A study on

CAPITAL STRUCTURE AND ITS IMPACT ON PROFITABILITY

(With reference to Everest Bank Limited and Kumar Bank Limited)

A THESIS

SUBMITTED TO
Office of the Dean
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In Partial Fulfillment of the requirement for the Degree of
Masters of Business Studies (MBS)

SUBMITTED BY
Prativa Mahato
Pashupati Multiple Campus
T.U. Regd. No. 7-2-278-998-2008
Campus Roll No: 16 (2063-2065)
Exam Roll No. 4066 (2065)

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RECOMMENDATION

This is to certify that the thesis submitted by **PRATIVA MAHATO** entitled **A STUDY ON CAPITAL STRUCTURE AND ITS IMPACT ON PROFITABILITY** (With reference to Everest Bank limited and Kumari Bank Limited) has been prepared in the prescribed format as approved by this department, Faculty of Management.

This thesis is recommended for examination.

…….	……..	……
Gyan Bahadur Tamang	Gyan Mani Adhikari	Bishnu Pd. Pant
(Thesis Supervisor)	(Head, Research Department)	(Campus Chief)

VIVA – VOCE SHEET

We have conducted the Viva – Voce of the following thesis:

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We found that the thesis is an original work of the student and written according to the prescribed format. We recommend this thesis to be accepted as partial fulfillment of the requirement for the degree of Master of Business Studies.

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DECLARATION

I hereby declare that this work entitled "**A Study On Capital Structure and its Impact on Profitability (With reference to Everest Bank Limited and Kumari Bank Limited)"** submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my own original work, except wherever acknowledged, as a partial requirement for the degree of Masters in Business Studies under the supervision of Gyan Bahadur Tamang, Pashupati Multiple Campus, Kathmandu. Error, if any, is the responsibility of my own.

……

Prativa Mahato

Pashupati Multiple Campus

T.U. Regd No: 7-278-998-2008

Campus Roll No: 16 (2063-2065)

Exam Roll No: 4066(2065)

Date: 10th April, 2013

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Prativa Mahato

LIST OF ABBREVIATION

CV	Coefficient of Variation
D/E	Debt to Equity
DFL	Degree of Financial leverage
DOL	Degree of Operating Leverage
DPR	Dividend Payout Ratio
EBIT	Earning Before Interest and Tax
EBL	Everest Bank Limited
EBT	Earning Before Tax
EPS	Earning Per Share
FY	Fiscal Year
KBL	Kumari Bank Limited
I	Interest
i.e	that is
Kd	Cost of Debt
Ke	Cost of Equity
Ko	Overall Cost of Capital
Ltd	Limited
MBS	Master of Business Studies
M.M	Modigliani and Miller
NI	Net Income
NOI	Net Operating Income
NP	Net Profit
NRB	Nepal Rastra Bank
P/E	Price Earning Ratio
R	Correlation Coefficient
ROA	Return on Assets
ROE	Return of Equity
SD	Standard Deviation
TU	Tribhuvan University

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CHAPTER – I
INTRODUCTION

1.1 Background of Study

The capital structure decision is crucial for any business organization. The decision is important because of the need to maximize returns to various organizational constituencies, and also because of the impact such a decision has on a firm's ability to deal with its competitive environment. The capital structure of a firm is actually a mix of different securities. In general, a firm can choose among many alternative capital structures. It can issue a large amount of debt or very little debt. It can arrange lease financing, use warrants, issue convertible bonds, sign forward contracts or trade bond swaps. It can issue dozens of distinct securities in countless combinations; however, it attempts to find the particular combination that maximizes its overall market value.

A number of theories have been advanced in explaining the capital structure of firms. Despite the theoretical appeal of capital structure, researchers in financial management have not found the optimal capital structure. The best that academics and practitioners have been able to achieve are prescriptions that satisfy short-term goals. For example, the lack of a consensus about what would qualify as optimal capital structure has necessitated the need for this research. A better understanding of the issues at hand requires a look at the concept of capital structure and its effects on firm profitability.

Capital structure is the composition of the debt and equity securities and is considered as financing decision undertaken by the financial manager. The financial manager must strive to obtain the best financing mix or optimum capital structure for his firm. The firm attains capital structure where the debt-equity proportion maximizes the market value of the shares .the uses of debt affect the return and risk of the equity shareholder, it increases the return on equity fund and at the same time it also increases risk. A proper balance must be strike between the risk and return in order to maximize the market value of shares (Pandey, 1995:54).

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

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

1.2 Introduction of the Financial Institutions' under Study

Financial institutions are playing leading role in the economic growth of Nepal. Among the listed institutions, bellow is some of them which are sampled for study.

1.2.1 Kumari Bank Limited

Kumari bank limited came into existence as the fifteenth commercial bank of Nepal by starting its banking operation from Chaitra, 21 2057 B.S(April 03, 2001) with an objective of providing competitive and modern banking service in the Nepalese financial market. The bank has paid up capital of Rs. 1,603,800,000 of which 70% is contributed from promoters and remaining from public.

KBL has been providing wide range of modern banking services through 29 points of representatives located in various urban and semi urban part of country, 20 outside and 9 inside the valley. The bank is providing the latest lucrative banking services like E-banking and SMS banking services in Nepal. The bank has been providing 365 days banking facilities, extended banking hours till 7 PM in the evening, Utility Bill Payment service, Inward and outward remittance service, online remit services and various other banking services.

1.2.2 Everest Bank Limited

Everest Bank Limited (EBL) started its operations in 1994 with a view and objective of extending professionalized and efficient banking services to various segments of the society. The bank is providing customer-friendly services through its branch network. All the branches of the bank are connected through Anywhere Branch Banking System (ABBS), which enables customers for operational transactions from any branches. Punjab National Bank is the Joint venture partner of Everest Bank Limited holding 20% equity share. The bank has 45 branches, 55 ATM counters and 21 revenue collection counters across the country making it very efficient and accessible banks for its customers anytime anywhere. The bank has been conferred with 'Bank of the year 2006, Nepal' by the publication of financial times, London. The bank was bestowed with the "NICCI Excellence Award" by Nepal India Chamber of Commerce for its spectacular performance under finance sector. EBL was first bank to introduce Any Branch Banking System (ABBS) and to launch e-ticketing system in Nepal.

1.3 Statement of Problem

Nepalese companies are not taking Capital Structure seriously. So, optimum capital structure does not exist at all. Companies are ruined by the excess burden of cost of capital among the sampled commercial banks.

Different companies have its own policy to operate business activities. Some business use only equity capital and others use only debt capital whereas some companies use both. So the determination of capital structure depends on company policy and cost of capital. In the beginning period of any companies they want to use only equity capital and do not want debt in their capital structure due to high interest charge.
In this situation, there might arise some question such as

- Are Joint Venture commercial banks and commercial banks using optimum capital structure?
- Could there be any factor besides the capital structure that hinders the optimum capital structure and the value of the firm as a whole?
- Are there any possibilities to reduce the cost of capital with change in leverage?
- To what extent, profitability has been raised?
- What is the relationship between capital structure and profitability?

1.4 Objectives of the Study

The main objective of this study is to reset the relationship between capital structure and the value of firm by analyzing the effect of leverage (debt – equity mix) on the risk and return. This study also attempts to find out the selected explanatory variables such as size, growth, risk, return dividend pay-out ratio, liquidity and earning variability.

- To study the strength and weakness of various aspects of capital structure.
- To analyze relationship between the capital structure, cost of capital and profitability.
- To reveal the comparative impact of different capital structure on profitability.

1.5 Significance of Study

The capital structure decision is a significant managerial decision. It influences the shareholder's return and risk. Consequently the market value of the share is affected by capital structure decision.

- This study is based on the capital combination (capital structure) and profit output by that combination of the financial institution which helps the concerned to formulate the best structure of capital that yield maximum profit which supports to compete in the cut thread competition and achieve targeted objective and goal.
- To judge the long term financial position of the institution, this analysis supports.
- This study will provide information to those who are planning to invest in the financial institution.
- With the help of the report of this study, management may apply corrective measures for the institution's performance.
- It will be useful for potential investors, lenders, creditors, management, government, and shareholders.
- This study will be helpful for future researcher.

1.6 Limitation of the Study

This study attempts to evaluate capital structure decision of Nepal's leading financial institution in the sector of banking transaction. Following points can be considered as limitation for the study:

- This study is based on secondary data like Balance Sheet, profit and loss account, other related journals.
- Only five years data observation covering from F/Y 2007/08 to 2011/12 limits the study. Conclusion is derived from above period of time.
- The accuracy of study is based upon the record keeping of Joint Venture Banks and its accuracy.
- It only studies about capital structure and profitability whereas ignores all other affecting factors.
- Limited resources and time has been utilized for preparing thesis, so micro analysis may not be available.

1.7 Organization of the study

This study has been comprised into five chapters, each devoted to some aspects of capital structure and profitability. The titles of each of these chapters are summarized and the contents of each of these chapters of this study are briefly discussed bellow.

Chapter I: Introduction

Chapter II: Review of Literature

Chapter III: Research Methodology

Chapter IV: Data Presentation and Analysis

Chapter V: Summary, Conclusion and Recommendations

Chapter I: Introduction
The first chapter deals with the subject matter consisting of background of study , a brief profile of the sampled banking institutions, identification of problem, significance of the study, objectives , limitations, and organization of the study.

Chapter II: Review of Literature
The second chapter concerns with literature review that includes a discussion on the conceptual framework and review of major relevant studies with fund mobilization of a commercial joint venture bank.

Chapter III: Research Methodology
The third chapter describes the research methodology adopted in carrying out the present research. It deals with research design, sources of data, data processing

procedures, population and sample, period of the study, method of analysis and financial and statistical tools.

Chapter IV: Data Presentation and Analysis
The fourth chapter is concerned with presentation, analysis and interpretation of data. The segment where the data required for the study are presented analyzed and interpreted by using the tools and techniques of financial management and statistical tools.

Chapter V: Summary, Conclusion &Recommendations.
The fifth chapter and the final chapter are concerned with the suggestive framework that consists with overall findings, conclusion and recommendations of the study.

The bibliography and appendices are incorporated at the end of the study.

CHAPTER – II
REVIEW OF LITERATURE

Review of literature is the process of learning and understanding the concept of related topics. It is the process of studying different educational materials which are related with the topic mater. It provides required depth of knowledge for conducting research. The purpose of literature review is to find out what principles are established and research studies have been conducted in the field of study, and what remains to be done. To make meaningful research study, the conceptual review is done through the study of various books and articles. In addition, researches conducted by the previous researchers in the field of capital structure and profitability are also reviewed by studying their research works, theses and dissertations etc. literature review has been divided into two sections.

- Conceptual/ theoretical review
- Review of related studies

2.1 Conceptual /Theoretical Review

In this section, various books written by different writers are reviewed. This makes clear about the conceptual foundation of this study. Views of different writers and scholars have been reviewed to extract broad concept. Under this section, concept of capital structure and profitability, assumptions and definitions are well reviewed to make the study more clear.

2.1.1 Meaning of Capital structure

In finance, capital structure refers to the way a company finances its assets through some combination of debt, equity or hybrid securities. A firm's capital structure is then the combination or structure of its liabilities. The term capital structure refers to the percentage of capital (money) at work in a business by type. There are two form of capital: equity and debt capital. Each has its own benefits and drawbacks. The capital structure is all about how firm finances its overall operations and different sources of fund.

2.1.1.1 EQUITY CAPITAL

The amount of capital, which has been collected from the selling of shares, is known as Equity capital. There can be different types of shares as

- Common Stock
- Preference Stock
- Bond
- Retained Earning

In capital, certain amount is provided to the shareholders who are regarded as owners' of the institution. So, all the shareholders will receive dividend for investing their capital in the shares.

2.1.1.2 DEBT CAPITAL

This is another source of money collection to run the company. Here the debt capital is used in the company and certain amount of interest is paid to the creditors. There can be various debt in terms of expire of time.

- Short Term Debt
- Long Term Debt

"Capital structure is the mix (or proportion) of a firm's permanent long term financing represent by debt, preferred stock and common stock equity." (Van Horne, 2007).

"Capital structure is concerned with the analyzing the capital composition of the company" (Weston and Brigham, 1996).

"Capital structure refers to the mix of long term sources of fund, such as debenture, long term debt, preference share capital and equity share capital including reserves and surpluses i.e. retained earnings" (Pandey, 1981).

"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, 1997).

Hence by all these definition it conclude to only one thing that is the mixture of debt and capital should be done in a optimal way from which we can get maximum result.

Although there are many more parts/components of capital structure but major component are

- Common Stock
- Debenture
- Retained Earning

The structure of capital structure can be presented through bellow figure as well.

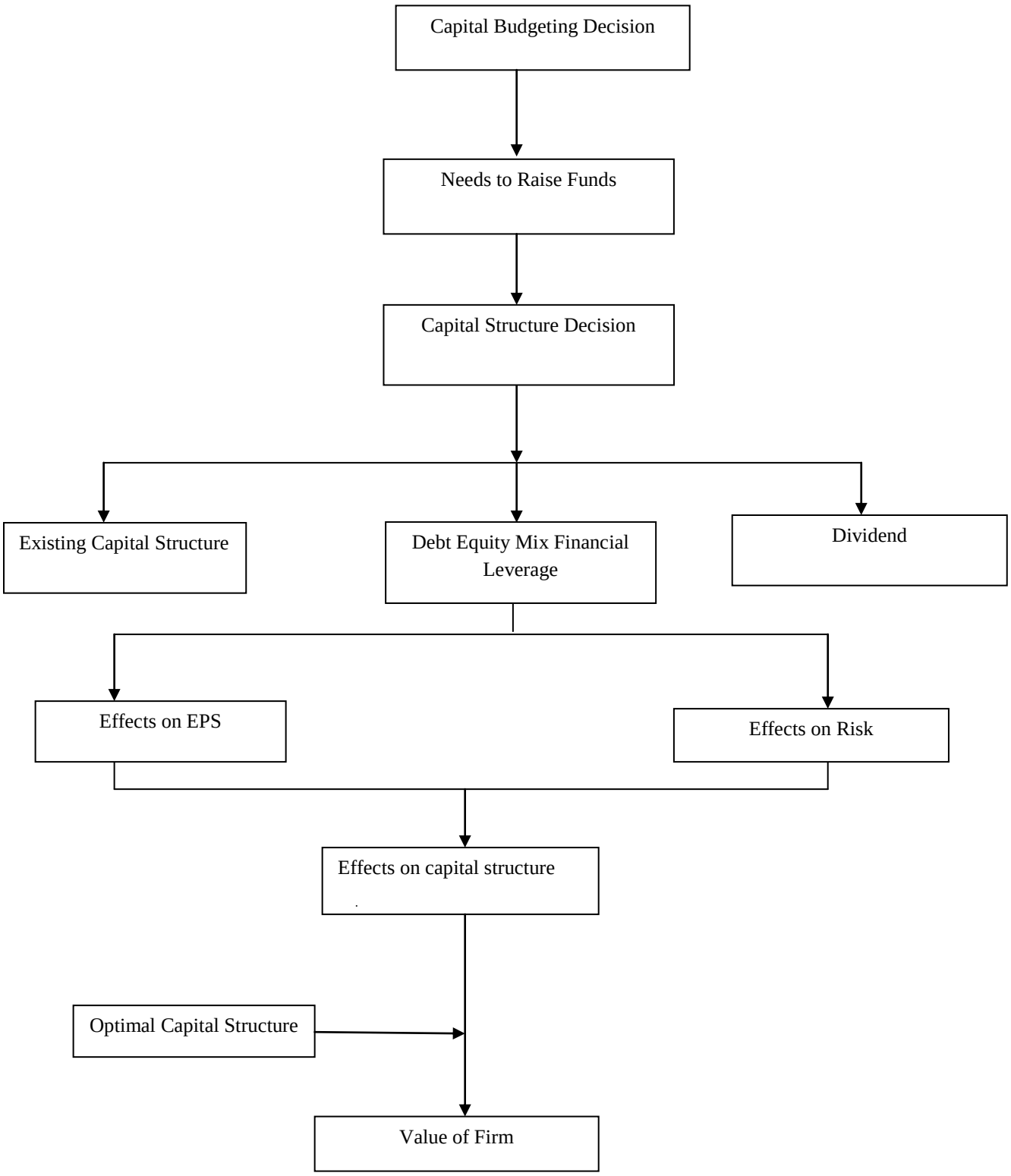

Figure 1: Capital Structure

As shown in the Figure 1, every organization will go through same process such as they have to collect some capital so they will get multiply choice either using the present capital structure, or use from the dividend or to Debt equity mix which will have later effect on Earning per share and risk, which after all effects the cost of capital and hence market value of firm.

2.1.2 Profitability

Each and every organization is established to earn some amount which is regarded as a profit. Therefore we can say that every organization's motive will be to maximize its profit. In a simple word the difference of total revenue and total expenses is considered to be profit. Many people may argue that Governments Bank's first priority is service not profit, but they should not ignore the importance of profit, which ultimately makes the efficiency of any organization better.

Profitability is combination of two words "profit" and "ability". Here in an organization more way of increasing monetary value is considered to be profitability increment of that organization. In a Commercial bank, its more efficiency can be seen by more amount of profit gained by that bank. Profit can be considered as a measuring rod, which reflects to all aspects of entire business organization which all also includes quality output. A profitable company is likely to offer not only security of employment but also promotion, prospects, job opportunities and the intense personnel motivation that comes from being associated with success. Profit is the basic factor of any organization and the ability means the capacity of organization to earn more and more profit.

Profitability is relative measure; it is utilized to check the degree of efficiency of management of any organization. This measure helps the investor to calculate the amount of risk present in the business, what amount of interest can be expected or generated from such organization. Measure, or forecast of profitability is again prepared by the help of current profit and one trend line is prepared and for the next year profit is forecasted.

The main objective of profitability is to see whether the organization is using its resources effectively or not, if not which sector is lacking the attention everything should be analyses. Though there are two definitions regarding of profit but both relates to the good of the organization. Some reasons are given below which illustrate importance of profit.

2.1.2.1 MEASUREMENT OF PERFORMANCE

In any kind of business, profit is considered as a measuring rod of performance. Profit finalized what are the things, which the company should achieve and in which direction the company is going on in future.

2.1.2.2. PREMIUM TO COVER COST OF STAYING IN BUSINESS

Risk and uncertainties always follows business environment. To grasp the globally challenging technologies to stay in the market uncertainties, to replace and acquire assets enhancing business scope etc. call for a profit margin for a long stay in the business.

2.1.2.3 TO ENSURE SUPPLY OF CAPITAL FOR FUTURE

Profit is necessary to plough back in the investments like innovations, business expansion and self-financing. It attracts investors for investment.

2.1.3 Profitability of a Commercial Bank

Commercial bank invests public deposits on those sectors that derive the maximum income or higher rate of return in their assets. Hence the investment or granting of loan and advance by them are highly influenced by profit margin. The profit of commercial banks depends upon the interest rate of the bank, volume of the loan provided, time period of loan and nature of investment in different securities. To cover all the expenses as interest to the depositors and other administrative cost, profit is required. Commercial bank also should pay dividend to the shareholders who have given their share to build the capital of bank.

Banks today are under great pressure to perform to meet the objective of their shareholders, employees, depositors and borrowing customers, while somehow keeping government regulators satisfied that the bank's policies, loans and investments are sound.

A successful bank is one who invests most of its fund in different earning assets standing safely from the problem of liquidity i.e. keeping cash reserve to met day to day requirement of the depositors. After all a commercial bank is simply a business corporation organized for the purpose of maximizing the value of the shareholders wealth invested in the firm at an acceptable level of risk.

Profitability and liquidity maintain a highly negative co-relation. Since both are equaled important for commercial bank, banks cannot ignore any of them. So the crucial decision for the management of the bank is to trade off between them. The more liquidity the less will be profitability and vice versa.

2.1.4 Assumption of Capital Structure

Regarding capital structure different kinds of theories are propounded by different personalities. Some of the main types of theories are:

- Net Income Approach
- Net Operating Income Approach
- Traditional Approach
- The Modigliani-Miller Approach

Assumptions

Two types of capital are employed, long term debt and shareholder's equity.

i. The firm's total assets are fixed but its capital structure can be changed immediately by selling debt to repurchase common stocks or vice versa.
ii. The net operating income (NOI or EBIT) is not expected to grow.
iii. All earning of the firm's are paid out in the form of cash dividend.
iv. There is no corporate income tax.
v. The firm's is expected to continue indefinitely.

SOME BASIC FORMULAS

1. Cost of Equity (Ke):

$$Cost\ of\ Equity\ (Ke) = \frac{Dividend\ (D1)}{Cost\ of\ Equity\ (P0)} + Growth\ rate\ (G)$$

When Dividend per share (D1) = Earning per Share (EPS) and Growth rate (G) = 0,

$$Ke = \frac{EPS}{P0}$$

2. Cost of Debt (Kd):

$$Cost\ of\ Debt\ (Kd) = \frac{Interest\ charge\ (I)}{Value\ of\ Debt\ (D)}$$

3. Overall Cost of Capital /Weighted Average Cost of Capital (Ko):

$$Ko = Ke \times \frac{Equity}{Value\ of\ Firm} + Kd \times \frac{Debt}{Value\ of\ Firm} = \frac{Net\ Operating\ Income\ (NOI)}{Value\ of\ Firm\ (V)}$$

4. Total Value of Firm:

$$Total\ Value\ of\ Firm = Total\ Market\ Value\ of\ Common\ Stock + Total\ Market\ Value\ of\ Debt$$

2.1.5 Theories of Capital Structure

A. Relevant Theory (Capital structure affects the value of firm**)**

- Net Income Approach
- Traditional Approach

B. Irrelevant Theory (Capital structure does not affects the value of the firm)

- Net Operating Income Approach
- Modigliani and Miller Approach

2.1.5.1. NET INCOME APPROACH

The essence of net income approach is that the firm can increase its value or lower the overall cost of capital by increase the proportion of debt in the capital structure. Some assumptions for this approach are:-

Assumptions of Net Income Approach

- The use of debt does not change the risk perception of investors; as a result the equity capitalization rate (Ke) and debt capitalization rate (Kd) remain constant with changes in leverage.
- The debt capitalization rate is less than the equity capitalization rate (Kd < Ke)
- The corporate income tax does not exist.

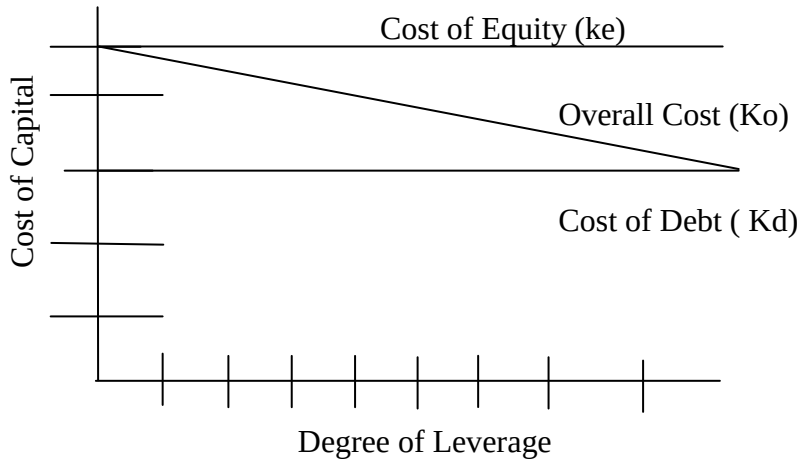

Figure 2: Net Income Approach

As shown in the Figure 2, the degree of leverage is shown horizontally where as cost of capital is shown in vertical way. Cost of equity (Ke) and cost of debt (Kd) remains constant as according to the assumption and cost of equity (Ke) is more than cost if debt (Kd). The capital structure will be optimum if value of firm is increased by maximizing the overall cost of capital; Under Net Income approach the firm will have the maximum value and the lowest cost of capital when it has more financing in debt (Pandey, 1999:678). Since there is no tax and no preferred stock

$$Ko = \frac{EBIT}{V} = Kd\frac{D}{V} + Ke\frac{S}{V}$$

Where, $D = \frac{I}{Kd}$ and $S = \frac{NI}{Ke}$ and $V = B + S$

2.1.5.2. NET OPERATING INCOME APPROACH

Net operating income approach theory was propounded by Durand. In this approach any change in leverage will not lead to any leverage in the total value of the firm and the market price of share, as the overall cost of capital is independent of the degree of leverage.

$$The\,market\,value\,of\ \ firm = Debt\,value + Equity\,value$$

$$= \frac{Net\,Operating\,Income}{Overall\ \cos t\ of\ \ Capital}$$

$$= \frac{NOI}{Ko}$$

Ko is overall cost of capitalization rate and it depends on the business risk of the firm. It is not affected from financial mix. If net operating income and overall cost of capital are independent of financial mix then value of the firm will be constant and independent of change of capital structure.

Assumptions Net operating income

- The market capitalizes the value of firm as a whole so splitting of debt and equity has no importance.
- Cost of debt remains constant.
- The market uses an overall capitalization risk (Ko) to capitalize risk. If business risk is assumed to remain unchanged, Ko will be constant.
- Cost of equity increase as leverage is increased.
- The corporate income tax does not exist.

Other name for net operating income (NOI) is earning before interest and taxes.

$$Value\ of\ \ Firm\ (V) = \frac{Net\ Operating\ \ Income}{Overall\,Cost\ of\ \ Capital}$$

$$= \frac{NOI}{Ko}$$

$$= \frac{EBIT}{Ko}$$

We know –

$$Value\ of\ \ firm\ (V) = Debt\,Value\ (D) + Equity\ Value\ (S)$$

That is –

$$Equity\ Value = V - D$$

$$The\,Cost\ of\ \ Equity\ (K_E) = \frac{NOI - I}{V - D} = \frac{NI}{S}$$

$$Ko = Kdt\frac{D}{T} + K_E\frac{S}{T}$$

If tax rate is given, value of unlevered firm –

$$Vu = \frac{EBIT(1-t)}{K_E(u)} = \frac{NI}{K_E}$$

Thus, value of firm is the value of equity.

Value of Levered firm –

$$VL = VU + PV\ of\ \ debt\ tax\ shield$$

If company uses excess debt –

$$VL = VU + PV\ of\ \ debt\ tax\ shield\ - PV\ \ of\ \ bankruptcy\ rate$$

If corporate and personal tax rate is given, then –

$$PV\ of\ \ debt\ tax\ shield = D\left(1 - \frac{(1-Tc)(1-Tps)}{(1-Tpd)}\right)$$

Where,

Tc = corporate tax rate

Tps = Personal Tax rate on stock Income

Tpd= Personal Tax rate on debt income

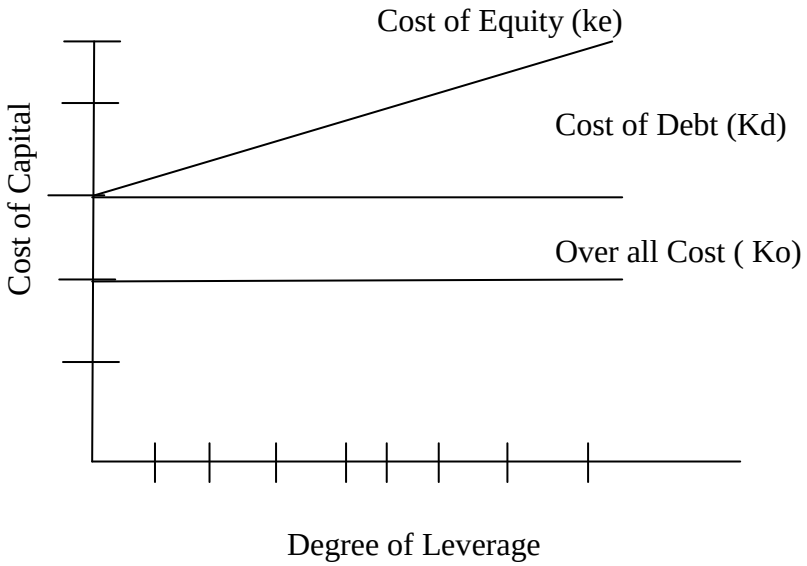

Figure 3: Net Operating Income Approach

This figure explains Ko and Ke are constant and Ke increases with leverage continuously. As the average and cost of capital k is constant this approach implies that there is not any unique optimum capital structure. In other words as the cost of capital is the same at all capital structure, every capital structure is optimum (Pandey, 1999:683).

2.1.5.3. TRADITIONAL APPROACH

Traditional approach is the combination of net income approach and net operating approach. In this approach either value of a firm will be increased or cost of capital can be reduced by combination of debt and equity. This approach justifies cost of capital decreases with limitation of debt and hence increased with leverage. So we can say that optimum capital structure requires maximum cost of capital where as the maximum value of the firm. This kind of concept is propounded because debt is considered to be comparatively cheaper source of fund collection than from ordinary share. As we know cost of equity is higher than cost of debt and if we borrow funds from cost of debt more than overall cost of capital will decrease. Traditional approach can be studied with respect to market situation in their stages.

First Stage

In the first stage, cost of equity remains constant or rises slightly with debt this increase will not have affect for low cost debt. Keeping these things in mind, use of debt can be good option. As a result the value of the firm will increase and overall cost of capital declines with increasing leverage.

Under this assumption, Ke remains constant for some condition of debt then the value of firm will be

$$V = \frac{NOI}{K_E} + (K_E - K_D) \times \frac{D}{K_D}$$

As long as Ke and Kd are constant, the value of the firm increase at the constant rate when amount of debt increases.

Second Stage

Once the firm has reached a certain degree of leverage increase in leverage have a negative effect in the value or the cost of capital of the firm. The reason behind this is the increase in the cost of equity due to the added financial risk affects the advantages of low cost debt. Within the range at the specific point, the value of the firm will be maximized or the cost of capital will be minimized (Pandey, 1999).

Third Stage

In this third and final stage, if the amount of debt is increased then now, overall cost of capital also increases where as it increases the risk factor also. This increment will be faster than the risk in the earnings from the introduction of the debt.

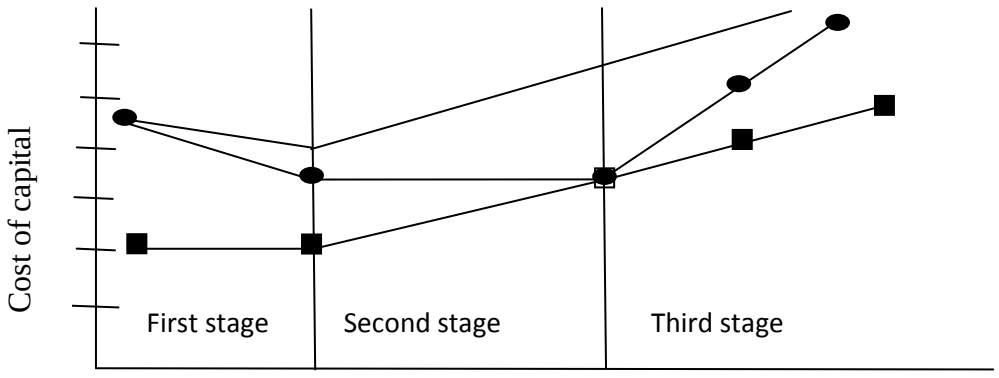

Figure 4: Traditional Approach

As shown in the figure the cost of capital depends upon degree of leverage. The cost of capital declines until and unless it reaches optimum value then it started rising. Here in the first stage cost if capital is decreased so Ko line is moving down. At second stage it reaches optimum state so decline of cost of capital is stopped here. Then after it started rising slowly in the beginning and then at a faster rate. The cost of capital (Ko) makes U - shaped curve which represent incline and decline of cost. In that curve there is such a point at which cost of capital will be minimized and this point is known as optimum capital structure.

2.1.5.4. THE MODIGLIANI - MILLER APPROACH

Modigliani and Miller approach also relates with irrelevant theory which means capital structure of the firm will not affect the value of the firm so they came in one agreement that whatever rational choice of debt and equity will have same cost of capital. So in this approach we do not have optimum mix of debt and equity. As long as business risk remains the same the cost of capital will remain constant. As the firm increase the amount of leverage in its capital structure, the cost of debt capital remaining constant the cost of equity capital will rise just enough to affect the gains resulting from application of low cost of debt.

Assumption of Modigliani Miller approach

- Existence of perfect capital markets
- Information is cost less and readily available to all investor
- Absence of transaction cost and infinite divisibility of the securities.
- Investors are rational and behave accordingly.
- Homogenous expectation of investors.
- An individual can borrow or lend at the same rate at which a corporation borrow or lend.
- Dividend payout is 100 percent.

Modigliani and Miller say that total cost does not change as it is divided into debt, equity and other securities. The sum of the parts must be equal to whole, so regardless of financing mix the total value of the firm stays the same.

<u>Proposition 1</u>

Modigliani and Miller argue in the same risk, the overall cost of capital (Ko) and the value of the firm (V) are independent of its capital structure.

This first proposition can be express as

$$V = S + D = \frac{NOI}{Ko}$$

where,

V = value of the firm
S = the market value of common stock
D = the market value of debt
Ko = the capitalization rate appropriate to the risk class of the firm.

Again,

$$V = K_E \frac{S}{S+D} + Kd \frac{D}{S+D}$$

Proposition 2

Proposition 2 explains cost of equity (Ke) is equal to the capitalization rate of pure equity plus a premium for financial risk –

$$K_E = \frac{NOI - Kd}{S}$$

As we know that –

$$Ko = \frac{NOI}{V}$$

Then –

$$NOI = Ko \times V = Ko(S + D)$$

Hence –

$$V = S + D$$

Substituting the value of NOI

$$K_E = \frac{Ko(S + D) - Kd \times D}{S} = Ko + \frac{(Ko - Kd)D}{S}$$

This relation explain that cost of equity (ke) is equal to the constant average cost of the capital (ko) plus premium for the financial risk which is equal to debt equity ratio times the difference between constant cost of capital and cost of debt $\frac{(Ko - Kd)D}{S}$

As the cost of equity is measured by the market value of debt to equity so this fact will increase earning per share and cost of equity.

Arbitrage Process

M-M approach does not consider NI approach as valid approach. Their optimum clarify in two identical firms have market values arbitrage will take place to enable investors to engage personal or homemade leverage to restore equilibrium in the market except for the degree of leverage (Pandey,1991).

The importance of Arbitrage is to purchase securities or assets whose price are undervalued and sell those securities whose price are higher in related market.

ARBITRAGE PROCESS

From levered to Unlevered (U - L)

Step 1:-Investor sells ….% of share of leveled firm	xxx
Step 2:-Investors borrows an equal amount of share in debt capital of leverage firm.	xxx
Total fund available of investment (A)	xxx

Step 3 :-Investor purchases equal % shares of

Unlevered firm (B)	xxx
Reduction of Investment outlay (A - B)	xxx

From Unlevered to levered (U - L)

Step 1:-Investor sells..% of share of unleveled firm	xxx
Total fund available of investment	xxx
Step 2 :-Investors lends (to the same firm or elsewhere) an equal amount of his/her share in debt of leverage firm. (A)	xxx
Step 3 :-Investor purchases equal % shares of levered firm. (B)	xxx
Reduction of Investment outlay (A - B)	xxx

2.1.6 Some Related Items to Capital Structure

A. EARNING PER SHARE

Earning per share is the amount, which is separated from net profit to each and every shareholder.

$$EPS = \frac{Net\ \text{Pr}ofit\ After\ Tax - preference\ Dividend}{Number\ of\ Common\ Share\ Outs\text{tan}ding}$$

Earning per share is one of the most used measures of firm's performance. To maximize EPS the plant will chose the highest level of debt. Earning per share is calculated after different phase such as first there will be earning before interest and tax then interest will be reduce so that earning before tax is left. Again tax amount is remained which is earning to equity. Then we use above formula to find Earning per share.

B. COST OF CAPITAL

"The impact of financing decisions on the overall cost of capital should be evaluated and the criteria should be to minimize the overall cost of capital or to maximize the value of the firm" (Pandey, 1991).

C. FLEXIBILITY

It means the firm's ability to adopt its capital structure to the needs of changing conditions. The capital structure of a firm is flexible if it has no difficulty in changing its capitalization or sources of funds. The company should be able to raise funds, whenever needed to finance the profitability investment. The company should also in position to redeem its preference capital or debt whenever warranted by the future

conditions. The financial plans of the company should be flexible enough to change the composition of the capital structure.

D. CASH FLOW ABILITY AND CONTROL

A company should be always prepared for the future so it should manage its cash flow. Some amount of the company should be paid which are known as fixed charges like interest, preference dividends and principal. Whenever the company things to raise the funds it should calculates its expected future cash flow to meet fixed charges. If such fixed charges are not maintained than the company is dissolved. Control in any company depends upon voting rights of shareholders so to manage the control debt capital can be used. But when a company use large amount of debt, lot of restriction are put by debt-holder on company to protected their interest. Large amount of debt can also cause bankrupt which means total loss of control.

E. SIZE OF THE COMPANY

In large companies, there is greater degree of flexibility for capital structure. The larger company is easy to make available long - term loan and easy selling of common shares, debentures etc. But this kind of flexibility cannot be seen in small - scale companies. Hence size of the company is an important consideration to make appropriate capital structure.

F. INTEREST RATES AND TAXES

Interest rates affect the choice of securities to be offered to investors. High interest rates make financing costly, when fund are obtained easily and cheaply. The advantage of using debt will be greater if a firm's tax rate is higher. Financial statement means the statement, which have all financial matter of the company, just as trial balance, profit and loss a/c and balance sheet. In balance sheet we record assets and liabilities. In balance sheet

$$Total\ Assets = Total\ Liabilities + Equity\ Capital$$

The balance sheet is just the mirror of the company. It reflects all assets, liabilities of company and also equity from shareholders.

G. OPERATING INCOME AND NON OPERATING INCOME

Operating income for the business entity is the regular and prime source of revenue for the business; it is the main identity of a business regarding what a business stand for. Non operating incomes are the casual source, not the regular source of revenue for business entity. These incomes are not from regular course of business but from other source where the business entity can be involved legally as prescribed by the directives if related government authority.

2.2 Review of Articles

Many organizations have been following different capital structure and such structures have been studied and analyzed periodically.

Modigliani and Miller (1958): They used the previous work of Allen Smith in support of their independence hypothesis. In the first part of their work, MM tested

their proposition I the cost of capital is irrelevant to the firm's capital structure, by correlating after tax cost of capital, with leverage (B\V). They found that the correlation coefficient is statically insignificant and positive in sign. The regression line is "U" shaped cost of capital key of traditional view, and then the data are shown in scatter diagram.

In the second part of their study, they tested their proposition II, the expected yield on common shares, 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.

Weston (1963): Weston did research on "A test of cost of capital proposition ". He came up with some important improvement in the cost of capital model. Firm's size and growth are the additional explanatory variable in his model. The findings were:

- The regression coefficient of leverage to be positive and significant.
- Using multiple regression, he found the correlation coefficient is significant and the regression coefficient negative and significant.

When the growth factor is isolated, leverage is found to be negatively correlated with cost of capital. . He concluded that the apparent lack of influence of leverage on the overall cost of capital observed by MM was due to the negative correlation of leverage with earning growth. Weston also tested MM proposition II. When he used the MM model, his results were found to be consistent with their results i.e. cost of equity is the linear function of debt equity ratio.

Keshar J. Baral (2004) in the Journal Determinants of capital structure; A case study of listed companies of Nepal, has made an attempt to examine the determinants of capital structure – size, business risk, growth rate, earning rate, dividend payout, debt service capacity and degree of operating leverage of the companies listed to Nepal stock exchange Ltd as of July 16 2003. Eight variables multiple regression model has been used to assess the influence of defined explanatory variables on capital structure. The study shows that size growth rate and earning rate are statistically significant determinants of capital structure of listed companies.

Fadzlan Sufian (2012) in the study " Determinants of bank profitability in developing economies: empirical evidence from south Asian banking sector" seeks to examine the performance of 77 Bangladeshi, Sri Lankan and Pakistani commercial banks between 1997 and 2008. The empirical findings suggest that bank specific characteristics- in particular, liquidity, non –interest income, credit risk, and capitalization – have positive and significant impacts on bank performance, while cost is negatively related to bank profitability. As for the impact of macro economics indicator, the result suggests that economic growth has positive and significant impact, while inflation has no significant impact on bank profitability. During the period under study, the empirical findings indicate that private investment is positively related to bank profitability, while private consumption expenditure exhibits negative impact. However, the impact is not uniform across countries studied.

Ranjana Risal & Surya Bahadur G.C. (2010) in the paper Corporate Governance and Capital Structure of Nepalese listed firms analyzes the relationship between some

characteristics of the corporate board and the firm's capital structure in Nepalese listed firms using panel data models. The findings provide some preliminary empirical evidence and seem to suggest that stronger governance practices leads to lower financial leverage and lower agency conflicts. However, the empirical results of the relationships are statistically significant only in the case of board consumption and CEO tenure. The results are statistically insignificant in the case of the board size and board skill. The result shows positive association between the number of executive directors on board and debt level and also suggests that entrenched CEO pursue higher debt policy. The findings indicate that managements of Nepalese firms are employing higher debt level as an expropriation device for minority shareholders rather than a disciplinary measure.

2.3 Review of Thesis

This section is developed to the review of major related studies in thesis related to capital structure analysis and profitability. In this part, past thesis are reviewed.

Chiranjeebi Upadhya (2008 Feb) conducted a study entitled "The study of capital structure and cost of capital of manufacturing trading and Hotel sectors enterprises of Nepal." The objectives of this study were:

- To examine the relationship between leverage and cost of capital in Manufacturing trading and hotel sector enterprises in Nepal.
- To analyze the relationship of leverage and cost of capital in manufacturing trading and hotel sector enterprises in Nepal.
- To examine leverage and cost of capital in manufacturing trading and hotel sector enterprises in Nepal.

The researcher followed descriptive research model. The researcher conducted its research considering population size 117 companies listed in Nepal stock Exchange and the sample size was 9 companies among them. The primary data were collected for the analysis. Method used for analysis was Econometric Analysis.

The major findings of the study are listed below:

- Hotel sector enterprises have highest average leverage, size of capital employed, growth in total assets and liquidity ratio. DPR, earning variability and tax adjusted yield are highest in trading sector. Cost of equity, cost of capital and leverage are highest in manufacturing sector.
- With respect to financing pattern of the companies, majority of representatives stated, they used the mixed fund of short and medium term in companies.
- Debt employed- short term debt is with maturity period less than one year.
- There is no use of optimal debt ratio.

Neela Shrestha (2008 April) conducted a study entitled "A study on analysis of capital structure of joint venture banks of Nepal". The objectives of study were:

- To analyze the relationship of the capital structure and the cost of capital of selected joint venture banks.
- To analyze the comparative capital structure of selected JVs.
- To analyze the profitability position of selected JVs.

The research is based on analytical and descriptive method. The population size of the study is 6 JVs and the sample size is 5 JVs among them. The data used for analysis and interpretation is secondary data. The method of data analysis is financial and statistical stool.

The major findings of the study are:

- There is use of high % of total debt in raising assets.
- NSBI has high degree of financial risk.
- All selected JVS are highly leverged.
- Shareholders equity are utilized in efficient way.
- Satisfactory return on earning achieved.
- Private sectors banks have been successfully increasing their deposits and credit portfolio.

Dipesh Pokhrel (2009 April) conducted his Master's thesis entitled "A case study on capital structure of manufacturing companies using Financial Ratios". The objectives of the study were:

- To examine the capital structure of selected companies.
- To assess the debt servicing capacity of the selected companies.
- To analyzes cost of capital and return on capital in relation to capital employed.
- To analyze the financial and operating leverage effect on the capital structure.
- To identify whether there exist an optimum finance mix in terms of maximum value to the firm's standard.

The study is based on analytical and descriptive method. The research has considered population size 38 manufacturing companies and 2 manufacturing companies; Nepal lube oil limited and Bottlers Nepal limited. The source of data used for study is secondary data. The method of data analysis used in the study is financial analysis.

The major findings of the study are:

- Average DOL of BNL is negative which shows inefficient earning of firm.
- Average DFL of NLOL is higher than BOC which shows NLOL has higher financial risk in comparison to BOL.
- NLOC has more debt to equity ratio.
- Interest coverage ratio is in increasing trend.
- Average return on assets of NLOL has low ratio which indicates the assets of the company is generating low profit.
- Net profit is fluctuating and profit margin ratio is also decreasing where the sales is increasing.
- Investors of BNL are getting more return from investment.

- There is negative relationship between NP and TD, NP and LTD & ROE and Debt ratio.

Rajendra Aryal (2009 April) conducted a study entitled "Capital structure and its impact on risk and return analysis, A case study of Dabur Nepal Pvt Ltd". The objectives of the study were:

- To analyze the cost of capital.
- To study the profitability position.
- To assess the debt servicing capacity.
- To examine the relationship between EAT and Total debt, Debt equity ratio and ROE, Debt ratio and ROE.

The study is based on descriptive and analytical research design. The researcher has used secondary data for the study purpose. The method of data analysis used is financial and statistical method of data analysis.

The major findings of the study are listed below:

- Capital structure is composed of equity, short term and long term loan.
- Short term loan is in increasing trend and long term loan is in decreasing trend.
- Financial leverage is in fluctuating trend.

Sanu Maharjan (2010 April) conducted "A study on capital structure and cost of capital" of commercial banks. The objectives of this study were:

- To study relationship between cost of capital and capital structure of selected banks.
- To analyze the relationship between cost of equity and leverage of selected banks.
- To test the relationship between profitability and debt equity ratio.
- To examine the effect of other factors such as size of firm, growth, DPS and liquidity on cost of capital.
- To provide suggestion on basis of findings for further growth of banks under study.

The research is based on descriptive and analytical method. The research has population size 25 commercials banks and among them 4 private commercials banks as sample size. The research is based on secondary data. The method of data analysis used by researcher is financial and statistical tool.

The major findings of the study are listed below

- The trend of long term debt to total debt ratio is fluctuating.
- Sampled banks have either no debt or very low % of debt in comparison to equity capital.
- Sample banks are able to pay their interest amount.
- ROSE of sample banks are fluctuating.
- HBL has highest earning per share.

Vikash Shahi (2010 April) conducted a study entitled "A study of capital structure management of selected commercials banks" with reference to NABIL, SCBL, EBL and HBL with following objectives.

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

The research design used in the study is descriptive and evaluative. The researcher has conducted the study with the sample of 4 commercial banks traded in stock market. The researcher has used secondary data for the purpose of study. The collected data are analyzed by using financial and statistical tool of data analysis.

The major findings of the study are:

- The creditor margin of safety of selected samples is very low.
- The debt ratio is in fluctuating trend.
- ROA of selected banks has mixed trends.
- Least ROE of selected banks shows the weak performance of banks.
- The EPS of banks during the study period is in fluctuating trend.
- HBL has distributed bonus share which is advantageous and reduces the market price per share.
- Over all price earning is in fluctuating trend.
- There is insignificant relationship between cost of capital and profitability.

Goma Pandey (2011) conducted her Master's thesis entitled "Capital structure and profitability management, A case study of Machhapuchhre Bank ". The objectives of the study were:

- To evaluate whether the capital structure affects the cost of equity of MBL.
- To analyze the debt servicing capacity of MBL.
- To analyze the relationship between capital structure and profitability, cost of capital and EPS of MBL.
- To identify problem in the capital structure of the company and provide suggestion and recommendation.

The research design used in the study is descriptive and evaluative design. The nature of data used for the analysis is secondary data. Here financial statement of concerned bank is taken as population size and statement taken for study is sample size.

The major findings of the study are as below:

- Debt equity ratio is fluctuating during the study period.
- Bank has maintained excess capital fund to safeguard the deposits interest.
- Bank cannot be said to have sufficient interest coverage ratio.
- Highest debt capital used in the bank.
- Overall capitalization rate is in increasing trend because of decrease in the value of firm and increased EBIT.
- More provision for staff bonus of MBL has decreased profit.

- Return on total deposit is found fluctuating in the study period.
- Bank has insufficient return from assets.
- Bank is not able to use its long term debt sufficiently.
- Satisfactory ROSE indicates utilization of internal sources.
- EPS found to be fluctuating.
- Bank is unable to provide sufficient dividend to investors.

Binod Thapa (2011 July) conducted a study entitled " Capital structure Management of commercial banks of Nepal, with reference to HBL, SBI, EBL and NIB ". The objectives of the study are:

- To examine the current capital structure of sampled commercials.
- To analyze the mix of debt and equity of selected bank.
- To analyze the relation between capital structure, cost of capital and profitability.

The research design used in the study is analytical and descriptive. The study is based on secondary data with sample of 4 commercials banks from population size of 29 commercials banks. The method of data analysis is financial and statistical method.

The major findings of the study are:

- Selected banks are highly levered.
- HBL is able to maintain highest interest coverage ratio.
- HBL has higher degree of financial leverage, which represents high financial risk.
- EBL has highest average ROA, it indicates EBL has utilized its assets to generate profit.
- HBL has highest EPS among the sample which posses strength on EPS which helps to maximize the shareholder wealth.
- HBL pays relatively more dividend, which is advantageous and reduces the market price per share.
- Overall trend of price earning shows fluctuating trend.
- Equity capitalization rate of banks was fluctuating. Overall trends shows decreasing trend over the study period.

Shiva Shrestha (2012 April) conducted a study entitled "Capital Structure and profitability of banks - With reference to NABIL, Nepal Investment Bank and Nepal Industrial and Commercial Bank." The objectives of the study were:

- To analyze the capital structure of NABIL, NIBL and NIC bank.
- To evaluate the effect of capital structure on profitability of banks.
- To evaluate the return on equity
- To provide the appropriate suggestion on the basis of findings.

The research is based on analytical and descriptive method. The population size of the study is 32 commercial banks and sample is NABIL. NIBL and NIC bank. The data used for analysis and interpretation is secondary data. The method of data analysis is financial and statistical tools.
The major findings of the study are:

- The debt equity ratio of selected bank is low leveraged during the study period. It means debt equity financing is higher than equity financing .
- The use of long term debt in term of total debt is comparatively very low in all three banks.
- The current assets is more promising to meet the short term debt in all three banks.
- The EBIT of NABIL is stronger than that of NIBL and BIC in meeting the interest liability.
- The EPS of NABIL is more than other two banks.
- NABIL is much efficient than NIBL and NIC in mobilizing equity capital.

Prakash Raj Rimal (2012) conducted his Master's thesis entitled"Capital Structure and Profitability Analysis of Bank of Kathmandu and MachhaPuchhere Bank Limited". The objectives of the study were:

- To examine the capitals structure of selected commercial banks.
- To evaluate whether the capital structure affects, the cost of equity of MBL and BOKL.
- To analyze the relationship between capital structure and profitability of MBL and BOKL.
- To suggest and recommend on the basis of findings.

The research design used for this study is descriptive and evaluative using secondary data. The method of data analysis used in the study is done using statistical and financial tools. The population size taken for the study is 31 commercial banks and MBL and BOKL are the sample among the population.
The major findings of the study are:

- The paid up capital of MBL and BOKL is in increasing trend.
- On the basis of debt equity ratio, BOKL is more risk taker than MBL.
- On the basis of long term debt to total debt. MBL is more risk taking than BOKL.
- The total assets of each bank bears greater risk. More specifically, the total assets of BOKL is slightly risky than that of MBL.
- On the basis of interest coverage ratio, BOKL has greater capacity to meet the interest expenses.
- The overall capitalization rate of BOKL is higher than MBL.
- On the ground of ROA, BOKL is more efficient than MBL in effetely mobilizing the total assets.
- On the basis of ROE, it can be concluded that BOKL is more efficient in mobilizing the equity capital.
- Higher average EPS indicates that BOKL is able to earn more per share to the common shareholders than MBL.

CHAPTER– III
RESEARCH METHODOLOGY

3.1. Research Design

Research Design is strategy concept of investigation. The study is evaluative and analytical type of study regarding the effect of capital structure on cost of capital. The research design used in the study is descriptive and evaluative. The data related to topics are collected through financial statements of related companies and other available sources. The data for five years had collected and various financial and statistical tools had used to resolve the objective.

3.2. Population and Sample

The time limited and unavailability of the relevant data had forced me to make research on the few commercial banks functioning all over the country and most of their stocks are traded in the stock market out of them some commercial banks have been chosen . Sample commercial and joint venture banks are as follows:

- Everest Bank Limited
- Kumari Bank Limited

3.3. Sources of Data

The data used in the study is fully based on secondary data. The data are collected from annual reports of the bank, websites and also report published by Nepal Rastra Bank Booklets, Documents other published and unpublished materials, thesis newspaper are the important source of data.

3.4. Data Processing

All the data which are required are identified and selected. These data's are taken out from financial statement of Banks. These data are managed properly for the study. The data are collected from the balance sheet, profit and loss A/C, security board and Nepal Rastra bank.

3.5. Tool and Techniques Applied

For the data processing and analysis technical tools can be used .thus for these two types of tools are taken

3.5.1. Financial Tools

Ratio analysis is the major tools used to represent the relationship of the numerical values between two terms in financial statement. The relationship between two accounting figures, expressed mathematically is known as Financial Ratio (Ratio analysis) [Pandey, 1991:110]. Ratio helps to summarize large quantities of financial

data and to make qualitative judgment about the firm's financial performance. We can calculate different kinds of ratios as:

1. Liquidity Ratio
2. Leverage Ratio
3. Activity Ratio
4. Profitability Ratio

Although there are four kinds of ratio but we are going to discuss two ratios: Leverage Ratio and Profitability Ratio. Leverage ratio explains about the capital structure of the banks where as profitability ratio explains about the financial condition of the company

LEVERAGE RATIO

The terms that are related with capital structure are studied within this ratio. Leverage ratio studies for the funds employed by the firms or from the lender. Financial leverage raises the expected rate of return to stock holders for two reasons (a) since interest is deductive, the debt financing lower the tax bill and leaves more of the firms operating income available to its investors. (b) If the rate of return on assets (EBIT/Total Assets) exceeds the interest rate on debt as it to finance assets pay the interest on the debt and have something left over as a "Bonus" for its shareholders (Weston & Brigham 1982 Pg.290).

i. Debt to Shareholder's fund Ratio:
   Here we can know the proportion of Debt holder's amount in respect to share holder's fund. Debt means the amount which bears interest and fund of shareholder has share capital and general reserves. If the ratio is higher than, it means creditors have more proportion than owners.

$$Debt\ Shareholder's\ Fund\ Ratios = \frac{Total\ Debt}{Shareholder's\ Fund}$$

ii. Debt to Total assets Ratio:
   This ratio shares the relationship between Debt and total assets of the firm.

$$Debt\ Total\ Assets = \frac{Funded\ Debt}{Total\ Assets}$$

   Lower the ratio is, better for the company.

iii. Interest Coverage Ratio:
   Debt ratios describe the static nature and fail to indicate the firm's ability to meet interest obligation. The interest coverage ratio used to test the firm's debt describing capacity.

$$Interest\ Coverage\ Ratios = \frac{EBIT}{Annual\ Interest}$$

iv. Capital structure Analysis:
   Under NI and NOI approach we can sort out some formulae.

NI Approach (Overall Capitalization Rate)

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

$$Overall\ Cost\ of\ Capital\ (Ko) = \frac{EBIT}{Vo}$$

NOI APPROACH (Equity Capitalization Rate)

This approach argues that the value of the firm remains constant to the degree of leverage and equity capitalization rate tends to increase with the degree of leverage.

$$Equity\ Captalization\ Rate\ (K_E) = \frac{EBIT - I}{S}$$

PROFITABILITY RATIO

The profitability ratio can be study in relation to sales and investment.

i. Return on Total Assets:
This ratio is measures the productivity of the assets, higher ratio shows the higher return on the assets used in the business thereby indicating effective use of the business available and vice versa.

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

ii. Return on Shareholder's fund:
This ratio shows the return on the owner's investment. This ratio also indicates how profitability the owner funds have been utilized by the firm and high ratio reveals the efficient use of owner investment and vice versa.

$$Return\ on\ Shareholder's\ Equity = \frac{Net\ Profit\ after\ tax}{Shareholder's\ Fund}$$

EARNING PERFORMANCE RATIOS

i. Earning per Share:
Ordinary shareholders want some return on their investment which is known as Earning per Share. This measure the profit available to equity shareholder's per share.

$$Earning\ per\ Share\ (EPS) = \frac{Net\ Profit\ after\ Tax - Perferred\ Dividend}{Number\ of\ Equity\ Share}$$

ii. Price Earning Ration:
Price Earning ratio indicates investor's expectation about the growth of the firm's earnings.

$$P/E\ Ratio = \frac{Market\ Price\ of\ Share}{Earning\ \ per\ Share}$$

3.5.2. Statistical Tools

Statistical and Research cannot be separated whenever research work is carried on statistics should have output of the research. In today's world there is hardly any research work which we can find complete without statistical data and statistical methods. The statistical tools used in the study are as follows:

i. Arithmetic Mean:
Arithmetic mean can be expressed as the average value or sum of all values divide by number of value.

$$Airthmetic\ \ mean\ (\overline{X}) = \frac{X_1 + X_2 + ... + X_n}{N} = \frac{\sum X}{N}$$

Where, X = Sum of all values of the variables.
N = Number of observation

ii. Standard Deviation:
The standard deviation measures the absolute dispersion or variability of a distribution. The greater the amount of dispersion or variability the greater the standard deviation, the greater will be the magnitude of the deviation of the values from their mean X and vice-versa.

$$Standard\ \ Deviation\ (SD) = \frac{\sum X^2}{N}$$

iii. Correlation Coefficient (r):
Two variables are said to be correlated if change in the values of one variable appears to be related or linked with the change in the other variable. Correlation is an analysis of the covariance between two or more variables and correlation analysis deals to determine the degree of relationship between variables.

Between different processes of correlation, we use Karl Pearson's Coefficient of correlation method. The correlation coefficient between two variables X and Y for n observation is measure by:

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

Where, $x = X - \overline{X}$ and $y = Y - \overline{Y}$

The correlation coefficient 'r' always varies from '-1' to '+1'. When r=+1, it reveals there is perfect positive correlation between the variables. When r=-1 is obtained, it reveals there is perfect negative correlation between the variables.

iv. Probable Error (PE):

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

$$PE = \frac{0.6745(1-r^2)}{n}$$

Where,

r=Coefficient of correlation

n=Number of observation

- If r<PE, there is no evidence of correlation, i.e. r is not all significant.
- If r>6PE(r), then r is definitely significant.

The PE of correlation coefficient may be used to determine the limits within which the population correlation coefficient lies. By adding and subtracting the PE from the 'r' we get respectively the upper and lower limit within which 'r' in the population can be expected to lie. Therefore the limit of the population correlation coefficient is r PE.

v. Simple Regression Analysis:

Regression analysis shows how variables are related .Regression is the estimation of unknown values or prediction of one variable from known value of the other variables. The regression equation can be determined by:

$$y = a + bx$$

Where, a=Intercept or Regression Constant

b=Slope of Regression line or Regression coefficient.

Regression Constant (a)

It is known as numerical constant directly above or below the origin (i.e. y intercept) The value of the constant, which is intercept of the model, indicates the leverage level of dependent variable when independent variables is zero. In other words, it is between to understand that constant indicates mean or average effect on dependent variable if all the variables omitted from the mode.

Regression Coefficient (b)

The regression coefficient of each independent variable (b) indicates the marginal relationship between that variables and value of dependent variable, holding constant effect of all other independent

variable in the regression model. It is known that the slope of regression line. In other words the coefficient describes how changes in independent variable estimate. It is also known that the numerical constant change is independent variable.

vi. t-statistics:

In order to that whether the sample correlation coefficient is significant of any correlation between the variables in the population, T-test for significance of an observed sample correlation coefficient is applied.

The T-statistics is calculated by following formula under H_0

$$t = r\sqrt{\left(\frac{n}{1-r^2}\right)}$$

Decision: T calculated T tabulated at a level of significance, it is not significant.

CHAPTER – IV
DATA PRESENTATION AND ANALYSIS

This chapter is the heart of the research report. The main objective of this study is to examine the capital structure and profitability of listed firms. In this chapter, all the relevant data and information of listed Banks annual reports from fiscal year 2007/08 to 2011/12 are analyzed. Using different financial and statistical tools, the collected and tabulated data have been analyzed. This chapter includes presentation analysis of data collected as per the requirement of objectives set.

4.1 Capital Structure Analysis

The capital structure analysis of selected companies had been carried by analyzing funded debt and shareholder's fund. Net profit and total assets analysis, financial ratio and capitalization ratio

4.1.1 Calculation of Debt to Total Assets Ratio

The debt funded consists of interest bearing debt i.e. Bills payable, borrowing and other liabilities. In the same way the total assets consists of fixed assets and current assets.

Table 1: Debt to Total Assets Ratio

Banks/ Years	***EBL***	***KBL***
2007/08	92.25	90.98
2008/09	93.38	91.20
2009/10	91.36	90.52
2010/11	91.96	89.16
2011/12	92.44	90.09
Mean	92.28	90.39
S.D	0.74	0.81
C.V	0.80	0.90

Source: Appendix-I (A)

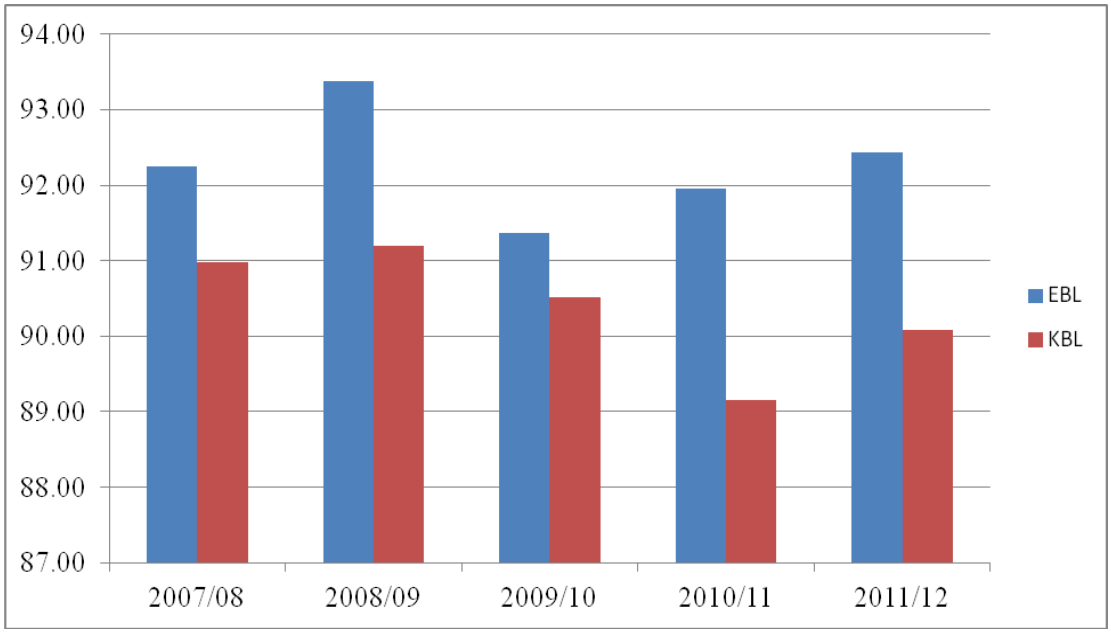

Figure 5: Debt to Total Assets

Above table and figure shows the practice of debt financing of EBL; a JV commercial bank and KBL; a private commercial bank during the study period. In EBL, the practice of financing the total assets through debt capital has increased in first fiscal year from 92.25% to 93.38% and then decreased in the next year to 91.36% and then again increased two years. The average assets financing through debt capital are 92.28%, indicating greater risk taking attitude of bank and the variation in the ratio is 0.80%, indicating high stability.

Similarly, in KBL, the debt capital to assets ratio is in fluctuating trend from 89.16% to 91.20% throughout the study period. In average, 90.39% of total assets of KBL have been financed through debt capital with variation of 0.90% in the ratio.

Comparing the above data, total assets of EBL is risky than that of KBL. Although each bank bears greater risk, KBL has more fluctuation in the ratio than EBL as shown by standard deviation.

4.1.2 Calculation of Debt –Equity Ratio

The Debt Equity Ratio establishes the relationship between debts and shareholder's funds. It indicates the safety, margin to long term creditors. A low debt –equity ratio implies the use of more shareholders funds than long term debt which means a larger safety for creditors. A ratio of 1:1 is considered as ideal ratio" (Sharma, 1998:246).

Table 2: Debt Equity Ratio

Banks/ Years	*EBL*	*KBL*
2007/08	2.07	9.65
2008/09	15.26	9.15

2009/10	13.30	9.96
2010/11	13.31	7.85
2011/12	11.97	9.42
Mean	11.18	9.21
S.D	5.23	0.81
C.V	46.75	8.85

Source: Appendix-I(B)

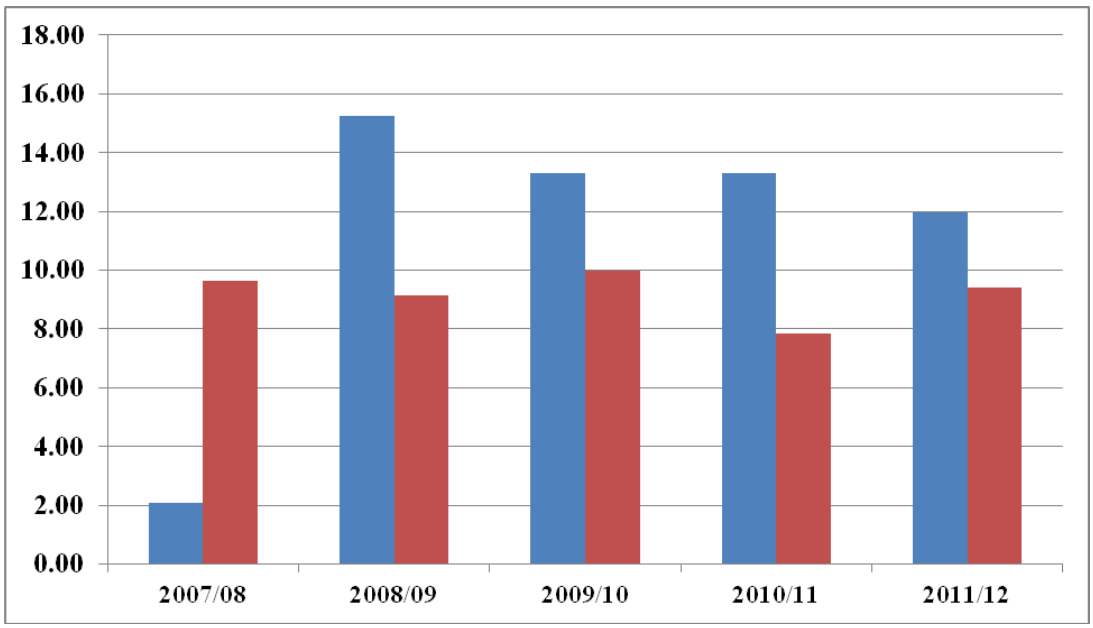

Figure 6: Debt to Equity Ratio

The above table and figure shows the total debt to shareholders' equity ratio of EBL and KBL during the study period. The table shows the usage of debt amount in EBL is very low in first fiscal year i.e. 2.07 and then it rise to 15.26 in the year 2008/09 and then again it fall down to 11.97 in the year 2011/12. It shows the ratio is fluctuating during the study period. The debt equity ratio clarifies that in each fiscal year the usage of total debt is greater than usage of equity capital. In average the debt equity ratio of bank is 11.18 and the variation in the ratio is 46.75%. The standard deviation of 5.23 indicates high fluctuation in the ratio.

In case of KBL bank, the usage of debt amount in KBL is 9.65 times in the fiscal year 2007/08, then it fall to 9.15 times in the year 2008/09, again rise to 9.96 in the year 2009/10, and again it fall to 7.85 in the year 2010/11 and again it rise to 9.42 in the year 2011/12. The ratio of KBL is fluctuating through the study period. In average, the debt equity ratio of bank is 9.21 times and the coefficient of variation is 0.81% indicating consistency in the ratio. The standard deviation is 9.21 indicating fluctuation in the ratio.

Comparing the banks on the basis of debt equity ratio, it can be concluded that EBL is more risk taker than KBL. Since, the debt equity ratio of EBL is greater than KBL, and as a result the capital structure of EBL is more dominated by the debt capital percentage than EBL.

4.1.3 Calculation of Interest Coverage Ratio

Interest Coverage ratio measures the debt servicing of a firm. Here interest refers to interest charged on long term loan. The ratio shows how many times the interest charges are covered by the EBIT out of which they will be paid. Too high ratio implies unused debt capacity whereas low ratio implies a danger signal that the firm is using excessive debt and doesn't have the ability to offer assured payment of interest to creditors.

Table 3: Interest Coverage Ratio

Banks/ Years	*EBL*	*KBL*
2007/08	31.42	8.49
2008/09	39.31	7.40
2009/10	37.06	5.85
2010/11	35.31	4.93
2011/12	91.56	10.33
Mean	46.93	7.40
S.D	25.11	2.14
C.V	53.51	28.89

Source: Appendix-I(C)

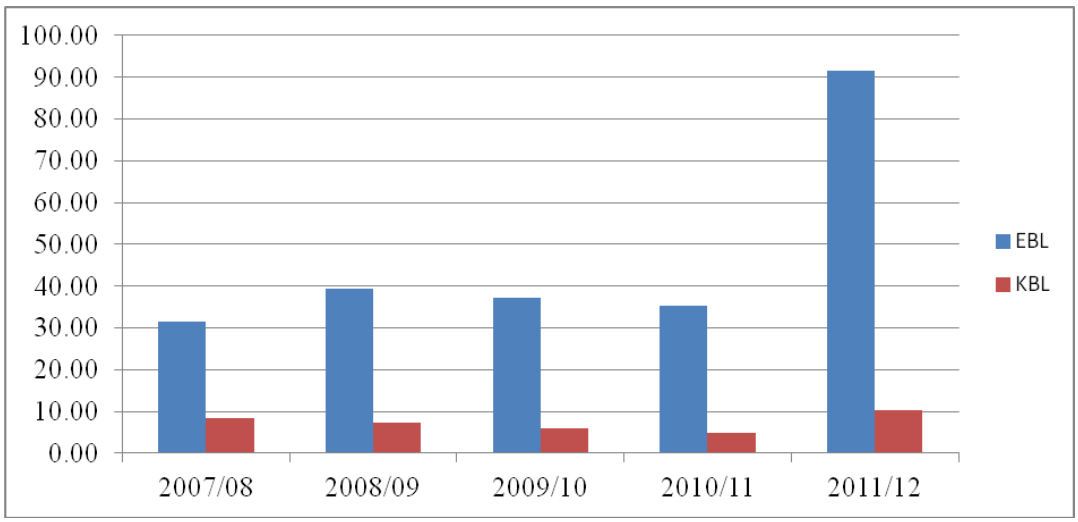

Figure 7: Interest Coverage Ratio

The above table and figure shows interest coverage ratio of EBL and KBL. The interest coverage ratio of EBL area 31.42, 39.31, 37.07, 35.31 and 91.56 times in the fiscal year 2007/08, 2008/09, 2009/2010, 2010/11 and 2011/12 respectively. The ratio was fluctuating during the study period. On average the bank had 46.93 times interest coverage ratio which is quite appreciable ratio. Its variation is 53.51 % which seems to consistent. Its standard deviation is 25.11 showing high level of fluctuation in the ratio.

The interest coverage ratio of KBL is in decreasing trend from 8.49 to 4.93 from first year to fourth year and it gradually increased to 10.33 in the fifth year. The average ratio was 7.40 and it has variation of 28.89%. It has standard deviation of 2.14 showing fluctuation in the ratio.
Comparing the data of banks, EBL has greater capacity to meet the interest expenses on long term rather than EBL.

4.1.4 Degree of Financial Leverage.

The degree of financial leverage indicates the degree of financial risk, i.e. higher the value of degree of financial leverage, higher the degree of financial risk and vice-versa. The degree of financial leverage can be calculated as:

$$DFL = \frac{Percentage\ change\ in\ EBT}{Percentage\ change\ in\ EBIT} = \frac{\Delta EBIT}{\Delta EBT}$$

Table 4: Degree of Financial Leverage

Banks/ Years	***EBL***	***KBL***
2007/08	1.033	1.133
2008/09	1.026	1.156
2009/10	1.028	1.206
2010/11	1.029	1.254
2011/12	1.011	1.107
Mean	1.03	1.17
S.D	0.01	0.06
C.V	0.82	5.03

Source: Appendix-II (A)

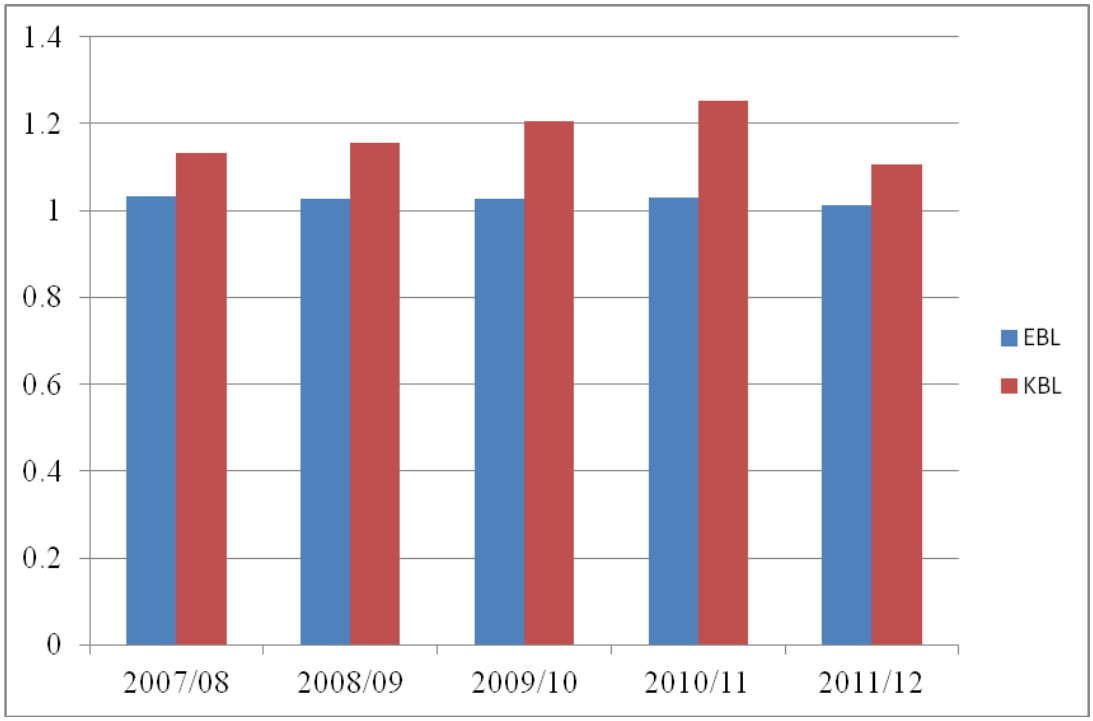

Figure 8: Degree of Financial Leverage

Above table and figure shows the financial risk to banks. According to the above table, degree of financial leverage of EBL has decreased from 1.033 times to 1.011 from fiscal year 2007/08 to fiscal year 2011/12. It has average financial leverage of 1.03 and variation of 0.82 which indicates high stability in the ratio. It has standard deviation of 0.01 which shows very low level of fluctuation in the risk.

The degree of financial leverage of KBL is fluctuating from 1.107 to 1.254 from fiscal year 2007/08 to fiscal year 2011/12. It has average ratio of 1.17 with variation of 5.03%. It has standard deviation of 0.06 showing low level of fluctuation in risk.

Comparing data of both banks, it can be conclude that KBL has high degree of financial leverage than EBL which indicates greater financial risk.

4.1.5 Return on Total Assets

Return on total assets studies the relationship between net profit and total assets. It indicates the firm's ability of generating profit per rupee of total assets. This ratio indicates efficiency towards of assets mobilization. It also evaluates the present return on the total assets as a guide for returns expected on future purchase of assets. Higher the ratio, the more efficient in utilizing its overall resources and vice versa.

Table 5: Return on Total Assets

Banks/ Years	*EBL*	*KBL*
2007/08	1.65	1.16
2008/09	1.73	1.41

2009/10	2.09	1.59
2010/11	2.1	1.23
2011/12	2.11	1.1
Mean	1.94	1.30
S.D	0.23	0.20
C.V	11.70	15.44

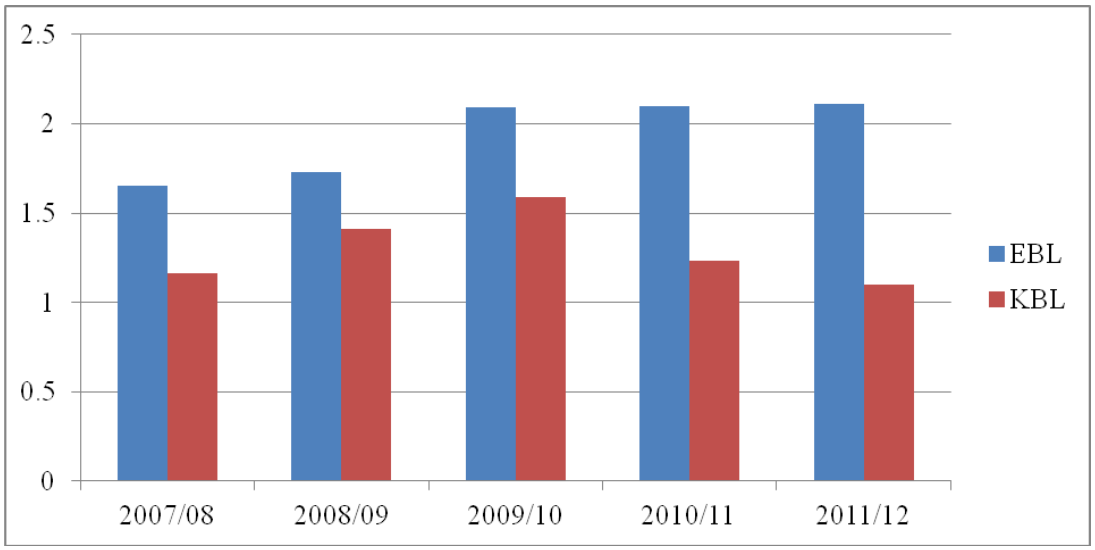

Figure 9: Return on Total Assets

The above table and figure shows analysis of return on total assets of EBL and KBL over the study period. The return on assets of EBL is increasing from 1.65 % in the fiscal year 2007/08 to 2.11% in the fiscal year 2011/12. It has average ratio of 1.94% with variation of 11.70 % in the ratio. Its standard deviation is 0.23 which indicates fluctuation in ratios.

Moving on to KBL, return on total assets of KBL has increased from 1.16 % to 1.59 % fiscal year 2007/08 to 2009.10 and then it decreased to 1.1 % in the fiscal year 2011/12. It has average ratio of 1.30% with variation of 11.70%. Its standard deviation is 0.23 which indicates fluctuation in the ratio.

Comparing the banks on the ground of ROA, it can be concluded that EBL is more efficient than KBL in effectively mobilizing the total assets as net profit generation from mobilizing equal amount of total assets is higher in EBL than KBL.

4.1.6 Return on Shareholders' Equity

The ratio measures a relationship between net profit after interest and tax, and shareholders' fund. ROE measures an available return for investor from investment. This ratio can be calculated by dividing net profit by common shareholders' equity. It

indicates the firm's ability of generating profit per rupee of shareholders' fund. Higher the ratio, more efficient the management and utilization of shareholders' fund is. It builds trustworthiness to the customers as well as reputation of the bank.

Table 6: Return on Shareholders' Equity

Banks/ Years	*EBL*	*KBL*
2007/08	23.49	12.81
2008/09	28.99	16.09
2009/10	30.15	17.72
2010/11	29.91	11.35
2011/12	26.11	11.59
Mean	27.73	13.912
S.D	2.86	2.85
C.V	10.33	20.46

Figure 10: Return on shareholders' Equity

Above table and figure shows the return on shareholders' equity of EBL and KBL. ROSE of EBL was found increasing from 23.49% in the year 2007/08 to 30.15% in the year 2009/10, but it decreased to 26.11% in the year 2011/12. The bank has maintained an average return of 27.73% during the study period with variation of 10.33% in the ratio which means the bank has generated Rs 27.73 net profit from mobilization of Rs. 100 of shareholders; equity. It has standard deviation of 2.86 indicating fluctuating in the return.

ROSE of KBL has been fluctuating from 11.35% to 17.72% during the study period. It has highest ratio of 17.72% in the year 2009/10 and lowest ratio of 11.35% in the year 2010/11. Its average return is 13.91% indicating Rs 13.91 net profit generated form Rs100 investment of equity capital with variation 20.46% that shows low level of consistency. Its standard deviation is 2.85 which show fluctuation in return.

Comparing the banks on the basis of ROSE, it can be concluded that EBL is more efficient in mobilizing the equity capital as EBL has earned more profit from same rupees of investment if equity.

4.1.7 Earning Per Share

EPS measure the firm's performance. It shows per share profitability of firm. EPS are the earnings returned on the initial investment amount. It refers to the rupee earned per share of common stock outstanding. It measures the return of each equity shareholders'. The higher earning indicates the better achievements of the profitability of banks by mobilizing their funds and vice versa. It is computed by dividing net profit available to equity shareholders by numbers of share outstanding.

Table 7: Earning per Share

Banks/ Years	*EBL*	*KBL*
2007/08	91.82	16.35
2008/09	99.99	22.04
2009/10	100.16	24.24
2010/11	83.18	15.67
2011/12	88.55	17.18
Mean	92.74	19.10
S.D	7.37	3.81
C.V	7.95	19.95

Figure 11: Earning per Share

The above table and figure shows the trend of EPS of EBL and KBL. EPS of EBL is found to be increasing from 91.82 in the year 2007/08 to 100.16 in the year 2009/10 and then decreasing to 83.18 in the year 2010/11 and again increasing to 88.55 in the year 2011/12. In average, EBL has earned Rs 92.74 per share with variation of 7.95%. Its standard deviation is 7.37 which show a fluctuation in ratio.

EPS of KBL is found to increasing from 16.35 in the year 2007/08 to 24.24 in the year 2009/10 and then decreasing to 15.67 in the year 2010/11 and again increasing to 17.18 in the year 2011/12. It has earned an average of 19.10 rupees per share with variation of 19.955. Its standard deviation is 3.81 which shows fluctuation in the ratio

Higher average ratio of EBL indicates that the bank is able to earn more profit to common shareholders than KBL. EPS has been criticized as the measure of profitability as it doesn't considered the amount of assets capital required to generate that level of earning.

4.1.8 Dividend per Share

Dividend implies that portion of net profit which is allocated to the share holders as return on their investment on cash. The net profit after taxes belongs to shareholders. But the income which they really receive is the amount of earning distributed as cash dividends. The earnings per share implies what the owner are theoretically entitled to get form the company while dividend per share is that portion of earning which is allocated to shareholders divided by total number of outstanding. Thus DPS is computed by dividing the total amount of dividend paid by the number of share outstanding.

Table 8: Dividend per Share

Banks/ Years	***EBL***	***KBL***
2007/08	30.00	10.53
2008/09	30.00	10.58
2009/10	30.00	12.00
2010/11	10.00	8.44
2011/12	1.58	-
Mean	20.32	8.31
S.D	13.59	4.82
C.V	66.90	57.95

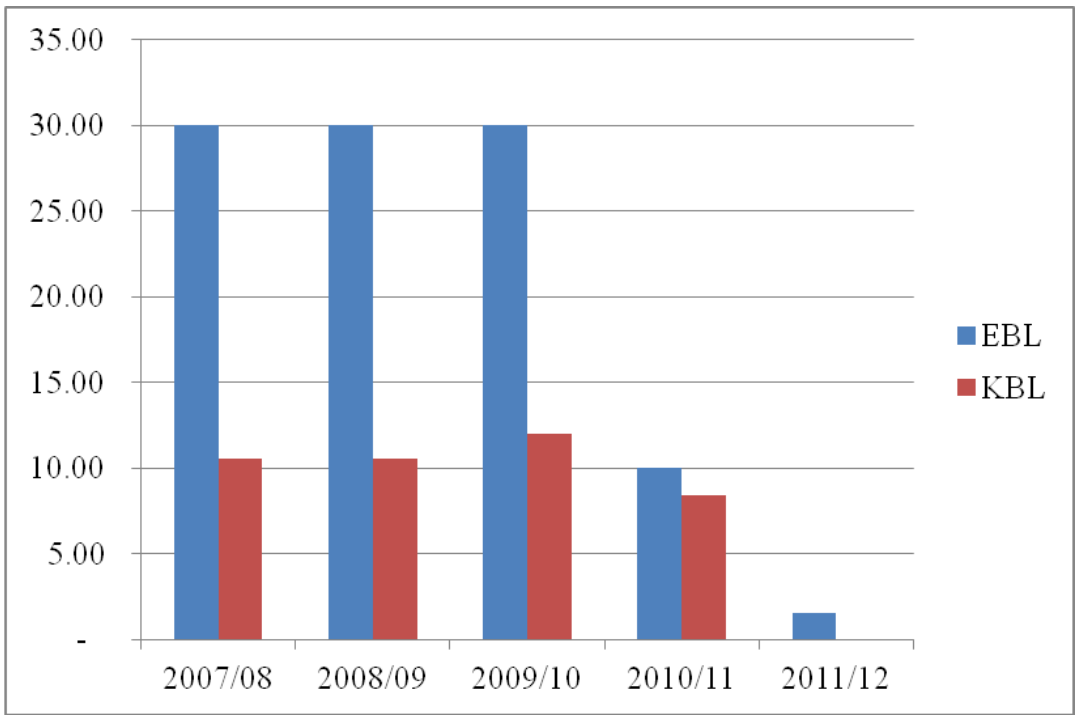

Figure 12: Dividend per Share

The above table and figure shows the dividend paid by the EBL and KBL during the study period of five years. EBL has paid 30% dividend on the share from 2007/08 to 2009/10 but the percent decreased to 10% in the year 2010/11 and again decreased to 1.58 % in the year 2011/12. The average dividend paid is 20.32 rupee per Rs 100 of share with variation of 66.90%. Its standard deviation is 13.59 showing fluctuation in ratio.

DPS of KBL has increased from 10.53% in the year 2007/08 to 12.00% in the year 2009/10 and then decreased to 8.44% in the year 2010/11 but paid no dividend in the year 2011/12. KBL has paid an average dividend of 8.31 rupees per Rs100 of share with variation of 57.95%. Its standard deviation is 4.82 which show fluctuation in ratios.

In conclusion, it can be said EBL has remained more success to retain its existing shareholders and to attract potential shareholders towards it by paying more consistent and stable dividend.

4.1.9 Price Earning Ratio

P/E ratio measures the amount investors are willing to pay for each rupee of the firm's reported profit. It refers to the price currently being paid by market for each rupee of currently reported EPS. It also measures investors' expectation and the market appraisal of firms' performance. It is an indication of the way that the investors think the firm would perform better in future. The higher P/E ratio, the greater is the investor confidence.

P/E ratio= market price of a share/ Earning per share.

Table 9: Price Earning Ratio

Banks/ Years	*EBL*	*KBL*
2007/08	34.11	61.47
2008/09	24.55	31.76
2009/10	16.27	19.31
2010/11	13.15	16.98
2011/12	11.67	14.09
Mean	19.95	28.72
S.D	9.35	19.51
C.V	46.89	67.92

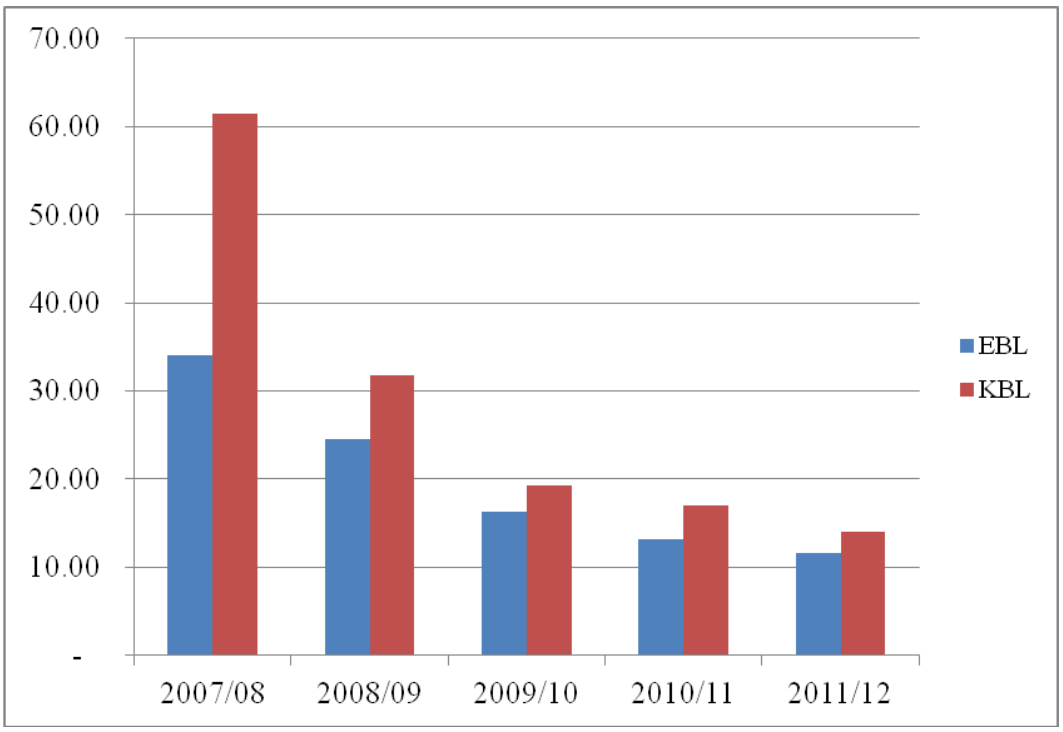

Figure 13: Price Earning Ratio

The above table and figure shows price earning ratio of EBL and KBL during the study period. The P/E ratio of EBL was 34.11 in the year 2007/08 and then it stared decreasing up to 11.67 in the year 2011/12. It shows it was in decreasing trend. The average P/E was 19.95 with variation of 46.89%. Its standard deviation is 9.35 that show fluctuation in the ratio.

P/E ratio of KBL was 61.47 in the year 2007/08 and then it decreased to 14.09 in the year 2011/12. It has average P/E ratio of28.72 with variation of 67.92%. Its standard deviation is 19.51 that show fluctuation in ratio.

Comparing P/E ratio of both banks, KBL's average P/E ratios is higher than EBL. So, in conclusion we can say KBL will perform better in future.

4.1.10 Overall Capitalization Rate

Overall cost of capital reflects the total cost of capital collected from various sources by the firm. The overall capitalization irate is calculated on the basis of NI Approach. It assumes that the cost of debt is less than the cost of equity. Based on this approach Overall capitalization rate of the firm can be decreased by increasing the amount of debt.

Table 10: Overall Capitalization rate

Banks/ Years	*EBL*	*KBL*
2007/08	65.62	20.97
2008/09	75.04	23.65
2009/10	82.77	27.15
2010/11	86.29	21.99
2011/12	88.31	21.25
Mean	79.61	23.00
S.D	9.31	2.54
C.V	11.70	11.05

Source: Appendix-II(C), Appendix-III (A)

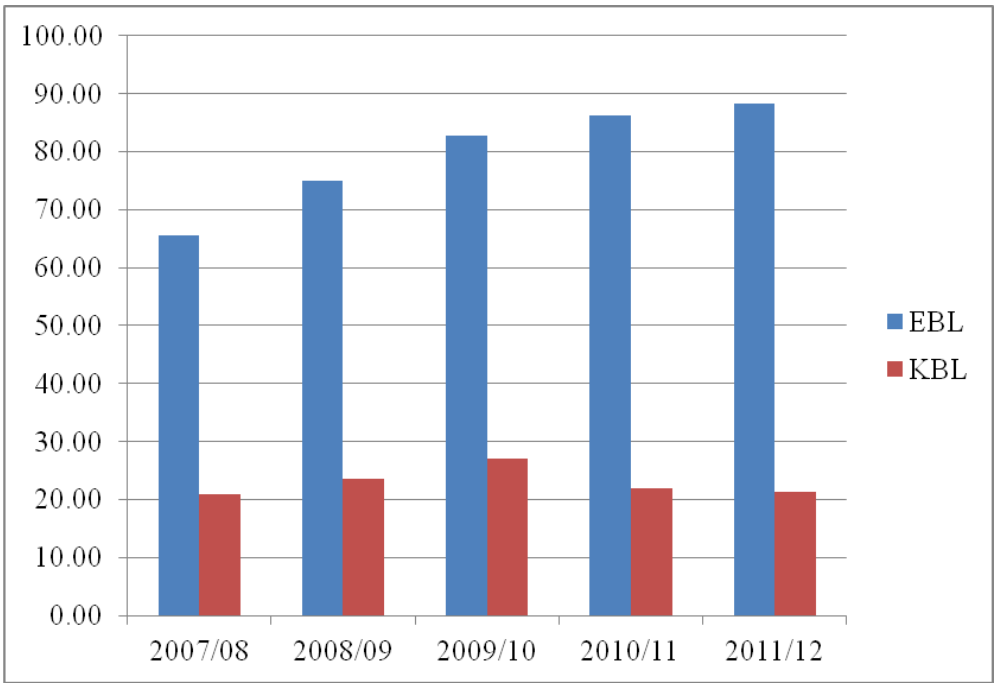

Figure 14: Overall Capitalization Rate

The above table and figure shows overall capitalization rate of EBL and KBL which measures the financial degree of leverage of the banks. Overall capitalization rate of EBL is in increasing trend during the study period. It has highest ratio of 88.31% in the year 2011/12 and lowest ratio of 65.62% in the year 2007/08. In average, its ratio was 79.61% with variation of 11.70%. Its standard deviation is 9.31 that show fluctuation in ratio.

Overall capitalization ratio of KBL is increasing in the year 2007/08 with ratio of 20.97% till the year 2009/10 with ratio of 27.15%, but it decreased to 21.25% in the year 2011/12. The average ratio of KBL is 23.00% with variation of 11.05%. It has standard deviation of 2.54.

Comparing ratios of both banks, EBL ratio is found to be higher than KBL which indicates higher financial leverage of EBL.

4.1.11 Equity Capitalization Rate

The equity capitalization rate is calculated based on NOI approach. This approach argues that the value of firm remains constant to the degree of leverage and equity capitalization rate trends to increase.

Table 11: Equity Capitalization Rate

Banks/ Years	*EBL*	*KBL*
2007/08	2.93	1.63
2008/09	4.07	3.15
2009/10	6.14	5.18
2010/11	16.74	5.89
2011/12	8.57	7.10
Mean	7.69	4.59
S.D	5.50	2.19
C.V	71.45	47.73

Source: Appendix-III(B)

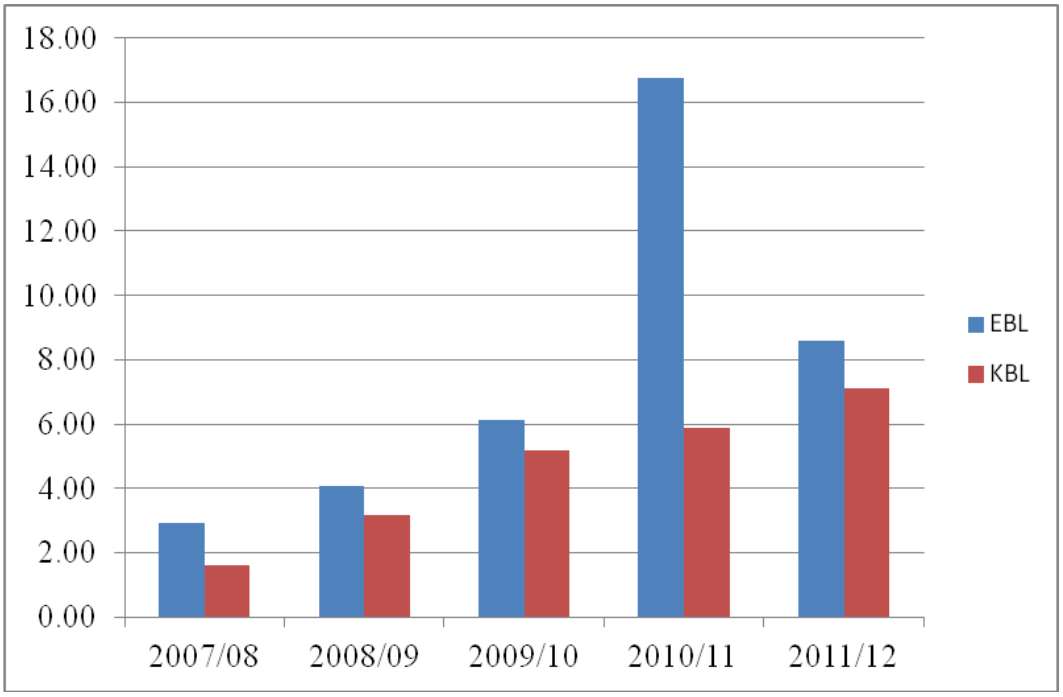

Figure 15: Equity Capitalization

The above table and figure shows the equity capitalization rate of EBL and KBL during the study period of five years. The Ke ratio of EBL is increasing from 2.93 % in the year 2007/08 to 16.74% in the year 2010/11 and it fall down to 8.57% in the year 2011/12. It has highest Ke ratio in the year 2010/11 and the lowest in the year 2007/08. It has average Ke of 7.69% only with variation of 71.45%. Its standard deviation is 5.50 that show fluctuation in the Ke ratio.

In case of KBL, Ke ratio is in increasing trend. Its ratio has increased from 1.63% in the year 2007/08 to 7.10% in the year 2011/12. It has highest Ke of 7.10% in the year 2011/12. Their average ratio is of 4.59% with variation of 47.73%. Its standard deviation is 2.19 which show fluctuation in the ratio.

Comparing the data calculation of both banks, it can be concluded that EBL has highest equity capitalization rate than KBL.

4.2 Statistical Analysis

The statistical analysis incorporates various techniques for measuring the relationship between two or more than two variables as well as their significance. In this study, simple regression, Pearson's coefficient and probable error has been used for measuring significance.

4.2.1 Coefficient of Correlation between EBIT and Interest Payment

The relation between EBIT and interest payment is evaluated in order to measure debt-serving capacity of banks. It is assumed that there is significant relationship between EBIT and interest payment. Here EBIT (X) is independent variable and Interest payment (Y) is dependent variable. Positive values show the positive relation and negative values show the negative relation.

Table 12: Correlation between EBIT and Interest Payment

Banks	*r*	*r²*	*PE*	*6PE*	*Level of significant*
KBL	0.800470211	0.640753	0.108445729	0.650674376	Significant
EBL	0.215719061	0.046535	0.287821781	1.726930688	Insignificant

According to above table, EBIT has positive relationship with interest payment as correlation value of KBL is 0.80 and EBL is 0.22. It shows that increase in EBIT increases interest payment. The relationship between EBIT and interest payment of KBL is statistically significant. It would better if KBL increases its EBIT or decreases its interest expenses. On the other hand, the relationship between EBIT and interest payment of EBL is statistically insignificant which means it is not obligatory that interest payment should increase with increase in EBIT.

4.2.2 Coefficient of Correlation between Overall Capitalization rate and Debt Equity Ratio

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

Table 13: Correlation between Debt Equity ratio and Overall Capitalization rate

Banks	*r*	*r²*	*PE*	*6PE*	*Level of significant*
KBL	0.528385317	0.279191	0.217590006	1.305540039	Insignificant
EBL	0.931813331	0.868276	0.03976339	0.238580342	Significant

Source: Appendix-IV (A)

Above table shows the Correlation between overall capitalization and debt equity of selected banks over the period. The correlation coefficient of both banks is positive which shows positive relationship as correlation of KBL is 0.56 and EBL is 0.87. The positive correlation indicates increase in D/E ratio leads to increase in Ko. The relationship between D/E ratio and Ko of KBL is statistically insignificant. It means KBL has to increase portion of debt in the capital structure to be significant, whereas correlation of EBL is statistically significant.

4.2.3 Coefficient of Correlation between Return on Equity and Debt Equity ratio

The correlation between ROE (Y) and D/E ratio (X) gives us information on increase debt capital portion in the capital structure increases return on equity. Positive values shows positive relation and negative values shows the negative relation.

Table 14: Correlation between Return on Shareholders' Equity and Debt Equity Ratio

Banks	*r*	*r^2*	*PE*	*6PE*	*Level of significant*
KBL	0.56471567	0.318904	0.205601953	1.233611718	Insignificant
EBL	0.872881173	0.761922	0.071868548	0.431211288	Significant

Source: Appendix-IV (B)

The above table shows positive relationship between ROSE and D/E ratio as correlation value of KBL is 0.56 and of EBL is 0.87. The positive relationship indicates increase in D/E ratio leads to increase in ROSE. EBL is statistically significant; it means increase in D/E ratio increases ROSE, whereas KBL is statistically insignificant, it means KBL needs to increase its D/E ratio to increase its ROSE.

4.2.4 Coefficient of Correlation between Debt Equity Ratios and Return on Assets

The correlation of coefficient between Debt Equity ratio and Return on Assets of selected banks are analyzed in order to examine which debt capital is significant in generating more return. It is assumed that there is significant relationship between return and debt capital. Positive values show the positive relation and negative values the negative relation.

Table 15: Correlation between Return on Assets and Debt Equity Ratio

Banks	*R*	*r^2*	*PE*	*6PE*	*Level of significant*
KBL	0.310072682	0.096145	0.272845944	1.637075666	Insignificant
EBL	0.544529504	0.296512	0.212361229	1.274167371	Insignificant

Source: Appendix-V (A)

The above table shows correlation coefficient between ROA and D/E of EBL and KBL. The correlation value of KBL is 0.31 and of EBL is 0.54. There seems to be positive relation but both banks are statistically insignificant being 'r' > 6 p.e. It indicates there is relationship between ROA and K/E. Any change in D/E ratio doesn't make change in ROA.

4.3 Simple Regression Analysis

The simple regression helps to determine relationship between different variable considering one as dependent variable and other as independent variable. With the help of one known variable, one unknown variable can be estimated and it also determines the relation between each dependent variable and independent variable. The regression analysis has been considered for the study.

4.3.1 Relationship between Cost of Equity (Ke) and Leverage (D/S)

The main objective of this section is to determine the relationship between leverage and cost of equity of the selected banks. Based on the traditional view Ke either remain constant or raises slightly with moderate level of debt and increase with leverage at increasing rate. Beside, the MM proposition argues that the cost of equity increases linearly with leverage. Above stated view states the equity decreases or remains constant up to a point with the leverage. The relation between Ke and D/S can be present mathematically as bellow:

$$K_E = a + b\left(\frac{D}{S}\right)$$

Where, $K_E = Cost\ of\ Equity$ and $\frac{D}{S} = Leverage$

Table 16: Relationship between Ke and Leverage

Banks	*Intercepts*	*Regression Coefficient*	*Correlation Coefficient*	*T-statistics*
KBL	-9.8467223	4.16866416	0.61704849	1.358146
EBL	79.66126789	1.66041246	0.71621637	1.777564

Source: Appendix-V (B)

The above table shows relationship between Ke and D/E ratio. The regression coefficient of Ke on D/S for both banks were positively related, it indicates that increase in leverage leads to increase in Ke. Regarding correlation coefficient, EBL has highest value. T- Statistics is insignificant in case of all.

4.3.2 Relationship between Return on Shareholder's Fund (ROS) and Leverage (D/S)

The relationship between ROS and D/S of the selected banks reveals whether the ROS changes linearly or not with the change in D/S. ROS is the taken as dependent variable on D/S which is independent variable. The relation between ROS and D/S are shown bellow.

$$ROS = a + b\left(\frac{D}{S}\right)$$

Where, $ROS = \text{Re}turn\ on\ Shareholders'\ Fund$ and $\frac{D}{S} = Leverage$

Table 17: Relationship between ROS and D/S

Banks	*Intercepts*	*Regression Coefficient*	*Correlation Coefficient*	*T-statistics*
KBL	-4.258861728	1.973806	0.564716	1.185185
EBL	22.38308818	0.478171	0.872881	3.09853

Source: Appendix- V,C,D,E

The above table shows the relationship between ROSE and D/S ratios of KBL and EBL during the study period. The regression coefficients of ROSE on D/S of both banks are positively related. It indicates that increase in leverage increases return on ROSE. The t- statistic for both banks is not significant. The regression coefficient for KBL was 1.97 and for EBL is 0.48.

4.3.3 Relationship between Earning Per Share (EPS) and Leverage (D/S)

In this section, using simple regression the relation between the EPS and D/S for selected banks has been calculated. The impacts of leverage on EPS of selected banks have been explored by taking EPS as dependent variable and D/S as independent variable.

$$EPS = a + b\left(\frac{D}{S}\right)$$

Where, $EPS = Earning\ per\ Share$ and $\frac{D}{S} = Leverage$

Table 18: Relationship between EPS and D/E

Banks	*Intercepts*	*Regression Coefficient*	*Correlation Coefficient*	*T-statistics*
KBL	-4.25493	2.53649	0.542158	1.117544
EBL	89.66875	0.27466	0.194737	0.343878

Source: Appendix-V (F,G)

The above table shows the relationship between EPS and D/S ratio during the study period. The regression coefficient of EPS on D/S was positively related for EBL and KBL. It means change in D/S ratio leads to change in the ratio of EPS. The coefficient correlation is higher for KBL with value of 0.54 the t-statistic shows correlation coefficient insignificant at 5% level of significance.

4.3.4 Relationship between Price Earning Ratio (P/E) and Leverage (D/S)

The objective of this section was to determine the empirical relationship between D/S and P/E ratio. The study tries to find out whether P/E ratio changes proportionately or not with the changes in leverage. It is calculated using simple regression model in which P/E ratio is taken as dependent variable and D/S as independent variable.

$$P/E = a + b\left(\frac{D}{S}\right)$$

Where, $P/E = \text{Price Earning Ration}$ and $\frac{D}{S} = Leverage$

Table 19: Relationship between P/E and D/E

Banks	*Intercepts*	*Regression Coefficient*	*Correlation Coefficient*	*T-statistics*
KBL	-40.8932	7.561937	0.315711	0.576302
EBL	34.17704	-1.27232	-0.710976	-1.75116

Source: Appendix- V (H,I)

The above table shows the relationship between P/E ratio and D/S ratio of EBL and KBL during the study period. The regression coefficient of P/E on D/S is found to be positive for KBL whereas it is negatively related for EBL. Positive relationship indicates linear relationship which means increase in D/S leads increase in P/E ratio. Correlation coefficient for positive regression is positive and is negative for negative regression coefficient. All the selected banks seem to be insignificance at 5% level of significance.

4.4 Major Findings

- Debt to total assets ratios of banks shows portion of financing the total assets through debt financing. The practice of financing total assets through debt capital of KBL is fluctuating during the five years period. EBL's total assets financing is in increasing trend in the study period. The study shows totals assets of JV commercial bank bear greater risk than private commercials bank.
- Debt equity ratio shows use of debt amount. In case of all sampled banks, use of debt amount is increasing in first year and then decreasing gradually and again increasing in fifth year. Comparing average ratios, it can be concluded that JV commercial banks depends more on outside fund than private commercial banks.
- Interest coverage ratio concludes that JV commercial bank has greater capacity to meet the interest expenses on long term debt than private commercial bank.
- Degree of financial leverage shows the level of financial risk for banks. Private commercial banks have higher degree of financial leverage than JV commercial banks which indicates high level of financial risk to commercials banks than JV banks.
- Comparing the ROA, it can be concluded that private commercial banks are more efficient in mobilizing total assets than JV commercial banks, since net profit generation from mobilizing total assets is higher in commercials banks.
- Comparing ROE, it can be concluded that JV commercial banks are more efficient in mobilizing equity capital than private commercial banks as JV banks have earned more rupee from investment of equity.
- Higher average EPS of JV commercial banks indicates that JV commercial banks are able to earn more profit per share to the common shareholder's than

private commercial banks. EPS has been criticized as the measure of profitability because it does not consider the amount of assets and capital required to generate that level of earning.

- Private commercials banks are found to pay more dividend rupee more consistently to shareholder than JV commercial banks.
- Trend of price earning shows more fluctuation in JV commercial banks than private commercials banks.
- Overall capitalization rate measures the financial degree of leverage of banks. The overall capitalization rates of JV commercial banks are higher than private commercial banks.
- Equity capitalization rate of JV commercial banks are higher than private commercial banks.
- The correlation coefficient of interest payment on EBIT of KBL and EBL has positive relationship. It indicates increase in EBIT leads to increase in interest payment. The value of 'r' is significant for KBL but Insignificant for EBL which means EBL is unable to meet the debt expenses with the available EBIT.
- The correlation coefficient of Ko on D/E ratio is positive for EBL as well as KBL. It means increase in D/E ratio leads to increase in Ko and vice versa. The value of 'r ' is significant for EBL but Insignificant for KBL.
- The correlation coefficient of ROSE on K/E is positive for EBL as well as KBL. It means change in K/E leads to change in ROSE. The value of 'r' is insignificant for KBL but significant for EBL.
- The correlation coefficient of ROA on D/E ratio is also positive for both EBL and KBL. It means alteration in D/E ratio leads alteration in ROA as well. The value of 'r; is Insignificant for both EBL and KBL which means the change is very minute.
- The regression coefficient for Ke on D/E is positive for both EBL and KBL. It means increase in D/E ratio leads to increase in Ke. The T-statistic for both banks is insignificant with 5% degree of freedom.
- The regression coefficient of ROSE on D/E ratio is also positive for both EBL and KBL. It means change in D/E ratio brings change in ROSE. The T-statistic for both banks is insignificant with 5% degree of freedom.
- The regression coefficient of EPS on D/E is also positive for both EBL and KBL. It means change in D/E ratio brings change in EPS. The T-statistic for both banks is insignificant with 5% degree of freedom.
- The regression coefficient of P/E ratio on D/E ratio is also positive for both EBL and KBL. It means change in D/E ratio affects the P/E ratio. The T-statistic for both banks is insignificant for both banks with 5% degree of freedom

CHAPTER – V
SUMMARY CONCLUSION AND RECOMMENDATIONS

This chapter is the extract of all the previously discussed chapters. This chapter consists of three parts; summary, conclusion and recommendation. In summary part, revision or summary of all the four chapters have been made. In conclusion part, the result from the research is summed up and in recommendation part, suggestion and recommendation has been made based in the analysis. Recommendation is made for improving the present situation to the concerned as well as further research.

5.1 Summary

Capital structure plays a vital role in the real life of an enterprise. Capital structure is the structure of financial management and cost of capital is touchstone of financing, investment decision and evaluation of financial performance of enterprise. The capital structure is the combination of long term debt and equity. It is a part of financial structure i.e. comprised to the total combination of preferred stock, common stock, long term debt and current liabilities: if current liabilities are removed from it, we get capital structure. Similarly, the capital structure is the permanent financing of the firm, represent primary by long term debt, preferred stock and common equity but excluding all short- term credit. Basically the entire research work focuses on the study of capital structure and profitability management of JV banks and Commercial banks.

The study is based on secondary data. All the data have been taken from the concerned banks' annual report, website, related books and booklets, journals, articles.

Financial institution includes banks, finance companies, co-operative organizations and insurance companies. All of them do contribute something to the economy of the country. Financial institutions play a vital role in the proper functioning of an economy. Among them, banking sector plays an important role in the economic development of the country. Commercial banks are one of the vital aspects of this sector, which deals in the process of channeling the available resources in the needed sectors. It is the intermediary between the deficit and surpluses of financial resources.

Capital is a scare sources and much more essential to maintain smooth operation of any firm. The available capital and financial sources should be utilized so efficiently that could generate maximum return. The term of capital structure is used to represent the proportionate relationship between debt and equity. The debt and equity mix of a firm is called capital structure. The capital structure design is a significant financial decision since it affects the shareholders return, risk and market value of share. Both debt and equity are used in most large corporation. The choice of amount of debt and equity is made after a comparison of certain characteristics of each kind of securities of interest factor related to the firm's and of external factors can affect the firm.
The main theories of capital structure are net income approach, net operating income approach, traditional approach and Modigliani-Miller approach, EBIT/EPS analysis and cost of capital. Without study of these elements the company cannot make appropriate capital structure and analysis of leverage may be incomplete.

Profitability is basically an arc around which the every business revolves. Profit is the main financial indicator of business of firm, which is indeed a need to survive and grow the business environment. Profit is essential to raise the market price of shares and to attract additional capital investment. Profit is the outcome of good management, cost control, credit-risk, management, efficiency of operation etc. Profit is described in two ways, one is traditional approach (profit maximization) and another is modern approach (sales maximization).

Capital structure concept holds a major place in the financial management which is a very important element for firm's profitability. Firms may use their debt-to- equity ratio to affect profitability. Some firms choose a high debt-to-equity, whereas others prefer to choose a lower one. It differs from individual to individual one is risk taker or risk averter. A perfect balance between debt and equity is required to ensure the trade –off between risk and return to shareholders. Thus, optimal capital structure means the capital structure having logical and reasonable proportion of debt and equity.

With this activity, any banking institution can increase its return in its risk level or lower its risk level in the same class of return. Further a rational capital structure as important, investment in intangibles such as business building, sales and marketing.

After this research work on the subject matter, it can be inferred that the banks with stable and predictable cash flow as well as limited investment opportunities should include more debt in their capital structure. Banks that face high uncertainty because of vigorous growth or the cyclical nature of their industries should carry less debt, so that they have enough flexibility to take advantage of investment opportunities or to deal with negative events. Eventually, it can be said that the capital structure has greater impact in profitability.

5.2 Conclusions

Analyzing the data, it is assumed that growth and stability of the banks mainly influence the capital structure banks. And the capital structure of the banks has substantial impact on profitability. Following conclusion can be made from analysis and findings.

Comparing the banks on the basis of Debt to total assets, it can be concluded that JV commercial banks bear more risk than private commercial banks. It means practice of financing total assets through debt capital is high in JV commercial banks than private commercial banks. Debt equity ratio shows the amount of debt amount from outside fund and JV commercial banks depends more on outside fund rather than private commercial banks. It means JV commercial banks are more risk taker than private commercial banks. Since debt equity ratios of JV commercial banks are greater than private commercial banks, the capital structures of JV commercial banks are more dominated by the debt capital percentage than private commercial banks. In regard to interest coverage ratio, JV commercial banks have greater capacity to meet the interest expenses on long term debt than private commercials banks. In matter of financial risk, private commercial banks have higher degree of financial leverage which indicates higher financial risk to the banks. The overcall capitalization rates of

JV commercial banks are higher than commercial banks. So equity capitalization rate of JV commercial banks are higher than commercial banks.

On the basis of return on assets, net profit generation from total assets mobilization is higher in JV commercial banks rather than private commercials banks. It means JV commercial banks are more efficient in mobilizing equity capital. Even JV commercial banks are efficient in mobilizing equity capital as well. JV commercial banks have earned more rupees from investment of equity. EPS shows the profit earning capacity. JV commercial banks are able to earn more profit per share to the common shareholders' than private commercial banks. EPS has been criticized as the measure of profitability because it does not consider the amount of assets and capital required to generate that level of earning. Private commercial banks are found to pay more dividend rupee more consistently to the shareholders' than JV commercial banks. Trend of price earning shows more fluctuation in JV commercial banks than private commercial banks.

5.3 Recommendations

On the basis of analysis and findings of the study, following recommendations are made.

- The financing pattern of most Nepalese commercial banks includes short term and medium term fund. It may bring the solvency problem. So it is recommended that both JV commercial banks and private commercial banks should increase the proportion of long term fund in their financing pattern. The amount of long term debt should be raised to minimize the risk as short term debt carries high risk.
- Both types of banks have more proportion of total debt to total assets ratio, which shows the largest proportion of assets, is covered by external debt financing, which may not be good for the banks. So the banks should optimize the debt ratio.
- Both types of banks are bearing high interest expenses due to use of long term debt in its capital structure. As result, the return of the firm is not satisfactory. So both types of banks are recommended to minimize interest expense by using short term debt as well as decrease other operating expenses to increase the return on the firm.
- ROA and ROE are not satisfactory. Both types of banks are not sufficiently using their assets and equity capital. Due to which they are having less ROA and ROE.
- The capital structure of bank is highly leveraged. The proportion of debt and equity capital should be decided minding the effects of tax advantage. The bank requires maintaining improved capital structure by issuing more capital, expanding general reserve and retaining earning.
- Capital investment should be increases to increase the return to equity shareholders by employing the equity capital so that the return would be greater than the overall cost of capital.

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Annual Reports of KBL (2007/08 – 2011/12)

Annual Reports of KBL (2007/08 – 2011/12)

APPENDIX -I

A. Debt to Total Assets

Banks/ Years	Total Debt		Total Assets		Ratio	
	EBL	**KBL**	**EBL**	**KBL**	**EBL**	**KBL**
2007/08	25,046,169,827	13,671,364,159	7,149,342,884	15,026,599,175	92.25	90.98
2008/09	34,474,620,969	16,906,793,663	36,916,848,654	18,538,565,109	93.38	91.2
2009/10	37,808,506,482	18,543,003,692	41,382,760,711	20,485,578,742	91.36	90.52
2010/11	42,518,868,365	18,271,366,924	46,236,212,262	20,491,785,309	91.96	89.16
2011/12	51,595,882,217	22,642,059,630	55,813,129,057	25,131,400,971	92.44	90.09

B. Debt Equity ratio

Banks/ Years	Debt		Shareholders' Fund		Ratio	
	EBL	**KBL**	**EBL**	**KBL**	**EBL**	**KBL**
2007/08	24,276,296,535	13,174,281,014	11,721,237,580	1,364,885,269	2.07	9.65
2008/09	33,622,946,246	16,110,925,263	2,203,625,055	1,624,952,708	15.26	9.91
2009/10	36,692,310,008	17,832,253,032	2,759,137,855	1,785,759,048	13.3	9.99
2010/11	41,427,914,339	17,386,279,457	3,113,546,056	2,213,836,668	13.31	7.85
2011/12	50,006,100,272	22,385,198,273	4,177,302,887	2,377,075,338	11.97	9.42

C. Interest Coverage Ratio

Banks/ Years	Annual Interest Charges		EBIT		Ratio	
	EBL	**KBL**	**EBL**	**KBL**	**EBL**	**KBL**
2007/08	23,634,098	35,360,209	742,467,951	300,241,811	31.42	8.49
2008/09	25,397,027	55,699,081	998,347,353	412,181,355	39.31	7.4
2009/10	35,272,593	100,589,792	1,307,362,781	588,651,472	37.06	5.85
2010/11	41,342,675	96,717,931	1,459,740,575	476,950,445	35.31	4.93
2011/12	6,986,799	46,005,042	1,555,324,989	475,094,205	91.56	10.33

APPENDIX -II

A. Degree of Financial Leverage

Banks/ Years	EBIT		EBT		Ratio	
	EBL	KBL	EBL	KBL	EBL	KBL
2007/08	742,467,951	300,241,811	718,833,853	264,881,602	1.03	1.13
2008/09	998,347,353	412,181,355	972,950,326	356,482,274	1.03	1.16
2009/10	1,307,362,781	588,651,472	1,272,090,188	488,061,680	1.03	1.21
2010/11	1,459,740,575	476,950,445	1,418,397,900	380,232,514	1.03	1.25
2011/12	1,555,324,989	475,094,205	1,538,338,190	429,089,163	1.01	1.11

B. Value of Firm

Banks/ Years	EBL			KBL		
	Equity	Debt	Value	Equity	Debt	Value
2007/08	831,400,000	300,000,000	1,131,400,000	1070000000	400000000	1470000000
2008/09	1030467300	300000000	1,330,467,300	1304935920	400000000	1704935920
2009/10	1279607490	300000000	1,579,607,490	1806015920	400000000	2206015920
2010/11	1391570439	300000000	1,691,570,439	1603800000	400000000	2003800000
2011/12	1761126410	0	1,761,126,410	1603800000	400000000	2003800000

C. Overall Capitalization rate of EBL

Banks/Years	EBL		
	EBIT	V	Ko
2007/08	742,467,951.00	1,131,400,000.00	65.62
2008/09	998,347,353.00	1,330,467,300.00	75.04
2009/10	1,307,362,781.00	1,579,607,490.00	82.77
2010/11	1,459,740,575.00	1,691,570,439.00	86.29
2011/12	1,555,324,989.00	1,761,126,410.00	88.31

APPENDIX -III

A. Overall Capitalization of KBL

Banks/Years	KBL		
	EBIT	V	Ko
2007/08	300,241,811.00	1,431,641,811.00	20.97
2008/09	412,181,355.00	1,742,648,655.00	23.65
2009/10	588,651,472.00	2,168,258,962.00	27.15
2010/11	476,950,445.00	2,168,520,884.00	21.99
2011/12	475,094,205.00	2,236,220,615.00	21.25

B. Equity Capitalization Rate

Banks/ Years	EPS		MPVS		Ratio	
	EBL	KBL	EBL	KBL	EBL	KBL
2007/08	91.82	16.35	3132	1005	2.93	1.63
2008/09	99.99	22.04	2455	700	4.07	3.15
2009/10	100.16	24.24	1630	468	6.14	5.18
2010/11	183.18	15.67	1094	266	16.74	5.89
2011/12	88.55	17.18	1033	242	8.57	7.1

C. Correlation Coefficient between EBIT and Interest Payment

KBL		EBL	
Y	X	Y	X
INTEREST PAYMENT	EBIT	INTEREST PAYMENT	EBIT
35,360,209	300,241,811	23,634,098	742,467,951
55,699,081	412,181,355	25,397,027	998,347,353
100,589,792	588,651,472	35,272,593	1,307,362,781
96,717,931	476,950,445	41,342,675	1,459,740,575
46,005,042	475,094,205	16,986,799	1,555,324,989
Correlation	0.800470211	**Correlation**	0.215719061
r^2	0.640752559	**r^2**	0.046534713
Pe	0.108445729	**pe**	0.287821781
6pe	0.650674376	**6pe**	1.726930688

APPENDIX -IV

A. Correlation between Debt Equity Ratio and Overall Capitalization rate

KBL		EBL	
Y	**X**	**Y**	**X**
Ko	**D/E ratio**	**Ko**	**D/E ratio**
18.02	9.65	63.53	2.07
22.48	9.15	85.43	15.26
28.61	9.96	80.53	13.3
18.98	7.85	83.85	13.31
21.41	9.42	87.35	11.97
Correlation	0.528385317	**Correlation**	0.931813331
r^2	0.279191043	**r^2**	0.868276083
Pe	0.217590006	**pe**	0.03976339
6pe	1.305540039	**6pe**	0.238580342

B. Correlation between ROE and D/E

KBL		EBL	
Y	**X**	**Y**	**X**
ROE	**D/E**	**ROE**	**D/E**
12.81	9.65	23.49	2.07
16.09	9.15	28.99	15.26
17.72	9.96	30.15	13.3
11.35	7.85	29.91	13.31
11.59	9.42	26.11	11.97
Correlation	0.56471567	**Correlation**	0.872881173
r^2	0.318903788	**r^2**	0.761921543
pe	0.205601953	**pe**	0.071868548
6pe	1.233611718	**6pe**	0.431211288

APPENDIX -V

A. Correlation between ROA and D/E

KBL		EBL	
Y	**X**	**Y**	**X**
ROA	**D/E**	**ROA**	**D/E**
1.16	9.65	1.65	2.07
1.41	9.15	1.73	15.26
1.59	9.96	2.09	13.3
1.23	7.85	2.1	13.31
1.1	9.42	2.11	11.97
Correlation	0.310072682	**Correlation**	0.544529504
r^2	0.096145068	**r^2**	0.296512381
Pe	0.272845944	**Pe**	0.212361229
6pe	1.637075666	**6pe**	1.274167371

B. Regression between KE and D/S of KBL

KE	D/S
Y	**X**
24.76	9.65
30.06	9.15
37.37	9.96
23.71	7.85
26.75	9.42

Regression Statistics	
Multiple R	0.617048
R Square	0.380749
Adjusted R Square	0.174332
Standard Error	4.999715
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	46.10876059	46.109	1.845	0.2675324
Residual	3	74.99143941	24.997	-	-
Total	4	121.1002	-	-	-

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-9.84672	28.34502203	-0.347	0.751	-100.0532	80.35979	-100.053233	80.359788
X Variable 1	4.168664	3.069378185	1.3581	0.268	-5.599467	13.9368	-5.5994671	13.936795

C. Regression between KE/DE of EBL

KE	D/S
Y	X
86.46	2.07
115.99	15.26
99.41	13.3
101.93	13.31
87.35	11.97

Regression Statistics	
Multiple R	0.716216
R Square	0.512966
Adjusted R Square	0.350621
Standard Error	9.76537
Observations	5

	Df	SS	MS	F	Significance F
Regression	1	301.32	301.32	3.16	0.17
Residual	3	286.09	95.36	-	-
Total	4	587.41	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	79.66	11.32	7.04	0.01	43.63	115.69	43.63	115.69
X Variable 1	1.66	0.93	1.78	0.17	-1.31	4.63	-1.31	4.63

D. Regression between ROSE and D/S of KBL

ROSE	D/S
Y	X
12.81	9.65
16.09	9.15
17.72	9.96
11.35	7.85
11.59	9.42

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.56471567
R Square	0.31890379
Adjusted R Square	0.09187172
Standard Error	2.712771
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	10.34	10.34	1.4	0.32
Residual	3	22.08	7.36	-	-
Total	4	33.4	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-4.26	15.38	-0.28	0.8	-53.2	44.69	-53.2	44.69
X Variable 1	1.97	1.67	1.19	0.32	-3.33	7.27	-3.33	7.27

E. Regression between ROSE and D/S of EBL

ROSE	D/S
Y	X
23.49	2.07
28.99	15.26
30.15	13.3
29.91	13.31
26.11	11.97

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.87288
R Square	0.76192
Adjusted R Square	0.68256
Standard Error	1.61334
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	24.99	24.99	9.60	0.05
Residual	3	7.81	2.60	-	-
Total	4	32.80	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	22.38	1.87	11.97	0	16.43	28.34	16.43	28.34
X Variable 1	0.48	0.15	3.1	0.05	-0.01	0.97	-0.01	0.97

F. Regression between EPS and D/S of KBL

EPS	D/S
Y	X
16.35	9.65
22.04	9.15
24.24	9.96
15.67	7.85
17.18	9.42

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.542158
R Square	0.293936
Adjusted R Square	0.058581
Standard Error	3.697118
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	17.07	17.07	1.25	0.35
Residual	3	41.01	13.67	-	-
Total	4	58.08	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-4.25	20.96	-0.2	0.85	-70.96	62.45	-70.96	62.45
X Variable 1	2.54	2.27	1.12	0.35	-4.69	9.76	-4.69	9.76

G. Regression between EPS and D/S of EBL

EPS	D/S
Y	X
91.82	2.07
99.99	15.26
100.16	13.3
83.18	13.31
88.55	11.97

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.19474
R Square	0.03792
Adjusted R Square	-0.2828
Standard Error	8.35005
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	8.24	8.24	0.12	0.75
Residual	3	209.17	69.72	-	-
Total	4	217.42	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	89.67	9.68	9.26	0.00	58.86	120.48	58.86	120.48
X Variable 1	0.27	0.80	0.34	0.75	-2.27	2.82	-2.27	2.82

H. Regression between P/E and D/S of KBL

P/E	D/S
Y	X
61.47	9.65
31.76	9.15
19.31	9.96
16.98	7.85
14.09	9.42

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.31571
R Square	0.09967
Adjusted R Square	-0.2004
Standard Error	21.3736
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	151.72	151.72	0.33	0.60
Residual	3	1370.49	456.83	-	-
Total	4	1522.22	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-40.89	121.17	-0.34	0.76	-426.52	344.74	-426.52	344.74
X Variable 1	7.56	13.12	0.58	0.60	-34.20	49.32	-34.20	49.32

I. Regression between P/E and D/S of EBL

P/E	D/S
Y	X
34.11	2.07
24.55	15.26
16.27	13.3
13.15	13.31
11.67	11.97

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.71098
R Square	0.50549
Adjusted R Square	0.34065
Standard Error	7.59567
Observations	5

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	176.92	176.92	3.07	0.18
Residual	3	173.08	57.69	-	-
Total	4	350.01	-	-	-

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	34.18	8.81	3.88	0.03	6.15	62.2	6.15	62.2
X Variable 1	-1.27	0.73	-1.75	0.18	-3.58	1.04	-3.58	1.04