decisive impact on the financial structure of the companies. This relationship indicates what percentage of total debt is covered by long term debt of the firm. Normally firms use short term and long term debt. Current liabilities and provisions are also needed during the operation of the firm. Simply dividing long term debt by the total debt can derive the relationship between the long term debt and total debt of the firm. The total debt includes all types of borrowings, current liabilities and provisions. If the firm uses large amount of short term loans, current liabilities and provisions, the percentage of the long term debt on the total debt will be low and vice versa. The higher ratio of long term debt to total debt indicates the higher claim of long term debt holder upon the total debt and lower ratio indicates the higher claim of short term debt holders as the portion of short term loans and current liabilities in the total debt of the firm would be high. The amount of short term loans and current liabilities used depends upon the liquidity of that firm.

Debt is considered as the total debt, which includes all secured and unsecured loan. Within these two types of loan there comes long term, short term debt, debenture, overdraft etc. It is externally borrowed from financial institutions. Debt capital is the capital to which a fixed rate of interest should be paid. Interest paid for debt is tax deductible expenses. Debt capital is a cheap means of financing. But there is risk in holding debt capital. Risk can be in terms of timely payment of interest and the redeemable value at the end of maturity period. Debt capital should be limited up to a level, which the earning capacity of the firm can support. Otherwise, the company has to sell its assets and be forced to go into liquidation. The ratio of long term debt to total debt indicates what percentage of company's total debts is included in the form of long term debt. It is calculated as:

$$\text{LTD/TD Ratio} = \frac{\text{Long Term Debt}}{\text{Total Debt}}$$

e. The Degree of Financial Leverage (DFL)

The degree of financial leverage at a particular EBIT level is measured by the percentage change in earning per share relative to the percentage change in EBIT. The company needs a lot of funds to operate activities. These funds are collected from different sources having different rates. On the way to profitability, the company can use equity capital. In the process of profit planning, it tries to increase the amount of profit, but different kinds of leverage should be considered. Degree of financial leverage is one kind of leverage.

Degree of financial leverage (DFL) measures proportionate change in EPS as a result of given change in EBIT. The financial leverage measures the financial risk arising due to the interest. Higher the financial leverage higher the financial risk. The financial leverage exists when the company adds debt capital in the composition of capital structure. The extra amount of investment by debt capital can be measured only with the help of financial leverage. This may be calculated as:

$$\text{Degree of Financial Leverage} = \frac{\text{\% change in EPS}}{\text{\% change in EBIT}}$$

$$= \frac{\text{EBIT}}{\text{EBIT} - \text{R}}$$

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

Where, R represents fixed financial costs which are interest and preference dividend.

f. Interest Coverage Ratio

The interest coverage ratio is useful tool to measure long term debt servicing capacity of the firm. It is also called interest on ratio. Interest is fixed charges of the companies, which is charged in long term and short term loans. Generally, interest coverage ratio measures the debt serving capacity of the firm 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 firm by how many times the interest charges are covered by EBIT.

As interest coverage ratio is calculated by dividing EBIT by interest, it is necessary to analyze EBIT and interest. This ratio is useful to measure long term debt serving capacity of the firm. It is also useful in determining whether a borrower is going to be able to service interest payments on a loan. In other words, the ratio is designed to relate the financial charges of a firm to its ability to service them. This ratio determines whether a firm has the ability to meet its long term obligations. A high interest coverage ratio indicates the company's strong debt servicing capacity and ability to handle fixed liabilities of creditors whereas, lower ratio is a signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditor.

This is calculated as:

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

Profitability Ratio

Profitability Ratio gives answers about how effectively the firm is being managed and how effectively it uses its assets. In the study following profitability ratios are calculated.

g. Return on Total Assets

Return on total Assets ratio measures the profitability of bank that explains a firm to earn satisfactory return on all financial resources invested in the bank assets. The ratio explains net income for each unit of assets. It is also known as Return to Investment.

Higher ratio indicates efficiency in utilizing its overall resources and vice versa. From the point of view of judging operational efficiency, Rate of Return on Total Assets is more useful measure.

$$\text{Return on Assets} = \frac{\text{EBIT}}{\text{Total Assets}}$$

Because of the tax shelter benefit of interest, we add the after tax interest expenses to net income for the numerator of the ratio.

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

h. Return on Net worth (Ordinary Shareholder's Equity)

Shareholder's fund represents that part of long term source of funds which is calculated by issuing equity shares and preference shares. Shareholders are actually the owners of the company. They have ultimate claim in the return of the company. To measure the return earned by the shareholders, return on shareholders' equity is used or this ratio is calculated to find out the profitability on the owners' capital or investment.

If the companies' earning is good, shareholders' earning is greater than outside investors because they are ultimate owners of the company who are bearing higher risk as well. But in case of liquidation or at times of financial crisis, outside investors get the first priority in getting the return before the real owners. Shareholders get the return after paying the fixed interest charge to the creditors and tax to the government. Earning after tax (EAT) is the profit of the shareholders. Therefore this ratio is calculated on the basis of EAT. In this study the sampled companies have not employed the preference share thus it includes only return on shareholders' equity.

This ratio tells us the earning power on shareholders equity and is frequently used in comparing two or more firms in an industry. It also indicates that the funds supplied by owners. The higher ratio indicates that the funds have been effectively used in the company. It reflects the extent to which the objective of profit maximization has been achieved. The higher return on shareholders' equity (ROE) represents high profitability of the firm and vice versa. For instance, ROE of 14% represents that for every rupee in equity, a shareholder earns 14 percent in profit. So, ROE is desirable from the point of view of the owner of the company.

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

i. Earning Per Share Analysis

The profitability of bank from the point of view of the ordinary shareholders is earning per share. The ratio explains net income for each unit of share. Earning per share of an organization shows the strength of the share in the market. It shows how much belongs to the ordinary shareholders theoretically. If there are both preference and equity share capital, then out of net profit first of all preference dividend should be deducted in order to find out the net income available for equity shareholders.

Earnings per share is the most concerned ratio which is analyzed by the investors as it is the ultimate return they get by investing in the shares of that particular company. It is calculated as follows:

$$\text{Earning per Share (EPS)} = \frac{\text{Net Profit after Interest, Tax, \& Pref. Dividend}}{\text{No. of outstanding shares}}$$

j. Dividend per Share Analysis

Dividend per share is evaluated to know the share of dividend that the shareholders received in relation to the paid up value of the share. It refers to the proportion between earnings paid to the shareholders and the total earnings available to the shareholders. Dividend per share is the earning distributed to ordinary shareholders divided by the number of ordinary shares outstanding.

$$\text{Dividend per Share} = \frac{\text{Dividend for the year}}{\text{Total Number of Outstanding Shares}}$$

3.5.2 Basel – Financial Performance Indicators

Before analyzing the capital structure and financial statements of sample commercial banks from the perspective of Basel I and II, an introduction to Basel is given.

Introduction to Basel

Basel Capital Accord is a capital adequacy framework developed by the Basel committee. The Basel Committee was established by the Central Bank Governors of the Group Ten (G 10) at the end of 1947. The committee's members come from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, UK, and USA. The Basel committee provides a forum for regular cooperation on banking supervisory matters. Over the recent years, it has developed increasingly into a standard-setting body on all aspects of banking supervision.

In 1988, the Basel committee decided to introduce a capital measurement system commonly referred to as the Basel Capital Accord. This system provided for the measurement if a credit risk measurement framework with a minimum capital standard of 8% for internationally active banks by end-1992, which is also known as "Basel – I". Since 1988, this framework has been progressively introduced not only in member countries but also in virtually all other countries.

After the successful implementation of 1988 accord in more than 100 countries, the Basel Committee on banking supervision reached an agreement on a number of important issues for promoting best and uniform banking practices as well as setting standards and guidelines for supervisory function. Then Basel II was introduced in November 2005 which was implemented in class 'A' commercial banks from the FY 2007/08. It aims to replace Basel I and make the capital framework more risk sensitive. Most of the countries have adopted Basel II. Nepal is also in the process of transforming into Basel II requirements from Basel I in order to keep pace with international developments. However, Nepal Rastra Bank has not entered into any commitments for the adoption of Basel II as the initiation towards the Basel II is voluntary one.

Basel II has recommended major revision on the international standard on bank's capital adequacy assessment with underlying credit risk, market risk, and operational risk. It has been introduced basically for the protection of depositor's interest by preserving the integrity of capital in Banks. It aims to build on a solid foundation of prudent capital regulation, supervision, and market discipline, and to enhance further risk management and financial stability. As such, the committee encourages each national supervisor to

consider carefully the benefits of the new framework in the context of its domestic banking system and in developing a timetable and approach to implementation.

Basel II addresses the shortcomings of Basel I. It has more comprehensive coverage. Basel II framework is based on three pillars: Capital Requirements, Supervisory Review Process, and Disclosure & Market Discipline. Pillar 1 specifies how banks should determine the capital requirements for the major risks that they face. Basel I only covers Pillar 1 which is the capital measurement process. Pillar 2 recognizes that although banks are ultimately responsible for managing their risks, supervisors can play a more active role in assessing banks' risk management practices. It intends to make supervisory practices more transparent – which in turn will promote the legitimacy and credibility of supervisors from the perspective of the institutions that they supervise. Pillar 3 emphasizes the role played by disclosure in regulating bank's behavior and promoting market discipline. It establishes rigorous standards for a bank's discipline of its risk profile and capital, in order to leverage the ability of market participants to monitor banks and prevent them from taking undue risks.

A major innovation of Basel II is the introduction of distinct options for the calculation of three types of risk whereas Basel I considered only the credit and market risk. For Credit, Operational, and Market risk, there are different approaches of increasing risk sensitivity to allow banks and supervisors to select the approaches that they believe are most appropriate to the stage of development of banks' operations and of the financial market infrastructure.

From the perspective of Basel, the financial statements and capital structure of sample banks are evaluated under following headings: Capital Adequacy, Assets Quality, Earnings and Profitability, and Liquidity. They are briefly discussed below:

3.5.2.1 Capital Adequacy

The capital account of a commercial bank plays a vital role in supporting its daily operations and ensuring its long run viability. The capital position of banks has been closely regulated for decades. Banks must meet minimum capital requirements before they can be chartered, and they must hold at least the minimum required level of capital

throughout their life. As Wall (7) notes, the fundamental purposes of regulating bank capital are threefold:

i. To limit the risk of bank failures
ii. To preserve public confidence in banks
iii. To limit losses to the federal government arising from deposit insurance claims

The most important factor influencing solvency of a firm is its capital. It is the last line of defense to meet the financial commitments of residual claimants in case a bank fails, closes or goes insolvent. It is the cushion between bank's unrealized assets and pending liabilities. It is basically a guarantee fund whose presence serves only maintenance purpose but absence or inadequacy is perilous. Thus, though capital is largely dormant variable, it becomes important when realizable assets fall short of total liabilities and, therefore, size of capital should be large enough to fill up this gap. It is necessary for a bank not only to have its capital intact but also to ensure its adequacy corresponding to volume of business. There is no dispute in the fact that capital should be adequate but there has been no unanimity on its size. However, efforts have been made to fix various criteria for determining the minimum capital. These criteria are generally expressed as percentage of some parameter which is linked with asset size or deposit size. The percentage is determined either by rule of thumb or by the supervisory agencies on the basis of past trends or experience.

The Basel Capital Accord (Basel I) is an international standard established in 1988 for the calculation of capital adequacy ratio. The capital adequacy ratio is a measure of the amount of a bank's capital in relation to the amount of its credit exposure or risk weighted exposure. Risk weighted exposure is the maximum amount of risk attached to a portfolio or a transaction or underlying assets. It is the sum of risk weight for credit risk, market risk and operational risk. The capital adequacy ratio acts as a benchmark to evaluate whether banks have sufficient capital to survive likely economic shocks. Now it is used in most of the countries. The original Basel capital ratio along with subsequent amendments requires international banks to have a specific measure of capital greater than or equal to 8% of a specific measure of assets weighted by their estimated risk. In Nepal the capital adequacy ratio as per Basel I is 11%. The ratio is an analytical construct with complex definitions of the numerator (capital) and the denominator (risk weighted assets) that cannot be derived directly from standard financial statements. However, with the

improvised Basel I, Basel II was introduced in 2006 and is followed by most of the banks. Basel II is a compulsion to the commercial banks and the capital adequacy ratio must be 10%. In case of Nepal, for 'A' class licensed commercial banks the capital adequacy ratio is 10% whereas it is 11% for 'B' and 'C' class development bank and finance companies respectively. A capital adequacy ratio of 11% means that a bank's capital is 11% of the size of its credit exposures or risk weighted assets.

a. Capital to risk weighted assets (Capital Adequacy Ratio)

Capital adequacy ratios are a measure of the amount of a bank's capital expressed as a percentage of its risk weighted credit exposures. An international standard which recommends minimum capital adequacy ratios has been developed to ensure banks can absorb a reasonable level of losses before becoming insolvent and before depositors funds are lost. The higher the capital adequacy ratio, the higher is the level of protection available to the depositors.

$$\text{Risk Based Capital Adequacy Ratio} = \frac{\text{Capital X 100}}{\text{Risk Weighted Assets/Exposure}} > 10\%$$

Capital = (Tier 1 Capital – Goodwill) + (Tier 2 Capital) + (Tier 3 Capital) – Adjustments

Tier 1 capital or core capital consists of equity capital and disclosed reserves that are considered freely available to meet claims against the bank. Tier 2 capital consists of financial instruments and reserves that are available to absorb losses only in the event of a winding-up of a bank and so provides a lower level of protection for depositors and other creditors. Tier 3 capital consists of subordinated debt with an original maturity of at least two years for use, if needed, against market risk exposures associated with fluctuations in the market value of assets held. Goodwill is subtracted because it may fall during crisis and various adjustments are made to capital to prevent possible double counting of value. It is required that every commercial bank shall maintain capital requirement set out as:

i. Tier 1 capital of not less than 6% of Total Risk Weighted Exposure
ii. Total capital (Tier 2 and Tier 3) of not less than 10% of its Total Risk Weighted exposure.

Risk weighted assets, the denominator, are the weighted total of each class of assets and off balance sheet asset exposures, with weights related to risk associated with each type of asset. The risk weighting process takes into account the relative risk of various types of credit exposures that banks have. For instance, in the table below, the book value of assets is 940, but the value of risk weighted assets is 615. Considering the weights of the assets while calculating the minimum capital is more realistic and practical.

Example of Estimation of Risk Weighted Assets

Type of Assets	**Value of Holdings**	**Risk Weight**	**Result**
Government Treasury Bonds	200	0%	0
Mortgage Loan	250	50%	125
Corporation Bond	120	100%	120
Consumer Loans	370	100%	370
Total	**940**		**615**

3.5.2.2 Assets Quality

Loan classification refers to the process banks use to review their loan portfolios and assign loans to categories or grades based on the perceived risk and other relevant characteristics of the loans. The process of continual review and classification of loans enables banks to monitor the quality of their loan portfolios and when necessary to take remedial action to counter deterioration in the credit quality of their portfolios.

From an accounting perspective, loans should be recognized as being impaired and necessary provisions should be made, if it is likely that the bank will be able to collect all the amounts due principal and interest according to the contractual terms of the loan agreements. Loan loss provisioning is thus a method that banks use to recognize a reduction in the realizable value of their loans. While complete elimination of such losses is not possible, bank management aims to keep the losses at a low level. In fact, it is the level of non-performing advances which, to a great extent, differentiated between a good and a bad bank.

Non Performing Assets (NPAs) is defined as an advance where payment of interest or repayment of principal or both remains unpaid for a period of two quarters or more. NPAs have a deleterious effect on the return in assets. For NPAs, loan classification should be done. As it is said above that the assets of a bank is loan so these two terms would be used interchangeably. The ratio of Non Performing Loans (NPLs) to Total Loans is often used as a proxy for asset quality of a particular bank or financial system. Cortavarria, Dziobek, Kanaya, and Song (2000) note that in many countries, including G-10 countries, assets are considered to be non-performing when principle or interest is due and unpaid for 90 days or more or interest payment equal to 90 days or more have been capitalized, refinanced, or rolled over.

A notion of asset quality geared toward the capacity of a bank to withstand stress should also consider the level of provisions. Provisions can be general for possible losses not yet identified or specific for identified losses (loan loss reserves). Most of the countries are using the usual classification system, which includes four categories: Standard, Sub-standard, Doubtful, and Loss. NPLs are often defined as loans in the three lowest categories. Provisions should be made for these loans. Nevertheless, the classification criteria vary across countries; hence available measures of NPLs are not always comparable across countries and not even over time. The definition and rules concerning general and specific provisions vary across countries. In general, 1% of standard quality loans are kept as loan loss provision, 20% for the sub-standard, 50% for the doubtful, and 100% for the loss categories. The coverage ratio – the ratio of provisions to NPLs provides a measure of the share of bad loans for which funds have already been set aside. An important indicator of the capacity of banking capital to withstand NPL related losses is the ratios of NPLs net of provisions to capital.

Under this Assets Quality, we try to examine following ratios:

a. Non performing Loans (NPLs) to Total loans

This ratio is often used as a proxy for asset quality of a particular bank or financial system. Here we examine the amount or percent of NPLs in the total loans disbursed. By NPLs we mean those categories of loans disbursed which have risk of default.

Higher the ratio, poorer is the performance of the bank as the quality of the loan will be degraded. It is calculated as follows:

$$\text{NPL/TL} = \frac{\text{Non Performing Loans}}{\text{Total Loans}}$$

Virtually it is impossible for the banks to make this ratio zero because the main objective for which banks are established is to lend money and accept deposits. So, whenever money is lent there are certain chances that some loans will default, although not all.

b. Provisions in percent of NPLs

From an accounting perspective, loans should be recognized as being impaired and necessary provision should be made, if it is likely that the bank will not be able to collect all the amounts due principal and interest according to the contractual agreement. This ratio shows how much percent of NPLs are provisioned in the capital. This ensures that the losses will be absorbed without the depositor's money being lost. However, greater the provision, lesser will be the Retained Earnings amount as the provision is taken from the Retained Earnings. As a result it will lead to the decrease in the profit or EPS. It is calculated as follows:

$$\text{Provision in \% of NPL} = \frac{\text{Loan loss provision}}{\text{Non performing Loans}} \text{ X } 100$$

c. Provisions to Total Loans

This ratio examines how much provision is made for total loans in case there is default by the creditors. It is calculated as follows:

$$\text{Provision to Total Loans} = \frac{\text{Total Provision}}{\text{Total Loans}}$$

3.5.2.3 Earnings and Profitability

Accounting data on bank margins and expenses are widely used indicators of bank profitability. Common operating ratios are net income to average total assets also known as Return on Assets (ROA) and net income to average equity also known as Return on Equity (ROE). Vittas (1991) notes that three types of operating ratios may be used in analyzing the performance of banks: operating assets ratio, operating income ratios, and operating equity ratios. The first relates all income and expenses to average total assets, the second to gross income and third to average equity.

Earnings can be analyzed from the capital structure perspective as well. Differences in capital structure refer to the differences in bank leverage. Banks with lower leverage (higher equity) will generally report higher operating asset ratios such as ROA, but lower operating equity ratios such as ROE. Hence an analysis of profitability based on operating equity ratios such as ROE disregards the greater risks normally associated with high leverage.

Operating income ratios may also be affected by leverage, notably the interest margin and net income ratios will be higher, while the non interest income and non interest expense ratios will be lower for banks with lower leverage (higher equity). The reason for this is that banks with higher equity needs to borrow less to support a given level of assets and thus have lower interest expenses, which results in higher net interest and net income.

Returns can also be calculated on a risk adjusted basis. The risk adjusted return discounts cash flows according to their volatility: the more volatile the cash flow, the higher the discount rate and the lower the risk adjusted return. Risk adjusted return on capital (RAROC) states the return on capital required to offset losses on the underlying asset if and when volatility causes its value to decline. RAROC is particularly useful to banks in evaluation of businesses and products according to their place along a risk/return spectrum, so as to correctly price a transaction and manage the risk adjusted return. At the individual transaction level RAROC is calculated as the ratio of interest margin associated with the operations to loan value multiplied by the potential loss. At the aggregate level, it can be computed as interest margin to assets multiplied by the potential

loss. Estimating the potential loss requires data on historical default and recovering rates and banks' ability to liquidate the assets (liquidity risk).

Under this Earnings and Profitability, we try to examine following ratios:

a. Net Interest Income to Gross Income

Interest income is one of the major sources of revenue for banks. This ratio tries to establish relationship between the amount and portion of net interest income (difference between the interest earned in the loans disbursed and interest paid in the debts taken) in the total gross income generated by the bank in certain time period. It is calculated as follows:

$$\text{NII/ GI Ratio} = \frac{\text{Net Interest Income}}{\text{Gross Income}}$$

b. Interest Income on Loans to Total Loans

On the contrary to the above mentioned ratio, this ratio will only consider the amount of interest income generated on loans disbursed on total loans. That is, how much interest income is earned in a particular period of time from the total loans disbursed. Higher the ratio, higher is the probability of increasing the earnings. However, there is risk of losing the customers as they may prefer banks that offer loans at lower interest rates. It is calculated as follows:

$$\text{II/ TL Ratio} = \frac{\text{Interest Income}}{\text{Total Loans}}$$

c. Interest Expenses to Interest Bearing Deposits

As per this ratio, of the total deposits that are paid how much is the interest amount that is paid and is recorded as an expense. In other words, what is the percentage of interest expense on the total deposits that are undertaken and paid by the bank. Higher ratio may signify that the bank is offering more interest to the deposits. However this is not a sole reason to conclude. Various other factors come into play for increasing the expenses of the bank. If the ratio is less as compared to industry average then it implies that there is room for introducing debt in the capital structure of the firm as the bank will have debt servicing ability. It is calculated as follows:

$$\text{IE/ Interest Bearing Deposits Ratio} = \frac{\text{Interest Expenses}}{\text{Interest Bearing Deposits}}$$

3.5.2.4 Liquidity

The level of liquidity influences the ability of a banking system to withstand shocks. The definition of liquid assets differs across countries but in general, it refers to cash and its equivalents that are readily convertible into cash without any significant losses. These indicators reflect the maturity structure of the asset portfolio and can highlight excessive maturity mismatches and a need for more careful liquidity management. Loan to deposits ratios are also sometimes used to detect problems; a high ratio indicating potential liquidity stress in the banking system. These ratios may also reflect loss of depositor and investor confidence in the long term viability of the institutions.

As bank liquidity depends on the level of liquidity of the overall system, it is important to monitor measures of market liquidity. Market liquidity can be captured by indicators of the tightness which indicates the general cost incurred in a transaction irrespective of the level of market prices and can be measured by the bid ask spread (the difference between prices at which a market participant is willing to buy and sell a security).

Standing Central bank facilities, which are accessed at the initiative of banks, provide liquidity to bank (usually against collateral) and are an essential component of the liquidity infrastructure. On the other hand, a large increase in Central bank credit to banks

and other financial institutions as a proportion of their capital or their liabilities often reflects severe liquidity (and frequently also solvency) problems in the financial system. Jacome and Madrid point out that beyond the traditional lender of last resort role of the Central bank, which is supposed to address limited liquidity problems monetary authorities often get involved in banking crisis resolution because they are the most important (if not the only) source of large funds immediately available. This participation usually implies providing liquidity support beyond best practices, injecting capital resources (in cash or bonds) to distressed institutions, and financing debt rescheduling and relief to the corporate sector. Monitoring Central bank lending to financial institutions, therefore, can be important. Notably however, these types of support are not always easily identifiable in Central bank's financial statements, limiting the potential usefulness of this indicator to recognize banking liquidity (and solvency) problems.

The dispersion in inter-bank rates is a highly relevant indicator of liquidity problems and bank distress. High dispersion in inter-bank rates measured, for instance, by the spread between the highest and lowest rates in the market may signal that some institutions are perceived as risky by their peers. As supplying banks can control their inter-bank positions through price and quantitative controls, high-risk institutions may be forced to engage in aggressive bidding for deposits. Changes in inter-bank credit limits or an unwillingness of some institutions to lend to other may include serious concerns.

Common measures of liquidity include the following ratios as a crude measure:

a. Cash ratio

This ratio shows how much a bank holds cash in order to meet its short term liabilities. That is, its liquidity in the form of cash in hand/ bank to handle the short term obligations. By short term obligations we mean those liabilities which will be due within a period of one year. It is calculated as follows:

$$\text{Cash Ratio} = \frac{\text{Cash}}{\text{Current Liabilities}}$$

b. Liquid Assets to Total Assets

This ratio examines the availability of assets which is liquid in nature in terms of its total assets. In other words, how much portion of total assets is in the form of liquid assets. The higher this ratio, higher will be the liquidity position of the bank. It is calculated as follows:

$$\text{Liquid Assets/ Total Assets} = \frac{\text{Liquid Assets}}{\text{Total Assets}}$$

c. Quick ratio

It is Liquid Assets to Short term Liabilities. This ratio studies the amount of liquid assets which is available instantly to meet the short term liabilities or obligations. It is somewhat similar to the ratio of cash to short term liabilities, but here we are not concerned with mere cash. By liquid assets we mean cash and cash equivalents available to meet the short term liabilities.

This ratio is a better test of financial strength than the current ratio as it gives no consideration to inventory which may be very slow-moving. It is a supplementary measure of liquidity and places more emphasis on immediate conversion of assets into cash than the current ratio. A quick ratio of 1:1 has usually been considered favorable since for every rupee of current liabilities there is a rupee of quick assets.
It is calculated as follows:

$$\text{Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

d. Liquid Assets to Total Deposits

This ratio shows the liquidity position in terms of total deposit with the bank. That is, of the total deposits how much the bank is able to pay instantly. In other words, if every depositor comes to take back their deposits at the same time, then how much is

the ability of the bank to provide their funds at the same time. Higher the ratio, higher will be the liquidity position of the bank. However, all the customers do not come at the same time to take their deposits. So, the management should make a judicious decision to maintain this ratio in desired manner by reviewing past experiences and the status of the economy in which it operates. It is calculated as follows:

$$\text{Liquid Assets/ Total Deposits Ratio} = \frac{\text{Liquid Assets}}{\text{Total Deposits}}$$

This ratio depicts how much portion of total assets is given away in the market as loans. Loans can be of various natures, ranging from short term, medium term and long term. Loan is an asset to banks whereas the deposits are the liabilities. This ratio tries to determine how much assets is in the form of loan in the market and how liquid is the firm. It is calculated as follows:

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

e. Cash Reserve Ratio (CRR)

Every bank around the world is required to maintain a minimum 5.5% of cash out of its total deposits liabilities in the Central Bank as cash reserve. It is made mandatory by law. In Nepal, the banks have to keep its cash reserve at Nepal Rastra Bank. The main purpose of this regulation is to maintain the liquidity position of banks in the economy. The banks can easily withdraw its cash from the Central Bank out of its reserve till it has been maintained at 5.5% of total deposits. However, if the bank wants to withdraw cash and its reserve is below 5.5% then they have to pay certain charges as penalty to Nepal Rastra Bank. A CRR more than 5.5% is a healthy sign of well being of the bank and its strong liquidity position.

f. Growth in Interest Income

Interest income is the major source of revenue for banks and financial institutions. They mobilize the deposits from the public and surplus sector and lend it to the needy

and productive sectors. While doing this the banks gives certain interest to the lenders of fund (suppose 3%) and while providing such funds to the borrowers it charges interest rate which is higher than the rate of deposit mobilization (more than 3%). This way they enjoy the net interest income which is the difference or spread between the interest income and interest expense. This ratio shows the growth rate of interest income for the year as compared to the previous years. Here as we are going to consider the period of seven years, we examine the growth rate in interest income for seven fiscal years. It is calculated as follows:

$$\text{Growth in Interest Income} = \frac{(\text{This year Interest Income} - \text{Last year Interest Income})}{\text{Last year Interest Income}}$$

3.5.3 Statistical Tools

Many statistical tools are often employed in the analysis and interpretation of data as an aid to management and managerial decision. Following statistical tools are used more systematically in this chapter.

a. Correlation Coefficient (r)

Correlation analysis is the statistical tool that can be used to describe the degree to which one variable is linearly related to other variable. Two or more variables are said to be correlated if change in the value of one variable appears to be related or linked with the change in the other variable. It is an analysis of covariance between two or more variables and correlation analysis deals to determine the degree of relationship between two or more variables. It refers to the closeness of the relationship between two or more variables. It doesn't tell us anything about cause and effect relationship i.e. if there is a high degree of correlation between two variables; we cannot say which the cause is and which the effect is. Thus, correlation doesn't necessarily imply causation while causation always implies correlation. In correlation analysis, only one variable is treated as dependent and one or more variables are treated as independent. (*Statistical Methods: Sharma, 2058*)

This analysis contributes to the understanding of economic behavior, aids in locating the critical important variables on which others depend, may reveal to the economist the connection by which disturbances spread stabilizing forces may become effective.

There are three types of correlation: simple, partial and multiple. Here the focus is on simple correlation. The degree of relationship between two variables is known as simple correlation. The most widely used in practice for calculating correlation coefficient between two variables is “Karl Pearson’s correlation coefficient”. The correlation coefficient denoted by r shows the direction of relationship between coefficients.

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

Where,

r = Pearson's correlation coefficient

N = No. of Observation

X, Y = Variables.

If one variable increases or decreases then r will fall between 0 and 1. If one variable increases the other also increases and the value of r will be ranged between 0 and 1 i.e. the relationship exists.

Decision criteria

When the value of r = + 1, the variables have perfect positive correlation
When the value of r = 0, there is no correlation between the variables
When the value of r = -1, the variables have perfect negative correlation
When r lies between 0.7 to 0.999 (-0.7 to -0.999) there is a high degree of positive (or negative) correlation
When r lies between 0.5 to 0.699, there is a moderate degree of correlation
When r is less than 0.5, there is low degree of correlation.
If $-1 < r < 0$ then two variables either increase or decrease but will be in the opposite direction.

In this study, the variables under study are total debt, long term debt, short term debt, profitability, size of assets, age of firm, growth in interest income, and tangibility. This study intends to examine the correlation between these various variables of the sampled banks.

b. Multiple Regression Model

Regression is the estimation of unknown values or prediction of one variable from known values of other variables. Regression analysis uses the relationship between a known variable and an unknown variable to estimate the value of an unknown variable. It shows how the variables are related to each other. The unknown variable which we have to predict is called dependent variable and the variable whose value is known is called independent variable. The analysis used to describe the average relationship between two variables is known as simple linear regression analysis. In this study we use multiple regression analysis. Multiple regression analysis is a logical extension of the simple regression analysis. Here, instead of a single independent variable, two or more independent variables are used to estimate the unknown values of a dependent variable.

The models used are as follows:

Model 1

$LEV_1 = B_0 + B_1$ Prof $+ B_2$ Ln Size $+ B_3$ Age $+ B_4$ Grow $+ B_5$ Tang $+ e_{it}$

Model 2

$LEV_2 = B_0 + B_1$ Prof $+ B_2$ Ln Size $+ B_3$ Grow $+ B_4$ Tang $+ e_{it}$

where,

LEV_1 = Leverage of Total Debt to Total Assets (Dependent variable)

LEV_2 = Leverage of Short Term Debt to Total Assets (Dependent variable)

Prof = Profitability, explained by EBIT/ BV of Assets (Independent variable)

Ln Size = 10 log Assets (Independent variable)

Age = Proxy for reputation (Independent variable)

Grow = Growth in Interest Income (Independent variable)

Tang = Tangibility explained by Fixed Assets/Total Assets (Independent variable)

e_{it} = unknown variables which can affect the determined leverage (Independent variable)

3.6 Limitations of the Study

The study has been prepared with the help of the financial reports and annual publications of the bank. It has been initiated with view of tracing out different aspect of capital structure of the bank and the calculation has been done with the figures provided by the bank. Further, it has been initiated by the student rather than by some economic or financial analyst so it has some of its own limitations as stated below:-

- As mentioned earlier, this study is based on secondary data (published annual reports of commercial banks), journals, newspapers, magazines etc and unpublished studies.
- The study covers only 7 years data, beginning from Fiscal Year (FY) 2001/02 to 2007/08.
- The study covers only the quantitative aspect such as capital structure, liquidity, earnings, profitability, and assets quality and ignores other qualitative aspects such as management team and their efficiency.
- Among 26 commercial banks, only three of them are studied due to time and resources constraints. Thus, we cannot have a true picture of the overall conditions of commercial banks in Nepalese banking sector and the average performance of these banks is not the average of all the commercial banks in Nepal. Thus, the findings of the study cannot be generalized.

To some extent, the data published on the websites may vary sometimes, with that of the annual reports of commercial banks. So, the data from the websites are considered as authentic one.

CHAPTER 4
DATA PRESENTATION AND ANALYSIS

4.1 General Background

This chapter analyses the facts and figures of three sample banks namely: Nabil Bank Ltd, Himalayan Bank Ltd, and Nepal Investment Bank Ltd. all the required information is collected from their respective annual reports of seven years.

This is the most crucial chapter of the study as the crux of the study and its objectives is analyzed and studied in this chapter through diagrammatic presentation and quantitative analysis. All the above-mentioned financial and statistical tools have been used for the examination of the data.

4.2 Analysis of Financial Position and Capital Structure

It is already stated that Capital structure refers to the combination of preference share, equity share capital including reserve and surplus as well as long-term debt. Optimal capital structure refers to that combination of funds, which maximizes the EPS and value of the firm and minimizes the overall cost of capital.

By using various financial and statistical tools the capital structure of sample commercial banks have been analyzed. Firstly the ratios that depict the capital structure and profitability of the sample banks have been calculated and shown. Secondly the ratios that indicate the financial performance and liquidity of the sample banks have been calculated. Lastly, the statistical tools such as correlation and regression analysis have been done.

4.2.1. Debt Equity Ratio

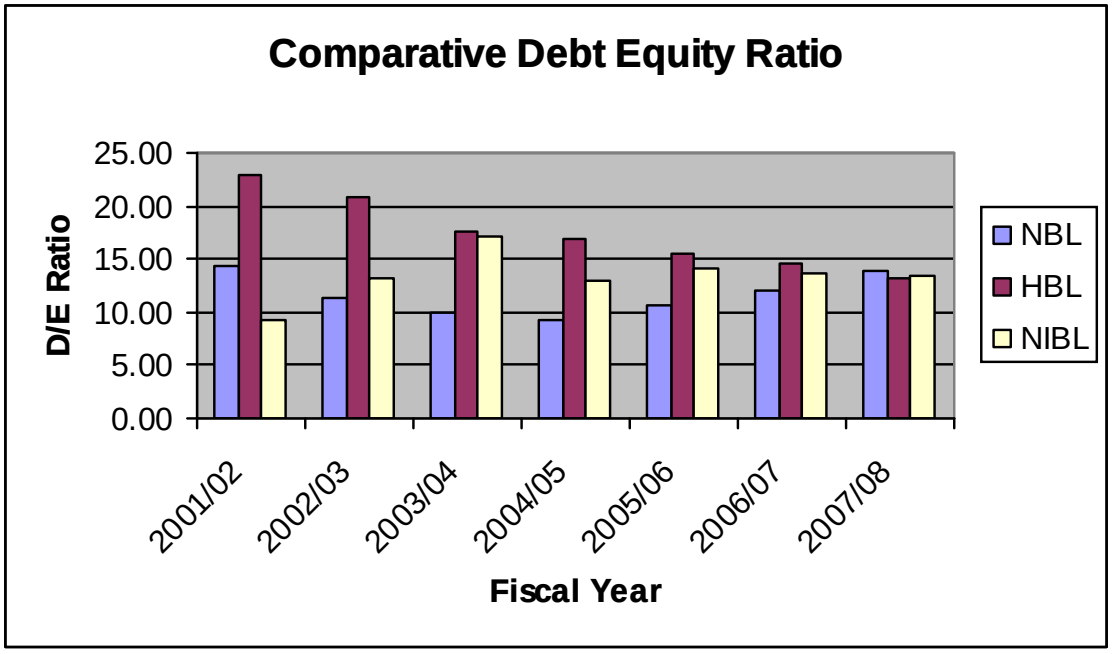
D/E ratios of concerned companies are shown in the following table:

Table 1

Comparative Debt - Equity Ratio

Fiscal Year	Debt Equity Ratio (times)		
	NBL	**HBL**	**NIBL**
2001/02	14.38	22.97	9.23
2002/03	11.39	20.89	13.29
2003/04	10.06	17.54	17.07
2004/05	9.15	16.79	12.85
2005/06	10.71	15.60	14.16
2006/07	12.05	14.54	13.76
2007/08	13.98	13.27	13.42
Average	**11.67**	**17.37**	**13.40**

Fig: 8



The debt equity ratio and average ratio has been calculated in the above table. Seven years data have been presented here:

The average D/E ratio of NBL is 11.67 times. It shows that creditors have 11.67 times claims on assets as compared to the shareholders or owners. In the FYs 2001/02, 2006/07 and 2007/08, the D/E ratio is highly above the average ratio which implies that more debt was employed in those years as compared to the amount of equity. The ratio which are below the average ratio indicates that claim of owners is higher than the creditors in those FYs. It also indicates that the company has lesser amount to be paid as interest on debt.

Calculated value of Debt to Equity of HBL shows D/E ratio has decreasing trend from year 2001/02 to 2007/08. The average D/E ratio is 17.37 times which implies that the claim of creditors is 17.37 times of what the claim of owner's is. The decreasing trend of D/E ratio implies that the amount of debt portion is being reduced in the capital structure of HBL. It is incurring high cost of capital, that is equity financing.

In case of NIBL, above calculation shows that D/E ratio have fluctuating trend over the study period. For the first three FYs 2001/02 to 2003/04, the ratio has been increasing implying higher contribution of debt in the capital structure. But in the FY 2004/05 it has decreased. Again in the FY 2005/06, D/E ratio has increased. After this year the ratio has continued to decrease. The average D/E ratio is 13.40 times which implies that the claim of creditors is 13.40 times of what the claim of owner's is.

Between NBL, HBL and NIBL, NBL has lowest D/E ratio. This implies that NBL is less leveraged and is more inclined towards the equity financing. In case of need for finance, NBL has enough room for raising the funds from the market. On the other hand, both NIBL and HBL will face problems in servicing the debt if they couldn't generate enough return on the investment. They carry relatively more risk of default in comparison to NBL. However, while considering the net profit after tax figure, NBL has the highest earnings. From this what can be interpreted is that since the NPAT is high for NBL it has more debt servicing capacity and risk of default in timely interest payment is relatively low.

4.2.2 Long Term Debt to Capital Employed Ratio

Long term debt to permanent capital ratio is presented in the following table:

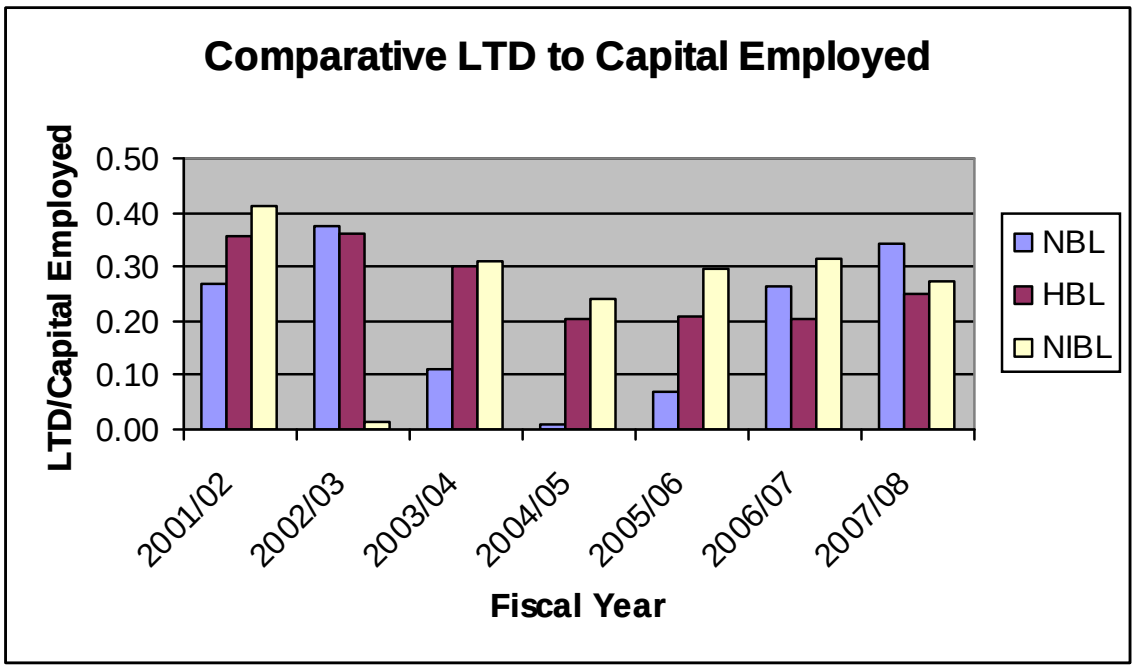
Table 2

Comparative Long Term Debt to Capital Employed Ratio

In Percentage

Fiscal Year	Long Term Debt to Capital Employed Ratio		
	NBL	**HBL**	**NIBL**
2001/02	0.27	0.36	0.41
2002/03	0.38	0.36	0.01
2003/04	0.11	0.30	0.31
2004/05	0.01	0.20	0.24
2005/06	0.07	0.21	0.30
2006/07	0.26	0.20	0.31
2007/08	0.34	0.25	0.27
Average	**0.21**	**0.27**	**0.27**

Fig: 9



According to Table 2, NBL has fluctuating trend of long term debt to capital employed ratio. In FY 2004/05 the ratio of long term debt to total capital employed is at the lowest that is 0.01 which means during that year insignificant capital was contributed by the long term debt holders. Most of the debt was of short term in nature. But during the FYs 2005/06 – 2007/08, the ratio has drastically increased which implies that the leverage has also increased. Its average ratio is 21% which implies that in the total capital, 21% was long term debt.

HBL have consistent trend in terms of LTD to capital employed ratio as compared to NBL and NIBL. From FYs 2001/02 to 2003/04 the ratio is at the range of 30%. However, this has decreased to 20% and remained constant for the remaining years. The average ratio is 27% which implies that almost 27% of total capital comprises of long term capital which is more in comparison to NBL.

In case of NIBL this ratio of LTD to capital employed is in fluctuating trend. In the FY 2001/02, the ratio is at the highest at 41%. Then in the FY 2002/03 it reduced drastically to 1% which implies that almost all long term debt was paid and remaining debt were of short term nature. From FY 2005-06 to 2006/07, the ratio has remained consistent at 0.3. The average ratio is 27% which implies that around 27% of the total capital comprise of long term debt.

Between NBL, HBL and NIBL, HBL and NIBL shows highest ratio which means that they have higher amount of capital financed by long term debt. The decision of leverage depends upon the strategies undertaken by management and is governed by various other external factors as well. NBL has been less aggressive in raising long term funds as compared to other sample banks.

4.2.3 Debt to Total Assets Ratio

The ratio of Total Debt to Total Assets is shown with the help of figure and table below:

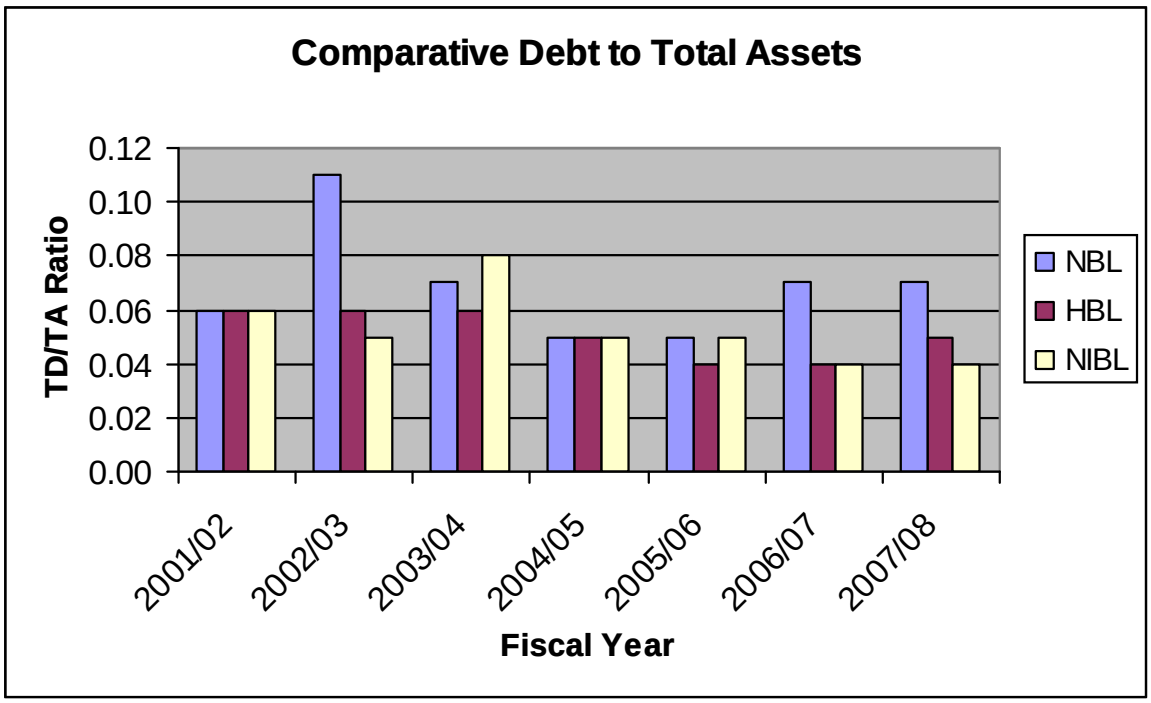
Table 3

Comparative Debt to Total Asset Ratio

In Percentage

Fiscal Year	Debt To Total Asset Ratio		
	NBL	**HBL**	**NIBL**
2001/02	0.93	0.95	0.97
2002/03	0.90	0.95	0.94
2003/04	0.89	0.94	0.94
2004/05	0.88	0.93	0.93
2005/06	0.90	0.94	0.94
2006/07	0.91	0.93	0.94
2007/08	0.92	0.92	0.93
Average	**0.91**	**0.94**	**0.94**

Fig: 10



According to the Table 3 Debt to Total Assets ratio of NBL is the highest in year 2001/02 which implies that during that year most of the assets of NBL were financed by debt. The trend of debt to total assets is fluctuating in nature. Since FY 2005/06, the ratio has shown a consistent rise. The average ratio is 0.91 i.e. 91% which is lowest as compared to other two banks.

As compared to NBL, the Debt to Asset ratio of HBL is quite stable at the range of 90%. However, the ratio has been decreasing. In the FY 2005/06, this ratio has increased to 94% from 93%. But again it has decreased continuously. The average ratio of HBL is 94% which implies that 94% of its total assets are financed by long term debts.

From the above calculation we can say that Debt to Total Assets ratio of NIBL is also fluctuating in nature though it is stable at the range of 90%. In the FY 2001/02, this ratio has been at the highest at 97%. But this ratio has decreased in the FYs 2002/03 to 2004/05. However, again in the FY 2005/06 and 2006/07, it has remained consistent at 94%. It has again declined in the FY 2007/08 by 1%. Its average ratio for the sample period is 94% which is similar to HBL but higher as compared to NBL.

The average Debt to Asset ratio of NBL is lower than HBL and NIBL which implies that NBL has employed less debt in its total assets or in other words it has financed its assets by debts comparatively in lower ratio. Both HBL and NIBL have employed more debt in purchasing their total assets.

4.2.4 Long Term Debt to Total Debt Ratio

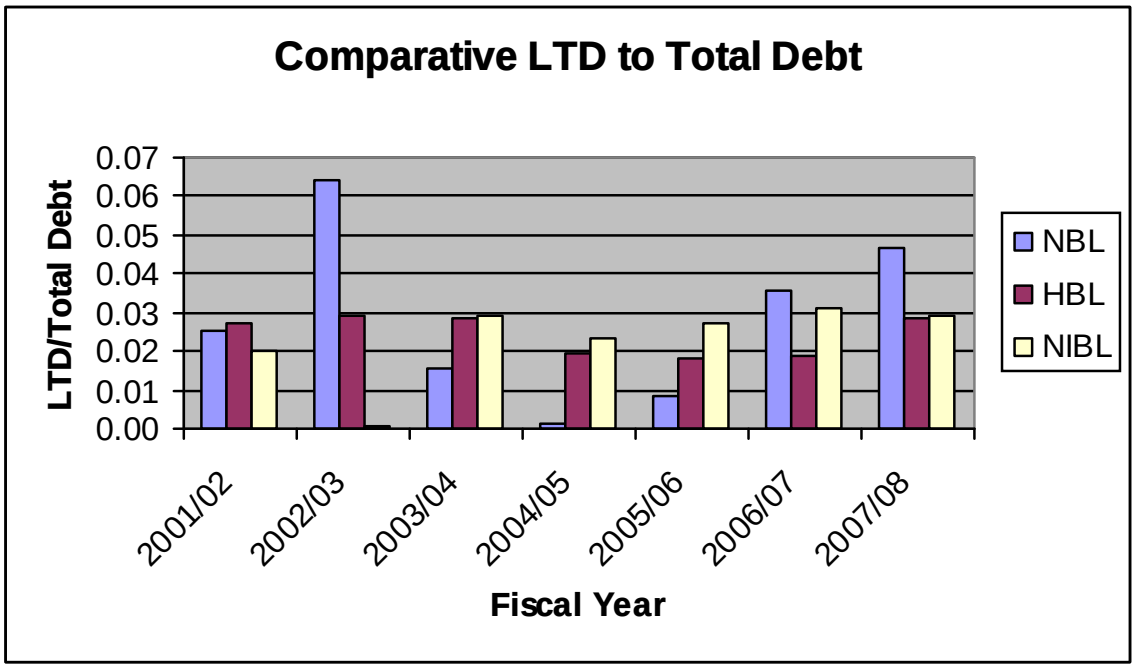
The ratio of Long Term Debt to Total Debt is shown with the help of figure and table below:

Table 4

Comparative Long Term Debt to Total Debt

Fiscal Year	Long Term Debt to Total Debt		
	NBL	HBL	NIBL
2001/02	0.03	0.03	0.02
2002/03	0.06	0.03	0.00
2003/04	0.02	0.03	0.03
2004/05	0.00	0.02	0.02
2005/06	0.01	0.02	0.03
2006/07	0.04	0.02	0.03
2007/08	0.05	0.03	0.03
Average	**0.03**	**0.02**	**0.02**

Fig: 11



The trend analysis of NBL reveals that it has quite fluctuating trend of LTD/TD ratio. The above calculation shows that the ratio of LTD/TD of NBL is 0.03 in F/Y 2001/02. This means contribution of long term debt is only 3% and remaining is short term debt. The ratio has increased in the next year by 154%. However, NBL has drastically reduced its Long term debt in the FY 2003/04 to 2% from 6%. And in the FY 2004/05 the ratio is almost nil. The main reason behind this is in that year NBL raised insignificant amount of Long term debt. The average ratio is 3% which implies that of total debt only 3% is of long term in nature.

HBL has overall consistent trend of LTD/TD ratio .In the fiscal year 2001/02 to 2003/04, its LTD is consistent at 3% which has decreased by 1% in the following year three FYs. However, in the FY 2007/08 it has increased by 1% and remained at 3%. During this FY 2007/08 HBL raised more long term debt as compared to other short term debts or liabilities. The average ratio of LTD is 2% which is the lowest as compared to NBL.

NIBL has fluctuating trend of Long term debt ratio from the FY 2001/02 to 2004/05. In the FY 2002/03, its ratio is the lowest. The main reason is in that year the amount of long term debt raised was very low in the total debt of the bank. The highest ratio is in the FY 2005/06 to 2007/08 at 3%. A ratio of 3% implies that of the total debt of the bank, 3% is in the form of long term debt having maturity date of more than a year. The average ratio is 2% which is as same as HBL's.

From the above calculation we can say that HBL and NIBL have employed less amount of long term debt in its total debt portfolio. As compared to these two banks, NBL has more long term debt. The major implication of this is in the long run NBL may face the problem of interest rate risk. If the market interest rate on long term debt decreases in the future then it must serve the debt in the agreed rate of interest rather than the reduced rate, if the interest rate in future reduces. It would be expensive to serve the debt then.

4.2.5 Interest Coverage Ratio

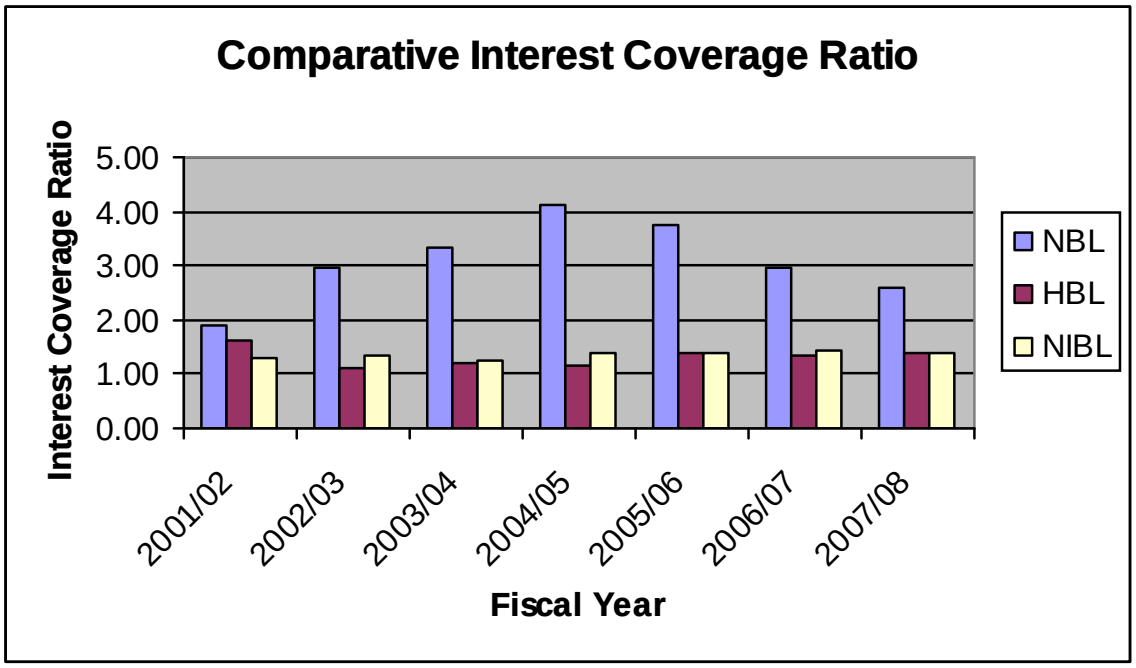
The calculated interest coverage ratios are presented in the following table:

Table 5

Interest Coverage Ratio

Fiscal Year	Interest Coverage ratio (times)		
	NBL	**HBL**	**NIBL**
2001/02	1.89	1.60	1.28
2002/03	2.94	1.11	1.34
2003/04	3.32	1.21	1.23
2004/05	4.11	1.17	1.37
2005/06	3.77	1.37	1.40
2006/07	2.97	1.35	1.42
2007/08	2.58	1.39	1.38
Average	**3.08**	**1.32**	**1.34**

Fig: 12



In the Table 5, the average ratio of NBL is 3.08 times which imply that NBL can pay its interest expense 3.08 times from its available EBIT. The interest coverage ratio of NBL shows increasing trend for FYs 2001-2005. But for the remaining FYs in sample the ratio has been declining. The increasing trend of Interest coverage ratio is a positive sign as it indicates the strength of bank to pay its interest. The decline in the ratio is not a welcome sign. However, one must not reach to the conclusion that the bank is unable to pay its creditors. Various other things play significant role. In case of NBL, the main reason behind the decreasing trend is that the EBIT has increased tremendously but the interest expense has been rising in a slower trend as the amount of debt raised is lower in these years. Due to this reason, the ratio is lower.

In case of HBL the Interest coverage ratio is fluctuating in nature. It rises in one FY and declines in the other. The average calculated ratio is 1.32 times. The basic cause behind the changing trend is due to the fluctuating Interest expense amount. When the amount of debt has increased increasing its Interest Expense amount, the interest coverage ratio has also increased. This is enabled by the consistent performance of EBIT which has also been performing uniformly.

In case of NIBL, the Interest coverage ratio is 1.28, 1.34, 1.23, 1.37, 1.40, 1.42, and 1.38 times in the year 2001/02, 02/03, 03/04, 04/05, 05/06, 06/07, and 07/08 respectively. Here the ratio shows slightly fluctuating trend. But it is in increasing trend in last four FYs of the sample period which implies that the available profit which it has earned is able to meet its debt obligations. Its average Interest coverage ratio is 1.34 times.

Among the three banks, HBL is relatively poor in covering its interest payment through its available EBIT. The Interest coverage ratio of NBL is far greater as compared to other two sample banks.

4.2.6 Return on Shareholder's Equity (ROE)

The ROE has been calculated and presented with the help of following table and figure:

Table 6

Return on Shareholder's Equity

Fiscal Year	Return on Shareholder's Equity (times)		
	NBL	HBL	NIBL
2001/02	0.24	0.27	0.11
2002/03	0.32	0.20	0.18
2003/04	0.31	0.20	0.21
2004/05	0.31	0.20	0.20
2005/06	0.34	0.26	0.25
2006/07	0.33	0.23	0.27
2007/08	0.31	0.25	0.26
Average	**0.31**	**0.23**	**0.21**

Fig: 13

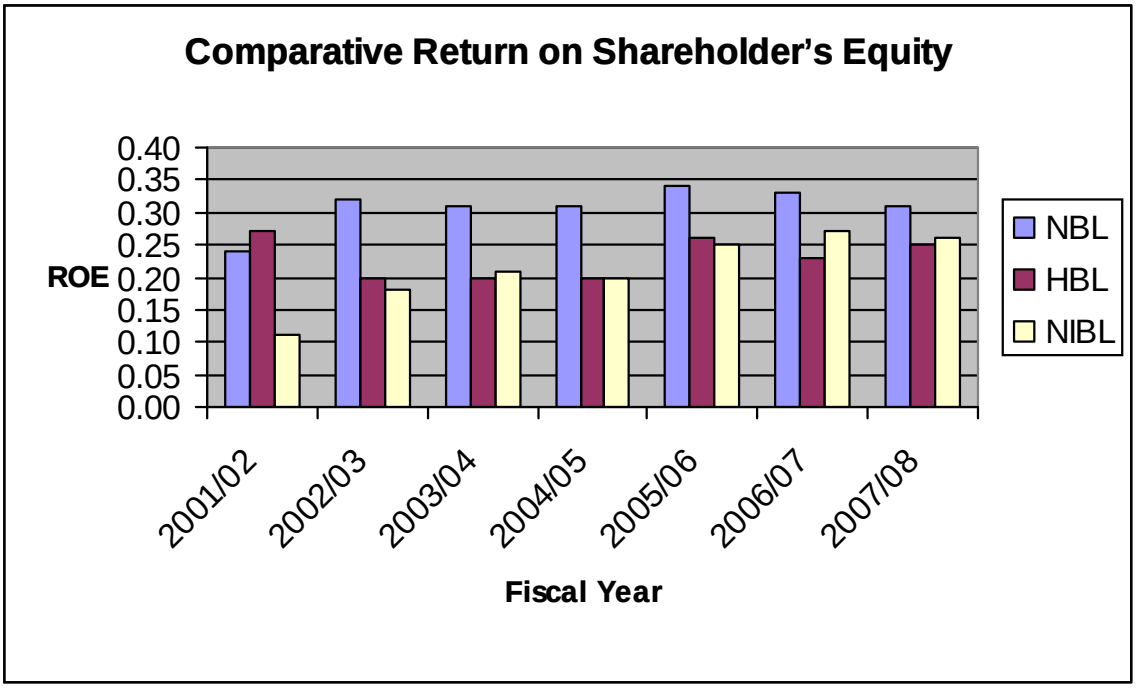


Table 6 exhibits return on shareholder's equity of sample banks. In the context of NBL, it has a fluctuating trend. In the FY 2001/02, the ratio is 24% which implies that of Rs.100/- investment, the shareholder's earned Rs.124/-. In F/Y 2002/03 it increased to 32% then decreased to 31% in FY 2003/04. The highest ROE is 34% which is earned in FY 2005/06. After this fiscal year, the ROE has been decreasing for latest years. The average ratio is 31%.

HBL has 27% ROE in the year 2001/02 which is the highest in the sample period. Then it has decreased to 20% in the FY 2002/03 and remained constant till 2004/05 which means shareholders earned Rs.120/- by investing Rs.100/-. After that ROE increased by 6% in the FY 2005/06 which couldn't last for more than a year. Its ROE is 25% in FY 2007/08. Its average ratio is 23% which is much less compared to NBL.

In case of NIBL, ROE is in increasing trend for first three years of sample period. It has decreased in the year 2004/05 by 1%. The main reason behind this is that NIBL has earned less net income in the same year. It has earned its highest ROE in the year 2006/07 at Rs.127/- for Rs.100/-. Now, in the FY 2007/08, its average ROE is 26%. Its average ROE is 21% which is even lower than that of HBL.

By analyzing the above calculation, it is found that the ROE of NBL is highly greater as compared to rest two banks. From the viewpoint of the investors and businessmen, it is one of the lucrative banks to invest as it yields greater return on the investment.

4.2.7 Return on Total Assets (ROA)

The following are the Return on Assets of sample banks represented in Table and a figure:

Table 7

Return on Total Assets

Fiscal Year	Return on Total Assets (times)		
	NBL	**HBL**	**NIBL**
2001/02	0.02	0.01	0.01
2002/03	0.03	0.01	0.01
2003/04	0.03	0.01	0.01
2004/05	0.03	0.01	0.01
2005/06	0.03	0.01	0.02
2006/07	0.02	0.02	0.02
2007/08	0.02	0.01	0.02
Average	**0.02**	**0.01**	**0.01**

Fig: 14

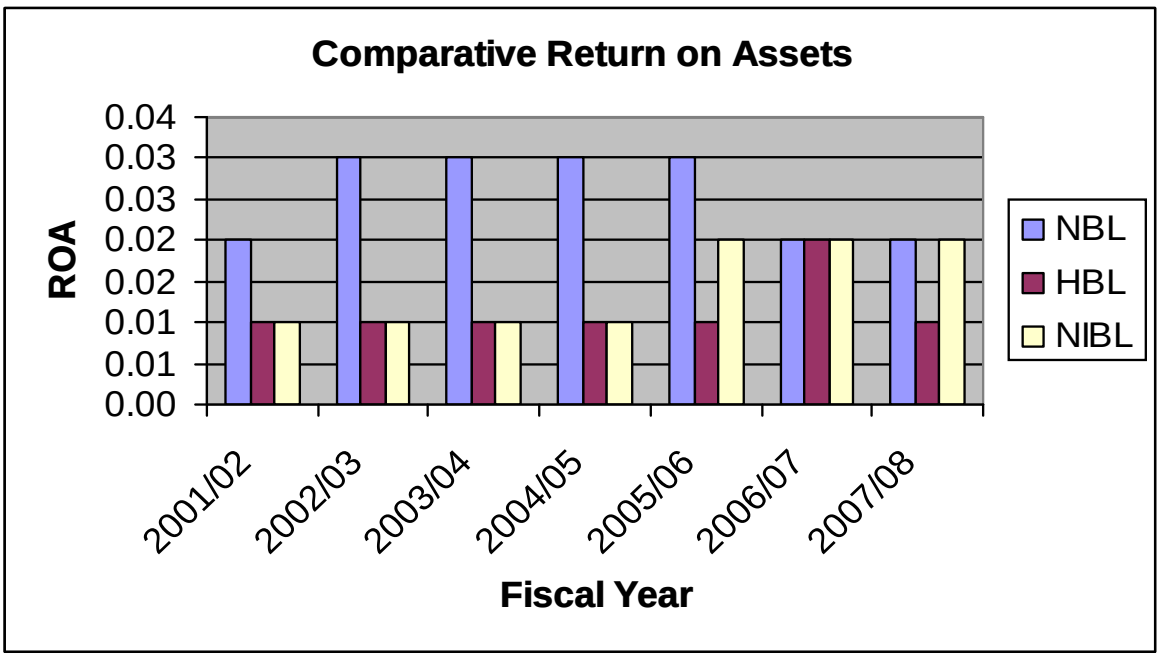


Table 7 shows the comparative position of Return on Total Assets of NBL, HBL and NIBL. The table shows that the ROA of NBL is 0.02 for the initial year of sample that is 2001/02. From FYs 2002 to 2006 it has increased and remained consistent at 0.03. Again in the FYs 2006-2008, ROA has decreased to 0.02. Its average ratio is 2% which implies that every rupee investment in assets generates a return of 2% as profit.

In case of HBL, ROA has remained constant as 0.01 from FYs 2001 to 2005. It has slightly increased in FY 2005/06 to 0.02. However, it has again decreased to average of 0.01 in FY 2007/08. Its average ratio is 0.01. The main reason behind this is that the net profit after tax has remained consistent and had not increased tremendously.

In case of NIBL, ROA in the FYs 2001-2005 is 0.01. One of the main reasons for this cause is the Net profit after tax and the total assets are increasing in same ratio. From FY 2005-2008 it has earned 0.02 ROA. The average return is 0.01 which implies that for every rupee investment in assets generates a return of 1% as profit.

The average return on assets of NBL is higher as compared to HBL and NIBL which signifies that NBL is more efficient in utilizing its overall resources. Its operational efficiency is also effective as compared to other two sampled banks.

4.2.8 Earning Per Share (EPS) Analysis

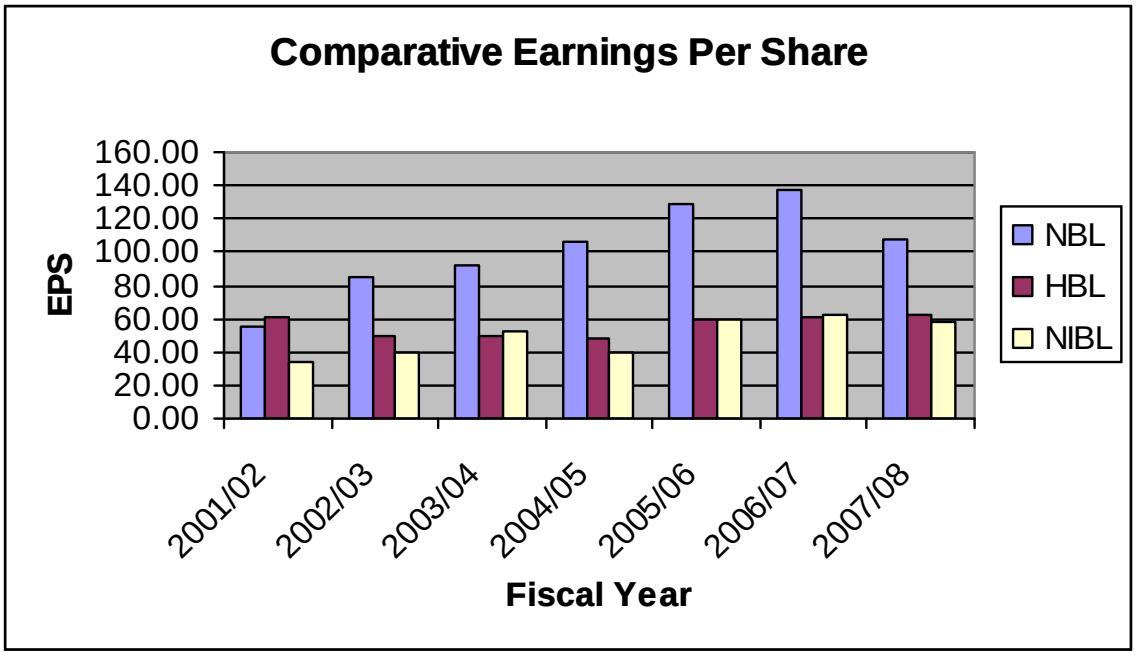
The following table and figure analyses the EPS for three sample banks:

Table 8

Comparative Earning Per Share

Fiscal Year	Earning Per Share (In Rupees)		
	NBL	**HBL**	**NIBL**
2001/02	55.25	60.26	33.59
2002/03	84.66	49.45	39.56
2003/04	92.61	49.05	51.70
2004/05	105.49	47.91	39.50
2005/06	129.21	59.24	59.35
2006/07	137.08	60.66	62.57
2007/08	108.31	62.74	57.87
Average	**101.80**	**55.62**	**49.16**

Fig: 15



The Earning per share of NBL has increased from FY 2001-2007. In terms of percentage basis, EPS is the highest in the FY 2002/03. In the FY 2001/02 its EPS is Rs.55.25/- that is for every outstanding per share a shareholder owns Rs.55.25/-. The EPS has been increasing continuously till 2006/07. In the FY 2007/08 the EPS has decreased by 20.99% as compared to the previous FY 2006/07. The main reason behind this is the management has ploughed back its profit. The average EPS is Rs. 101.80/-.

The EPS of HBL is in fluctuating trend. In the initial FY 2001/02, its EPS is Rs.60.26/- which signifies that for every share a shareholder gets Rs. 60.26/- as earnings. The EPS has decreased for FYs 2002/03 to2004/05. From then on it has increased. The average EPS is Rs. 55.62/-.

The EPS of NIBL is increasing for the FY 2001/02 till 2003/04. Then in the FY 2003/04, it has drastically increased its EPS. A major portion of earnings was distributed. But it has faced sharp decrease of 23.60% in the FY 2004/05 after which in the following FY 2005/06 the EPS has increased by 50.25%. In the recent FY 2007/08, the EPS has decreased to Rs. 57.87/- that is by 7.51% as compared to its immediate previous year. The average EPS is Rs. 49.16/-.

Between all three banks EPS of NBL is higher with the average of Rs. 101.80/- which shows NBL is the bank which gives higher return on the shares invested as compared to HBL and NIBL. It is most lucrative from the viewpoint of shareholders particularly those who make the decision of investment by analyzing the earnings they can get per share.

4.2.9 Dividend per Share (DPS) Analysis

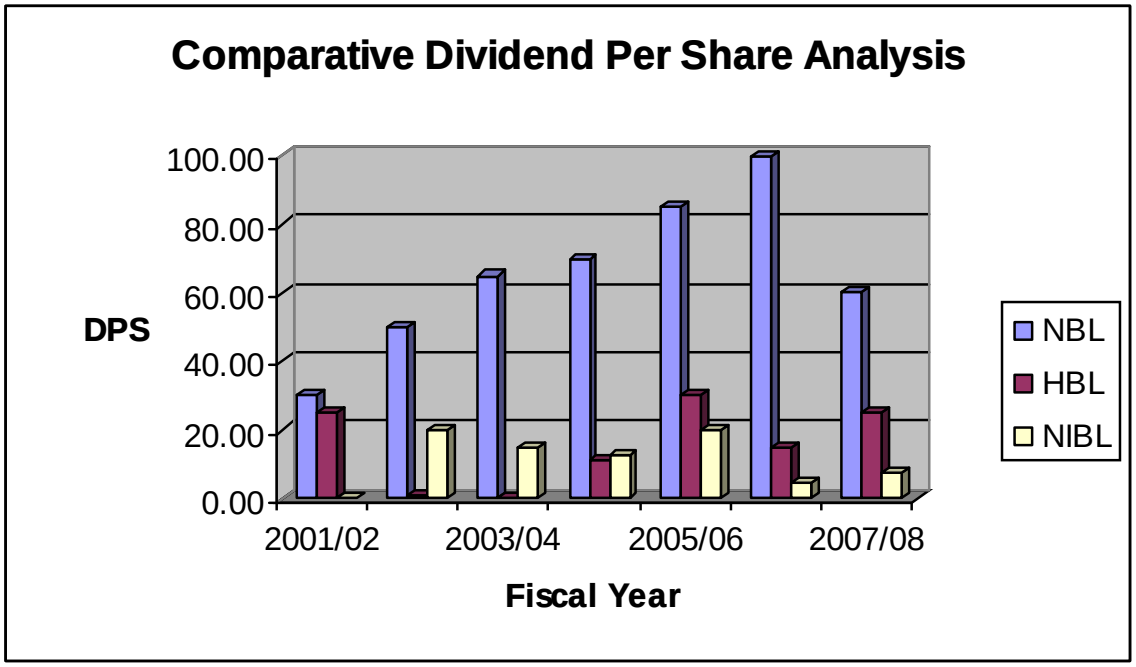
The following are the DPS of three sample banks. The numbers are depicted with the help of a figure as follows:

Table 9

Comparative Dividend Per Share

Fiscal Year	Dividend Per Share (In Rupees)		
	NBL	**HBL**	**NIBL**
2001/02	30.00	25.00	0.00
2002/03	50.00	1.32	20.00
2003/04	65.00	0.00	15.00
2004/05	70.00	11.58	12.50
2005/06	85.00	30.00	20.00
2006/07	100.00	15.00	5.00
2007/08	60.00	25.00	7.50
Average	**65.71**	**15.41**	**11.43**

Fig: 16



The dividend per share of NBL are Rs.30, Rs.50, Rs.65, Rs.70, Rs.85, Rs.100, and Rs.60 for the FYs 2001/02, 02/03, 03/04, 04/05, 05/06, 06/07, and 07/08 respectively. The average DPS is Rs 65.71/-. The highest DPS paid is in the FY 2006/07.

Similarly, HBL shows a DPS of Rs.25, Rs.1.32, Rs.0.00, Rs.11.58, Rs.30, Rs.15, and Rs.25 in the FYs 2001/02, 02/03, 03/04, 04/05, 05/06, 06/07, and 07/08. The average DPS is Rs.15.41/-. HBL has paid a highest dividend of Rs.30 in the FY 2005/06 whereas it has paid no dividend at all in the FY 2003/04.

The dividends per share of NIBL are Rs.0, Rs.20, Rs.15, Rs.12.50, Rs.20, Rs.5, and Rs.7.50 in the FYs 2001/02, 02/03, 03/04, 04/05, 05/06, 06/07, and 07/08 respectively. The average DPS is Rs.11.43/-. The highest DPS paid is in the FYs 2002/03 and 2005/06.

The table shows that NBL has paid the highest average dividend of Rs.65.71/-. It shows that more investors are likely to be attracted in investing at NBL as the dividend per share is higher at NBL as compared to HBL and NIBL.

4.2.10 Capital Adequacy

The capital adequacy of the three sample banks are shown below for the period of 7 FYs.

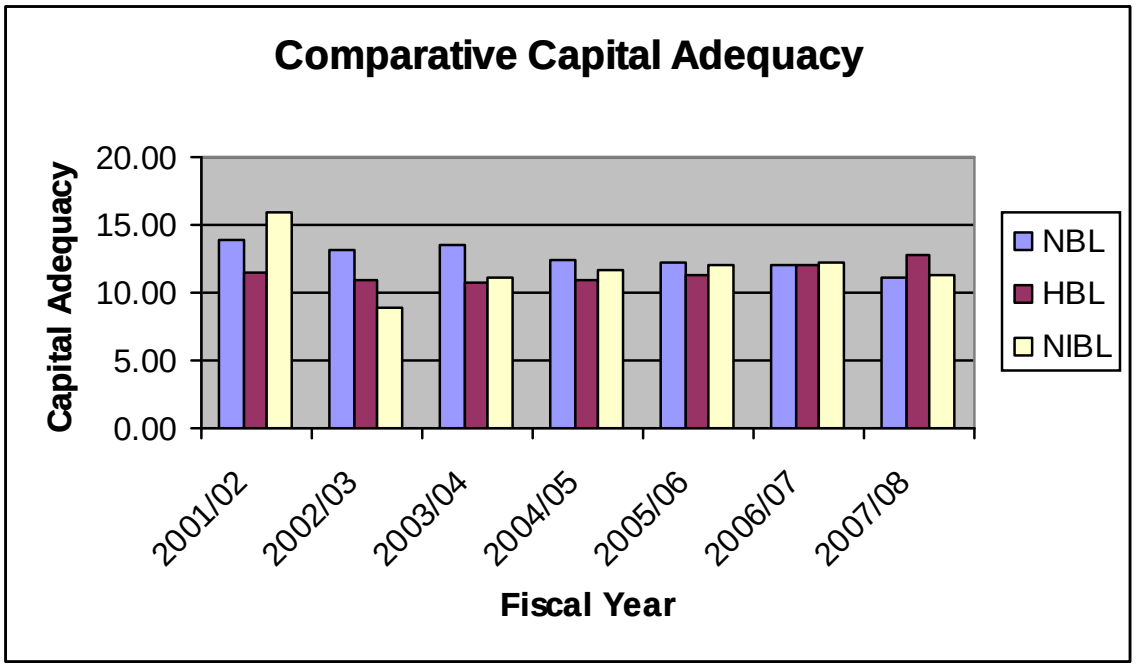
Table 10

Comparative Capital Adequacy Ratio

In Percentage

Fiscal Year	Capital Adequacy		
	NBL	**HBL**	**NIBL**
2001/02	13.86	11.56	15.91
2002/03	13.06	10.93	8.81
2003/04	13.56	10.65	11.18
2004/05	12.44	11.01	11.58
2005/06	12.31	11.26	11.97
2006/07	12.04	12.11	12.17
2007/08	11.10	12.70	11.28
Average	**12.62**	**11.46**	**11.84**

Figure 17



The requirement of capital in commercial banks is highly regulated around the world. While considering the requirement of Basel I (minimum CAR 10%) and Basel II (minimum CAR 11%) which was introduced in 2006, we can see that every bank taken into consideration have maintained its CAR. According to the Table 10 we can see that NBL has rightly maintained its capital adequacy ratio (CAR) for the period taken into sample. For the first three FYs of consideration, the CAR is at around 13% which means that of its risk weighted assets, NBL holds 13% of capital. By risk weighted assets (RWA) we mean assigning certain percent of risk to the assets according to their nature (see in the Annual Reports) and multiplying the asset by that risk-weight of risk. When such risk-weighted amounts of assets are summed up we get the risk weighted assets. It is essential to consider the risk weighted assets and set aside capital for it because banks hold public's money and in case banks face any problems for instance liquidation, the main purpose of CAR is to keep the depositor's money intact. The average CAR of NBL is 12.62% which is comparatively higher than other two banks. This implies that NBL has kept more capital aside against its RWA and is safer as compared to other banks in case of contingencies.

In case of HBL, the average CAR is 11.46%. Among other two banks its CAR is lower. Nonetheless, we can observe that from the FY 2003/04 it is gradually improving its CAR. In the FY 2007/08, its CAR is 12.70% which is well above the CAR of other two banks for the same period.

In case of NIBL, in the FY 2001/02 the CAR is 15.91% which is highest in the considered time period. Nevertheless, it has drastically reduced its CAR in the following FY 2002/03. It is at 8.81% which is 44.64% lower as compared to previous year but is well below the international standard of 11%. The main reason behind this is in the FY 2002/03 its Total Capital (core capital and supplement capital) has increased by only 24% while its RWA increased by 124%. But from then on it has gradually improving its CAR. Its average CAR is 11.84%.

4.2.11 Non – Performing Loans (NPLs) to Total Gross Loans

Following is the comparative analysis of NPLs to Total Gross Loans:

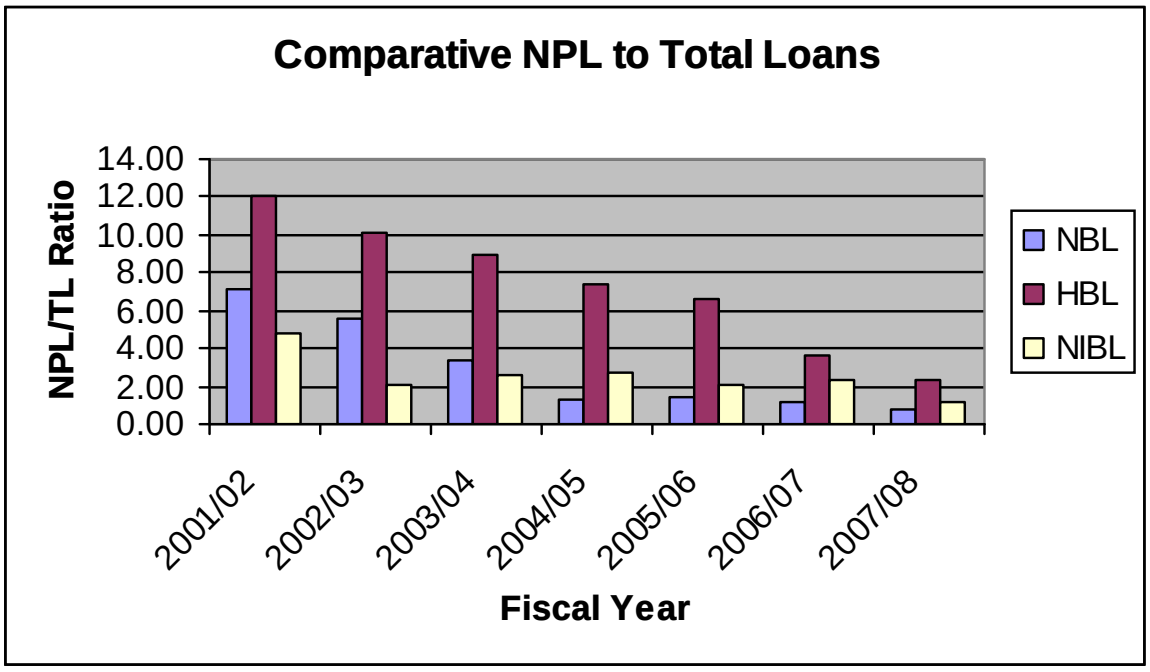
Table 11

Comparative Non - Performing Loans (NPLs) to Total Loans

In Percentage

Fiscal Year	Non – Performing Loans (NPLs) to Total Gross Loans		
	NBL	**HBL**	**NIBL**
2001/02	7.14	12.10	4.80
2002/03	5.54	10.08	2.02
2003/04	3.35	8.88	2.55
2004/05	1.32	7.44	2.74
2005/06	1.38	6.60	2.07
2006/07	1.12	3.61	2.37
2007/08	0.74	2.36	1.12
Average	**2.94**	**7.30**	**2.52**

Figure 18



From the Table 11 we can see that on an average, the portion of Non-performing Loan on the Total Gross Loans is lower in case of NBL. The average NPL to Total Loans is 2.94% which implies that of Total Loans disbursed only 2.94% of it are non-performing in nature. The lower the ratio of Non-performing loans to Total Gross Loans the better is the financial strength and health of the assets of the bank. There will be better security for the depositor's money as there is enough assets backup and it also implies that those who take loan from the banks are less likely to default.

In case of HBL, the ratio of NPLs to Total Gross Loans is decreasing which shows a positive signal as to the betterment of total loans disbursed. The default categories of loan are decreasing. However, it is more as compared to NBL and NIBL. Likewise is the case with NIBL. As compared to HBL, NIBL has much lower NPL ratio. Most of the NPLs of these banks are uninsured in nature which means that in case of default the money will not come back. However, if such loans are insured under Credit Department of Government, certain portion of bad loan will be reimbursed in case of default.

When we analyze the NPL ratio of NIBL we can see that it has better indicators. Its NPL has been consistent and has reduced in the FY 2007/08. Its average ratio of 2.52% of NPL to Total loans is also less as compared to NBL and HBL. From the above comparison of NPLs ratio, we can say that the quality of loan portfolio of NIBL is better as compared to other two sample banks as there are less non-performing loans.

4.2.12 Provision in Percent of NPLs

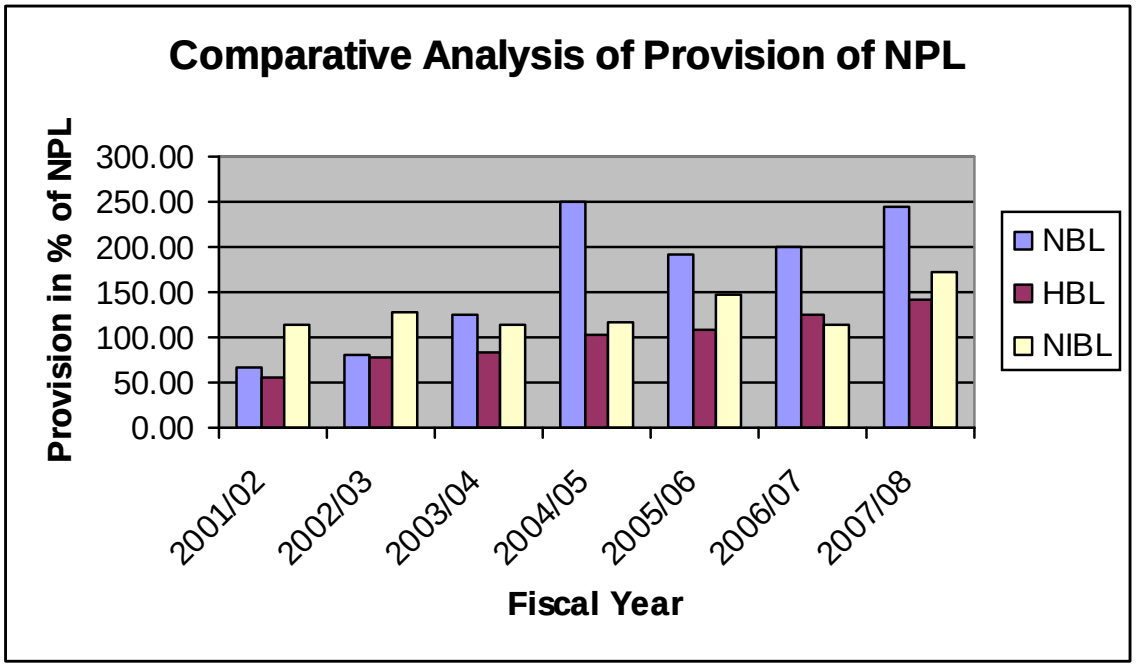
The following table and figure represents the provision of NPLs kept by banks:

Table 12

Comparative Provision in Percent of NPLs

Fiscal Year	Provision in Percent of NPLs		
	NBL	**HBL**	**NIBL**
2001/02	65.36	55.66	114.43
2002/03	79.56	77.12	126.73
2003/04	125.11	84.34	113.70
2004/05	249.52	102.53	115.77
2005/06	192.07	107.56	147.51
2006/07	200.84	124.02	114.39
2007/08	244.84	142.93	172.12
Average	**165.69**	**99.16**	**129.23**

Figure 19



From the above Table 12, the provision separated for NPLs is higher in case of NBL. The greater the percent of provisions made, the more secured is the depositor's money as enough capital backup is made. In the FY 2004/05, NBL has made huge provision. The increased portion of provision is beneficial to the depositors in the long run as their money is secured. The average provision of NBL is 165.69% which is greater than other two sample banks. A provision of 165.69% implies that of the Total NPLs, provision of 165.69% is kept in order to ensure the security of depositor's money.

In case of HBL and NIBL, the provision made for NPL is less as compared to NBL. Though their ratio of NPLs is greater, less provision is done against them which imply the insecurity of depositor's money in these banks as compared to NBL. The highest portion of NPL is with HBL. But in contrast to this it has kept less provision. Its average provision is 99.16%. The average provision for NIBL is 129.23% which is higher as compared to HBL. It has shown a fluctuating trend in keeping its provision for NPLs.

The depositors may enjoy increased EPS and dividends in the short run with the increased profit or retained earnings as provision is extracted from that head, but eventually they always risk their money in cases where less provision is made for NPLs.

4.2.13 Provision to Total Loans

The table below shows the provision kept by banks against its total loans disbursed.

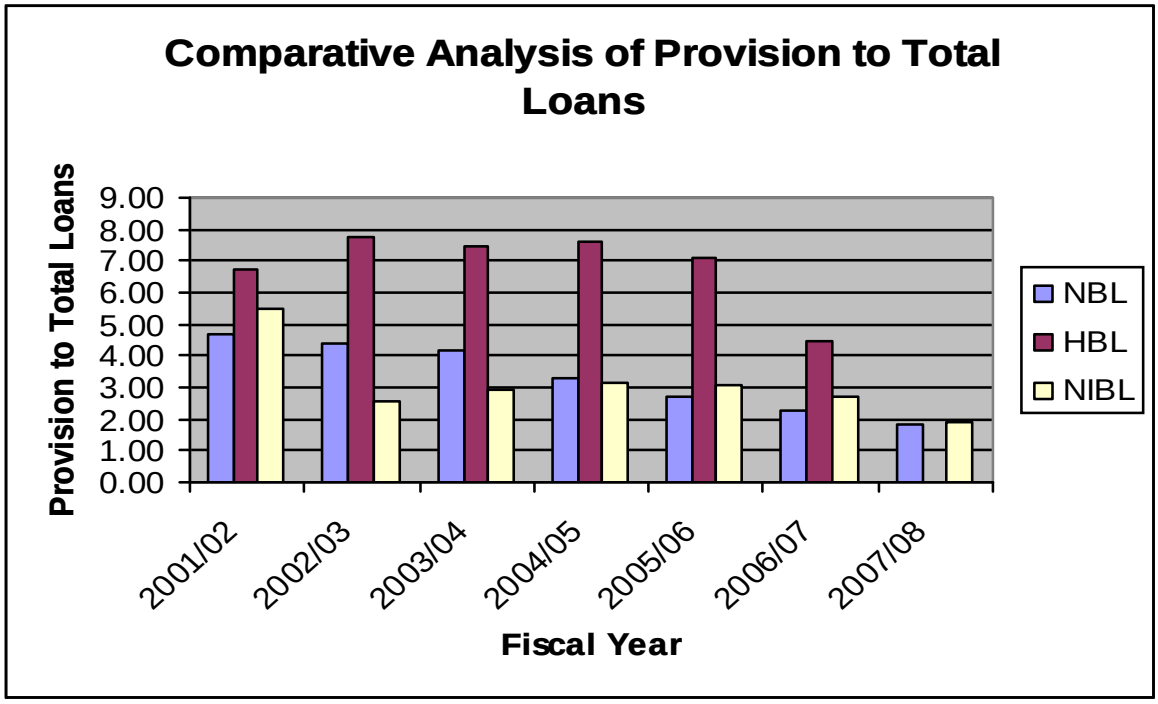
Table 13

Comparative Provision to Total Loans

In Percentage

Fiscal Year	Provision to Total Loans		
	NBL	**HBL**	**NIBL**
2001/02	4.66	6.73	5.49
2002/03	4.41	7.77	2.56
2003/04	4.20	7.49	2.90
2004/05	3.29	7.63	3.17
2005/06	2.68	7.10	3.05
2006/07	2.25	4.47	2.72
2007/08	1.81	0.03	1.93
Average	**3.33**	**5.89**	**3.12**

Figure 20



Provisions are not just done for the NPLs only. By the international standard, the banks are also required to make provision of 1% for the Good or Performing Loan as well for the security of depositor's money. This we call as provision done for Total loans which includes both performing and non-performing loans.

On an average, the provision done by NBL for Total Loans is 3.33% which implies that of total loans disbursed, 3.33% of it is kept as provision. This average is less as compared to other two banks. It has made greater provision against its NPLs but on an average it has less provision for its total loan portfolio. Though this ratio is less its investors and the depositors carry comparatively less risk because NBL has covered its NPLs by greater percentage of provision as compared to HBL and NIBL which is more important.

HBL has greater provision for total loans disbursed. From FY 2001-2007, the total loan of HBL is greater as compared to other two banks. This is also the reason as to why its provision to Total loans is higher. It has made less provision for its risky NPLs but on an average its provision is higher when measured in terms of total loans. Its average provision is 5.89% which is higher than other two sample banks.

NIBL is a balance between NBL and HBL. It carries medium loan portfolio and has medium provision for the total gross loans as compared to the other sample banks. Its average provision to total loans is 3.12% which implies that of total loans disbursed, 3.12% of it is kept as provision. Its loan provision is in decreasing trend which is a good signal. The major contributing factor for this cause is it's decreasing NPLs in the total loan portfolio.

4.2.14 Net Interest Income to Gross Income

The following table and figure represents the net interest income on the gross income:

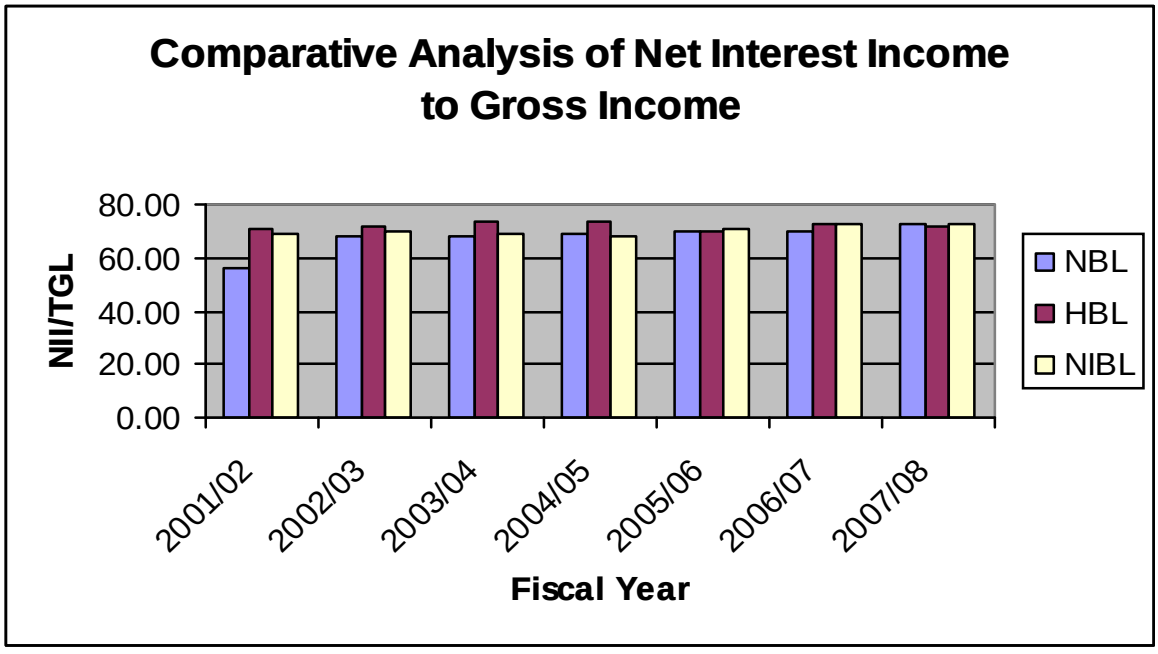
Table 14

Comparative Net Interest Income to Gross Income

In Percentage

Fiscal Year	Net Interest Income to Gross Income		
	NBL	**HBL**	**NIBL**
2001/02	55.91	70.55	68.64
2002/03	68.47	72.00	69.62
2003/04	68.40	73.61	69.18
2004/05	69.06	73.96	67.81
2005/06	70.09	70.15	71.07
2006/07	69.73	72.36	72.78
2007/08	73.05	71.36	72.87
Average	**67.81**	**72.00**	**70.28**

Figure 21



By Net Interest Income we mean the amount of interest income remaining after deducting the interest expense. The spread of interest is lower in NBL as compared to other two banks. In FY 2005/06, the deposit increased by 32.6% (Annual Report) and loans and advances increased by 21.3%. As compared to FY 2004/05, the interest rate given on deposits was comparatively lower as that of interest rate on loans and advances which helped to leap the contribution of net interest income tremendously in the FY 2005/06. The percentage of Net Interest Income in FY 2004/05 is 69.06% which has increased to 70.09% in the FY 2005/06. The average is 67.81% which implies that of total gross income, the contribution of Net Interest Income is 67.81%.

The average Net Interest Income to Gross Income for HBL is 72% which implies that of total gross income 72% is the contribution of interest spread. It has performing consistently in this regard. Whereas in case of NIBL, for the first three FYs from 2001-2005, the percentage of contribution has remained consistent at 69%. But from the FY 2005/06, it has been increasing continuously. The main reason behind this is the increase in its interest income as compared to the increase in its interest expenses. Its average is 70.28% which is higher than other two banks.

In case of HBL and NIBL, the contribution of net interest income is consistent and greater as compared to NBL. The contribution of other operating income such as commission and discount, exchange income, and other operating income is higher in case of these two banks as compared to their net interest income.

4.2.15 Interest Income on Loans to Total Loan

The following table and figure represents the interest income earned on loans:

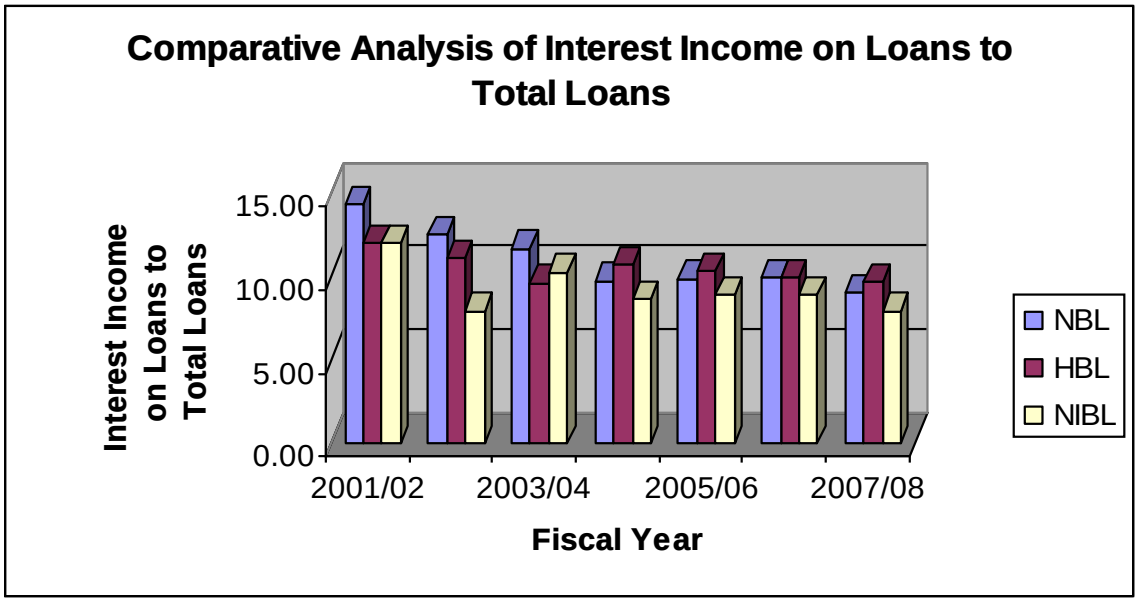
Table 15

Comparative Interest Income on Loans to Total Loans

In Percentage

Fiscal Year	Interest Income on Loans to Total Loan		
	NBL	**HBL**	**NIBL**
2001/02	14.36	12.02	12.02
2002/03	12.55	11.08	7.93
2003/04	11.72	9.64	10.27
2004/05	9.76	10.75	8.64
2005/06	9.87	10.32	8.90
2006/07	9.98	9.98	8.92
2007/08	9.09	9.73	7.97
Average	**11.05**	**10.50**	**9.24**

Figure 22



From the Table 15 above the return on the total loan is calculated in terms of the interest it generates. Loans are the assets for banks and while providing loans certain interest is charged to the customers. In case of NBL, the amount of total loan disbursed is higher in the FY 2007/08 but it has earned less interest income in that year (see appendix 1 – Tables). The main reason behind this is charging lower interest rate on loans disbursed. Among the seven fiscal years taken into consideration, the ratio is higher in the FY 2001/02 at 14.36%. The reason is that in that particular year higher interest rates were charged even though loans disbursed were comparatively lower. Its average ratio is 11.05% which implies that of Total loans, NBL earns 11.05% of interest.

In case of HBL, the ratio has been declining although the total loans have been increasing. The main reason behind this is the decreasing interest rate on loans offered so as to compete in the industry. Its average ratio is 10.50% which implies that of total loans HBL earns 10.50% as interest income. This percentage is lower than NBL's but higher as compared to NIBL.

Likewise, the ratio of NIBL is low as compared to other sampled banks. Lower interest rate is offered and loans have been disbursed. Of the last four FYs 2004-2008's loan amount, NIBL has the disbursed high amount of loan. But its interest income is lower. The main reason behind this is because of the lower interest rate charged. Its average percentage of interest income is 9.24%.

4.2.16 Interest Expenses to Interest Bearing Deposits

The table and figure represents the interest expense on interest bearing deposits:

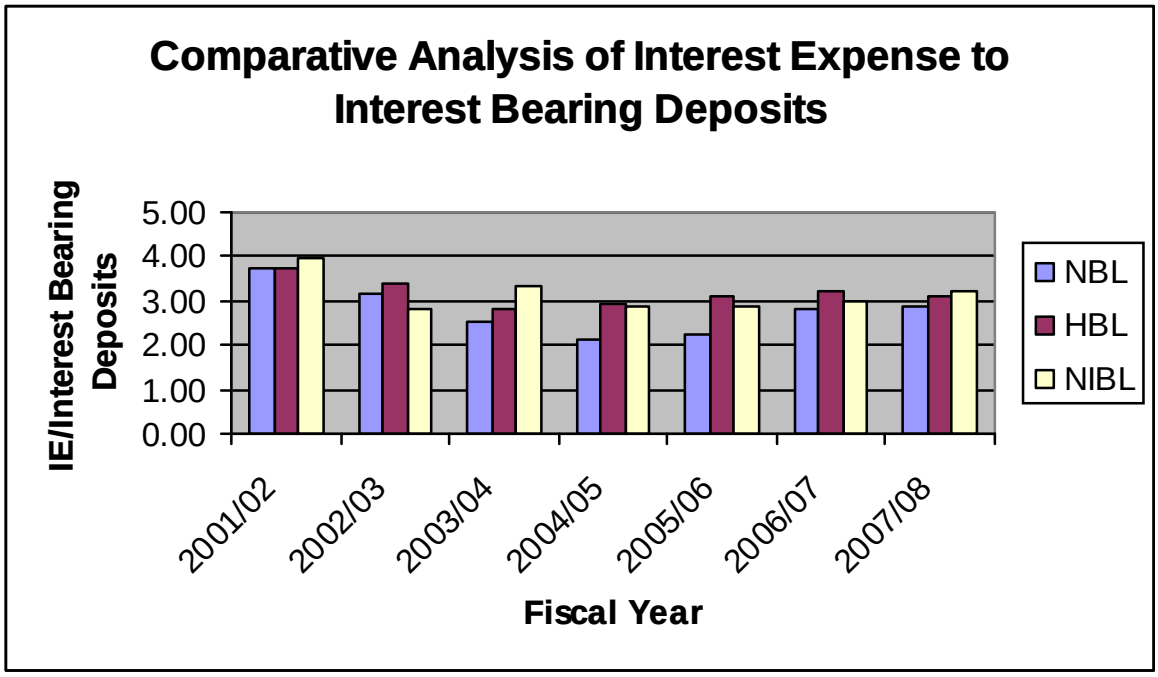
Table 16

Comparative Interest Expenses to Interest Bearing Deposits

In Percentage

Fiscal Year	Interest Expenses to Interest Bearing Deposits		
	NBL	**HBL**	**NIBL**
2001/02	3.74	3.72	3.98
2002/03	3.17	3.38	2.82
2003/04	2.55	2.82	3.35
2004/05	2.13	2.93	2.86
2005/06	2.22	3.09	2.90
2006/07	2.84	3.19	3.00
2007/08	2.90	3.12	3.23
Average	**2.79**	**3.18**	**3.16**

Figure 23



There are broadly two types of deposits in a bank. Interest bearing and non – interest bearing. In this calculation of Table 16 the ratio of interest expense to the total interest bearing deposits are shown. The interest bearing deposits require servicing in terms of interest payment. The interest expense of NBL is lower in terms of other banks. One of the prime reasons behind this trend may be the lower interest rate offered by NBL. The average interest expense of NBL is 2.79% which is lower as compared to other two sample banks. For the first two FYs the interest expense increased but reduced in the FY 2003/04. From the FY 2005/06, it has been rising consistently.

HBL's interest expense to total interest bearing deposits is higher as compared to other two sample banks. The total interest bearing deposits is higher in HBL. This implies that HBL is more leveraged in comparison to other two banks. Reducing the interest rate or interest bearing accounts can help to increase the net interest income which will increase the total operating income. Its average interest expense is 3.18% which means that of its total income 3.18% is disbursed as interest expense for serving the interest bearing deposits.

In case of NIBL, it is somewhat between NBL and HBL. Its interest bearing deposits are less as compared to HBL but more as compared to NBL. It is more leveraged as compared to NBL. The total interest bearing deposits for NIBL is highest in the FY 2007/08 in the last seven years. In this year its interest expense ratio has increased. However, in the FY 2003/04 its ratio is the highest as 3.35 though the interest bearing deposit (see appendix 1 Table) is lower as compared to the FY 2007/08. The reason behind this is NIBL served the deposits in the FY 2003/04 with higher interest as compared to FY 2007/08. Its average interest expense is 3.16%.

4.2.17 Cash Ratio

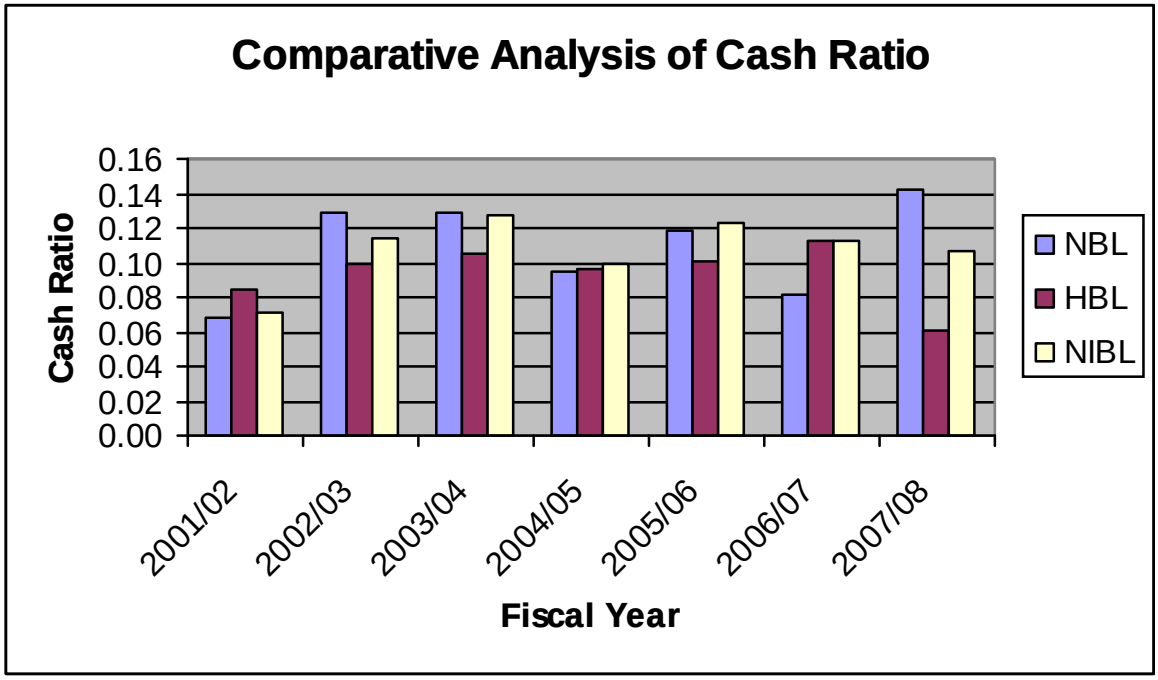
The table and figure represents the cash ratio:

Table 17

Comparative Cash Ratio

Fiscal Year	Cash Ratio (Times)		
	NBL	**HBL**	**NIBL**
2001/02	0.07	0.08	0.07
2002/03	0.13	0.10	0.11
2003/04	0.13	0.11	0.13
2004/05	0.09	0.10	0.10
2005/06	0.12	0.10	0.12
2006/07	0.08	0.11	0.11
2007/08	0.14	0.06	0.11
Average	**0.11**	**0.09**	**0.11**

Figure 24



Cash ratio is the major concern for the short term creditors who are mainly concerned with the ability of the firm to pay back the amount of credit. It shows how many times the firm is able to pay back its creditors from the available cash.

From Table 17 we can examine that the cash ratio of NBL is highest as compared HBL and is same as that of NIBL The average cash ratio is 0.11 which mean that in a particular period NBL can pay back its short term liabilities 11 times. The trend of cash ratio is fluctuating in nature in case of NBL. In the FY 2007/08, the cash ratio has significantly increased. The main reason behind this movement is the increase in cash and bank balance in that period by 135% as compared to the increase of 36% in current liabilities.

In case of HBL, the trend of cash ratio is also erratic in nature. In the FY 2007/08, there has been sharp decline in the ratio by 46.42%. The main reason behind this is the increase in the current liabilities by 6% and the drastic decline in cash by 43%. Its average ratio is 0.09 which imply that HBL is able to pay its current liabilities 9 times by the cash available.

The average ratio of cash is highest for NIBL as compared to HBL. It is 11 times. Its cash ratio has been consistently increasing except in the FY 2004/05 where it has faced a decline of 21.42%. When compared to the average ratio of HBL, we can conclude that NIBL is in better position to meet its short term obligations.

When analyzed from the perspective of the short term creditors, NBL and NIBL will be the most preferred bank.

4.2.18 Liquid Assets to Total Assets

The table and figure represents the ratio of liquid assets to total assets:

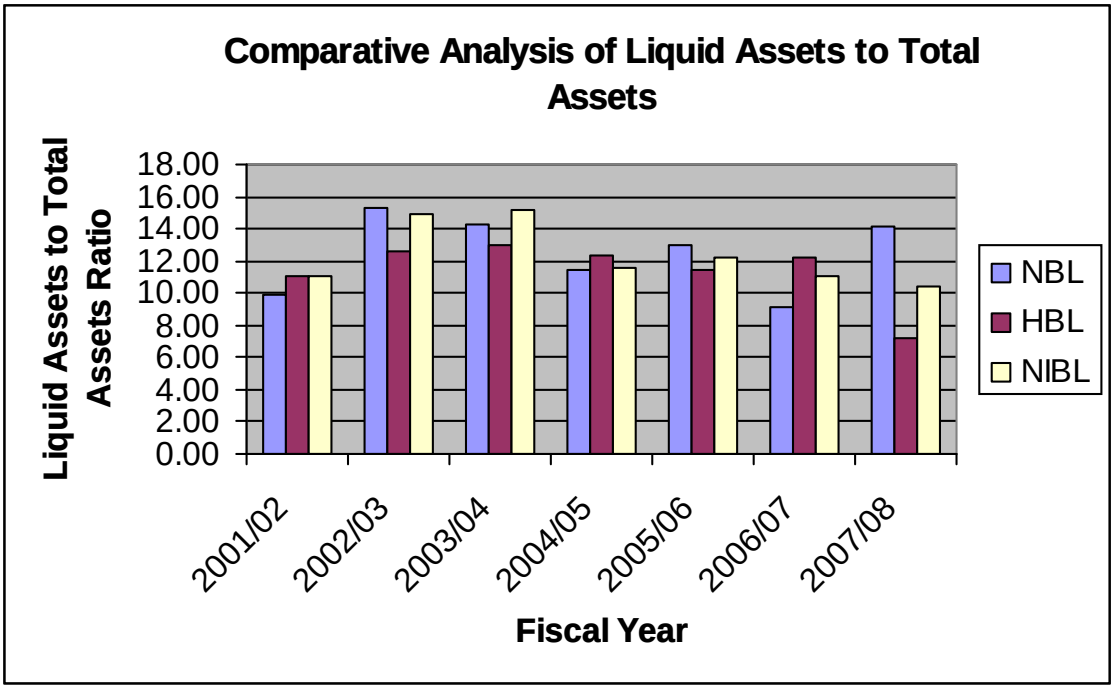
Table 18

Comparative Liquid Assets to Total Assets

In Percentage

Fiscal Year	Liquid Assets to Total Assets		
	NBL	**HBL**	**NIBL**
2001/02	9.95	11.04	11.09
2002/03	15.24	12.62	14.93
2003/04	14.22	13.00	15.19
2004/05	11.47	12.33	11.63
2005/06	13.03	11.43	12.23
2006/07	9.08	12.27	11.01
2007/08	14.08	7.19	10.37
Average	**12.44**	**11.41**	**12.35**

Figure 25



As this ratio shows the percentage of liquid assets from the total assets, we can examine the liquidity of the banks. In case of NBL the average percentage of liquid assets is 12.44% which means that of its total assets, 12.44% is in the form of liquid assets. In the FY 2006/07, the percentage of liquid assets has been decreased by 30.30%. However, in the FY 2007/08, there has been positive improvement in the ratio by 55.06%. Though the percentage of liquid assets decreased in the FY 2006/07, it has been recovered in the FY 2007/08. The average ratio of NBL is highest of other banks in comparison.

In the case of HBL, the ratio of liquid assets to total assets has been inconsistent. In the FY 2003/04, the ratio of liquid assets has been higher. It is 13%. However, in the coming years its have been decreased. In the FY 2006/07 it has increased to 12.27% but in the FY 2007/08 this percentage has been decreased by 41.37% and reached 7.19%. Its average ratio is 11.41% which implies that of total assets it held, 11.41% is held as liquid assets and remaining 88.59% is kept as illiquid assets. HBL is less liquid as compared to NBL and NIBL in terms of the liquid assets it holds.

Regarding NIBL the ratio of liquid assets to total assets shows erratic pattern. In the total seven FYs taken into consideration, it has maintained 15.19% of liquid assets in the FY 2003/04. But since then the percentage of liquid assets has been declining. The average ratio is 12.35%. NIBL is liquid as compared to HBL but less liquid as compared to NBL.

4.2.19 Quick Ratio

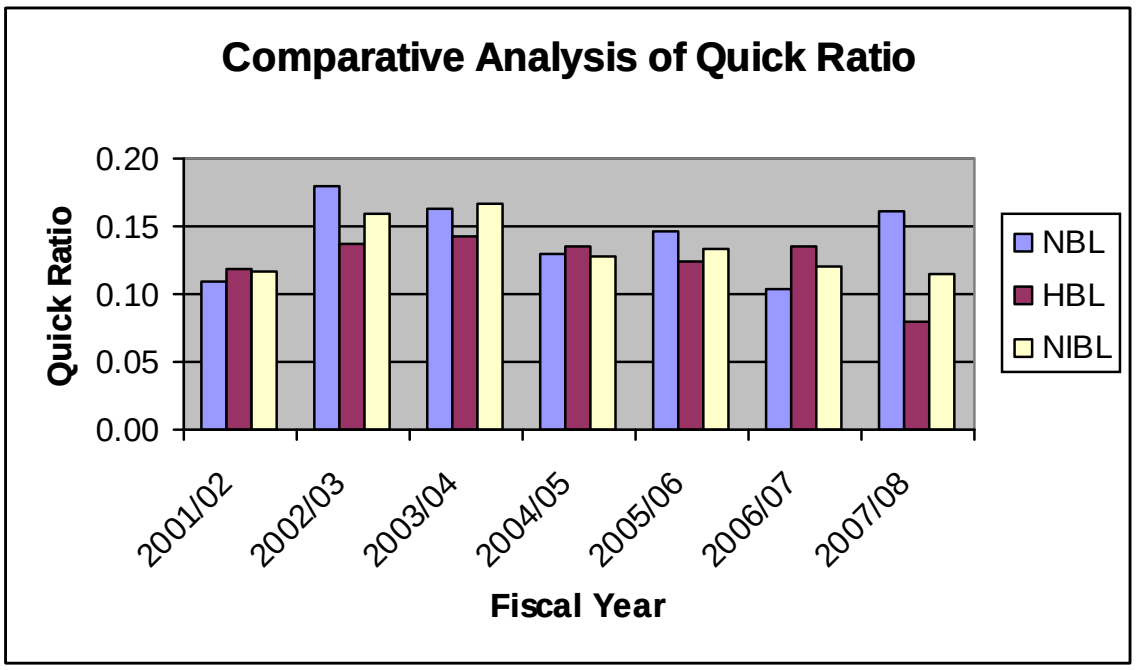
The table and figure represents the quick ratio:

Table 19

Comparative Quick Ratio

Fiscal Year	Quick Ratio (Times)		
	NBL	**HBL**	**NIBL**
2001/02	0.11	0.12	0.12
2002/03	0.18	0.14	0.16
2003/04	0.16	0.14	0.17
2004/05	0.13	0.14	0.13
2005/06	0.15	0.12	0.13
2006/07	0.10	0.13	0.12
2007/08	0.16	0.08	0.12
Average	**0.14**	**0.12**	**0.13**

Figure 26



Quick ratio is a measure of liquidity and gives more emphasis on immediate conversion of assets into cash. Inventory is excluded in the calculation of quick ratio because inventory is relatively illiquid compared to cash. A quick ratio of 2:1 implies that the entity has Rs.2 in quick assets for every Rs.1 in current liabilities.

In case of NBL, the quick ratio has shown inconsistent performance. It has increased in the FY 2001/02. But this ratio has decreased continuously in the FYs 2003/04 and 2004/05. However in the FY 2005/06 the ratio has increased to 0.15 from 0.13 that is by 12.28%. And then in the FY 2006/07, there is again a decline. In the FY 2007/08, the quick ratio has increased to 0.16 times. The average quick ratio is 0.14 times which means that NBL has Rs.0.14 in quick assets for every Rs.1 in current liabilities. In other words, NBL is not able to cover its current liabilities from its quick assets. The average of NBL is highest as compared to other sample banks.

In case of HBL, the quick ratio is lower as compared to NBL. For the three FYs 2002/03, 2003/04 and 2004/05 the quick ratio has remained consistent at 0.14 which has decreased in the FY 2005/06. In the FY 2006/07, the quick ratio has increased. But again in the FY 2007/08 it has declined to 0.08 times. The average quick ratio of HBL is 0.12 times which implies that HBL has Rs.0.12 in quick assets for every Rs.1 in current liabilities. In other words, HBL is also unable to better cover its current liabilities.

NIBL has moderate quick ratio of 0.13 times which is the highest as compared to HBL and lowest as compared to NBL. The quick ratio has been increasing from the FY 2001/02 to 2003/04. In the FY 2004/05 to 2005/06, the ratio has been constant at 0.13 which later in the FYs 2006/07 and 2007/08 has decreased by 1%. The main reason behind this is the increase in the current liabilities as compared to the increase in current assets in the FY 2007/08.

4.2.20 Liquid Assets to Total Deposits

The table and figure represents the ratio of liquid assets to total deposits:

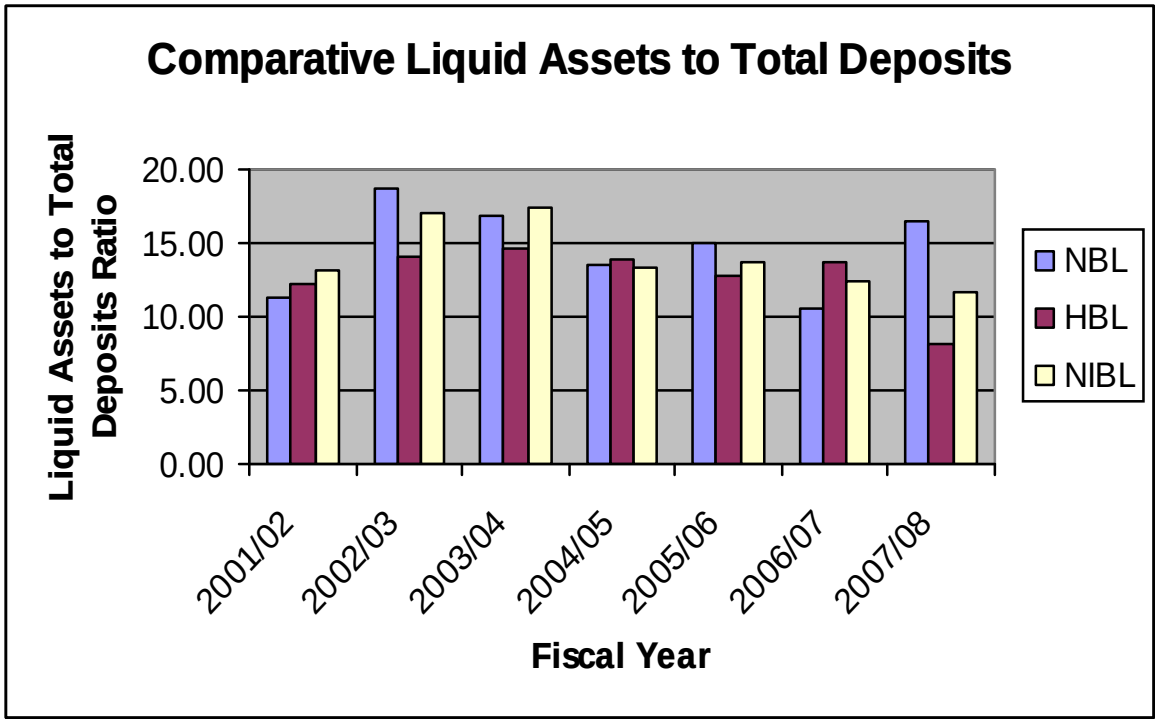
Table 20

Comparative Liquid Assets to Total Deposits

In Percentage

Fiscal Year	Liquid Assets to Total Deposits		
	NBL	**HBL**	**NIBL**
2001/02	11.31	12.26	13.21
2002/03	18.77	14.03	16.99
2003/04	16.87	14.62	17.47
2004/05	13.52	13.83	13.28
2005/06	15.04	12.71	13.78
2006/07	10.60	13.68	12.41
2007/08	16.39	8.17	11.70
Average	**14.64**	**12.76**	**14.12**

Figure 27



As we know that this ratio shows the portion of liquid assets the bank holds out of its total deposits, we can analyze the liquidity position of the bank. The higher this ratio, the higher is the liquidity status of the bank.

NBL has 14.64% as the average liquid assets to total deposits which implies that of the total deposit portfolio, NBL has kept 14.64% as liquid assets. This average is higher than the other two sample banks. From the perspective of the depositors NBL is the safest bank as it can ensure that the bank is able to pay back the deposits as and when the customers require. This is enabled by the higher ratio of liquid assets it has held. Holding higher portion of liquid assets means that the bank is investing less in illiquid assets. This can also ensure that the bank is relatively free from interest rate risk. That is the fluctuation of interest rate due to which loss may incur.

However, holding more liquid assets may have adverse impact on the earnings of the firm as more funds may remain idle as liquid (cash or bank balance) rather than being invested in the long term projects. Thus, due considerations has to be taken while deciding this ratio.

In case of HBL, the average ratio is the lowest of other sample banks. In the FY 2003/04, this ratio has reached its highest at 14.62% which implies that HBL was able to pay back around 15% of the total deposits instantly. However, it slowly declined. In the FY 2007/08, the ratio has reached its lowest at 8.17%. One of the reasons for this cause may be the investment of total deposits in the long term projects or towards illiquid assets than keeping it in liquid form.

In case of NIBL, the average ratio is 14.12% which is comparatively higher than HBL but lower as compared to NBL. For the FYs 2001/02 to 2003/04, the ratio has increased. But from the FY 2005/06, it has started to decline continuously.

4.2.21 Loans to Assets

The table and figure represents the ratio of loans to assets:

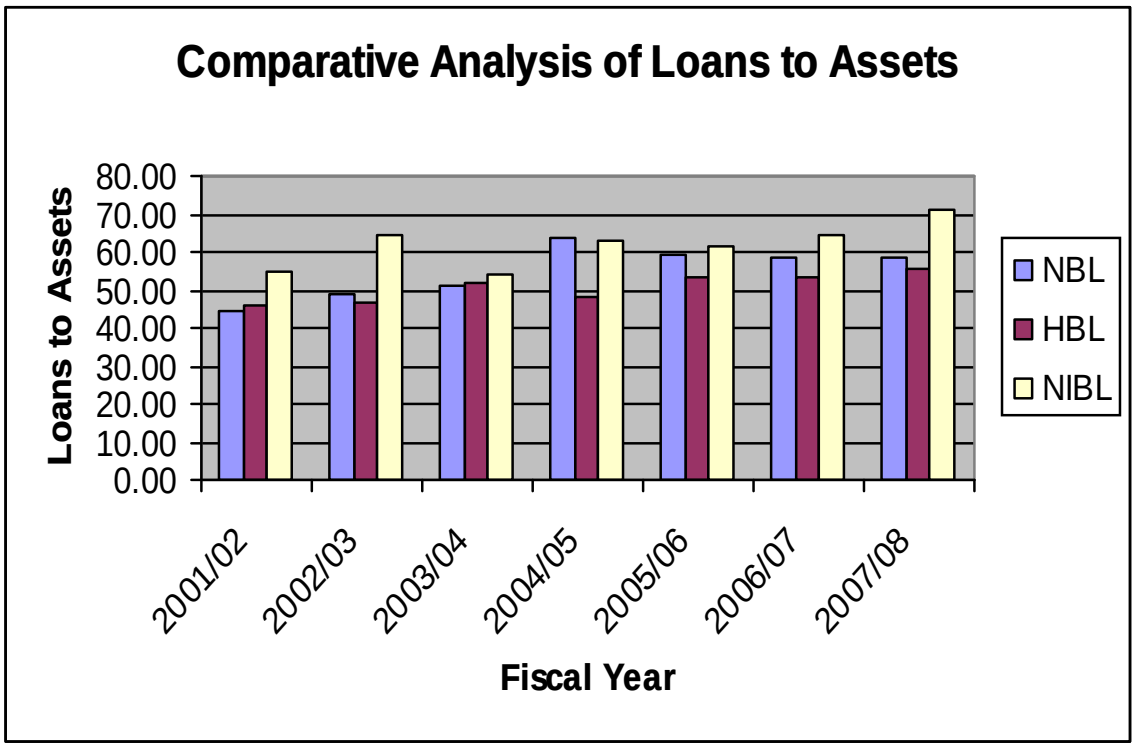
Table 21

Comparative Loans to Assets

In Percentage

Fiscal Year	Loans to Assets		
	NBL	**HBL**	**NIBL**
2001/02	44.26	46.23	54.56
2002/03	48.99	46.43	64.30
2003/04	51.05	52.18	53.74
2004/05	63.69	48.31	63.03
2005/06	59.47	53.50	61.78
2006/07	58.35	53.09	64.40
2007/08	58.60	55.78	70.82
Average	**54.92**	**50.79**	**61.81**

Figure 28



This ratio establishes the relationship between the assets of the bank and total loans it has disbursed in certain period of time. Loans and advances can be regarded as the assets of a financial institution. By this ratio we can examine the liquidity position of the sample bank as we can know the amount of assets held by the bank as loans in the market out of its total assets.

In case of NBL, from the FY 2001/02 to 2004/05, the amount of loans disbursed has increased continuously. But for two FYs 2005/06 and 2006/07, this ratio has decreased. Again in the FY 2007/08, around 58.60% of total assets were disbursed as loans in the market which is higher as compared to the previous FY 2006/07 where it was 58.35%. The average ratio of loan to assets is 54.92% which implies that of the total assets that NBL holds; around 55% of it is in the market as loans of various terms and interest.

Likewise is the case with HBL. The percentage of loans to assets is fluctuating. From the FY 2001/02 to 2003/04, the percentage has increased. But in the FY 2004/05, this percentage of loans to assets decreased from 52.18% to 48.31% that is, by 7.41%. However, this ratio has gradually increased and reached 55.78% in the FY 2007/08. The average ratio is 50.79% which is lower as compared to NBL which implies that HBL has disbursed lesser amount of its assets as loans.

NIBL has the highest average ratio of loans to total assets ratio. It is 61.81% which implies that around 62% of its total assets are in the market as loans. Disbursing higher amount of loans in the market is risky if majority of them are non-performing in nature. Because in such non-performing loans there is less chance that it will be paid back.

4.2.22 Cash Reserve Ratio (CRR)

The table and figure represents the CRR:

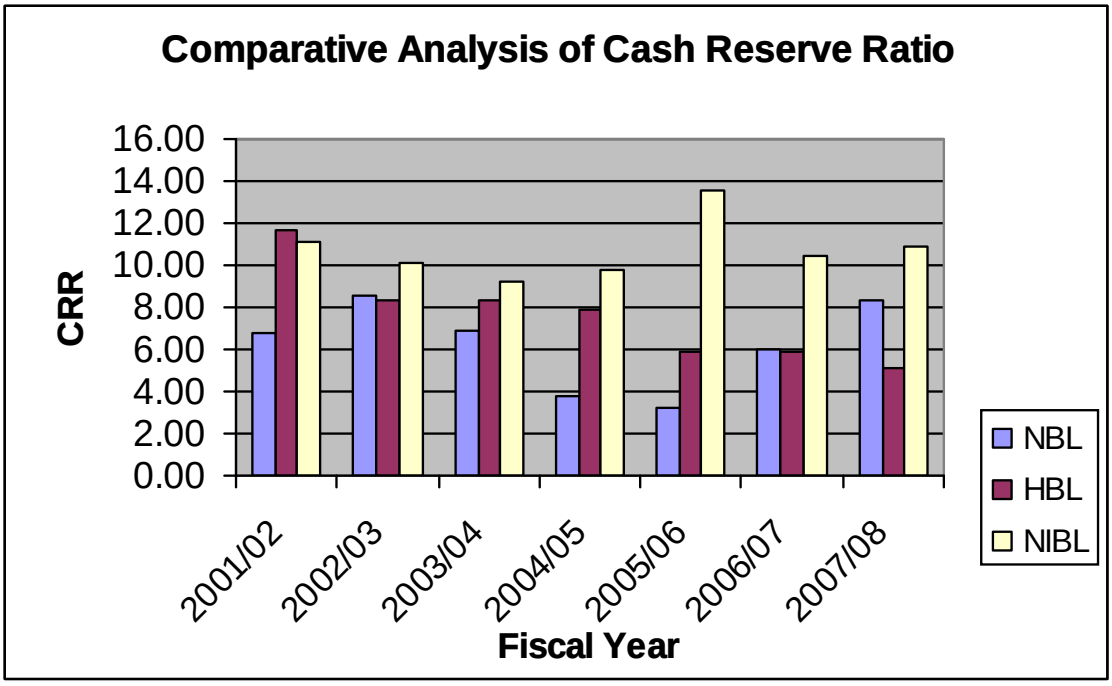
Table 22

Comparative Cash Reserve Ratio (CRR)

In Percentage

Fiscal Year	Loans to Assets		
	NBL	**HBL**	**NIBL**
2001/02	6.78	11.69	11.16
2002/03	8.51	8.30	10.11
2003/04	6.87	8.28	9.19
2004/05	3.83	7.86	9.78
2005/06	3.26	5.92	13.61
2006/07	6.00	5.92	10.47
2007/08	8.37	5.13	10.91
Average	**6.23**	**7.59**	**10.75**

Figure 29



Maintaining a cash reserve in the Central Bank is a provision made mandatory to all the banks operating in the economy. As per the regulations of the Nepal Rastra Bank, all the commercial banks are required to maintain a Cash Reserve Ratio (CRR) equivalent to 5.5% of the total deposits it holds.

From the data of CRR of NBL we can see that it has maintained the minimum ratio of 5.5% from the FY 2001/02 to 2003/04. But in the FYs 2004/05 and 2005/06 the CRR has been maintained at around 3%. This implies that during those periods the bank faced cash crunch and had to withdraw cash from the reserve itself. During such cases the bank has to pay certain penalty charges to the Nepal Rastra Bank by assuring the authority that cash reserve would be maintained as soon as possible. Here, the average CRR of NBL is 6.23%.

In the case of HBL the minimum ratio of CRR has been met for the period of consideration. From the FY 2005/06 to 2007/08, the CRR has been consistent at 5%. Its average CRR is 7.59%.

Likewise is the case with NIBL. It has also successfully maintained its minimum CRR for the seven years of consideration. The average CRR for NIBL is 10.75% which is higher as compared to other two sample banks. Since NIBL has consistently maintained its cash reserve with Nepal Rastra Bank, its liquidity position is better as compared to other banks.

4.2.23 Growth Rate in Interest Income

The table and figure represents the growth in interest income:

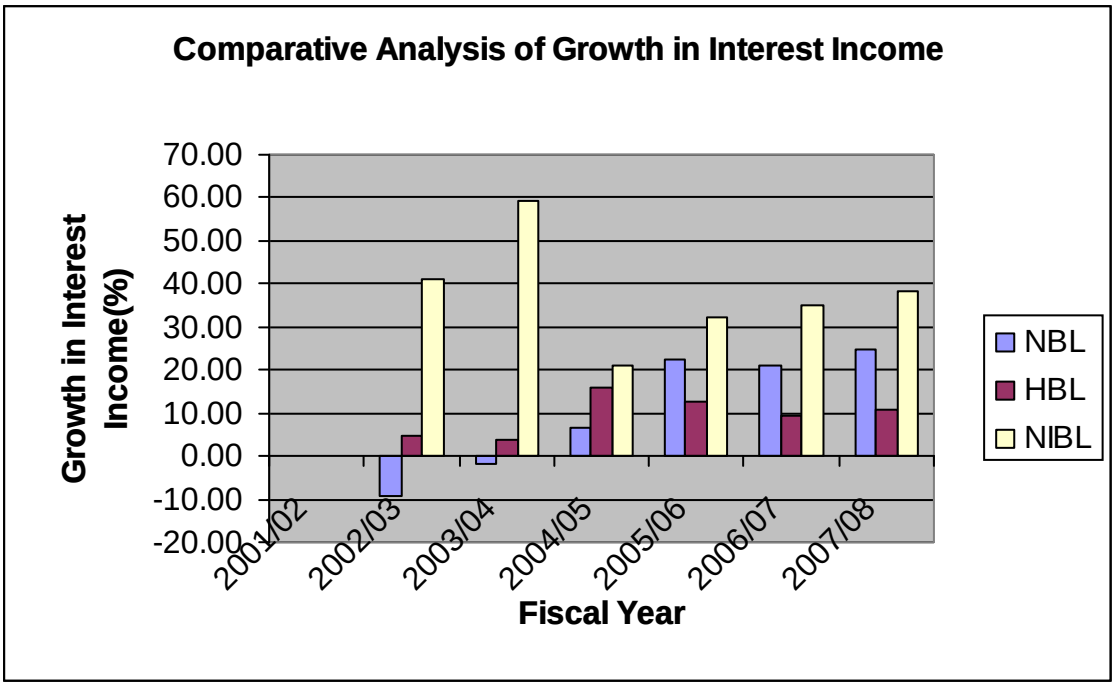
Table 23

Comparative Growth Rate in Interest Income

In Percentage

Fiscal Year	Growth in Interest Income		
	NBL	**HBL**	**NIBL**
2001/02	-	-	-
2002/03	-9.13	4.55	40.86
2003/04	-1.60	3.72	59.17
2004/05	6.70	16.10	21.25
2005/06	22.57	12.44	32.54
2006/07	21.20	9.17	35.15
2007/08	24.62	10.59	38.44
Average	**9.20**	**8.08**	**32.44**

Figure 30



This ratio shows the growth in interest income over a period of time. In case of NBL, for the initial two FYs 2002/03 and 2003/04 there has been negative growth in interest income. However this ratio or percentage has improved. In the FY 2005/06, there has been an increase in interest income by 236.81 % and reached 22.57% from 6.70%. In the FY 2007/08, the growth rate in interest income is 24.62%. Its average growth rate is 10.73% which implies that on an average the interest income for NBL has been increasing by 10.73% annually.

In case of HBL, there has been fluctuating trend in the growth rate in interest income. In the FY 2003/04, the lowest growth has been faced. That is, just 3.72%. However, in the FY 2004/05, the ratio has been drastically increased to 16.10% that is by 333%. But again it continued to decline in the FYs 2005/06 and 2006/07. Its average ratio is 9.43% which implies that on an average the interest income for HBL increases by 10.73% annually.

NIBL has the highest growth in interest income. Its average growth is 37.85% which is greater as compared to other two banks. In the FY 2003/04, there has been highest growth rate in interest income by 59.17%. However later in the following years this ratio gradually declined.

4.3 Analysis of Descriptive Statistics

Table 24 provides information regarding descriptive statistics of 21 variables (3 banks for the period of 7 FYs) that has been used in this study. The first three ratios Total Debt/Total Assets, Long Term Debt/Total Assets, and Short Term Debt/Total Assets are dependent in nature. Whereas the last five are independent variables namely EBIT/Total Assets, 10 Log of Assets, 10 Log of Age, Growth in Interest Income and Fixed Assets/Total Assets. Their minimum, maximum, mean, and standard deviations are shown below:

Table 24

Descriptive Statistics of Variables (N = 21)

	Minimum	Maximum	Mean	Std.Deviation
Total Debt/Total Assets	0.024220	0.971545	0.927786	0.021504
Long Term Debt/Total Assets	0.000758	0.058050	0.023863	0.012735
Short Term Debt/Total Assets	0.845685	0.951742	0.904029	0.024220
EBIT/Total Assets	0.023558	0.060552	0.039713	0.013025
10 Log of Assets	9.696696	10.589651	10.303697	0.213678
10 Log of Age	0.903090	1.380211	1.196994	0.139237
Growth rate in Interest Income	-0.091335	0.591702	0.173081	0.172446
Fixed Assets/Total Assets	0.847634	0.928088	0.880077	0.020375

According to the Table we can see that the minimum value of Total Debt to Total Assets is 2.4% and maximum value is 97.15% which implies that the sample banks have financed minimum 2.4% of assets from long term debt while at maximum the total assets are financed by 97% of total debt. The mean total of the Total Debt to Total Assets ratio for the sample banks is 92.78% and the difference between the highest and lowest of this ratio is explanied by a standarad deviation of 2.15%.

In case of Long Term Debt to Total Assets the sample banks have used almost inconsiderate amount of Long Term Debt to finance its assets whereas in maximum it is 5.8%. The mean percentage is 2.39 which implies that the sample banks have used very few long term debt in its capital structure. The calculated values are explained by the standard deviation of 1.3%.

On the contrary, in case of Short Term Debt to Total Assets the sample banks have used more short term debt in their capital structure. At minimum the ratio of short term debt to total assets is 84.57% whereas in maximum it is 95.17%. The mean percentage is 90.40 which is explained by the standard deviation of 2.4%.

Regarding profitability which is explained by EBIT/Total Assets, the banks are able to gain minimum of 2.4% and maximum of 6.05% return or profit from their assets. The mean profitabiliity of sample banks is 3.97% of assets and the standard deviation of 1.3%.

In case of growth rate in interest income, the minimum growth is -9.1 % and the maximum growth is 59.2%. This implies that the maximum growth the banks have achieved is more than 50% whereas the least growth is in negative that is less than zero. The mean percentage of growth is 17.31%. The standard deviation is 17.24%.

And regarding the Tangibility of assets which is explained by the ratio of Fixed Assets/Total Assets, the minimum value is 84.8% which implies that of total assets around 84.8% of the assets are fixed in nature whereas in maximum it is 92.8%. The mean is 88 %. The standard deviation is 2.03%.

4.4 Analysis of Correlation Coefficient

Correlation analysis enables us to have an idea about the degree and direction of the relationship between two or more variables. It is a statistical tool which studies the relationship between two or more variables which involves various methods and techniques used for studying and measuring the extent of the relationship between such variables. It is denoted by ‘r’. However, it fails to reflect upon the cause and effect relationship between the variables. In the following section correlation between different variables are calculated and presented of the sample banks:

Table 25

Correlations Coefficient of Variables N=21

		TDA	LDA	SDA	SIZE	AGE	GROW	PROF	TANG
TDA	Pearson Correlation	1	.069	.851**	-.301	-.583**	.119	-.714**	.108
	Sig. (2-tailed)		.765	.000	.185	.006	.607	.000	.642
	N	21	21	21	21	21	21	21	21
LDA	Pearson Correlation	.069	1	-.464*	.271	.071	-.133	.123	-.060
	Sig. (2-tailed)	.765		.034	.234	.760	.565	.594	.798
	N	21	21	21	21	21	21	21	21
SDA	Pearson Correlation	.851**	-.464*	1	-.410	-.555**	.176	-.699**	.127
	Sig. (2-tailed)	.000	.034		.065	.009	.446	.000	.584
	N	21	21	21	21	21	21	21	21
SIZE	Pearson Correlation	-.301	.271	-.410	1	-.018	.066	.016	.322
	Sig. (2-tailed)	.185	.234	.065		.939	.776	.946	.155
	N	21	21	21	21	21	21	21	21
AGE	Pearson Correlation	-.583**	.071	-.555**	-.018	1	.352	.591**	-.064
	Sig. (2-tailed)	.006	.760	.009	.939		.118	.005	.782
	N	21	21	21	21	21	21	21	21
GROW	Pearson Correlation	.119	-.133	.176	.066	.352	1	-.285	-.170
	Sig. (2-tailed)	.607	.565	.446	.776	.118		.211	.461
	N	21	21	21	21	21	21	21	21
PROF	Pearson Correlation	-.714**	.123	-.699**	.016	.591**	-.285	1	-.024
	Sig. (2-tailed)	.000	.594	.000	.946	.005	.211		.918
	N	21	21	21	21	21	21	21	21
TANG	Pearson Correlation	.108	-.060	.127	.322	-.064	-.170	-.024	1
	Sig. (2-tailed)	.642	.798	.584	.155	.782	.461	.918	
	N	21	21	21	21	21	21	21	21

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From the Table 25 we can see that Total Debt to Total Assets (TDA) is positively correlated with Long Term Debt to Total Assets (LDA), Short Term Debt to Total Assets (SDA), growth in interest rate, and tangibility of fixed assets. On the other hand, it is negatively correlated with size of assets, age of the firm, and profitability. It is significantly correlated with SDA, age of firm, and profitability at 1% level of significance. TDA is highly correlated with SDA by 85% which implies that 85% of the total variation in the value of the TDA has been explained by SDA. In the similar way it has lower degree of correlation with growth by 11.9% which explains that the total variation in the value of the dependent variable TDA has been explained by an independent varaible growth of the firm. TDA has high degree of negative correlation with profitability by 71.4% which explians that 71% of the total variation in the value of the dependent variable TDA has not been explained by the indpendent variable profitability. It is explained by other variables.

Correlating LDA with other dependent variables we find that it is positively correlated with TDA, size, age, and profitability but is negatively correlated with SDA, growth and tangibility. It is significantly negatively correlated with SDA at 5% level of significance.

Likewise, when correlating SDA with other variables we find that it is positively correlated with TDA, growth, and tangibility. And is negatively correlated with LDA, size, age, and profitability. The correlation of SDA is significant at 1% with TDA, age, and profitability and is significant at 5% with LDA.

Size has positive correlation with LDA, growth, profitability, and tangibility. However, it is negatively correlated with TDA, SDA, and age. Age variable is positively correlated with LDA, growth of assets, and profitbility. And it is negatively correlated with TDA, SDA, size, and tangibility. The positive correlation of age with profitability is significant at 1% level. It is 59.1% which implies that the total variation in the value of the age has been explained by the profitability. The degree of this correlation is moderate.

Growth has negative correlation with LDA, profitability, and tangibility. Likewise profit has negative correlation with tangibility.

4.5 Analysis of Regression Results

The following Table shows the regression of Total Debt to Total Assets (TDA) and Short Term Debt to Total Assets (SDA). The regression models have been discussed earlier in chapter 3 where the independent variables are regression constant, size, age, growth in interest income, profitability, and tangibility. The dependent variables are TDA and SDA.

Table 26
Regression Results

Independent Variables	Model 1 TDA	Model 2 SDA
CONSTANT	1.217**	1.318**
(Sig.)	(0.000)	(0.000)
SIZE	-0.040*	-0.062**
(Sig.)	(0.022)	(0.001)
AGE	-0.066	-0.089*
(Sig.)	(0.101)	(0.019)
GROW	0.028	0.052*
(Sig.)	(0.302)	(0.045)
PROF	-0.639	-0.515
(Sig.)	(0.125)	(0.167)
TANG	0.249	0.386*
(Sig.)	(0.152)	(0.020)
R square	0.474	0.709
F	6.804	12.311
(Sig.)	(0.002)	(0.000)
D.W.	1.481	2.702

** Significant at 0.01 level (2-Tailed)
* Significant at 0.05 level (2-Tailed)

From Table 26, we can analyze that 10 fold change or decrease in size of assets will increase the TDA by 4%. Likewise, the 10 fold change or decrease in size of assets will increase the SDA by 6.2%. Size is statistically significant with TDA at 5% level of significance while it is statistically significant with SDA at 1% level of significance.

In case of age of the bank which is used as a proxy for reputation, we can see that 1% change in age will decrease the SDA by 8.9%. In model 1 age is insignificant while calculating the value of TDA. The calculations are shown in the appendix.

Regarding the growth in interest income, it has positive relationship with both TDA and SDA. One percent increase in the growth in interest income will increase the TDA by 2.8% and one percent increase in growth in interest income will increase the SDA by 5.2%. Growth is statistically significant with SDA at 5% level of significance.

Profitability has negative relationship with both TDA and SDA. 1% change in profitability will decrease TDA by 63.9% and SDA by 51.5%. Both are statistically insignificant.

Regarding tangibility, it has positive relationship with both TDA and SDA. A 1% increase in tangibility will increase TDA by 24.9% and SDA by 38.6%. SDA is statistically significant at 5% level of significance.

In TDA, the value of R square is 0.474 which implies that the variance in dependent variable is explained by 47.4% of independent variables. It is not highly explained by the independent variables. In case of SDA, the variance in dependent variable is explained by 70.9% of independent variables. It is highly explained by the independent variables. As compared to TDA, the model of SDA best fits the data as independent variables best define the changes in a dependent variable SDA. The closer the value of R square is to 1, the better is the fit of data.

The F-test shows the fit of data. The value of F-test in model 2 is greater as compared to model 1 which implies that the independent variables better describe the calculated value of SDA as compared to the same variables explaining the value of TDA.

4.6 Major Findings

- The average D/E ratio of NBL is 11.67 times. It shows that creditors have 11.67 times higher claims on assets as compared to the owners. HBL shows average D/E ratio of 17.37 times which implies that the claim of creditors is 17.37 times as compared to owners of the company. In case of NIBL there is fluctuating trend over the study period. Its average D/E ratio is 13.40 times which is lower as compared to HBL and

higher as compared to NBL. NBL is less leveraged and is more inclined towards the equity financing whereas HBL is highly leveraged.

- NBL has fluctuating trend of long term debt to capital employed ratio. Its average ratio is 21%. HBL have consistent trend in terms of LTD to capital employed ratio. Its average ratio is 27% which implies that almost 27% of total capital comprises of long term capital which is more in comparison to NBL. In case of NIBL this ratio of LTD to capital employed is in fluctuating trend and its average ratio is 27%. NBL shows lowest ratio which means NBL has lower amount of capital financed by long term debt. It has been less aggressive in raising long term funds as compared to other sample banks.

- The Debt to Total Assets ratio of NBL is 91% which is lower as compared to other two banks. The average ratio of HBL is 94% which implies that 94% of its total assets are financed by long term debts. The Debt to Total Assets ratio of NIBL is also 94% which is similar to HBL.

- The trend analysis of the company reveals that NBL has quite fluctuating trend of LTD/TD ratio. It has drastically reduced its Long term debt in the FY 2003/04 to 2% from 6%. The main reason behind this is in that year NBL raised insignificant amount of Long term debt. Its average ratio is 3% which implies that of total debt only 3% is of long term in nature. Regarding HBL, the average ratio of LTD to total debt is 2% which is the lowest as compared to NBL. NIBL has also shown fluctuating trend of Long term debt ratio. Its average ratio is 2%. HBL and NIBL have employed less amount of long term debt in its total debt portfolio. As compared to these two banks, NBL has more long term debt.

- The average interest coverage ratio of NBL is 3.08 times which imply that NBL can pay its interest expense 3.08 times from its available EBIT. The interest coverage ratio of NBL shows increasing trend for FYs 2001-2005. In case of HBL the Interest coverage ratio is fluctuating in nature. Its average calculated ratio is 1.32 times. The basic cause behind the changing trend is due to the fluctuating Interest expense

amount. In case of NIBL the ratio shows slightly fluctuating trend. Its average Interest coverage ratio is 1.34 times.

- The average Return on Shareholder's Equity (ROE) of NBL is 31%. In case of HBL its average ratio is 23% which is much less compared to NBL. In case of NIBL its average ROE is 21% which is even lower than that of HBL.

- The average ratio of ROA for NBL is 2% which implies that every rupee investment in assets generates a return of 2% as profit. In case of HBL, ROA has remained constant as 0.01 from FYs 2001 to 2005. It has slightly increased in FY 2005/06 to 0.02. Its average ratio is 0.01. In case of NIBL, ROA in the FYs 2001-2005 is 0.01. One of the main reasons for this cause is the Net profit after tax and the total assets are increasing in same ratio. Its average return is 0.01.

- The EPS of NBL has increased from FY 2001-2007. In terms of percentage basis, EPS is the highest in the FY 2002/03. Its average EPS is Rs. 101.80/-. The EPS of HBL is in fluctuating trend. It has decreased for FYs 2002/03 to2004/05. From then on it has increased. The average EPS is Rs. 55.62/-. The EPS of NIBL in the FY 2003/04 drastically increased. A major portion of earnings was distributed. But it faced a sharp decrease of 23.60% in the FY 2004/05 after which in the following FY 2005/06 the EPS has increased by 50.25%. Its average EPS is Rs. 49.16/-.

- The average DPS of NBL is Rs 65.71/-. The highest DPS was paid in the FY 2006/07. The average DPS of HBL is Rs.15.41/-. It has paid a highest dividend of Rs.30 in the FY 2005/06 whereas it has paid no dividend at all in the FY 2003/04. The average DPS of NIBL is Rs.11.43/-. The highest DPS was paid in the FYs 2002/03 and 2005/06. Since NBL has paid the highest average dividend of Rs.65.71/-.

- The average CAR of NBL is 12.62% which is comparatively higher than other two banks. This implies that NBL has kept more capital aside against its RWA and is safer as compared to other banks in case of contingencies. In case of HBL, the average CAR is 11.46%. Among other two banks its CAR is lower. Nonetheless, we can observe that from the FY 2003/04 it is gradually improving its CAR. In case of NIBL

it has drastically reduced its CAR in the following FY 2002/03. Its average CAR is 11.84%.

- The portion of Non-performing Loan on the Total Gross Loans is lower in case of NBL. The average NPL to Total Loans is 2.94% which implies that of Total Loans disbursed only 2.94% of it are non-performing in nature. In case of HBL, the ratio of NPLs to Total Gross Loans is decreasing which shows a positive signal as to the betterment of total loans disbursed. The NPL ratio of NIBL has better indicators. Its NPL has been consistent and has reduced in the FY 2007/08. Its average ratio of 2.52% of NPL to Total loans is also less as compared to NBL and HBL.

- The provision separated for NPLs is higher in case of NBL. The greater the percent of provisions made, the more secured is the depositor's money as enough capital backup is made. In the FY 2004/05, NBL has made huge provision. The average provision of NBL is 165.69% which is greater than other two sample banks. A provision of 165.69% implies that of the Total NPLs, provision of 165.69% is kept in order to ensure the security of depositor's money. In case of HBL and NIBL, the provision made for NPL is less as compared to NBL.

- On an average, the provision done by NBL for Total Loans is 3.33% which implies that of total loans disbursed, 3.33% of it is kept as provision. This average is less as compared to other two banks. HBL has greater provision for total loans disbursed. Its average provision is 5.89% NIBL carries average loan portfolio and has average provision for the total gross loans as compared to the other sample banks. Its average provision to total loans is 3.12%.

- By Net Interest Income we mean the amount of interest income remaining after deducting the interest expense. The spread of interest is lower in NBL as compared to other two banks. The average is 67.81% which implies that of total gross income, the contribution of Net Interest Income is 67.81%. The average Net Interest Income to Gross Income for HBL is 72% which implies that of total gross income 72% is the contribution of interest spread. It has performing consistently in this regard. In case of NIBL its average is 70.28% which is higher than other two banks.

- Total Debt to Total Assets (TDA) is positively correlated with Long Term Debt to Total Assets (LDA), Short Term Debt to Total Assets (SDA), growth in interest rate, and tangibility of fixed assets. On the other hand, it is negatively correlated with size of assets, age of the firm, and profitability. LDA is positively correlated with TDA, size, age, and profitability but is negatively correlated with SDA, growth and tangibility. Likewise, when correlating SDA with other variables we find that it is positively correlated with TDA, growth, and tangibility and is negatively correlated with LDA, size, age, and profitability.

- Banks with lower leverage will generally report higher operating assets ratio such as ROA but lower operating equity ratios. Hence, an analysis of profitability based on operating equity ratios such as ROE disregards the greater risks normally associated with high leverage.

- Operating income ratios may also be affected by leverage; notably the interest margin and net income ratios will be higher, while the non interest income and non interest expense ratios will be lower for banks with lower leverge (higher equity). The reason for this is that banks with higher equity need to borrow less to support a given level of assets and thus have lower interest expenses, which results in higher net interest and net income.

4.7 Concluding Remarks

From the study we can conclude that the determinants of capital structure of banks are ratio of capital adequacy, profitability, quality and size of assets, age of firm, tangibility of assets, and liquidity. From the analysis we can see that the sample banks are highly leveraged. Most of them have employed lesser amount of long term debt in their capital structure as compared to the short term debt. Of the three banks, HBL is more leveraged. However, its interest coverage ratio is poor as compared to other sample banks which in the long run may pose a threat to the lenders. Though the leverage ratio of NBL is lower as compared to HBL, its interest coverage ratio is better as compared to HBL and NIBL.

Every sample bank have maintained their Capital Adequacy Ratio as well as Cash Reserve Ratio and complied with the regulation of Nepal Rastra Bank. Talking about the assets quality of these banks, NIBL has lesser amount of Non-Performing loans as compared to HBL and NBL which implies that its loan portfolio is sound and is performing or good in nature. The ROA of NBL is higher as compared to HBL and NIBL. NBL has kept higher provision for its Non-Performing loans as compared to other sample banks. The ROE of NBL is high when compared to HBL and NIBL. Regarding the earnings, NBL has highest average earnings as compared to other two banks. It has been giving higher amount of dividend to its shareholders.

When viewed from the ratio of liquid assets to total assets and liquid assets to total deposits, NBL is highly liquid bank as compared to other sample banks. But when we consider quick ratio, NIBL has got the highest average. Though NBL is highly liquid as compared to HBL, it has employed less debt in its capital structure as compared to HBL. Likewise, despite of being one of the highly profitable banks, NBL has employed higher cost of equity i.e. equity financing.

TDA is highly correlated with SDA by 85% which implies that 85% of the total variation in the value of the TDA has been explained by SDA. LDA is highly correlated with age i.e. 7% of the total variation in the value of the dependent variable LDA is explained by the independent variable age.

CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATIONS

This is the concluding chapter of this study. It is divided into three major sections: Summary, Conclusion and Recommendations. In this chapter, the study has been summarized in gist and some recommendations have been forwarded which could be useful to stakeholders and to the concerned banks as well.

5.1 Summary

The capital structure of a firm involves the choice of an appropriate mix of different sources of funds i.e. owner funds and outsider funds. The selection of the capital structure will obviously depend on the bearing that it has on the firm's objectives of maximizing of shareholder's wealth. A financial mix which leads to maximization of shareholders wealth as reflected in the market price of share is termed as an optimal capital structure. An ideal capital structure should be determination of proper balance between borrower's fund, i.e. debt capital and owner's fund i.e. equity, which maximize the shareholders wealth and minimizes the composite cost of capital.

In this study regarding the capital structure management, three leading joint venture banks namely: Nabil Bank Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd have been taken into consideration. The whole study has been divided into five chapters. In the first chapter an introduction of the study is given. In chapter 1 we can see the general background regarding the capital structure, the introduction of sample banks, the statement of the problems, along with the objectives that motivated this study are briefly mentioned.

In chapter 2, the literature review is done. In this chapter the conceptual foundation of capital structure has been presented with reference to the literatures, publications, and books available regarding capital structure. Among various theories available regarding capital structure only 6 theories have been considered. They are Net Income approach, Net Operating Income approach, Traditional approach, Modigliani & Miller approach, Static-Trade off theory, Pecking Order theory, and Agency theory. Besides these theories, the empirical studies regarding capital structure has also been considered in this chapter.

The empirical studies have been divided into studies in general and Nepalese studies. The limitations of this study have also been stated at the end of this chapter.

In chapter 3 Research methodologies is presented. Various sequential steps to adopt a systematic analysis have been explained in this chapter. Most of the data used in this study are secondary in nature. Seven years data are taken as sampled years, which are analyzed by using financial and statistical tools such as Ratio analysis, Basel CAMEL rating, Correlation analysis and Multiple Regression Analysis.

In chapter 4, the data have been calculated and analyzed using Ms Excel and SPSS software. The findings are presented with the aid of tables and are also presented diagrammatically. The calculated data are presented in the appendix.

Finally, Summary, Conclusion and Recommendations of the study are presented in the chapter 5 in order to summarize the whole study at an instance. The conclusions and recommendations presented in the study will be beneficial to the concerned stakeholders as well as the management of concerned banks.

5.2 Conclusions

It's a renowned fact that globalization of Joint Venture Banks is a reality. The growth and increasing integration of the world's economy has been parallel by expansion of global banking activities. Nepal, though a developing country couldn't deny the fact that JVBs/CB has running potentially, which is responded by extending loans and developing new, highly innovative financial techniques that laid the foundation for totally new approaches to the provision of banking services.

This study particularly deals with conclusion about the capital structure management of three leading joint-venture commercials banks in Nepal. The Capital Structure decision is crucial because of the need to maximize returns to various organizational constituencies, and also because of the impact such a decision has on an organization's ability to deal with its competitive environment. This present study evaluated the capital structure ratios and the relationship between capital structure and profitability of firms. The study reveals that the companies are financially leveraged with a large percentage of total debt being

short term. The higher D/E ratio implies higher portion of outsider's claim in total assets of the banks as compared to the owner's claim. However, banks with lower leverage have higher operating income ratios. The reason for this is that banks with higher equity need to borrow less to support a given level of assets and thus have lower interest expenses, which results in higher net interest and net income. On the contrary, NBL though is less leveraged is reporting less net interest income as compared to high leveraged banks like HBL and NIBL. The main reason behind this is the lower interest rate charged by NBL. The spread of interest income for NBL is comparatively less. However, its ROA is higher as compared to other two highly leveraged banks.

The study reveals that all the sample banks have complied with the rules and regulations set by the regulatory body, Nepal Rastra Bank. The profitability of NBL is better as compared to other sample banks. It is exhibited by the interest coverage ratio which is much greater than HBL and NIBL. As the banks being highly leveraged, in fact their interest coverage ratio must be higher. This also implies that the debt servicing capacity of NBL is well. Apart from the interest coverage ratio, the portion of non-performing loan of NBL is also better as compared to other sample banks. Because of its higher earnings and greater volume of reserves, NBL has been able to set higher provision for its non-performing loans which is a good sign for its stakeholders, especially the depositors. With reference to the profitability and 25 years of establishment NBL is providing higher dividend and EPS to its shareholders than other banks.

5.3 Recommendations

This section of the study endeavors to recommend few points that can be helpful to stakeholders as well as to the company. The recommendations are based upon above analysis and drawn conclusions can be considered as guidelines which would be helpful in taking prompt and appropriate decision regarding capital structure. Following are some of the recommendations:

- The Debt ratio of about 33% is considered appropriate (source: J. Fred Weston and T.E. Copeland "Managerial Finance" Second U.K. edition). So, this ratio of 33% can be used as a benchmark while analyzing the Debt equity ratio. As per our analysis, all

the three banks have maintained their Debt equity ratio well above 33%. Of the other sample banks, HBL has employed 95% of debt in its capital structure. Though it is the cheapest form of financing, long term debts carry interest rate risk with them. Thus, it is recommended that HBL should limit its Debt portion in the capital structure which it can service well, both in the long run as well as short run.

- Banks should be aware that the debt financing results in tax saving on interest charges that would help to maximize profit. The cost of capital should be considered while taking financing decision by the commercial banks. It is recommended that capital structure decision of commercial banks should be based on different factors like the agency cost, cost of capital and value of the firm. Optimal capital structure minimizes agency cost, cost of capital and maximizes value of the firm.

- Banks should continue to maintain their Capital Adequacy Ratio (CAR). It is one of the basic requirements made mandatory by the regulatory body Nepal Rastra Bank. It is an increasingly important policy tool to limit how much risk exposure banks can accept, thereby promoting public confidence and protecting the government's deposit insurance system from massive losses. As per the manual CAMELS rating, risk-based capital ratio of 12% or more is considered as strong whereas the capital ratio of 9% to less than 12% is considered as satisfactory. Thus, every sample banks should strive to keep their barometer of capital ratio strong.

- The Non-Performing Loans (NPLs) of HBL is higher as compared to other sample banks. NPLs should be kept at minimum level because it determines the quality of loan the bank holds. If the NPLs are decreased the quality of loan portfolio and the overall performance of the bank will improve. As per the manual CAMELS rating, the ratio of loans classified as substandard, doubtful, and loss to total loans should be less than 5% in order to be categorized as strong. If the ratio is between 5% to less than 10%, then it is satisfactory in nature. As per our analysis, NBL and NIBL have the ratio of 2% whereas HBL has the ratio of NPL to Total loans of 7% which is satisfactory.

- Loan loss provisioning is a bank's method that is used to recognize a reduction in the realizable value of their loans. Bank managers are expected to evaluate credit losses in their loan portfolios on the basis of available information a process that involves a great deal of judgment and is subject to opposing incentives. Sometimes, banks may be reluctant to account for the whole amount of incurred losses because of the negative effect of provisions on profits and on shareholders' dividends. In other cases, if provisions are tax-deductible, banks have an incentive to overstate their loss provisions and to smooth profits over time in order to reduce the amount of tax liability.

- The minimum Cash Reserve Ratio (CRR) of 5.5% made mandatory by the regulatory body Nepal Rastra Bank has been maintained by three sample banks. This is a sign that every sample banks taken into consideration are liquid. The ratio of CRR is highest for NIBL. This is good when viewed from the viewpoint of liquidity. However, excessive CRR may have negative impacts on the Return on Assets (ROA). In one hand excessive CRR may result in idle cash and in the other hand it may imply lack of management's capacity of tapping the profitable investment opportunities due to lack of fund.

- As bank liquidity depends upon the level of liquidity of the overall system, it is important to monitor measures of market liquidity. Market liquidity can be captured by the bid ask spread (the difference between prices at which a market participant is willing to buy and sell a security). Likewise, the dispersion in bank rates should be considered which is highly relevant indicator of liquidity problems and bank distress. High dispersion in bank rates, measured, for instance, by the spread between highest and lowest rates in the market may signal that some institutions are perceived as risky. High risk institutions may be forced to engage in aggressive bidding for deposits.

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- Nabil Bank Ltd , *Annual Reports 2001/02 to 2007/08* .Kathmandu, Nepal
- Nepal Investment Bank Limited, *Annual Reports 2001/02 to 2007/08.* Kathmandu, Nepal

Regressions & Correlations

Size (log 10 Assets)	Ln Age	Growth (Growth rate in Interest Income)	Prof	Fixed Assets to Total Assets	Debt to Total Assets	Long term debt to Total assets	Short Term debt toTotal assets
10.246234	1.255273	0.000000	0.049444	0.900495	0.934970	0.023670	0.911299
10.219129	1.278754	-0.091335	0.056319	0.847634	0.903735	0.058050	0.845685
10.223898	1.301030	-0.015970	0.056136	0.857787	0.890257	0.013715	0.876542
10.235183	1.322219	0.067022	0.058263	0.885276	0.882257	0.000993	0.881265
10.348888	1.342423	0.225733	0.060231	0.869690	0.899226	0.007756	0.891470
10.435421	1.361728	0.212031	0.060552	0.909171	0.909390	0.032384	0.877006
10.569757	1.380211	0.246220	0.052685	0.859157	0.917630	0.043089	0.874542
10.315392	0.903090	0.000000	0.044851	0.889575	0.953564	0.025832	0.927732
10.368384	0.954243	0.045462	0.027504	0.873773	0.951064	0.027653	0.923411
10.393786	1.000000	0.037180	0.024113	0.870026	0.938067	0.026614	0.911453
10.444742	1.041393	0.160987	0.023558	0.876745	0.929411	0.018174	0.911237
10.469238	1.079181	0.124445	0.030256	0.885737	0.935309	0.017129	0.918180
10.525293	1.113943	0.091676	0.030838	0.877344	0.930915	0.017780	0.913135
10.558415	1.146128	0.105917	0.031697	0.928088	0.921757	0.026072	0.895685
9.696696	1.176091	0.000000	0.033481	0.889137	0.971545	0.019803	0.951742
9.954930	1.204120	0.408573	0.028033	0.850708	0.941697	0.000758	0.940940
10.122396	1.230449	0.591702	0.030182	0.848131	0.938877	0.027272	0.911605
10.211496	1.255273	0.212464	0.029812	0.883666	0.931769	0.021507	0.910263
10.328994	1.278754	0.322443	0.032213	0.877750	0.939347	0.025785	0.913562
10.440765	1.301030	0.351522	0.033995	0.889885	0.936831	0.028995	0.907836
10.589651	1.322219	0.384412	0.035131	0.896284	0.927650	0.027011	0.900639

Descriptive Statistics of Variables N=21

	Minimum	Maximum	Mean	Std. Deviation
TDA	.882257	.971545	.92786990	.021504223
LDA	.000758	.058050	.02333533	.012734762
SDA	.845685	.951742	.90453471	.024219956
SIZE	9.696696	10.589651	10.31898514	.213678102
AGE	.903090	1.380211	1.20226438	.139237475
GROW	-.091335	.591702	.16573733	.172445509
PROF	.023558	.060552	.03949019	.013025132
TANG	.847634	.928088	.87933614	.020374928

Correlations Coefficient of Variables N=21

		TDA	LDA	SDA	SIZE	AGE	GROW	PROF	TANG
TDA	Pearson Correlation	1	.069	.851**	-.301	-.583**	.119	-.714**	.108
	Sig. (2-tailed)		.765	.000	.185	.006	.607	.000	.642
	N	21	21	21	21	21	21	21	21
LDA	Pearson Correlation	.069	1	-.464*	.271	.071	-.133	.123	-.060
	Sig. (2-tailed)	.765		.034	.234	.760	.565	.594	.798
	N	21	21	21	21	21	21	21	21
SDA	Pearson Correlation	.851**	-.464*	1	-.410	-.555**	.176	-.699**	.127
	Sig. (2-tailed)	.000	.034		.065	.009	.446	.000	.584
	N	21	21	21	21	21	21	21	21
SIZE	Pearson Correlation	-.301	.271	-.410	1	-.018	.066	.016	.322
	Sig. (2-tailed)	.185	.234	.065		.939	.776	.946	.155
	N	21	21	21	21	21	21	21	21
AGE	Pearson Correlation	-.583**	.071	-.555**	-.018	1	.352	.591**	-.064
	Sig. (2-tailed)	.006	.760	.009	.939		.118	.005	.782
	N	21	21	21	21	21	21	21	21
GROW	Pearson Correlation	.119	-.133	.176	.066	.352	1	-.285	-.170
	Sig. (2-tailed)	.607	.565	.446	.776	.118		.211	.461
	N	21	21	21	21	21	21	21	21
PROF	Pearson Correlation	-.714**	.123	-.699**	.016	.591**	-.285	1	-.024
	Sig. (2-tailed)	.000	.594	.000	.946	.005	.211		.918
	N	21	21	21	21	21	21	21	21
TANG	Pearson Correlation	.108	-.060	.127	.322	-.064	-.170	-.024	1
	Sig. (2-tailed)	.642	.798	.584	.155	.782	.461	.918	
	N	21	21	21	21	21	21	21	21

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.833[a]	.694	.592	.013735974	1.481

a. Predictors: (Constant), TANG, PROF, SIZE, GROW, AGE

b. Dependent Variable: TDA

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.006	5	.001	6.804	.002[a]
	Residual	.003	15	.000		
	Total	.009	20			

a. Predictors: (Constant), TANG, PROF, SIZE, GROW, AGE

b. Dependent Variable: TDA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.217	.178		6.845	.000		
	SIZE	-.040	.016	-.393	-2.548	.022	.857	1.166
	AGE	-.066	.038	-.425	-1.748	.101	.345	2.895
	GROW	.028	.026	.224	1.070	.302	.464	2.157
	PROF	-.639	.393	-.387	-1.623	.125	.359	2.784
	TANG	.249	.165	.236	1.511	.152	.837	1.195

a. Dependent Variable: TDA

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.897[a]	.804	.739	.012379346	2.702

a. Predictors: (Constant), TANG, PROF, SIZE, GROW, AGE

b. Dependent Variable: SDA

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.009	5	.002	12.311	.000[a]
	Residual	.002	15	.000		
	Total	.012	20			

a. Predictors: (Constant), TANG, PROF, SIZE, GROW, AGE

b. Dependent Variable: SDA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.318	.160		8.231	.000		
	SIZE	-.062	.014	-.543	-4.401	.001	.857	1.166
	AGE	-.089	.034	-.509	-2.617	.019	.345	2.895
	GROW	.052	.024	.367	2.186	.045	.464	2.157
	PROF	-.515	.355	-.277	-1.452	.167	.359	2.784
	TANG	.386	.149	.325	2.601	.020	.837	1.195

a. Dependent Variable: SDA