A Comparative Study on
CAPITAL STRUCTURE MANAGEMENT
Of
Commercial Banks in Nepal

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DECLARATION

I hereby declare that the outcome of this thesis entitled "A Comparative Study on CAPITAL STRUCTURE MANAGEMENT Of Commercial Banks in Nepal" submitted to Post Graduate College, Faculty of Management, T.U. Biratnagar, is my original work done in the form of partial fulfillment of the requirement for the Master of Business Studies (MBS) under the supervision of Dr. Khagendra Acharya.

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Kamaleswar Mandal

Post Graduate College

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Date:

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ABBREVIATION

A/C	Account
AM	Arithmetic Mean
B	Market value of debt outstanding
B/S	Balance Sheet
COV	Covariance
DCL	Degree Of Combined Leverage
DFL	Degree Of Financial Leverage
DOL	Degree Of Leverage
DPR	Dividend Payout Ratio
DPS	Dividend Per Share
EAT	Earnings After Tax
EBIT	Earnings Before Interest & Taxes
KBL	Kumari Bank Limited
EBT	Earnings Before Tax
EPS	Earnings Per Share
F.Y.	Fiscal Year
HBL	Himalayan Bank Limited
I	Total interest payments
i.e.	That is
ibid	Ibidem
CBN	Commercial Bank of Nepal
K_e	Cost of equity
K_i	Cost of debt
K_o	Overall cost of capital/capitalization rate

LTD	Long-Term Debt
MBS	Master of Business Studies
MPS	Market Price per Share
NI	Net Income
NIA	Net Income Approach
No.	Number
NOIA	Net Operating Income Approach
P	Page
P.G.	Post Graduate
P/E	Price earning ratio
P/L	Profit & Loss
r	Correlation coefficient
r^2	Coefficient of determination
Rs.	Rupees
S	Market value of equity outstanding
NBL	Nabil Bank Nepal Limited
SD	Standard Deviation
SHE	Shareholders' equity
SHF	Shareholders' fund
T.U.	Tribhuwan University
TA	Traditional Approach
TA	Total Assets
TD	Total Debts
V_f	Value of the firm
Viz.	Namely
Vol.	Volume
WWW	World Wide Web

CHAPTER-I

1. INTRODUCTION

1.1. General Background of Study

Nepal is a developing country in the world. So, Government of Nepal has been focusing on the economic liberalization policy to grow its national economy. Nepalese government has launched on the economic liberalization policy to grow its national economy. Nepalese government has launched many plans & programs for its economic development. But lack of proper capital as well as misuse of capital mobilization has been main cause to be undeveloped of the economy. Recently, the Nepalese government has adopted the path of economic development through privatization and liberalization policy. But in the other hand, the political situation of country is not favorable for investors and entrepreneurs. Policies have well designed but unfortunately, it has not been implemented.

Industrialization is the backbone of the developing country like Nepal for economic development. It pays vital role, which are very essential to develop overall aspects of the country. Without industrial and business enterprises, economic development of the nation is not possible.

Finance is an important thing to operate the business with properly. In the absence of the financial resource, the establishment and operation of a business is impossible. In this regard, the financial management is concerned with the planning and controlling of the firms financial resources. Traditionally, financial management is the science of money and concerns only with raising of funds but in modern concept, it is not only that, rather it is the science of making financing decision. Under this, a financial manager generally, has to take important financial decision such as financial decision, investment decision and dividend decision.

At present banking activities have developed too much. Basically, the term 'BANK, refers to commercial bank. In short a bank is an institution which deals with money by accepting various types of deposit, disbursing loan and rendering other financial services.

Bank is a financial institution, which deals on money. It collects money from different sector, which are idle and scattered in our

surroundings. It issues these deposits as a loan to those who need it. These depositors can be individual or institutions. Duration of deposits depends upon the mutual agreement between bank and customers (or deposits) similarly borrower of money (whom bank lends money as loan) can be individual as well as institution. Terms and conditions of depositing money and lending money depend on various factors like duration volume or amount purpose etc. For example bank provides high rate interest on long firm deposit. It allows some interest on deposits and charges some interest on loan. Interest on loan is comparatively highness than on deposits. The difference in interest of deposits. The difference in interest of deposits and loan is called spread rate and this is the main sources of earning for bank.

Banking plays the significant role to the development of the economy "It provides an effective payment and credit system, which facilitates the channely of fund from the surplus spending units (savers) to the deficit spending units (Investors) in the economy"[1]

Banking plays an important role in the economic development of the country. Economic development consists of trade, commerce, industry etc .To invests on those sectors, and investors need money in large scale which can't be managed by single person. So to finance in a large scale organizations investors approach bank for long term finance and short term finance. Bank is a financial intermediary which links those who save money and those who need it. Generally saving is made in small scale as well as it is scattered. Bank collects such savings. Such savings are needed by investors like business firm etc, who themselves can't approach to the savers, so due to convenience they approach banks who has already collected the savings thus bank modifies this resource by granting as a loan to different investor which would be idle in absence of bank .

These are various banking functions and no bank can discharge all of these functions. So they specializes on only some functions such functions can be dealing on foreign exchange , financing on industry , financing commerce which required short term loan financing , agriculture sector etc. on the basis of this specialization bank can be classified as agriculture bank concentrates its function on the development of agriculture sector. It provides loan and other services for its development. Similarly, industrial bank is related with industrial

[1] S. Garhwal," Commercial Banking & Economic Development Pointer Publisher Jaipur,1993. P. 145.

field. Generally, this type of bank advances for long duration. Commercial bank collects money from general public, which are repayable on the written demands of depositors. Commercial bank generally grants credit for short duration. Besides granting credit, bank provides other type of services too takes some charges. It is experienced that not all deposits are withdrew at the same time.

Summarizing the above banks are those financial institutions that offers the widest range of financial services. The multiplicity of bank services and functions has led to banks being labeled 'financial supermarket' or it could be called as a full service financial institutions.

As mentioned earlier there are different types of bank however, most common type of them is commercial bank.

1.2. History of commercial Bank in Nepal :-

The principal types of banking are commercial banking and central banking. A commercial bank is a dealer in money and substitutes of money such as cheques and bills of exchanges. The banker also provides a variety of financial services. The basis of banking business is borrowing from individuals, firms and occasionally from governments at lower interest rate i.e. it receives deposits from them. It makes profit by lending at higher rate or by charging commission for service rendered.

The basis task of financial institutions is to mobilize the saving of the community and ensure efficient allocation of these saving to high yielding investment. Projects to offer attractive and secured returns to different sector of the economy according to plan priorities of the country, on the other commercial bank plays an important role in affairs of the economy in various ways. The operation of the commercial bank records the economic plus of the economy. The size and composition of their transaction mirror of the economic happening of the country. They are as essential instrument accelerated growth in a developing economy. In fact banks are the nerve center of the economy and the barometer of economy prosperity. By mobilization community saving and diverting them into productive channel. Commercial bank expands the tempo and appreciates the value of the aggregate economic activity in the economy.

The historical background of modern banking in Nepal is very new one. As in other countries goldsmiths and landlords used to carry out

banking activities. During the tenure of the then prime minister Ranodip Shah" Tejarath Adda" first step towards the institutional development of banking in Nepal, was established in 1933 B.S. Tejarath Adda didn't accept deposits, the foremost task of saving in the part of people was lacking and they couldn't perform the task of mobilizing idle resources in productive sector.

Bank in the true sense started with the inception of Nepal bank limited(NBL) on the 13th kartik 1994 B.S. right from inception, it carried out function of a commercial bank. The authorize capital was contributed by government 51% and remaining by public 49%. Nepal bank limited was the first commercial bank in Nepal. NBL had a Herculean responsibility of attracting people toward banking sector from predominant sahu Mahajan's transaction and of introducing other bank services as well as later on 2013 B.S. having felt the need of development of bank sector, to help the government to formulate monitory policies, Nepal Rastra Bank (NRB) was set up in 2013 B.S. as the form of central bank, which was a significant plus dimension in the development of banking sector. The development of the country is possible only when competitive banking services reaches hooks and corner of the country. That's way develop and promote a scientific commercial, Industrial, agricultural system and capital market activities. NBL alone was not able to extend adequate services in the national economy. Thus Rastriya Banijya Bank (RBB) was set up in 2022 B.S. as fully government owned commercial bank. In addition to this, Nepal Industrial Development corporation (NIDC 1959 A. D.), Agriculture Development Bank(ADB 1967 A. D.), and Security Exchange Center(SEC) were also established, however , with the coming up of these financial institution, the banking and financial activities spread to both urban and rural areas.

In this way, the history of banking system is not so old. An organized banking system is relatively a recent phenomenon. The establishment of "Nepal Bank Limited" a commercial bank in 1994 B.S. started the process. After a long time in order to uplift the National economy, government of Nepal permitted to establish joint venture bank under commercial Bank Act 2031. So far 17 commercial banks have been operating to facilitate more and more banking services. For the purpose of the study, the research includes three joint venture banks, namely Nepal Grind lays Bank Limited, Himalayan Bank Limited and Everest Bank Limited. From the viewpoint of establishment, Nepal Grind lays

Bank Ltd. Is the oldest one among these three. A brief description of three sampled banks is follows:

1.2.1. Kumari Bank Limited(KBL)

Kumari Bank Limited (Nepal) has been in operation in Nepal since 1987 when it was initially registered as a joint venture operation under Company Act 1964. It has Rs339 million authorized capital ,out of which Rs.339548800 is paid up and issued capital . There were 5037 number of shareholders up to 7/15/2003. It has Rs. 16833.23 million of total assets including Rs. 16650.32 million of current assets up to the date of 7/15/2003. The head office of the bank is located at Naya Baneshwor, Kathmandu.

1.2.2. Himalayan Bank Ltd.(HBL) :-

Himalayan Bank Ltd is a joint venture bank with Habib Bank of Pakistan was established in 1992 under the company Act.1964. This is the first joint venture bank managed by Nepalese chief executive. The operation of the bank started from 1993 February. The main objective of bank is to provide modern banking facilities like Tele Banking to the businessmen, industrialist and other professionals and to provide loan on agriculture commerce and industrial sectors. Currently, this bank is operating premium savings account (PSA) scheme with attractive prizes and special facilities, Credit card facility, and branch banking facilities, ATM facility etc.

Share subscription of the HBL is divided into four parts. Promoter's shareholder has taken 51%, Habib Bank Ltd. Pakistan has taken 20%, financial institution(Employees Provident Fund) has taken 14%, and the remaining 15% of share is taken by the Nepalese Public shareholders.

1.2.3. Nabil Bank Limited (NBL)

The first commercial joint venture bank of Nepal, Nepal Arab Bank Limited, was established on July 12th 1984 under a technical service agreement with Dubai Bank Limited and was renamed as NABIL Bank Limited (NABIL) on 1st January 2002. In the beginning the authorized capital of this bank was Rs.100million and paid up capital was Rs.28 million 400 thousand. The 50% share of NABIL owned by Dubai Bank Limited was transferred to Emirates Bank International Limited, Dubai by virtue of its

annexation with the later. Later on, Emirates Bank International Limited sold its entire 50% share to National Bank Ltd, Bangladesh. Now National Bank Limited is managing the bank in accordance with the Technical Services Agreement signed between it and the bank on June 1995. It was introduced an Automatic teller machine first time in Nepal, in its three valley namely in Kantipath, New road, Lalitpur and rural area branches in Jorpati and the corporate office in Kamaladi . It has credit card counter in tamel also. Besides the bank has branches in Biratnagar, Ithahari , Birgunj, Alau, Pokhara lakeside ,Butwal ,Bhalwadi, Bhairawa, and Nepalgunj.

1.3. Statement of the problem:-

Although various joint venture foreign commercial banks are operating in Nepal after the HMG/N adopted the open, liberal and market oriented economic policy, the financial sector hasn't been responsive enough from them to meet the growing resources need to the economy as expected before. Why is so and what are the problems? Is a very important question. To answer the question an analysis of their present study, the capital structure analysis of joint venture banks in Nepal with special reference to Kumari Bank Ltd (KBL), Himalayan Bank Ltd. (HBL) and Nabil Bank Ltd. (NBL) is the main question.

In fact a comprehensive capital structure analysis is a mirror of strength and weaknesses of a bank. A strong joint venture bank contributed to the national economy and also attracts further foreign investment in this sector. It may be an exemplary lesson to existing as well a new comer CBN.

1.4. Focus of the Study

In the context of Nepal, Capital Structure is analysis is a mirror of strength and weaknesses of a bank and financials sector. That is why Capital Structure concept is quite new for both bank and financials sectors. Therefore, the general information and current situation of Capital in bank and financials are the subject matter of this study.

1.5. Objectives of the study:-

The main objectives of this study are to analyze & compare the capital structure management of three joint venture banks. To support these main objectives, other some operation objectives of this study can be established as follows.

- To evaluate the position of capital structure management of three joint venture banks.
- To find out the earning per share
- To examine the relationship between total debt & owner capital.
- To show the relation between Return On Shareholder Equity (ROSE &EPS)
- To provide the proper guidelines to the potential investors.

1.6. Importance of the study :-

Development of banking sector is the fundamental framework of economic development for a country, which generates employment opportunities as well as it makes economically strong the nation. But most of the business organizations have been operating without sound capital structure. Only the establishment of any business organization is not important thing however operating the company with effectively & efficiently is essential. For this capital structure management should sound in the company, which maximizes the value of the firm and minimizes the overall cost of capital. By analyzing the capital structure of a company, it helps to find out strength & weakness of the company and helps to drive the firm into right track. These are different stakeholders in the company having their own interest and desires, where the main responsibility of a firm is to keep them satisfactory. It is possible only through the sound capital structure in the company. The importance of this study is to find out the factors related to capital structure management and helps to financial manager as a guideline. This study also importance for those who are interested on Investment as well as owners, creditors and shareholders to make their good attitude.

Similarly this study will helps to analyze the past success (or failure) aspects and may be useful to create sound capital structure. In overall, the study will be a guideline to improve the capital structure position

that the company's EPS may increases as well as this study helps to provide available information and its weaknesses to the shareholders. It helps to measure the firm's ability or efficient to raise funds in future. The finding of this undertaking is expected to be useful to the policy maker of these companies and other interested researcher and the students.

1.7. Limitations of the study:-

A research study is not a easy work which requires deep & vast study about related problem to investigate the solution. Various limitations or assumptions should be cared in the mind by a researcher for proper solution. This study can't cover all aspects of three joint venture banks due to certain time period.

Under this study, the major limitations can be described as follows.

- This study covers only the financial aspects.
- The data used in this study are rounding figured to avoid the errors.
- The study is based on secondary data of website of each bank which is assumed reliable and fact.
- The study used five year data of each bank which may not sufficient for the study of this topic.
- In this study, fiscal year 2001/2002 is assumed as base year.

1.8. Review of Literature

Review of literature generally refers to the outcome of the past studies in the concerned field. However, in the field of capital structure many researchers have conducted their research. Besides this, there are some books, articles, desertion and other relevant study concerned with capital structure. In this chapter some of relevant studies, there objectives finding and conclusion and other literature relating to the topics have been received and analyzed. In fact, review of literature helps to find what actually is to be found, is to be studied and foretells worthiness of the study

being undertaken. Since there are very few reviews for the researchers to study the topic capital structure is quite new for them, due to this reason very few reviews are found.The previous studies are foundation of the present study. There has to be continuity in research where such continuity in research is ensured by linking the present study with the past studies

In this chapter, some basic and useful related literatures of capital structure management are included. In other words, this chapter includes the theories, the empirical evidence of capital structure management. Such as government publications, articles, review of journal, thesis, dissertations and other business reports are involved in capital structure management. The main purpose of literature review is to find in out that what research studies have been conducted in one's chosen field of study, and what remains to be done, and which provides the foundation for developing comprehensive theoretical framework and from which hypothesis can be developed for the testing. According to traditional approach, there is a capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. The approach suggests that the firm initially can lower its cost of capital and raise its total value through the leverage. This approach implies that the cost of capital is not independent of the capital structure of the firm and there is an optimal capital structure.[2]

"Thus, to be an optimal capital structure, the combination of equity and debt should be considered by the financial manager that could be minimized the cost of capital and could be maximized the value of firm or shareholder's wealth.

1.9. Research Methodology

The research, it generates new knowledge, which can be used for different purposes. In other words, it is a systematized effect to gain new knowledge. Furthermore, the research is used to build a theory, develop policies, support decision-making and solve problems. With the opening of new

[2] James C. Van Horne, op. cit., p. 254- 55

frontiers of knowledge through research, new concepts and theories are developed to explain, verify and analyze the social phenomena.[3]

Methodology is the research method used to test the hypothesis. It refers to the systematic method consisting the problem, formatting the hypothesis, collecting the data, and analyzing the facts to reach the certain conclusion.

"Research is a systematic and organized effort to investigate a specific problem that needs a solution (Sekaran, 1992). This process of investigation involves a series of well thought out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answers to the problem. Thus, the entire process by which we attempt to solve problems is called research."[4]

Therefore, Research Methodology is a way to solve the research problem with systematically. In other words, those systematic rules, methods or working system, which is considered in research to solve the solution, is called research methodology, where research can be undertaken for two different purposes. The first purpose is to solve a currently existing problem in the work setting and other purpose is to generate a new knowledge in a particular area or to develop a base of knowledge upon which theory can be built.

"Research Methodology refers to the various sequential steps to be adopted by a research in studying a problem with certain object in view."[5] This chapter includes research design, population & sample of the study, sources of data, data collection techniques, data analysis tools

1.10. Research design:

[3] Wolf H. K. & Pant P. R., (2000), *A Hand Book for Social Science Research & Thesis Writing*, Buddha Academic Enterprises pvt. Ltd., KTM., Nepal, P. 204.
[4] Ibid., p. 203.
[5] Kothari C. R., 3rd revised edition, 1999"Quantative Technique," Vikash publishing House (p) ltd., India, p. 19.

"Research design is the plan, structure and strategy of investigation concerned so as to obtain answers to research questions and to control variances."[6]"The research design is the strategy for conducting research. It describes the general framework for collecting, analyzing and evaluating data after identifying :(i) what the researcher wants to know, and (ii) what has to be dealt with in order to obtain required information."4[7]

The research design has basically two purposes that the first one is to answer research question or test the research hypothesis and next one is to control the variance. There are many types of research design such as historical research, descriptive research, case study research, field study research, co relational research, departmental research etc.

1.11. Source of data

The data, which are necessary to conduct the research study, can be collected from primary and secondary source. The required financial statement for this research study have been collected from the published annual reports of the three joint venture banks and the necessary data are also available in websites, journal, books, other reports and bulletin of the commercial banks etc. Thus, the source of data collecting is secondary source.

1.12. Population and sample

Sample refers to a part chosen from the population. Three joint venture banks have been selected from the population of 17 commercial banks (including government owned, private and joint venture). The sample selected for this study is:

a) Kumari Bank Limited

[6] C.R. Kothari, Research methodology Method & Techniques, Vikash publishing House Pvt.Ltd., New Delhi, 1994, P. 19

[7] Ibid., P. 209.

b) Himalayan bank Limited

c) Nabil Bank Limited

1.13. Tools and Techniques for analysis

To analyze the position of capital structure management of Standard Chartered Bank Ltd., Himalayan Bank Ltd., Nabil Bank Ltd. Is the primary objective of this research study? For this purpose, it requires various financial and statistical tools & techniques which help to reach in conclusion. The important financial tools such as Ratio analysis, EBIT- EPS analysis, and Cash Flow analysis etc.and statistical tools are arithmetic mean, standard deviation, co-efficient of variation, co-efficient of correlation etc.

1.14. Organization of the study:-

The comparative study of capital structure management of three joint venture banks has been divided mainly into five chapters which are as follows.

1.14.1. Chapter –one: Introduction

This chapter includes background, history of banking in Nepal, statement of the problem, objectives of the study, importance of the study and limitation of the study, where related subject matters have been included.

1.14.2. Chapter – two: Review of Literature

In this chapter, related subject matter & findings have been reviewed. So far as possible. In this study, concept of capital structure, financial leverage, cost of capital, theory of capital structure, optimal capital structure etc. has been reviewed.

1.14.3. Chapter – Three: Research methodology

In this chapter, Research design and methodology has been discussed. Basically this chapter includes sources of data, data collection techniques, different data analysis tools that financial and statistical, such as financial tools and various ratio analysis, EBIT-EPS analysis etc, and so on in statistical tools. Coefficient of correlation, testing of hypothesis, probable error,

trend analysis etc, has been discussed. Similarly sample and population of the study have been included.

1.14.4. Chapter – Four: Data presentation and analysis

This chapter deals the actual study of the available data from three joint venture banks by the help of different tools and techniques.

1. Ratio analysis
2. EBIT- EPS analysis
3. Correlation analysis
4. Trend analysis
5. Cash flow statement
6. Regression analysis

1.14.5. Chapter –Five: Summary, Conclusion& Recommendation

In this chapter, summary, conclusion or finding of three joint venture banks have been presented and the recommendation (or for optimal capital structure of these three joint venture banks) to the three joint venture banks have been given from the study.

CHAPTER-II

2. REVIEW OF LITERATURE

2.1. Introduction:

The previous studies are foundation of the present study. There has to be continuity in research where such continuity in research is ensured by linking the present study with the past studies.

In this chapter, some basic and useful related literatures of capital structure management are included. In other words, this chapter includes the theories, the empirical evidence of capital structure management. Such as government publications, articles, review of journal, thesis, dissertations and other business reports are involved in capital structure management. The main purpose of literature review is to find in out that what research studies have been conducted in one's chosen field of study, and what remains to be done, and which provides the foundation for developing comprehensive theoretical framework and from which hypothesis can be developed for the testing.

2.1.1. *Concept of Capital Structure*

Simply, it has two words i.e. capital and structure, where the company defines capital as the funds collected from different sectors for mobilization of resource. While, the term structure is the management of capital as well as other components which can be used for production that related products. In other words, structure is the combination of different components. So, capital structure is the combination of different components as long-term debt, preferred stock & common stock or equity capital.

Sometimes, the capital structure is known as financial plan that refers to the composition of long-term source of funds such as debentures, long-term debt, preference share capital and equity share capital including

reserves & surpluses (i.e. retained earnings). Some companies don't plan/design their capital structure as a result; such companies are bearing so losses. The capital structure decision can directly affect the value of firm either by changing the expected earnings or the cost of capital or by both. The optimum capital structure is obtained when the market value per share is maximum or the average cost of capital is minimum.[8]

"Financial structure is the mix of all items that appear on the right-hand side of the company's balance sheet. Capital structure is the mix of the long-term sources of funds used by the firm. The relationship between financial and capital structure can be expressed in equation form as; financial structure – current liabilities = capital structure. Financial structure design requires answer to the following two questions; first what should be the maturity composition of the firm's sources of funds & how should a firm best divide its total funds sources between short and long-term components? Second, in what properties relative to the total should the various forms of permanent financing be utilized?"[9]

Capital structure decision is a significant management decision which influences the shareholder's return & risk. Consequently, the market value of the share may be affected by the capital structure decision. Subsequently, whenever funds have to be raised to finance investments a capital structure decision is involved.

"A firm's capital structure is the relation between the debt & equity securities that make up the firm's financing of its assets. A firm with no debt is said to have an all-equity capital structure. Since most firms have capital structure with debt & equity elements, the financial manager is highly concerned with the effects of borrowing. If a firm is making money on its

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8 Panday I.M., (1986), *Financial Management*, Vikas Publishing house (P) Ltd., India, P.258.

9 Keown, Petty, Scott & Martin, (1998), *Foundation of Finance*, , second edition, Prentice Hall of International, Inc., P. 372.

borrowing (has favorable financial leverage), the shareholders are realizing higher earnings per share than in the absence of debt."[10]

"Capital structure is composition of debt and equity securities that comprise a firms financing of its assets. Both debt & equity securities are used in most large corporations. The choice of the amount of debt & equity is made after a comparison of certain characteristics of each kind of security of internal factors related to the firm's operations, and of external factors that can affect the firm."[11]

"A great deal of controversy has developed over whether the capital structure of a firm, as determined by its financing decision, affects its overall value. Traditionalists argue that the firm can lower its cost of capital and increase market value per share by the judicious use of leverage. Modigliani & Miller, on the other hand, argue that in the absence of taxes and other market imperfections, the total value of the firm and its cost of capital are independent of capital structure. This position is based on the motion that there is a conservation of investment value."[12]

"Financial structure refers to the way the firm's assets are financed. Financial structure is represented by the entire right-hand side of the balance sheet. It includes short-term debt and long-term debt as well as shareholders equity. Capital structure or the capitalization of the firm is the permanent financing represented by long-term debt, preferred stock and shareholders equity. Thus, a firm's capital structure is only part of its financial structure."[13]

Ownership ratios assist the stockholder in analyzing the present and future investment in a company. Under this ratio generally, three major groupings of ratios can be analyzed they are, capital structure ratios,

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10 Hamton John J., (1998), *Financial Decision Making, Concepts, Problems &Cases*, Prentice Hall of India (P) ltd., P.166.

11 Ibid., p.33.

12 Van Horne James C., (2000), *Financial Management & Policy*, Prentice Hall of India (P) ltd. India, 11th edition, P.276.

13 Weston J. Fred & Copeland Thomas E., (1998), *Managerial Finance*, The Dryden press, 9th edition, p.565.

earnings ratios and dividend ratios. Where a firm's capital structure is the relation of debt to equity as sources of the firm's assets. The two ratios that reflect capital structure are the debt-ratio and the debt-asset ratio.

The use of the fixed charges sources of funds such as debt and preference capital along with the owners' equity in the capital structure is described as financial leverage or trading on equity.

2.1.2. Concept of Cost of Capital:

"The term cost of capital is the rate of return required on a capital investment. It is a synonymous with the term-required return. The weighted average cost of capital is a technique that measures required return in terms of the individual components of the firm's capital structure. The cost of each debt component and return on each equity component are separately identified with a weighted value. By adding together each weighted component, we can determine an overall required return; that is, a sufficient return to cover interest payments on the firm's debt and dividends for preferred shareholders and still to provide an adequate return to common shareholders for the risk that they accept."[14]

"A firm's cost of capital serves as the linkage between the firm's financing decisions and its investment decisions. The cost of capital becomes the hurdle rate that must be achieved by an investment before it will increase shareholder wealth. The term cost of capital is frequently used interchangeably with the firm's required rate of return, the hurdle rate for new investments, the discount rate for evaluating new investments, and the firm's opportunity cost of funds. Regardless of the term used, the basic concept is the same. The cost of capital is that rate which must be earned on an investment project if the project is to increase the value of the common stockholders investment in the project."[15]

[14] Hampton John J., op. cit., p.346.
[15] Keown, Petty, Scott & Martin, op. cit., p. 328.

"The weighted average cost of capital is the average of the after-tax costs of each of the sources of capital used by a firm to finance a project where, the weight reflects the proportion of financing raised from each source. Consequently, the weighted average cost of capital is the minimum rate of return that firm must earn on its investments so that is can compensate both its creditors and stockholders with their individual required rates of return."[16]

The cost equity capital is the minimum rate of return that a company must earn on the equity-financed portion of its investments in order to leave unchanged the market price of its stock. This cost can be estimated using a market model that is a capital assets pricing model (CAPM). The cost of equity capital is defined as the market rate of discount that equates the present value of all expected future dividends per share with the current market price of the stock. This cost is found by solving equation for K_e as follows;

$$P_0 = \frac{D_1}{1+K_e} + \frac{D_2}{(1+K_e)^2} \ldots\ldots\ldots\ldots\ldots\ldots \frac{D\infty}{(1+K_e)^{\infty}}$$

$$= \sum_{t=1}^{\infty} \frac{D_1}{(1+K_e)^t}$$

Where as, P_o = the value of a share of stock at time 0, D_t = the dividend per share expected to be paid in period t, K_e = the appropriate rate of discount.

The cost of capital is the minimum rate of return on the investment projects to keep the market value per share unchanged. Thus, the costs of capital theory and valuation theory are intimately related. The wealth maximization objective requires that the shareholder's funds, raised by issuing shares or by retaining net earnings, should be so utilized that the firm earns a return on them equal to the return expected by the shareholders. If the firm fails to earn the expected rate, the market value of

[16] Ibid., p. 329.

share would fall, and the shareholder's overall wealth will be reduced. Similarly, the fund rose by issuing debt and preference capital should be used only when they do not reduce the market value per share. The market value per share will remain unaffected by debt or preference issue of the firm earns, at least, a rate of return on the project financed by these funds equal to the cost of raising them. Thus, the cost of capital is simply the rate of return the funds used should produce to justify their use within the firm in the light of the wealth maximization objective. Here, the cost of capital has defined in general terms. However, there exist various concept of the cost of capital, all of which are not relevant for all purpose. Thus, for a proper understanding of the application of the cost of capital in financial decision-making, its various concepts should be discussed as below"[17]

Future cost and Historical cost:- The relevant costs are future costs. It is the future cost of capital, which is significant in financial decision-making. In designing the capital structure, the firm aims at minimizing the future cost of capital, not the costs are significant to the extent they help in predicting the future costs and provide an evaluation of the past performance when compared with standard, or predetermined costs.

Specific and combined cost:- The cost of each component of capital (e.g., common shares, debt, preference shares etc.) is known as the component of specific cost of capital (of the specified component). The concept of the cost of capital used in this sense implies that, in order to accept or reject the investment projects, their probability should be evaluated on different cost bases, depending on the specific sources of funds used to finance particular projects. The combined cost of capital is in inclusive cost of capital from all sources; debt, equity and preference capital. Thus, it is the overall mix of financing overtime, which is important in valuing firm as an ongoing overall entity.

[17] Pandey I. M., op. cit., p.164 - 81.

Average cost of marginal cost:- It is the weighted average of the costs of each component of funds employed by the firm, the weights being the propositions of each component in the capital structure. The marginal cost of capital is the average cost of new or incremental funds raised by the firm.

Explicit cost and Implicit cost:- The explicit cost of any sources of capital may be defined as the discount rate that equates the present value of the cash inflows that are incremental to the taking of the financing opportunity with present value of its incremental cash outflows. The implicit cost may be defined as the rate of return associated with the best investment opportunity for the firm and its shareholders that will be forgone if the project presently under consideration by the firm were accepted.

In financial decision-making, the term cost of capital should be used in the composite sense. The composite or overall cost of capital is the weighted average of the cost of various sources of funds, weights being the proportion of each source of funds in the capital structure. It should be remembered that it is the weighted average concept, not the simple average, which is relevant in calculating the overall cost of capital. The simple average cost of capital is not appropriate to use because the firms hardly use various sources of funds equally in the capital structure.

The weighted average required return could be expressed by the formula as below:[18]

$$E_{(rtn)req} = (\%D_{mkt})k_i\ (1 - \mathrm{tr}) + (\%\mathrm{PS}_{\mathrm{mkt}})\mathrm{K}_{\mathrm{ps}} + (\%CS_{mkt})k_e$$

Where as,

$E(_{rtn})_{req} =$ Overall required return for the firm

$\%D_{mkt} =$ Percentage in the capital structure of debt

$k_i =$ Before tax cost of debt

1-tr =1 minus the firm's corporate tax rate

$\%PS_{mkt} =$ Percentage in the capital structure of preferred stock

[18] Hampton John J., op. cit., p.346.

K_{ps} = required return on preferred stock

$\%CS_{mkt}$ = Percentage in the capital structure of common stock

k_e = required return on common stock

Specific costs of capital for various sources of finance: The specific costs of capital for various sources of finance can be discussed as below:

Cost of debt:- To drive the explicit cost of debt, we solve for the discount rate, k_i, that equates the net proceeds of the debt issue with the present value of interest plus principal payments. Then we adjust the explicit cost obtained for the tax effect. After-tax cost of debt can be calculated by:"[19]

$$k_i = K(1-t)$$

Where as, k denotes the interest rate of return or yield, t denotes the marginal tax rate and k_i is the cost of debt (after tax). Because interest changes are tax deductible, the after tax cost of debt is substantially less than the before tax cost.

Cost of preferred stock:- The cost of preferred stock is a function of its stated dividend. This dividend is not a contractual obligation of the firm but is payable at the discretion of the board of directors. Consequently, unlike debt, it does not create risk of legal bankruptcy. To holders of common stock, however, preferred stock is a security interest that takes priority over theirs. Most corporations that issue preferred stock intend to pay the stated dividend. As preferred stock has no maturity date, and its cost may be represented as;[20]

$$k_p = \frac{D}{Io}$$

Where as, D represents the stated annual dividend, Io is the proceeds of the preferred stock issue. Cost of preferred stock is not adjusted for taxes, because the preferred stock dividend is paid after taxes.

[19] Van Horne James C., op. cit., p. 208.
[20] Ibid., p. 209.

Therefore, the explicit cost of preferred stock usually is greater than that for debt.

Cost of retained earnings:- The companies are not required to pay any dividends on retained earnings. Thus, it is sometime observed that this source of finance is cost free. But retained earnings involve an opportunity cost. The opportunity cost of retained earnings if the dividend forgone by the shareholders. The cost of retained earnings is measured by;[21]

$$k_r = \frac{D}{Po} + g$$

Where as, 'k_r' is the cost of retained earnings. Thus, the cost of retained earnings is the return expected (i.e. dividend yield plus growth in dividends) by the common shareholders on theirs investment. 'Po' is the market price of the share, 'g' denotes growth rate and 'D' represents the annual dividend.

In the absence of personal taxation and brokerage costs the flotation costs of the new issue $k_e = k_r$. This implies that if dividends would have been paid to the shareholders, they could have invested these dividends in the firms of similar risk and earned, at least, a rate of return equal to k_e. Thus, the k_e is the opportunity cost of retained earnings when (i) the shareholders do not pay any tax on dividends, and (ii) incur no brokerage costs when investing the dividend received. However, even if these assumptions hold, the cost of external equity will be higher than the cost of retained earnings, because the later does not involve any flotation costs. In practice, these assumption do not hold.

2.1.3. Concept of Financial Leverage:

A company can finance its investments by a variety of sources, such as debt, preference share capital and common stock, including reserve and surpluses. The rate of interest on debt is fixed irrespective of the company's rate of return on assets. The company has a legal binding to pay interest on

[21] Pandey I. M., op. cit, P. 177.

debt. The rate of preference dividend is also fixed, but the preference dividends are paid when the company earns profits. The common shareholders are entitled to the residual income, i.e. the earnings after interest & taxes and preference dividends belong to them, where the rate of equity dividends is not fixed and depends on the dividend policy of the company. The use of the fixed charges sources of funds, such as, debt, preference share capital along with the owners' equity in the capital structure is described as financial leverage.

The financing or capital structure decision is a significant managerial decision as it influences the shareholders return & risk. Consequently, the market value of the share is affected by the capital structure decision. The company will have to plan its capital structure initially at the time of its promotion and subsequently, whenever funds have to be raised to finance investments a capital structure decision is involved."[22]

Effect of financial leverage on the shareholders' earnings:- The primary motive of a company in using financial leverage is to magnify the shareholders earnings under favorable economic conditions. The rate of financial leverage in magnifying the earnings of the shareholders is based on the assumption that the fixed charges funds can be obtained at a cost lower than the company's rate of return on its assets. Thus, when the difference between the earnings generated by assets financed by the fixed charges funds and the cost of these funds is distributed to the shareholders, they get additional earnings without increasing their own investments. Consequently, the earning per share or the rate of return on common shareholders' equity increases. However, the company's earning per share or the rate of return on equity will fall if the company obtains the fixed charges funds at a cost higher than the rate of return on the company's assets. The EPS and the rate of return on equity are important figures for

[22] Ibid., p. 203-5.

analyzing the impact of financial leverage. The EPS return on equity can be calculated as follows;[23]

$$EPS = \frac{(X - R)(1 - t) - D}{N}$$

Where as, X = earnings before interest & taxes (EBIT), I = interest charges, t = tax rate, N = number of common share outstanding, Pd = preference dividend

$$\text{Return on equity (e)} = \frac{(X - R)(1 - t)\, D}{E}$$

Where, 'E' represents the common shareholders funds (share capital plus reserves & surpluses) or not worth.

"In general terms, leverage may be defined as relative change in profits due to change sales. A high degree of leverage means that a large change in profits occurs due to a relatively small change in sales. In business terminology, leverage is used in two senses."[24]

(i) Operating leverage and (ii) Financial leverage

Operating leverage refers to the use of fixed costs in the operation of the firm. A firm has a high degree of operating leverage if it employs a greater amount of fixed costs (and a small amount of variable costs). On the other hand, if the firm (incurs a greater amount of variable costs and) employs a small amount of fixed costs, it has a low degree of operating leverage. The profits of a highly leveraged (operating) firm will increase at a faster rate than the increase in sales. However, if the sales fall, the firm with a high degree of operating leverage will suffer a great loss than a firm with low or moderate degree of operating leverage.

The degree of operating leverage (DOL) may be defined as the percentage change in profits resulting from a percentage change in sales. DOL may be expressed in the equation form as follows;

[23] Ibid., p. 205- 8
[24] Ibid., p. 591- 94.

$$DOL = \frac{Percent \text{ change in profits}}{\text{Percent change in sales}}$$

Or,

$$DOL = \frac{\text{Contribution margin}}{EBIT}$$

Operating leverage affects EBIT, while degree of financial leverage (DFL) affects earnings after taxes & interest, which is available to common share holders

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

Where, R represents interest charges.

Degree of combined (DCL) is the combination of operating and financial leverage, which shows the relation between sales or production and EBT. By the help of DCL, it can be found that the impact of EBT when changes in sales. It can be calculated as;

$$\text{Degree of combined leverege} = \text{DOL} \times \text{DFL}$$

2.1.4. Characteristics of an Appropriate Capital Structure:

The financial manager of a company should create or developed an appropriate capital structure, which most advantageous to the company.

"A sound or appropriate capital structure should have the following features;

→ Profitability: The capital structure of the company should be most advantageous. Within the constraints, maximum use of leverage at a minimum cost should be made.

→ Solvency: The use of excessive debt threatens the solvency of the company. To the point debt doesn't add significant risk it should be used, otherwise its use should be avoided.

→ Flexibility: The capital structure shouldn't be inflexible to meet the changing conditions. It should be possible for a company to adapt its capital structure with a minimum cost and delay if warranted by a changed situation. It should also be possible for the company to provide funds whenever needed to finance its profitable activities.

→ Conservatism: The capital structure should be conservative in the sense that the debt capacity of the company should not be exceeded. The debt capacity of a company depends on its ability to generate future cash flows. It should have enough cash to pay creditors' fixed charges and principal sum.

→ Control: The capital structure should involve minimum risk of loss of control of the company.

2.1.5. Determinants of the Capital Structure:

The initial capital structure should be designed very carefully. The management of the company should set a target capital structure and the subsequent financing decisions should be made with a view to achieve the target capital structure. The financial manager has also to deal with an existing capital structure. Every time, when the funds have to be procured, the financial manager weighs the pros and cons of various sources of finance and selects most advantageous sources of capital structure. Generally, the following factors should be considered whenever a capital structure decision has to be taken;[25]

(i) Leverage effect on EPS – The use of fixed cost sources of finance such as debt and preference share capital, to finance the assets of the company is known as financial leverage. If the assets financed with the use of debt yield a return greater than the cost of debt, the earning per share increase without an increase in the owners' investment. The EPS also increase when the preference share capital is used to acquire assets. But the leverage impact is more pronounced in case of debt because the cost of debt is usually lower than the cost of preference share capital and the interest paid on debt is tax deductible. Because it effects on the EPS; financial leverage is one of the important considerations in planning the capital structure of a company. The companies with high level of earnings before interest and taxes can make profitable use of the high degree of leverage to increase return on the shareholders' equity. The firm is able to maximize the EPS

[25] Ibid., p. 260- 69.

when it uses the debt financing. Though, the rate of preference dividend is equal to the rate of interest, EPS is high in case of debt financing because the interest charges are tax deductible, while, preference dividends are not. The EBIT-EPS analysis is an important tool in the hands of the financial manager to get an insight into the firm's capital structure management and the financial manager can consider the possible fluctuations in EBIT and examine their impact on EPS under different financial plans.

(ii) Cost of capital – The debt and the preference share capital are cheaper than equity capital. The impact of financing decision on the overall cost of capital should be evaluated and the criterion should be to minimize the overall cost capital, or to maximize the value of the firm. Generally, the combination of debt and equity, which minimizes the firm's average cost of capital and maximizes the market value per share. In practice, there is generally a range of debt-equity ratio within which the cost of capital is minimum or the value is maximum.

(iii) Growth and stability of sales – Another determinants of the capital structure is growth and stability of sales. The company or firm with stable sales can employ a high degree of leverage. The likely fluctuations in sales increases the business risk. As a result, the shareholders perceive a high degree of financial risk if such companies employ debt. On the other hand, the sales of public utilities are quite stable and predictable. The expected growth in sales also affects the degree of leverage. The greater the expectation of growth, the greater the amount of external financing needed. The cheapest and most advantageous source of external financing is debt. The growth firms, therefore usually employ a high degree of leverage. The companies with declining sales should not employ debt or preference share capital in their capital structure, as they would find difficulty in meeting their fixed obligations.

(iv) Control – The control is the determinants of capital structure. The ordinary shareholders have legal right to elect the directors of the company.

If company issues new shares, there is risk of loss of capital. The shares of such a company are widely scattered. Most of the shareholders are not interested in taking active part in the company's management. They do not have time and money to attend the meetings. They are simply interested in dividends and the price of share. If they are not satisfied with the management of the company, they will sell theirs shares to others. Thus, the best way to ensure the control and to have the confidence of the shareholders is to manage company most efficiently. The loss of control regarding the risk can be reduced by the distributing shares with widely and don't have voting rights therefore, it is suggested that a company should use debt to avoid the loss of control. A very excessive amount of debt can also cause bankruptcy i.e. complete loss of control.

(v) Flexibility – Flexibility is one of the most serious considerations in setting up the capital structure. It is the firms' ability to adapt its capital structure to the needs of the changing conditions. The capital structure of a firm is flexible if it has no difficulty in changing its source of funds. The company should be able to raise funds without undue delay and costs. The financing plan of the company should be flexible enough to change the composition of the capital structure. The degree of flexibility in the capital structure of a company depends on the flexibility in fixed charges, the terms of redemption and the debt capacity. Although flexibility is most desirable, it is achieved at a cost. A company trying to obtain loans at easy terms will have to pay interest at a higher rate. Also to obtain the right of refunding, it will compensate creditors by paying a higher interest rate. Thus, the company should compare the benefits and cost of attaining the desired degree of flexibility and balance them properly.

(vi) Size of the company – The size of the company greatly influences the availability of funds from different sources. Generally, a small company has great difficulties in raising long-term loans. On the other hand, if it is able to obtain some long-term loan, it will be available at a higher rate of interest and inconvenient terms. Small companies depend upon share capital and

retained earnings for theirs' long-term funds. The shares of small companies are not widely scattered therefore, sometimes, the small companies limit the growth of their business to what can easily be financed by retaining the earnings. On the other hand, the shares of large company are widely distributed and it may difficult to organize & to manage the widely scattered shareholders against the existing management team. A large company has a greater degree of flexibility in designing its capital structure. Such company can obtain the loans at easy terms as well as can sell theirs common stock, preference shares and debentures to the public. Because of large size of issues, its cost of distributing any kind of security is less than that for a small company. Thus a company should make a best use of its size in planning the capital structure.

(vii) Marketability – It is the readiness of investors to purchase a particular type of security in a given period of time. It doesn't influence the initial capital structure but it is an important consideration to decide about the appropriate the timing of security issues. The capital markets are changing continuously. The market favors debenture issues and, at another time, it may readily accept common shares issues. Due to the changing market sentiments, the company has to decide whether to raise funds with a common share issue or with a debt issue. Thus, it should be considered in planning the capital structure to the company.

(viii) Flotation cost – It is not a very important factor influencing the capital structure. Flotation costs are incurred only when the funds are raised. Generally, the cost of floating a debt is less than the cost of floating equity issue. This may encourage a company to use debt than issue common shares. If retaining the earnings increases the owners' capital, no flotation costs are incurred.

Therefore, the financial manager should consider above-mentioned factors in planning their optimal capital structure of the company. If the financial

manager ignores any factors, then the capital structure of a company may failure.

2.1.6. Assumption of Theory of Capital Structure:

To present the analysis as simply as possible, the following assumption have been made:[26]

- There are no corporate or personal income taxes no bankruptcy costs. (This assumption is relaxed later on).
- The ratio of debt to equity for a firm is changed by issuing debt to repurchase stock to pay off debt. In other words, a change in capital structure is effected immediately. In this regard, we assume no transaction costs.
- The firm has a policy of paying 100 percent of its earnings in dividends.
- The expected value of the subjective probability distributions of expected future operating earnings for each company, are the same for all investors in the market.
- The operating earnings of the firm are not expected to grow. The expected values of the probability distributions of expected operating earnings for all future periods are the same as present operating earnings.
- Firms employ only two types of capital i.e. debt and equity and the business risk is assumed to be constant and independent of capital structure and financial risk." [27]
- The total assets of the firm are given. The degree of leverage can be changed by selling debt to repurchase shares or selling shares to retire debt."[28]

In this analysis of capital structure theories, following three rates are concerned."[29]

[26] James C. Van Horne, op. cit., p. 252.
[27] Pandey I. M., op. cit., p. 228.
[28] Ibid., p. 228.
[29] James C. Van Horne, op. cit., p. 252.

$$(i)\ \mathrm{k_i} = \frac{F}{B}$$

$$(ii)\ \mathrm{k_e} = \frac{E}{S}$$

$$(iii)\mathrm{k_o} = \frac{NOI}{V_f}$$

Where, V_f = B + S. Here, k_o is an overall capitalization rate for the firm. It is defined as the weighted average cost of capital and may also be expressed as follows;

$$k_o = k_i(B/B+S) + k_e(S/B+S)$$

Whereas, k_i = Cost of debt, F = Annual interest charges or total interest payment, B = Market value of debt outstanding, k_e = Cost of equity, E = Earnings available to common stockholders, S = Market value of stock outstanding, EBIT = Earnings before interest & taxes, k_o = Overall capitalization rate or Overall cost of capital, NOI = Net operating income or earnings, V_f = Total market value of the firm, (i.e. B+S).

2.1.7. Theory of Capital Structure:

The design of the firm's financing mix, particularly emphasizing management of the firm's permanent sources of funds that is its capital structure. The objective of capital structure management is to arrange the company's sources of funds so that its common stock price will be maximized, all other factors hold constant.

The capital structure design can affect the value of the company either by changing the expected earnings or the cost of capital or both. If leverage affects the cost of capital and the value of firm, an optimal capital structure would be obtained at the combination of debt & equity that maximizes the total value of the firm (value of shares plus value of debt) or minimizes the weighted average cost of capital."[30]

[30] Pandey I. M., op. cit., P. 227.

Under appropriate capital structure, proper sources of capital should be considered. Where, the firm could maximize its value or could minimize the cost of capital.

2.1.8. : Net Income Approach:

This Net Income (NI) approach is suggested by David Durand. According to this approach, the capital structure decision is relevant to the valuation of the firm. In other words, a change in the capital structure or financial leverage will lead to a corresponding change in the overall cost of capital as well as the value the firm. If, therefore, the degree of financial leverage as measured by the ratio of debt to equity is increased, the weighted average cost of capital will decline, while the value of the firm as well as the market price of ordinary shares will increase. Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a decline both in the value of the firm as well as market price of equity shares.

The NI approach to valuation is based on the following these assumption;

- There are no taxes.
- That the cost of debt is less than the equity capital capitalization rate/cost of equity.
- That the use of debt doesn't change with the introduction of debt or change in either the cost of debt or the cost of equity.

The financial leverage is, according to NI approach, an important variable in the capital structure decision of a firm. With a judicious mixture of debt & equity a firm can evolve an optimum capital structure, which will be, the one at which value of the firm is the highest and the overall cost of capital the lowest. At that structure the market price per share would be maximum.

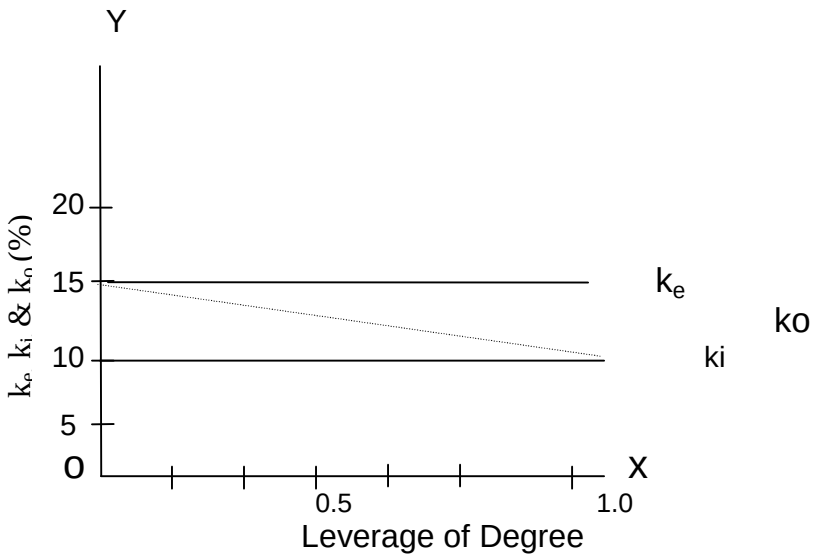
If the firm uses no debt or if the financial leverage is zero, the overall cost of capital will be equal to the equity capitalization rate. The weighted

average cost of capital will decline and will approach the cost of debt as the degree of leverage reaches one.

The essence of Net Income (NI) approach is that the firm can increase its value of lower the overall cost of capital by increasing the proportion of debt in the capital structure.

The use of additional debt has caused the total value of the firm to increase and the overall cost of capital to decrease. Thus, the decrease in leverage has increased the overall cost of capital and has reduced the value of the firm. Thus, according to the NI approach, the firm can increase/decrease its total value (V_f) and lower/increase its overall cost of capital (k_o) as it increases/decreases the degree of leverage. As a result, the market price per share is affected.[31]

The relationship between the various factors (i.e. k_e, k_i, k_o) with the degree of leverage, on the basis of its above-mentioned assumptions can be presented by figure as under.



The degree of leverage ($^B/_S$) is plotted along the X-axis, while the percentage rate for k_i, k_e & k_o on the Y-axis. Due to the assumptions that k_e & k_i (i.e. cost of equity and cost of debt respectively) remain unchanged as the degree of leverage changes, where both curves are parallel to the X-

[31] Khan My & Jain PK, op. cit., p.479.

axis. But as the increases, k_o (i.e. overall cost of capital) decreases and approaches the cost of debt when the leverage is 1.0, (i.e. $k_o = k_e$). It will be so obviously owing to the fact that there is no equity amount in the firm's capital structure. At this point, the firm's overall cost of capital would be minimum. Therefore, the significant conclusion, of the NI, approach is that the firm can employ almost 100% debt to maximize its value.

Under this approach, total value of firm and k_o measured by;[32]

$$k_o = \frac{NOI}{V_f}$$

Where, k_o = overall cost of capital, NOI = Net operating income, V_f = Value of firm (i.e. B+S), B = Market value of debt outstanding, S = Market value of stock outstanding.

2.1.8.1. Net Operating Income (NOI) approach:

Another theory of capital structure, suggested by Durand David, is the net operating income (NOI) approach. This approach is diametrically opposite to the NI approach. The essence of this approach is that the leverage/capital structure decision of the firm is irrelevant. Any change in leverage will not lead to any change in the total value of the firm and the market price per shares, as the overall cost of capital is independent of the degree of leverage, and this approach (NOI) is based on the following proposition;[33]

> Overall cost of capital or capitalization rate k_o is constant – The NOI approach to valuation argues that the overall capitalization rate of the firm remains constant for all degrees of leverage. The value of the firm, given the level of EBIT, is calculated as;

$$V = \frac{EBIT}{k_o}$$

[32] Pandey IM, op. cit., p.231.
[33] Khan My & Jain PK, op. cit., P. 481.

In other words, the market evaluates the firm as a whole. The split of the capitalization between debt & equity is therefore, not important.

> Residual value of equity – The value of equity is a residual value, which is determined by deducting the total value of the debt (B) from the total value of the firm V_f. Thus, total market value of equity (S) = V_f – B.

> Changes in cost of equity capital – The cost of capital (k_e) increases with the degree of leverage. The increase in the proposition of debt in the capital structure relatively to equity shares would lead to an increase in the financial risk to the ordinary shareholders. In other words, the use of less costly debt funds increases the risk to shareholders. Thus, the advantage of debt is offset exactly by the increase in the equity-capitalization rate (k_e).

> Cost of debt – It has two parts; they are (i) explicit cost – represented by the rate of interest. Irrespective of the degree of leverage, the firm is assumed to be able to borrow at a given rate of interest. This implies that the increasing proposition of debt in the financial risk of the lenders and they don't penalize the firm by charging higher interest. (ii) Implicit or hidden cost – As shown in the assumption relating to the changes in k_e, increase in the decrease of leverage or the proportion of debt to equity causes an increase in the cost of equity capital. This increase in k_e, being attributable to the increase in debt, is the implicit part of k_i. Thus, the advantage associated with the use of debt, supposed to be a 'cheaper' source of funds in terms of the explicit cost, is exactly neutralized by the implicit cost represented by the increase in k_e. As a result, the real cost of debt and the real cost of equity, according to the NOI approach is the same and equal k_o.

> Optimum capital structure – The total value of the firm is unaffected by its capital structure, No matter what the degree of leverage is, the total value of the firm will remain constant. The market price of shares will also not change with the change in the debt equity ratio. There is nothing such

as an “optimum capital structure”. Any capital structure is optimum, according to this NOI approach.

Other critical assumption of the NOI approach can be explained as: the corporate taxes don’t exist, the debt capitalization rate k_i is constant as k_o, the market uses an overall capitalization rate (k_o) to capitalize the net operating income, k_o depends on the business risk. If the business risk is assumed to remain unchanged, k_o is a constant.

$$V_f = (B + S) = \frac{NOI}{K_o}$$

The cost of equity (K_e) will be measured as follows:

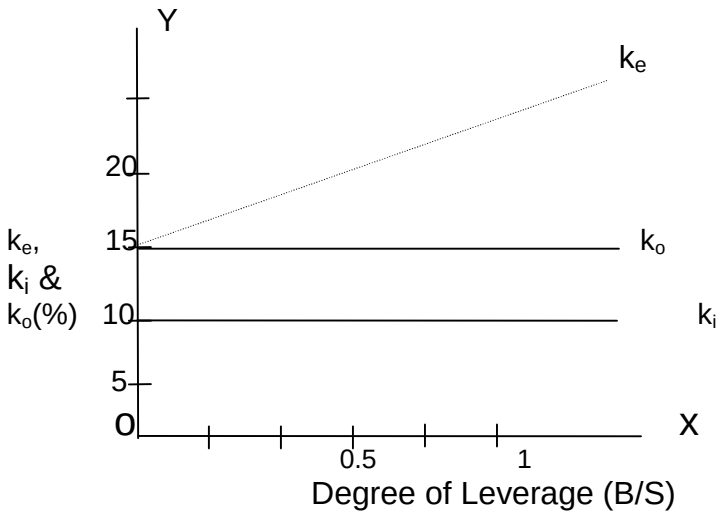
$$K_e = K_o + (K_o - K_e)\frac{B}{S}$$

Or,

$$K_e = \frac{E}{S}$$

Where, E is simply net operating income minus interest payments and S is market value of stock.

The relationship between the various factors (i.e. k_e, k_i, k_o) with the degree of leverage, on the basis of its above-mentioned assumptions, figure can be presented as follows;



With this approach, net operating income is capitalized at on overall capitalization rate to obtain the total market value of the firm. The market value of the debt then is deducted from the total market value to obtain the market value of the stock. Under this approach (NOI), the overall capitalization rate, k_o, as well as the cost of debt funds, k_i, stay the same regardless of the degree of leverage. The required return on equity, however, increases linearly with leverage.

The critical assumption with this approach is that k_o is constant, regardless of the degree of leverage. The market capitalizes the value of the firm as a whole; as a result, the breakdown between debt and equity is unimportant. An increase in the use of supposedly 'cheaper' debt funds is offset exactly by the increase in the required equity return, k_e. Thus, the weighted average of k_e and k_i remains unchanged for all degree of leverage. As the firm increases its degree of leverage, it becomes increasingly more risky. As long as k_i remains constant, k_e is a constant linear function of the debt-to-equity ratio. Because the ko can't be altered though leverage, the NOI approach implies that there is one optimal capital structure.[34]

2.1.8.2. : Traditional Approach (TA):

"The traditional approach to valuation and leverage assumes that there is an optimal capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. The approach suggests that the firm initially can lower its cost of capital and raise its total value through leverage. Although investors raise the required rate of return on equity, the increase in k_e does not offset entirely the benefit of using "cheaper" debt funds. As more leverage occurs, investors increasingly penalize the firm's required return until eventually this effect more than offset the use of "cheaper" debt funds.[35]

[34] Van Horne James C., op. cit. p. 253- 54
[35] Ibid. 254.

There are, of course, variations to the tradition approach. According to one of these, the equity-capitalization rate k_e rises only after certain level of leverage and not before, so that the use of debt does not necessarily increase the k_e. This happens only after a certain degree of leverage. The implication is that a firm can reduce it cost of capital significantly with the initial use of leverage. Another variant of the traditional approach suggests that there is no one single capital structure but, there is a range of capital structure in which the cost of capital (k_o) is the minimum and the value of the firm is the maximum. In this range, changes in leverage have very little effect on the value of the firm.[36]

"According to this view, the value of the firm can be increased of the cost of capital can be reduced by the judicious mix of debt and equity capital. This approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimal capital structure exists and occurs when the cost of capital is minimum or the value of the firm is maximum. The cost of capital declines with leverage because debt capital is cheaper than equity capital within reasonable, or acceptable, limit of debt. The statement that debt funds are cheaper than equity funds carries the clear implication that the cost of debt, plus the increased cost of equity, together on a weighted basis, will be less than the cost of equity that extend on equity before debt financing. In other words, the weighted average cost of capital will decrease with the use of debt. According to the traditional position, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages[37]

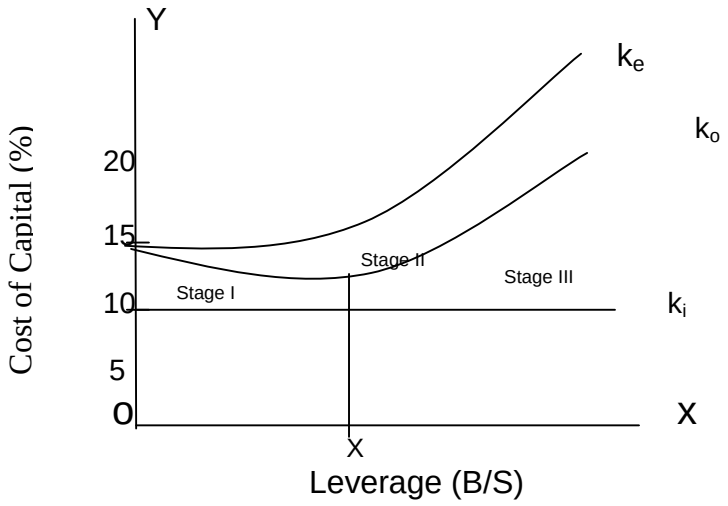
Stage I – In this first stage, the rate at which the shareholders' capitalize their net income, i.e. the cost of equity (k_e), remains constant or rises slightly with debt. But when it increases, it doesn't increase fast enough to offset the advantage of low cost of debt. During this

[36] Khan My & Jain PK, op. cit., p.496.
[37] Pandey IM, op. cit., p. 236.

stage, the cost of debt (k_i) remains constant or rise negligibly since the market views use of debt as a reasonable policy. As a result, the value of the firm (V_f) increases or the overall cost of capital (k_o) fall with increasing leverage.

Stage II – In this stage, the firm has reached a certain degree of leverage, increases in leverage have a negligible effect on the value, or the cost of capital of the firm. This is because the increase in the cost of equity due to the added financial risk offsets the advantage of low cost debt within that range or at the specific point, the value of the firm will be maximum or the cost of capital will be minimum.

Stage III – In this stage, the value of the firm decreases with leverage or the cost of capital increases with leverage. This happens because; the investors perceive a high degree of financial risk and increase equity-capitalization rate by more than to offset the advantage the low-cost debt. It can be shown from the following figure;



In one variation of the traditional approach, shown on fig.2.1.7.3.1, k_e is assumed to risk at an increasing rate with leverage, where as, k_i is assumed to rise only after significant leverage has occurred. At first, the weighted average cost of capital declines with leverage because the rise in k_e doesn't entirely offset the use of cheaper debt funds. As a result, the weighted average cost of capital (k_o) declines with moderate use of

leverage. After a point, however, the increase in k_e more than offsets the use of cheaper debt funds in the capital structure, and k_o begins to rise. The rise in k_o is supported further once k_i begins to rise. The optimal capital structure is the point 'X'. Thus, the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure.[38]

2.1.8.3. Modigliani-Miller (MM) approach:

This hypothesis (MM approach) is identical with the NOI approach, and M-M argue that in the absence of taxes, a firm's market value and the cost of capital remain invariant to the capital structure changes.

This approach maintains that the weighted average (overall) cost of capital does not change, with a change in the proportion of the debt to equity in the capital structure (on degree of leverage). It has following basic propositions and assumptions.[39]

Basic proposition:-

(i) The overall cost of capital (k_o) and the value of the firm (V_f) are independent of its capital structure. The k_o and V_f are constant for all degree of leverage. The total value is given by capitalizing the expected stream of operating incomes at a discount rate appropriate for its risk class.

(ii) The cost of equity k_e is equal to the capitalization rate of a pure equity stream plus premium for financing risk equal to the difference between the pure-capitalization rate (k_e) and k_i times the ratio, the ratio of debt to equity.

Assumptions:- It has following assumptions that M-M approach have been made;

- Perfect capital markets i.e. securities are infinitely divisible, investors are free to buy/sell securities, no transaction costs,

[38] James C. Van Horne, op. cit., p.255.
[39] Khan My & Jain PK, op. cit. p. 485- 86.

investors are rational & behave accordingly, information are perfect, investors can borrow without restrictions on the same terms and conditions as firm can.

- Given the assumption of perfect information and rationality, all investors have the same expectation of firm's NOI (EBIT) with which to evaluate the value of any firm.
- Business risk is equal among all firms with similar operating environments; the dividend payout ratio is 100%. And there are no taxes. This assumption is removed later.

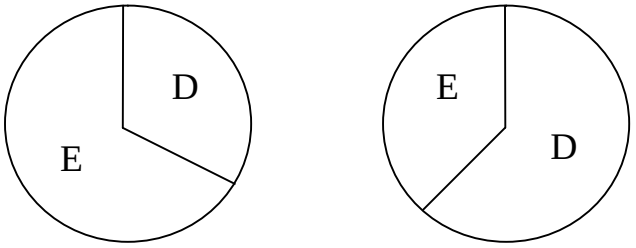
On the basis above-mentioned assumptions, the M-M approach has been created and this approach supports to NOI approach. Given the above stated assumptions, M-M argue that for firms in the same risk class, the total market value is independent of the debt equity combination and is given by capitalizing rate appropriate to the risk class.

"Modigliani and Miller (MM) in their original advocate that the relationship between leverage and the cost of capital is explained by the net operating income approach. They make a formidable attack on the traditional position by offering behavioral justification for having the cost of capital, k_o, remain constant through out all degree of leverage."[40]

The M-M position is based on the idea that no matter how it divides up the capital structure of a firm among debt, equity and other claims, there is a conservation of investment value. That is, because the total investment value of a corporation depends on its underlying profitability and risk, it is invariant with respect to relative changes in the firm's financial capitalization. Thus, the total pie does not change as it is divided into debt, equity and other securities. The sum of the parts must equal the whole; so regardless of financing mix; the total value of the firm stays the same, according to M-M. In this regard, the idea is illustrated with the two pies in

[40] Van Horne, op. cit., p. 255.

figure below, different mixes of debt and equity do not alter/change the size of the pie total value stays the same.[41]



M-M in theirs' proposition I, argue that for firms in the same risk class, the total market value is independent of the debt equity combination and is given by capitalizing the expected not operating income by the rate appropriate to that risk class. It can be expressed mathematically as follows;

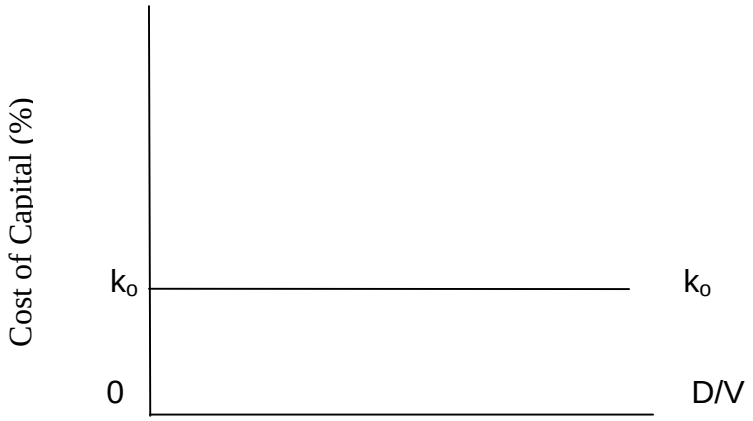
$$V = (S + D) = \frac{\overline{X}}{K_o} = \frac{NOI}{K_o}$$

$$\text{By definition, } K_o = \frac{\overline{X}}{V}$$

Where as, V = market value of the firm, S = market value of the firm's common shares, D = market value of the debt, $\overline{X}$ = the expected net operating income on the assets of the firm, K_o = the capitalization rate appropriate to the risk class of the firm, K_e = cost of equity, K_d = cost of debt and NOT = net operating income.

MM conclude that total market value of the firm is unaffected by the financing mix, it follows that the cost of capital is independent of the capital structure and is equal to the capitalization rate of a pure equity stream of its class. The cost of capital function, as hypothesized by MM through proposition, it can be shown in figure, that the average cost of capital is constant and is not affected by the leverage, as follows;

[41] Ibid., p. 256.



The cost of Capital under MM hypothesis

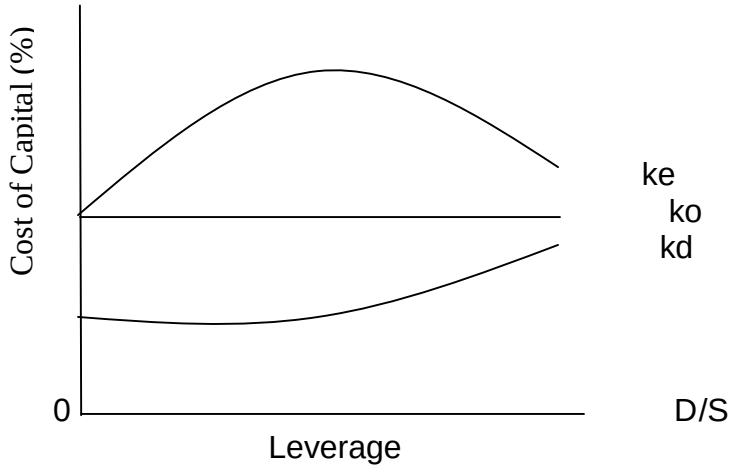
M-M's proposition II, which defines the cost of equity, follows from their proposition I. The cost of equity formula can be derived from MM's definition of the average cost of capital. The expected yield on equity or the cost of equity can be defined as follows;[42]

$$K_e = K_o + (K_e - K_d)\frac{D}{S}$$

This equation states that, for any firm in a given risk class, the cost of equity, K_e, is equal to the constant average cost of capital i.e. K_o, plus a premium for the financial risk, which is equal to debt-equity ratio times the spread between the constant average cost of capital and the cost of debt, $(K_o - K_d)\,D/S$ The cost of equity, ke is a linear function of leverage, measured by D/S. Thus, the leverage will result in earnings per share to shareholders but also increased cost of equity. The benefit of leverage is exactly taken off by the increased cost of equity, and consequently, the firm's market value will remain unaffected. It should, however, be noticed that the functional relationship $K_e = K_o + (K_e - K_d)\,D/S$ is valid irrespective of any particular valuation theory. The important fact of the MM approach is that K_o will not rise even if very excessive use of leverage is made. This conclusion could be valid of the cost of borrowings, K_d, remains constant for any degree of

[42] Ibid., p. 244- 45.

leverage. MM maintain that even if the cost of debt, K_d, is increasing, the weighted average cost of capital, K_o, will remain constant. They argue that when K_d increases, K_e will increases as a decreasing rate and may even turn down eventually. This can be presented in figure as below;



MM insists that the arbitrage process will work and that as K_d increases, some investors actually become risk-seekers, where as before the avoided risk. MM's assumption that risk averters could become risk-seekers under extreme leverage situation doesn't seem to be plausible at all. Undoubtly, excessively levered firm is highly risky because of the increased profitability of insolvency. It is therefore, unlikely that the share of such firm would sell at a price higher than that of an unlevered firm. This implies that the cost of equity can't fall as leverage increases.

2.1.9. Modern theory of Capital Structure:

2.1.9.1. Pecking Order Theory:

“The pecking order theory is a dynamic story. The observed capital structure of each firm will depend on its history. For example, an unusually profitable firm in an industry with relatively slow growth (few investment opportunities) will end up with an unusually low debt-to-equity ratio. It has no intensive to issue debt and retire equity. An unprofitable firm in the same industry will end up with a high debt ratio.

According to the pecking order theory, retained earnings are the preferred source of financing followed by debt, and then common stock.

“The pecking order story is mainly a behavioral explanation of why certain companies finance the way they do. It is consistent with some rational arguments, such as asymmetric information and signaling, as well as with flotation costs. Moreover, it is consistent with the observation that the most profitable companies within and industry tend to have the least amount of leverage. However, the pecking order hypothesis suggests that corporations do not have a well-thought-out capital structure. Rather, a company finances over time with the method providing the least resistance to management. The capital structure that results is a by-product and changes whenever there is an imbalance between internal cash flows and capital investments.

It has been argued that management follows a pecking order when it comes to the method of financing. Most desirable, because it is safest and least intrusive, is internal financing. The least desirable alternative is equity.

2.1.9.2. Agency cost theory:

“The stock price of a company owned by investors who are separate from management may be less than the stock value of a closely held firm. This potential difference in price is the ‘cost of the conflict to the owners’, which has come to be called “agency costs.

"In the modern corporation, ownership is commonly widely diffused. The day-to-day operations of the firms are conducted by its managers, who usually do not have major stock ownership positions. In theory, the managers are the agents of the owners, but, in fact, they may exercise control over the firm. Thus, potential conflicts of interest may arise between the owners & managers. This is called the "agency problem", the divergence of interests between a principal and his agent.

Agency costs includes (i) auditing systems to limit this kind of management behaviors, (ii) various kinds of bonding assurances by the managers that such abuses will not be practiced, and (iii) changes in organization systems to limit the ability of managers to analyze in the undesirable practices.[43]

Some investors may prefer a lower-risk debt position while others may prefer the higher-risk controlling equity position. In spite of the advantages of separating ownership from operating control and of having two classes of capital (debt & equity), there are associated agency costs that must be considered. Agency costs increase with the use of higher propositions of outside equity as well as with higher proposition of debt. There is an optimum combination of outside equity and debt that may minimize total agency costs.

2.1.10. Optimum Capital Structure:

An optimum capital structure would be obtained at that combination of debt and equity that maximizes the total value of the firm or minimizes the weighted average cost of capital. "The optimum capital structure would be obtained when the market value per share is maximum or the average cost of capital is minimum. The value will be maximized or the cost of capital will be minimized when the marginal real cost of each source of funds is the same.

[43] Ibid., P. 9.

The objective of capital structure management is to mix the permanent sources of funds used by the firm in a manner that will maximize the firm's common stock price. Alternatively, this objective may be viewed as a search for the funds mix that will minimize the firm's composite cost of capital. It is called proper mix of funds sources the optimal capital structure.

"The optimal capital structure minimizes the firm's composite cost of capital. Searching for a proper range of financial leverage, then, is an important financial management activity.

"The optimal capital structure is approximated by the identification of target debt ratios. The target reflects the firms' ability to service fixed financing costs and also consider the business risk to which the firm is exposed.[44]

Here in the brief, about the optimum capital structure under different approaches can be taken as follows;

According to Net Income approach, the optimum capital structure would occur at that point where the value of the firm is maximum and the overall cost of capital is minimum. Under this approach, the firm will have the maximum value and the lowest cost of capital, when it is all debt-financed or has as much debt as possible.[45]

According to Net Operating Income approach, over all cost of capital and cost of debt are constant and cost of equity increases with leverage continuously. As the k_o is constant, this approach implies that there is not any unique optimum capital structure. In other words, this means that, as the cost of capital is the same at all capital structure, every capital structure is optimum.

According to traditional approach, there is a capital structure and that the firm can increase the total value of the firm through the judicious use of leverage. The approach suggests that the firm initially can lower its cost of

[44] Ibid., p. 394.
[45] Pandey IM, op. cit. P. 232- 33.

capital and raise its total value through the leverage. This approach implies that the cost of capital is not independent of the capital structure of the firm and there is an optimal capital structure.[46]

"If there is an optimal capital structure for a company it will minimize the opportunity cost of capital and maximize the shareholder's wealth.[47]

Thus, to be an optimal capital structure, the combination of equity and debt should be considered by the financial manager that could be minimized the cost of capital and could be maximized the value of firm or shareholder's wealth.

[46] James C. Van Horne, op. cit., p. 254- 55
[47] Weston J. Fred & Copeland Thomas E. (1998), *Managerial Financial*, The Dryden press, 9th ed., p. 565.

CHAPTER–III

3. RESEARCH METHODOLOGY

3.1. Introduction:

The term 'Research methodology' is composed of two words, 'Research' and 'Methodology'. In simply, research refers investigation or, careful study, especially, in order to discover new facts or information. In other hand, a set of methods used in a particular area of activity is known as methodology.

The research, it generates new knowledge, which can be used for different purposes. In other words, it is a systematized effect to gain new knowledge. Furthermore, the research is used to build a theory, develop policies, support decision-making and solve problems. With the opening of new frontiers of knowledge through research, new concepts and theories are developed to explain, verify and analyze the social phenomena.[48]

Methodology is the research method used to test the hypothesis. It refers to the systematic method consisting the problem, formatting the hypothesis, collecting the data, and analyzing the facts to reach the certain conclusion.

"Research is a systematic and organized effort to investigate a specific problem that needs a solution (Sekaran, 1992). This process of investigation involves a series of well thought out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answers to the problem. Thus, the entire process by which we attempt to solve problems is called research."[49]

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[48] Wolf H. K. & Pant P. R., (2000), *A Hand Book for Social Science Research & Thesis Writing*, Buddha Academic Enterprises pvt. Ltd., KTM., Nepal, P. 204.
[49] Ibid., p. 203.

Therefore, Research Methodology is a way to solve the research problem with systematically. In other words, those systematic rules, methods or working system, which is considered in research to solve the solution, is called research methodology, where research can be undertaken for two different purposes. The first purpose is to solve a currently existing problem in the work setting and other purpose is to generate a new knowledge in a particular area or to develop a base of knowledge upon which theory can be built.

"Research Methodology refers to the various sequential steps to be adopted by a research in studying a problem with certain object in view."[50]

This chapter includes research design, population & sample of the study, sources of data, data collection techniques, data analysis tools etc.

3.1.1. Research Design:

The research design provides the framework to a study. Actually, it is the outline of a plan to test the hypothesis and the research design is also known as the conceptual structure within which research is conducted.

After formulating the research study, the next logical step is to construct the research design that refers to the entire process of planning and carrying out a research study. The research design asks what approach the problem should be taken. ; What methods will be used? ; What strategies will be most effective? ; Identification, selection and formulation of a research problem may be considered as the planning stage of a research. The remaining activity refers to the designs, operation & completion of the research study.[51] "The research design is the strategy for conducting research. It describes the general framework for collecting, analyzing and evaluating data after identifying: (i) What the researcher

[50] Kothari C. R., 3rd revised edition, 1999"Quantative Technique," Vikash publishing House (p) ltd., India, p. 19.
[51] Wolf H. K. & pant P.R., op. cit., p.53.

wants to know, and (ii) What has to be dealt with in order to obtain required information."[52]

"Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control the variance. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implications to the final analysis of data. The structure of the research is more specific. It is the outline, the scheme, and the paradigm of the operation of the variables. When we draw diagrams that outline the variables and their relation & juxtaposition, we build structural schemes for accomplishing operational research process. Strategy, as used here, is also more specific than plan. In other words, strategy implies how the research objectives will be reached and how the problems encountered in the research will be tackled."[53]

The research design has basically two purposes that the first one is to answer the research question or test the research hypothesis and next one is to control the variance. There are many types of research design such as historical research, descriptive research, case study research, field study research, co relational research, departmental research etc.

This research study is considered to analyze the capital structure of three joint venture bank. Under this, historical research design is applied because historical research design is concerned with past phenomena. It is a process of collecting, evaluating, verifying, and synthesizing past evidence systematically and objectively to reach a conclusion.[54] The capital structure management of joint venture banks is also concerned with past evidence. Therefore, the historical research design has adopted in this study by the help of financial statements such as balance sheets, profit & loss accounts and cash flow statements from fiscal year 2057/58 to

[52] Ibid., p. 209.
[53] Ibid.,P.50.
[54] Ibid., p.54.

2061/2062 (i.e. five years) The past evidences can be found either primary source or secondary source, and to support the historical research design, the researcher has used the analytical and descriptive study methods. In conclusion, research design can be said as the combination of tools to measure the position of capital structure in the company.

3.1.2. Population and sample of the study:

3.1.2.1. Population:

In any statistical investigation, the interest usually lies in studying the various characteristics relating to items or individuals belonging to a particular group. This group of individuals under study is known as the population. Furthermore, population is the aggregate of objects, animate or inanimate, under study in any statistical investigation.[55]

This study is related with the capital structure of CBN. At present, there are more than 17 commercial banks operating with in Nepal. Therefore sampling will be done selecting from population. The following are the population of this study.

Nepal Bank Ltd.	Rastriya Banijya Bank
NABIL Bank Ltd.	Nepal Investment Bank Ltd.
Standard Chartered Bank Ltd.	Himalayan Bank Ltdd.
Nepal SBI Bank Ltd.	Nepal Bangladesh Bank Ltd.
Everest Bank Ltd.	Bank of Kathmandu Ltd.
Nepal Bank of Ceylon Ltd,	Nepal Industrial and Commercial Bank
Nepal Lumbini bank Ltd.	Machha puchhre Bank Ltd.
Siddharth Bank Ltd.	Kumari Bank Ltd.
Laxmi Bank Ltd.	

[55] Gupta S.C., edition 1996, " Fundamental of statistics, " Himalayan Publishing house, Delhi, p. 1039-40.

3.1.2.2. Sample:

Sample refers to a part chosen from the population. Sample means the 'part of the whole'. The process of selecting a sample from a population is called 'sampling'. It is a tool, which helps to researcher to draw conclusions about the characteristics of the population after studying only those observations that are included in the sample.[56]

In this study, sample refers to only three banks joint venture banks are chosen for the study purpose among the total population.

The sample to be selected is as following.

Himalayan Bank Ltd.

Kumari Bank Ltd.

Nabil Bank Ltd.

3.1.3. Sources of Data:

The data, which are necessary to conduct the research study, can be collected from primary and secondary source. The required financial statements for this research study have been collected from the published annual reports and accounts of the three joint venture banks. In other words, the necessary data have been collected through shareholders of the company. Thus, the source of data collecting is secondary source.

3.1.4. Data collection techniques:

In this research study, necessary financial statements have been collected from the published annual reports and accounts, where all the financial data i.e. balance sheet, profit & loss account etc. for five years

[56] Shrestha K.N. & Manandhar K.M., edition 3rd, 2056, "Statistics & quantitative techniques for management vol. I", Valley publishers, KTM, Nepal, P.71.

have been collected from its shareholders and other published books regarding three CBN have been obtained from the dealers of the company.

3.1.5. Data Analysis Tools:

To analyze the position of capital structure management of three CBN is the primary objective of this research study. For this purpose, it requires various financial and statistical tools, which helps to researcher to reach in theirs conclusion. But in this regard, financial statements such as balance sheet, profit & loss accounts etc. are essential. The help of such financial statements can evaluate using various financial and statistical tools & techniques, capital structure management of three CBN.

In this study, to measures the capital structure of three CBN, both analytical & statistical tools have been used. The important financial tools are ratio analysis, EBIT – EPS analysis, cash flow analysis etc. and other hand, statistical tools are arithmetic mean, standard deviation, co-efficient of variation, co-efficient of correlation analysis, testing of hypothesis, trend analysis etc. These tools (financial & statistical) can be explained as follows;

3.1.5.1. Ratio Analysis:

To analyze the financial statements, there are various methods & techniques has been used. Out of them, ratio analysis is assumed as powerful tool of financial analysis. Simply, ratio is the expression of the relationship of one item to another. In other words, ratio analysis is a tool of obtaining different relationship between different business terms in simple mathematical value.

"A ratio analysis is expression of the quantitative relationship between two numbers"[57]

"Ratio analysis is a widely-used tool of financial analysis. It is defined as the systematic use of ratio to interpret financial statements so that the strength & weakness of a firm as well as its historical performance and current financial conditions can be determined.

The relationship between two accounting figures, expressed mathematically, is known as financial ratio (or simply a ratio). Ratio helps to summarize the large quantities of financial data and to make quantitative judgment about financial performance.

"To evaluate the financial condition and performance of a company, the financial analyst needs certain yardsticks. The yardstick frequency used is a ratio, or index, relating two pieces of financial data to each other. Analysis and interpretation of various ratios should give experienced, skilled analysts a better understanding of the financial condition and performance of the firm than they would obtain from analysis of the financial data alone"[58]

In conclusion, ratio analysis is widely used tool of financial analysis to show the mathematical relationship between two accounting figures. Ratio can be categorized into four parts; such as leverage/solvency/capital structure ratio, profitability ratio, liquidity ratio and activity ratio. Out of them, in order to analyze the capital structure position of three CBN, following ratios can be focused as a specific;

[57] Munakarmi S. P., (2002), *Management Accounting*, Buddha Academic Publishers & Distributors (P) ltd., 1st edition, p.462.
[58] Van Horne James C., (2000), *Financial Management & Policy*, Prentice hall of India(P)Ltd, P.691.

3.1.5.1.1. Leverage or Solvency Ratio:

The long-term debt and short-term debt both should have strong in the company for sound financial position. To evaluate the long-term financial position of the firm solvency ratio is calculated. Under this, two ratios that, debt equity ratio and the debt-assets ratio are important in analyzing the relationship between the debt and equity components.

"Debt-equity ratio and debt-assets ratio shows how much of the firm's assets are financed by debt & equity and give important information about prospects for future financing. If a firm has excessive debt, it will experience difficulty in locating additional debt financing. The firm will be able to borrow only at high interest rate, if at all. On other hand, if the ratio is low (virtually no debt), it may indicate a failure to use relatively lower cost borrowed funds to raise the return earned on the common stock."[59]

In practice, leverage is approached in two ways. One approach examines balance sheet ratios and determines the extent to which borrowed funds have been used to finance the firm. The other approach measures the risk of debt by income statement ratios designed to determine the number of times fixed charges are covered by operating profits. These sets of ratios are complementary and most analysts examine both.

Capital structure ratios may be defined as financial ratios, which throw light on the long-term solvency of a firm reflected in its ability to assure the long-term creditors with during regard to (i) periodic payment of interest during the period of loan and (ii) repayment of principal on maturity or in pre-determined installments at the dates.

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[59] Hampton John J., (1998), *Financial Decision Making, Concepts Problems and Cases*, Prentice Hall of India (P) ltd, 4th edition, p. 118.

There are three major uses of capital structure ratios"[60]

- ❖ To identify sources of funds:- The firm finances all its resources from debt.
- ❖ To measure financial risk:- one measure of the degree of risk resulting from debt financing is provided by these ratios. If the firm has been increasing the percentage of debt in its capital structure over a period of time, this may indicate an increase in risk for its shareholders.
- ❖ To forecast borrowing prospects:- If the firm is considering expansion and needs to raise additional money, the capital structure ratios (leverage/solvency) offer an indication of whether debt funds will be available. If the ratios are too high, the firm may not be able to borrow.

Under this leverage/solvency/capital structure ratio, following ratios can be calculated to evaluate the position of capital structure management of three CBN.

(A) <u>Debt-Equity Ratio:</u> It is a test of long-term solvency of the firm, which measures the relative claims of creditors and owners against the assets of the firm. This ratio includes the relationship between debt and equity.

The objective of calculating this ratio is judge the effectiveness of the long term financial policy of the firm and also indicates the relative proportion of debt and equity influencing the assets of a firm. Components under this ratio includes; (i) Long-term debt (LTD) that involves debentures, bonds, mortgage loan and other long-term loans. (ii) Total debt includes long-term debts and current liabilities. (iii) Shareholders equity (SHE) includes equity/common share capital, preference share

[60] Hampton John J., op. cit., p.118.

capital, share premium, capital reserve, retained earnings, compensation fund, sinking fund etc. This ratio can be calculated as

$$Debt \text{ to Equty Ratio } (\%) = \frac{\text{Total Debt}}{Shareholders' \text{ Equity}} \times 100$$

A low debt-equity ratio implies the use of more shareholders' funds than the long-term debt, which means a large safety for creditors. A ratio of 1:1 is assumed as ideal ratio, lesser than better.[61]

(B) Debt ratio: This ratio presents the relationship between total debts and total assets. The objective of computing this ratio is to measure the relative share of debt in total assets of the firm. Under this ratio, if there is increasing this ratio of company that means the company's position is not sound i.e. the more increasing this ratio is the more economic risk for the company. This debt ratio includes as a components; (I) total debt that includes long-term debt and current liabilities and (ii) total assets means both current and fixed assets. This ratio can be calculated as;

$$Debt \text{ Ratio } (\%) = \frac{\text{Total Debts}}{Total \text{ assets}}$$

The higher the debt ratio is higher the risk for the company and vice-versa.[62]

(C) Debt-to-total capital ratio: This ratio helps to establish a link between funded debt and total long-term funds available in the business. The objective of computing this ratio is to measure the relative share of the debt in total capital of the firm indicating the long term solvency. This ratio includes long-term debt and permanent capital, where permanent capital indicates long-term debt and shareholders equity, which can be calculated as;

[61] Pandey I. M., op. cit., p. 510.
[62] Dongal R.M. & Prajapati K. P., (2054), *Accounting for Financial Analysis and Planning,* KTM, P.479.

$$Debt - to - total \text{ capital ratio}(\%) = \frac{\text{Long term debt}}{Permanent \text{ Capital}}$$

Generally, this ratio should be 2:3 for satisfactory position both for shareholders and long-term loan financiers. A low ratio represents security to creditors in extending fund and a high ratio represents security to creditors in extending fund and a high ratio represents a greater risk to creditors.

3.1.5.1.2. Profitability ratio:

This ratio is related to profit of the business. Profit is essential for the survival of the business. Profit, therefore is regarded as the engine that drives the business and indicates economic progress. Specially, these profitability ratios are calculated either in relation to sales or in relation to investment. Actually, profitability ratios are calculated to measure the overall efficiency of the business.

"The profitability ratios are calculated to measure the operating efficiency of the company. Besides management of the company, creditors & owners are also interested in the profitability of the firm. Creditors want to get a reasonable return on their investment. This is possible only when the company earns enough profits."[63]

Profitability ratios are of two types; those showing profitability in relation to sales, and those showing profitability in relation to investment. Together these ratios indicate the firm's efficiency of operation.

Under this study, profitability ratios of three CBN are calculated as far as possible to measure capital structure position of this company.

[63] Pandey I. M., 1986 edition, Financial Management," Vikash publishing house (p) ltd, Delhi, p. 518.

(A) Return on capital employed: This ratio measures the relationship between capital employed and not profit after tax that indicates how well the management has used the fund supplied by creditors and owners. The amount of capital employed represents the net current assets (i.e. current assets – current liabilities) and long-term assets of the firm. This ratio can be calculated by using following formula;

$$\text{Return on capital employed (ROCE) ratio (\%)} = \frac{\text{Net profit after tax}}{\textit{Capital} \text{ employed}} \times 100$$

Higher ratio or percentage shows the efficient utilization of fund and vice-versa.

(B) Return on assets: This ratio is measured in terms of relationship between net profit and total assets, which measures the productivity of the assets. Net profit is after tax and total assets includes both current assets and liabilities. This ratio can be calculated as follows;

$$\text{Return on assets ratio (\%)} = \frac{\textit{Net} \text{ profit after tax}}{\textit{Total} \text{ assets}} \times 100$$

This ratio is used to examine the effectiveness in using the total fund supplied by the owners and creditors. Higher ratio represents the higher return in the assets used in the business of company i.e. effective use of the resources available and vice-versa.

(C) Earning per share ratio: This ratio measures the earnings available to an equity shareholders on a per share basis. The objective of this ratio is to measure the profitability of the firm on per share basis. As components of this ratio includes net profit after preference dividend and the number of equity shares outstanding. The earnings per share (EPS) of three CBN can be calculated as follows;

$$EPS(Rs.) = \frac{\textit{Net} \text{ profit after tax - preference dividend}}{\textit{Number} \text{ of equity share outstanding}}$$

Higher the EPS indicates better position of the company and vice-versa.[31]

3.1.5.2. EBIT – EPS Analysis:

This analysis (EBIT-EPS) is an important tool for companies' capital structure management that the financial manager seeks to compare alternative methods of financing under various assumptions. Furthermore, this analysis is one of the widely used methods employed to determine the appropriate level of debt. "EBIT is also known as operating income where the before tax income after all operating expenses have been deducted from total revenues.

In other hand, Investment managers make use of the concept of EPS (earnings per share) in evaluating profitability. EPS is computed by calculating the profit after tax and preference dividend and dividing the same by number of share outstanding. In order to have a fair idea of the profitability in an organization, the EPS for the last few years may be compared. An increasing upward trend is an indication of steady performance whereas a declining tendency is a danger signal for management. The EPS may also be compared with industry EPS and the earnings per share of other similar nature companies.[64]

EBIT-EPS analysis considers only the level of the earnings stream and ignores the variability (risk ness) inherent in it. Thus, this type of analysis must be used in conjunction with other basic tools in reaching the objective of capital structure management.

Through EBIT-EPS analysis, the decision maker can inspect the impact of alternative financing plans on EPS over a full range to EBIT

[64] Ahmad Nisar, op. cit., p. 77.

levels. Next tool of capital structure management is the conclusion of comparative leverage ratios. Balance-sheet leverage ratios and coverage ratios can be computed according to the contractual stipulations of the proposed financing plans.

"One widely used means of examining the effect of leverage is to analyze the relationship between earnings before interest and tax (EBIT) and earning per share (EPS). Essentially, the method involves the comparison of alternative methods of financing under various assumptions as to EBIT."[65]

"The EBIT-EPS analysis is one important tool in the hands of the financial manager to get an insight into the firm's capital structure management where the financial manager can consider the possible fluctuation in EBIT and examine their impact on EPS under different financial plans. If the profitability of earning a rate of return on the firm's assets less than the cost of debt is insignificant, a large amount of debt can be used by the firm in its capital structure to increase the EPS. This may have a favorable effect on the market value per share. On the other hand, if the profitability of earning a rate of return on the firm's assets less than the cost of debt is very high, the firm should refrain from employing debt capital. It may, thus, be computed that the greater the level of EBIT and lower the profitability of downward fluctuation, the more beneficial is to employ debt in the capital structure.

Financial leverage is one of the important considerations in planning the capital structure of a company. The companies with high level of the EBIT can make profitable use of the high degree of leverage to increase return on the shareholder's equity. One common method of examining the

[65] Van Horne, op. cit., p.285.

impact of leverage is to analyze the relationship between EPS and various possible levels of EBIT under alternative methods of financing.

The firm is able to maximize the EPS, when it uses debt financing. Though the rate of preference dividend is equal to the rate of interest, EPS is high in case of debt financing because the interest charges are tax deductible, while preference dividends are not with increasing levels of EBIT, EPS will increase at a faster rate with a higher degree of leverage. However, if a company is not able to earn a rate of return on its assets higher than the interest rate (or the preference dividend rate), debt (or preference financing) will have adverse impact on EPS.

The effect of financial leverage may be favorable or unfavorable. Positive or favorable, financial leverage occurs when the earning per share increase due to the use of debt in the capital structure. This happens when the rate of return on the company's assets is more than the cost of debt capital. The financial leverage is, thus, an important tool to increase the EPS. As a result, a company may be tempted to make maximum use of debt in its capital structure. But financial leverage can also lower the EPS, if company's rate of return on assets is lower than the cost of debt capital.

One useful way of examining the effect of financial leverage is to analyze the behavior of EPS with varying levels of EBIT under alternative financing plans.[66]

Mathematically the indifference point between two methods of financing can be determined as:

$$\frac{EBIT^* - C_1}{S_1} = \frac{EBIT^* - C_2}{S_2}$$

[66] Pandey I.M., op. cit., P.206-9.

Where, EBIT* is the EBIT indifference point between the two methods of financing for which C_1, C_2 are the annual interest expenses or preferred stock dividends on a before-tax basis for financing method 1 & 2, and S_1 & S_2 are the number of shares of common stock to be outstanding after financing for methods 1 & 2. Therefore, indifference points for fonancial leverage can be determined either graphically or mathematically.[67]

The EBIT-EPS chart helps to the financial manager that how alternative methods of financing have different impacts on EPS. Insight comes in comparing the indifference point between two financing alternatives, like debt versus common stock financing, with existing and expended level of EBIT. The higher the level of EBIT is in relation to the indifference point, the stronger the case that can be made for debt financing, all other things being the same. The lower the EBIT is in relation to the indifference point the stronger the case is for common stock financing. This is particularly true when the indifference point is below the existing level of EBIT. In summary, the greater the level of EBIT and the lower the probability of downside fluctuations, the stronger the case that can be made for the use of debt. The EBIT-EPS analysis gives us insight into the return-risk trade-off that governs valuation.[68]

3.1.5.3. : Statistical tools:

To evaluate the position of capital structure of a firm, statistical tools plays vital role. By the help of statistical tools, a financial manager can easily observe that the position of capital structure that what is happening? Thus, the statistical tools can be used as supporting tools of financial tools.

[67] Van Horne, op. cit., p. 287.
[68] Ibid. P. 288.

In this study, to analyze the capital structure of three joint venture banks, the following different statistical tools can be used. They are as follows;

3.1.5.3.1. Arithmetic Mean:

It is also called simply mean, which is used to measure the average value of given observations. The arithmetic mean is the most popular and commonly used statistical average.

"Arithmetic mean of a given set of observations is their sum divided by the number of observations."[69]

$$\overline{X} = \frac{\sum X}{N}$$

Where as,

$\overline{X}$ = *Arithmetic* mean /the average/simply mean.

$\sum X$ = *Sum* of the total observation/sum of values.

N = Number of observations.

3.1.5.3.2. Standard Deviation:

The standard deviation is the most important and widely used measure of dispersion or variability. The standard deviation is the square root of the mean squared deviations from the arithmetic mean and is denoted by S.D. or σ (i.e. sigma). The S.D. is also called 'root-mean-squared-deviation'.[70]

The standard deviation, usually denoted by the letter σ (small sigma) of the Greek alphabet was first suggested by Karl Pearson as measure of dispersion in 1893. It is defined as the positive square root of the arithmetic mean. Thus, if X_1, X_2….. X_n is a set of n observations then its standard deviation is given by:

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69 Gupta S. C., (1996), *Fundamental of Statistics*, Himalayan publishing house, India, P.755.

70 Shrestha K. N.,(2053), *Mathematics and statistics for Management's*, valley publishers, 8th ed , KTM, Nepal, p.112.

$$\pm = \sqrt{\frac{\sum (X - \overline{X})^2}{N}}$$

Where as, σ = Standard deviation of observations.
x =observed value.
x = mean of variance.
N = number of observation.

Higher the value of s.d., higher the risk and lower the s.d., lower the risk for the company.

3.1.5.3.3. Co-efficient of Variation :

"The co-efficient of variation (cv) is the relative measure based on the standard deviation and is defined as the ratio of the standard deviation to the mean expressed in percent."[71]

Standard deviation is only an absolute measure of dispersion, depending upon the units of measurement. The relative measure of dispersion based on standard deviation is called co-efficient of standard deviation and is given by:

Co-efficient of variation (CV) = S.D. / mean

Where, the lower coefficient of variation is preferable to the company and vice –versa.

3.1.5.3.4. Correlation Analysis:

The correlation analysis is a statistical tool, which is used to measure the relationship between among or more variables.

"The correlation analysis is a statistical tool, which studies the relationship between two variables and correlation analysis involves various methods and techniques used for studying and measuring the extent of the relationship between the two variables."[72]

[71] Ibid., P. 114.
[72] Gupta S. C., op. cit., p. 510.

"Correlation is an analysis of the co-variance between two or more variables."[73]

"When the relationship is of a quantitative nature, the appropriate statistical tools for discovering and measuring the relationship and expressing it in a brief formula is known as correlation."[74]

Therefore, correlation is a most widely used statistical tool to measure the degree of relationship or association between \ among two or more variables. It shows the relationship between dependent and independent variables.

The commonly used methods for studying the correlation between two variables are as follows,

(1) Scatter diagram method.
(2) Karl Pearson's coefficient of correlation method.
(3) Rank method.
(4) Two- way frequency table method.
(5) Concurrent deviation method.

Among these above methods, the most widely used method in practice; Karl Pearson's coefficient of correlation method can be used to analyze the date(i.e. position of capital structure of three joint venture banks in this study.)

A mathematical method for measuring the intensity or the magnitude of linear relationship between two variables series was suggested by Karl Pearson (1867-1936) and this method is also called covariance method. Karl Pearson's also known as pearsonian measures correlation coefficient between two variables (series) x and y. Usually, denoted by r(x,y) or rxy or simply r is numerical measure of linear relationship between them and is defined as the ratio of the covariance between x and y, written as cov.(x, y) to the product of the standard deviation of x and y.

Symbolically,

[73] Ibid., P. 511.
[74] Ibid., P. 511.

$$r = \frac{Cov.(x, y)}{\pm_x \pm_y}$$

where, r=correlation coefficient

x & y= series

σ_x = standard deviation of x

σ_y =standard deviation of y

cov.= covariance.

This formula correlation coefficient can be written as;

$$r = \frac{N\sum XY - \sum X.\sum Y}{\sqrt{\left[N\sum X^2 - \left(\sum X\right)^2\right]\left[N\sum Y^2 - \left(\sum Y\right)^2\right]}}$$

Where, n= number of pairs of observation

Σ=summation (total)

Properties of correlation coefficient: - The following are the important properties of correlation coefficient.

The value of correlation coefficient lies between -1 to +1. (i.e. $-1 \le r \le +1$)

Correlation coefficient is dimensionless (i.e. the value of r has no unit).

It's formula is symmetrical (i.e. $r_{xy} = r_{yx}$).

It is independent of the change of origin (i.e. $r_{xy} = r_{uv}$).

Where, u=x-A & v= Y-B and A&B are assumed means.

It is the geometric mean between two regression coefficients i.e. $r = \sqrt{b_{xy}.b_{yx}}$

Interpretations:

If r=1, i.e. there is perfect positive relationship between the two variables.

If r= -1, i.e. there is perfect negative relationship between the two variables.

If r= 0, i.e. there is no correlation at all.

The closer the value of r is to 1 or – 1, the closer the relationship between the variables and the closer r is to 0, the less close relationship, while estimating the value of one variable from the value of other variable, the higher the value of r, the better the estimates.

3.1.5.3.5. Co-efficient of Determination

Coefficient of determination between two variables series is a measure of linear relationship between them and indicates the amounts of variation of one variable, which is associated with or is accounted for by another variable. A more useful and readily comprehensible measure for this purpose is the coefficient of determination, which gives the percentage variation in the dependent variable that is accounted for by the independent variables. In other words, the coefficient of determination gives the ratio of explained variance to the total variance. The coefficient of determination is given by the square of the correlation coefficient, i.e. r2.Thus; coefficient of determination can be calculated as under.

$$\text{Coefficient of determination } (r^2) = \frac{\text{Explained variance}}{\text{Total variance}}$$

The coefficient of correlation is a much useful and better measure for interpreting the value of r.

3.1.5.3.6. Testing of Hypothesis;

The method of statistics, which helps in arriving at the criterion for decision, is called test of hypothesis or hypothesis testing. A hypothesis is an assumption that we make about the population parameter. The test of hypothesis is a process of testing of significance regarding the parameter of the population on the basis of sample drawn from the population. The

test of hypothesis discloses the fact whether the difference between the computed statistic and hypothetical parameter is significant.

A statistical is assumption or statement, which may or may not be true, about a population or equivalently about the probability distribution characterizing the given population, which we want to test on the basis of the evidence from a random sample. if the hypothesis completely specifies the population, then it is known as composite hypothesis.

Thus the hypothesis is an assumption and is used to test whether the assumption is right or not i. e . the testing of hypothesis. The statistical hypothesis may be divided into following types:

(A)Null hypothesis: A statistical hypothesis, which is stated for the purpose of possible acceptance is called a null hypothesis, and suggests that there is no difference between population mean and sample mean i. e. they are same and equal. Null hypothesis is hypothesis which is tested for possible rejection under the assumption that it is true.

Null hypothesis always denoted by H0.

(B) Alternative hypothesis: Alternative hypothesis is important to decide that whether the null hypothesis is acceptance or not. Any hypothesis which is complementary to the null hypothesis is called an alternative hypothesis.

It is usually denoted by H1.

(C)Test of significance: A Procedure to assess the significance of a statistic or difference two independent statistics is known as test of significance.

The commonly used levels of significance are 1%(0.01) and 5%(0.05).If we use 5%, it implies that in 5 cases out of 100 cases we are

likely to reject H0 is correct. The level of significance should be fixed in advance before applying the test.

Thus, the main objective of testing of hypothesis is to evaluate the difference between sample static and population parameter. Hypothesis is tested in certain percentage of level of significance.

3.1.5.4. Trend Analysis:

A trend is a direction or sequence of events that have some momentum and durability. Trend analysis shows the changes i.e. increasing or decreasing or constant up to some extent of variables of the company over a period of time. And it also forecasts for future guideline of the company.

Trend also called secular or long-term trend, is the basic tendency of a series to grow or decline over a period of time. The concept of trend does not include short – range oscillations, but rather the steady movement over a long time.

"Trend analysis is valuable to compare the financial ratios for a given company overtime. In this way the analyst is able to defect any improvement or deterioration in its financial condition and performance.[75]

"Generally, the figures for the last 3 to 5 years should be considered for better understanding of an economic phenomenon. The trend indicates general tendency or direction of change in which management is more interested, but the fact that a trend is more influenced by the base year figure, should always be borne in mind. The analysis and interpretation will not be fruitful if the base year figure is unusually high or low. Therefore, the selection of base year should be done carefully. It should be the year of

[75] James C. Van Horne, (1998), *Fundamental of Financial Management*, Prentice hall of India (p) ltd., 4th ed, p. 116.

normal condition. The trend can be rightly interpreted, if the effect of inflation on different years figures of money income is neutralized.

"Trend analysis helps in business forecasting and planning the future operations. For example, if the time series for a particular phenomenon exhibits a trend in a particular direction, then under the assumption that the same pattern will continue in the neat future. Trend analysis is a tool to compare two or more time series over different periods of time and draw important conclusions about them.[76]

Trend analysis of ratios indicates the direction of change. This kind of analysis is particularly applicable to the items of profit an loss account. It is advisable that trends of sales and net income may be studied in the light of two factors; the rate of fixed expansion or secular trend in the growth of the business and the general price level. It might be found in practice that a number of firms would show a persistent growth over a period of years. But to get a true trend of growth, the sales figure should be adjusted by a suitable index of general prices. Another method of security trend of growth and one, which can be used instead of the adjusted sales figures or as check on them, is to tabulate and plot the output or physical volume of sales expressed in suitable units of measure. For trend analysis, the use of index numbers is generally advocated. The procedure followed is to assign the number 100 to items of the base year and to calculate percentage changes in each item of other years in relation to the base year. This procedure may be called as "trend- percentage method.[77]

The analysis of financial ratios involves two types of comparison. First, the analyst can compare a present ratio with past and expected future ratios for the same company. The current ratio (the ratio of current

[76] Gupta S. C., op. cit., p.757.
[77] Pandey I. M., op. cit., p. 529.

assets to current liabilities) for the present year-end could be compared with the current ratio for the preceding year end. When financial ratios are arrayed on a spreadsheet over a period of years, the analyst can study the composition of change and determine whether there has been an improvement or deterioration in the financial condition and performance over time. The second method of comparison involves comparing the ratios of one firm with those of similar firms or with industry averages at the same point in time. Such a comparison gives insight into the relative financial condition. The above mentioned two types of financial ratio also known as trend analysis.[78]

Measurement of Trend:

"The following are the four methods which are generally used for the study and measurement of trend component in a time-series.[79]

(i) Graphic or free-hand curve fitting method. This is the simples and the most flexible method of estimating the secular trend and consists in first obtaining a histogram by plotting the time series values on a graph paper and then drawing a free hand smooth curve through these points so that it accurately reflects the long term tendency of the data.

(ii) Method of semi-average - This method is more objective than graphic method. In this method, the whole time series data is classified into two equal parts. For example, if there is given the time series value for so years from 1965 to 1974 then the two equal parts will be the data corresponding to periods 1965 to 1969 and 1970 to 1974.However,in case of old number of year, the two equal parts are obtained on omitting the values for the middle period. Thus, for example, for the data for nine years from 1970 to 1978, the two parts will be the data for year 1970 to 1973 and

[78] James C. Van Horne, op. cit., P. 692.
[79] Gupta S. C., op. cit., p. 762-88.

1975 to 1978, the value for middle year viz., and 1974 being omitted. Having divided the given series into two equal parts, then we next compute the arithmetic means are called semi –averages. Then these semi-averages are plotted as points against the middle point of the respective time periods covered by each part.

(iii) Method of curve fitting by the principle of least squares. The principle of least squares provides an analytical or mathematical device to obtain an objective fit to the trend of the given time series. Most of the data relating to economic and business time series conform definite laws of growth or decay and accordingly in such a situation analytical trend fitting will be more reliable for forecasting and predictions. The technique can be used to fit linear as well as non- linear trends.

(iv) Conversion of trend equation – Any trend equation depends on following three factors viz., the origin of time reference, the units of time viz., yearly, monthly weekly etc. and the units of the given values, i.e. the time series value relate to annual figures, monthly figures or monthly averages.

However, by the help of trend analysis, the financial manager can observe the various fluctuations i. e. increasing or decreasing values in the company and can predict the future position of the company.

CHAPTER-IV

4. PRESENTATION AND ANALYSIS OF DATA

Data presentation, analysis and interpretation are an important aspect of evaluation of capital structure management. The effort of this chapter has been made to analyze and interpreted the capital structure management of three joint venture banks. Furthermore, this chapter has been tried to provide factual and practical information of three CBN and on the basis of this chapter conclusion and recommendation can be drawn with easily.

In this chapter, various financial variables have been presented in numerical form, analyzed and interpreted to achieve the financial decisions. For this, various ratio analysis, EBIT-EPS analysis, arithmetic mean, standard deviation, co-efficient of correlation, testing of hypothesis, trend analysis etc have been employed to analyze the position of capital structure management of three CBN, as a main tools.

The comparative analysis of capital structure management of three CBN, by using above mentioned tools can be presented, analyzed and interpreted as follows;

4.1. Financial Analysis

This analysis includes various methods and financial tools of analyzing the secondary data collected from various sources like annual journal, reports, financial statements etc. Much effort has been done to have the accurate results for achieving the objectives of the study

mentioned in the first unit. It is a major part of analyzing which includes maximum results appropriately which are as follows:-

4.1.1. Analysis of Debt to equity Ratio of Sample Banks.

The ratio debt-to-equity shows the relationship between total debts i.e. long term debt plus current liabilities and shareholders fund. Only the HBL has been used both long-term debt and current liabilities as a debt capital but the others two (KBL&NBL) have not been used the long term debt. In this study, the debt-to equity ratio of three CBN can be presented in the following table.

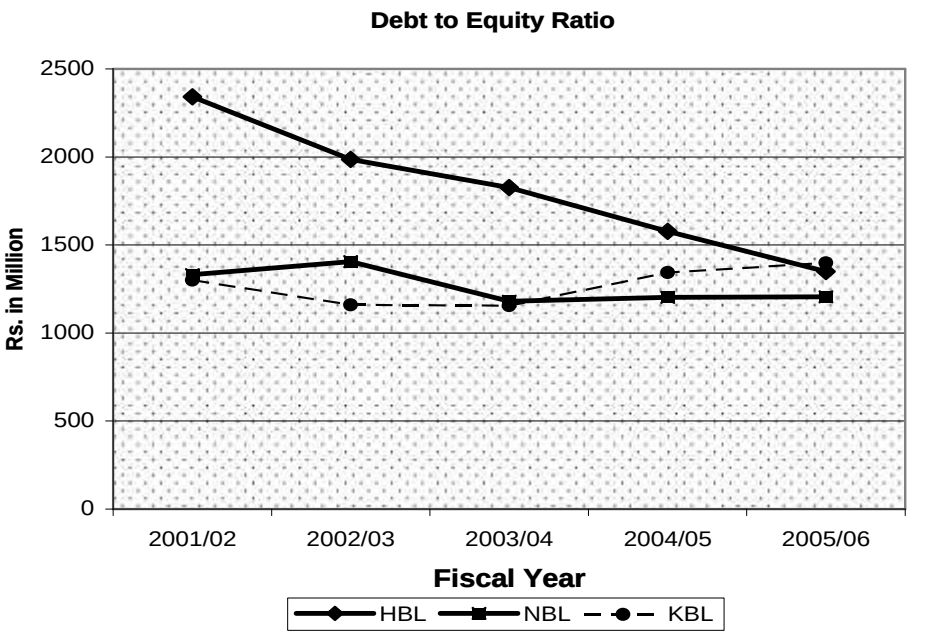
Table No. 4.1

Debt to Equity Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	2341.78	1985.45	1825.49	1577.29	1348.73	1815.73	340.78	0.19
NBL	1331.54	1405.82	1179.74	1202.02	1205.29	1264.88	88.38	0.07
KBL	1299.77	1160.16	1154.78	1343.05	1397.95	1271.13	97.91	0.08

Source: *www.nepalstock.com*

Figure No. 4.1



Source : From Table No. 4.1

The above table indicates that the DE ratio of HBL ranges between 1348.65% to 2341.78%.The maximum DE ratio of HBL is 2346.78% in F.Y.2007/08 whereas the minimum DE ratio of the bank is 1348.65 in F.Y.2007/08.The bank has used the long term debt in the capital structure from F.Y. 2007/08. The average DE ratio of HBL is 1815.73%.The bank has able to maintain above its average ratio in earlier 3 yrs but it failures to maintain in F.Y.2006/07 and 2007/08. The S.D. of DE ratio is 340.78.The C.V. for bank is 0.19%which is highest among the figure. This indicates that there is 0.19% of fluctuation in DE ratio of HBL during the period however the DE ratio has been decreasing trend that shows the risk in the bank has decreasing trend.

The average DE ratio of NBL is 88.38% which represent the lowest among the selected banks. The bank has been able to maintain its average DE ratio for the earlier two years only. The DE ratio of NBL ranges between 1179.74% to 1405.82%. The S.D. of bank is 88.38and whereas C.V. is 0.07%. The C.V. of 0.07 indicates that there is less fluctuation in

DE ratio of NBL, which is comparatively low in relation to other sample banks during the study period.

The DE ratio of KBL ranges between 1154.78% to 1397.95%, highest being in the year 2007/08 i.e. 1397.95% and lowest being in year 2007/08 i. e. 1154.78%.The average DE ratio of the bank is 1271.13% which seems to be the second lowest among the sample banks. The bank has been able to maintain above its average DE ratio in three years i.e.2007/08, 2006/07 and 2007/08 respectively and failure to maintain in 2006/07 and2007/08 respectively. The S.D. of ratio is 97.9% with C.V. of 0.08% which indicates that there is moderate fluctuation in DE ratio of the bank during the study period.

The above analysis shows that the both of the bank i.e. NBL & KBL are engaged in short term debt of the yearly nature but the HBL has been used the long term debt after the earlier 2 years of study period. The average DE ratio of HBL is highest and that of NBL is the lowest under the study period. The C.V. of HBL is highest and the

C.V. of NBL is lowest which indicates that the risk due to the debt in HBL is highest and that of NBL is lowest. The DE ratio range of the banks under study is between1154.78% to 2341.78%.

4.1.2. Analysis of Debt Ratio

The debt i. e. long term debt + current liabilities and total assets i. e. both current and fixed assets of the company. The debt ratio of three CBN can be shown from the following table;

Table No. 4.2

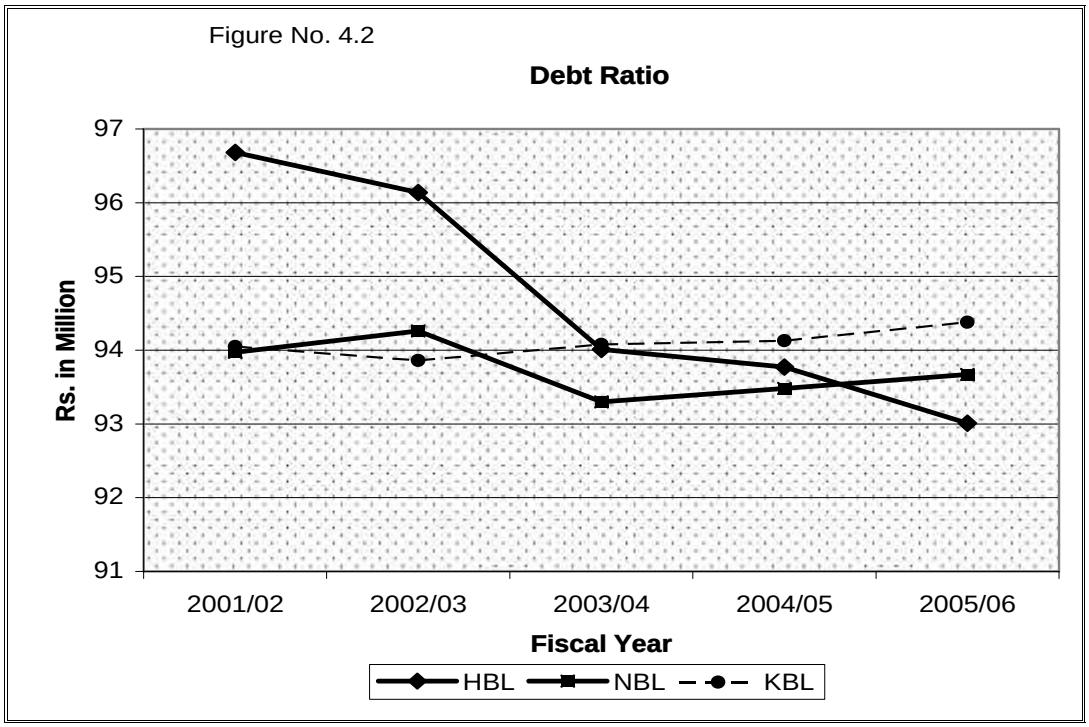
Debt Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.

HBL	96.68	96.14	94.01	93.77	93.01	94.72	1.43	0.015
NBL	93.97	94.26	93.30	93.48	93.67	93.74	0.34	0.0036
KBL	94.05	93.86	94.08	94.13	94.38	94.10	0.17	0.0018

Source: *www.nepalstock.com*

Figure No. 4.2



The above tables shows that the total assets of HBL financed by debt capital is more than 93% during the study period. It is ranges between 93.01% to 96.68%. The highest DA ratio i.e. 96.68% in 2007/08 that indicates in 2007/08, the total assets financed by debt capital is 96.68% and the lowest is 93.01% in 2007/08.The assets financed by total debt is in decreasing trend. The average DA ratio is 94.72% and S.D. is 1.43% with a C.V. of 0.151 which is comparatively highest among the sample banks. This indicates that the 94.72% of total assets is risky and have to generate more returns than the cost of debt. The volatile financing by the debt capital is due to the use of short term debt and long term debt also.

The DA ratio of NBL ranges between 93.30% to 94.26 %.The debt financing is higher in the F.Y2006/07as evident by the ratio of 94.26%and

is lower in the F.Y.2007/08 as evident from the ratio of 93.30%. The average DA ratio of NBL is 93.74% which is comparatively lowest among selected banks. This indicates that 93.74% of total assets are financed by the debt capital. The S.D. of DA ratio is 0.34% with a C.V. of 0.0036% which indicates that there is moderate fluctuation in DA ratio of the bank during the study period. The debt financing for the total assets is only from the use of short term debt.

The DA ratio of KBL ranges between 93.86% and 94.38%. The maximum DA ratio of the bank is 94.38%in F. Y.2007/08 where as the minimum DA ratio is 93. 86%in F. Y. 2006/07.The average DA ratio of the bank is 94.10%. This indicates that the 94.10% of total assets is financed by the debt capital. The S.D of DA ratio is 0.17% and CV. is 0.0018% which is the lowest among the selected bank. This indicates that there is less fluctuation in DA ratio of KBL during the study period. The total assets of KBL has financed by short term debt.

From the above analysis shows that the average DA ratio of HBL is highest which indicates that the use of debt capital to acquire the shares of the total assets is highest for among the selected banks. The long term debt is only used by HBL for the later 3 years. The S.D. and CV. of HBL i. e. 0.97 and 0.0103 respectively are highest among the sample banks indicate that the claim of the outsiders is highest in HBL than others 2 banks.

4.1.3. Analysis of Debt to total capital Ratio

Debt to total capital ratio is used to measure the relative share of the debt in total capital of three CBN. Furthermore, this ratio shows the relationship between total debt and permanent capital including current liabilities. The following table can present debt-to- total capital ratio of three CBN.

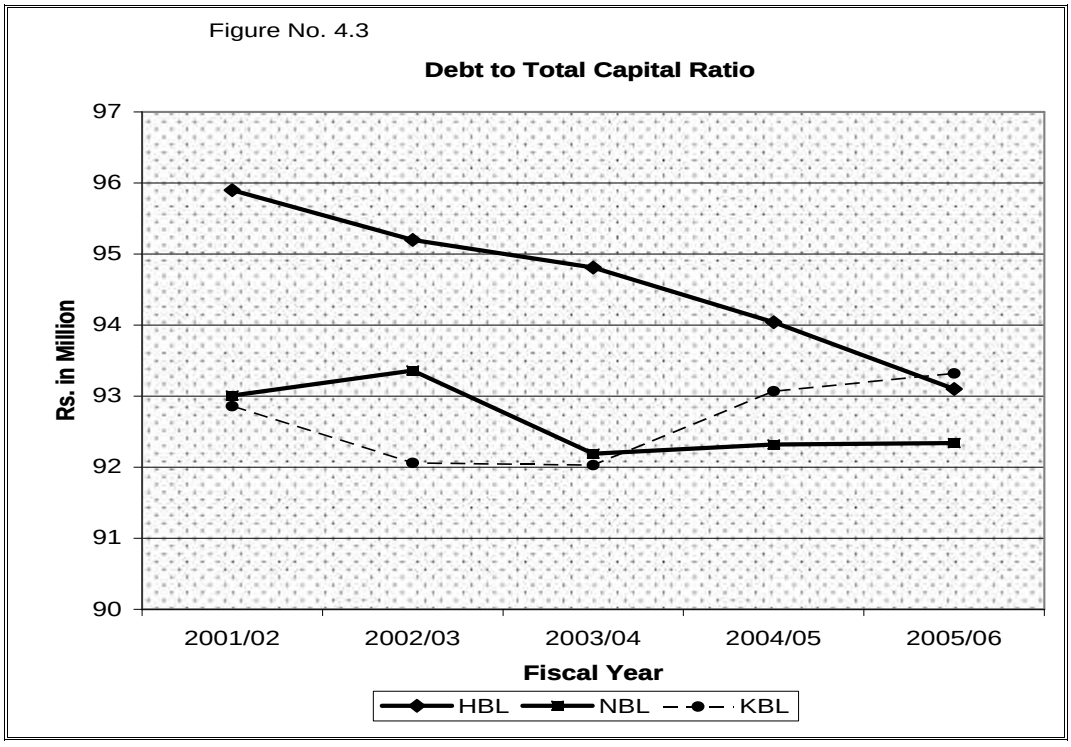
Table No. 4.3

Debt to Total Capital ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	95.90	95.20	94.81	94.04	93.10	94.61	0.97	0.0103
NBL	93.01	93.36	92.19	92.32	92.34	92.64	0.46	0.005
KBL	92.86	92.06	92.03	93.07	93.32	92.67	0.53	0.006

Source: *www.nepalstock.com*

Figure No. 4.3



The above table shows that, the highest debt to total capital ratio of HBL is 95.90% in F.Y.2007/08and the minimum ratio is 93.10% in 2007/08.Actually, HBL has decreasing trend ratio. The mean of the ratio is 94.61% where the ratio of F.Y.2006/07 and 2007/08 are below the average ratio, but remaining all the ratio in earlier three years are above the mean value. The C. V. of debt to total capital ratio is 0.0103 which implies that there is homogeneity among debt to total capital ratio over five fiscal year.

The highest debt to total capital ratio of NBL is 93.36% in F.Y. 2006/07 and the minimum ratio is 92.19% in F.Y.2007/08.Thus the debt to total capital ratio of NBL ranges between 92.64%.The banks has been able to maintain its average ratio in earlier two years but it failures to maintain for later three years. The S.D. of ratio is 0.46% with a C.V.of 0.005% which represents the lowest among the sample banks.

The average ratio of KBL is 92.67%. The KBL has been able to maintain its average ratio in F.Y.2007/08, 2006/07 and 2007/08 but it failures to maintain the average ratio in 2006/07 and 2007/08 respectively. The debt to total capital ratio of KBL ranges between 92.03% to 93.32%, where the highest ratio is 93.32% in F.Y.2007/08.

And the lowest ratio is 92.03in F.Y.2007/08.The S.D. of ratio is 0.53% with a C.V. of 0.006% which indicates that there is moderate fluctuation in the ratio of debt to total capital during the study period. Later the study period, the use of the debt capital is increasing trend.

From the above analysis shows that the average ratio of debt to total capital of HBL is highest among the selected banks. The S.D and C.V. of Debt to total capital ratio of HBL is highest. This indicates that the interest risk due to the use of debt capital is highest as compare to others two banks.

4.1.4. Analysis of Return on Capital Employed Ratio

This ratio, return on capital employed (ROCE) is used to measure the relationship between net profit after tax and capital employed, where the capital employed represents the net current assets(i.e.) current assets minus current liabilities) and long term assets of the company. The ROCE ratio of three CBN can be shown from the following table.

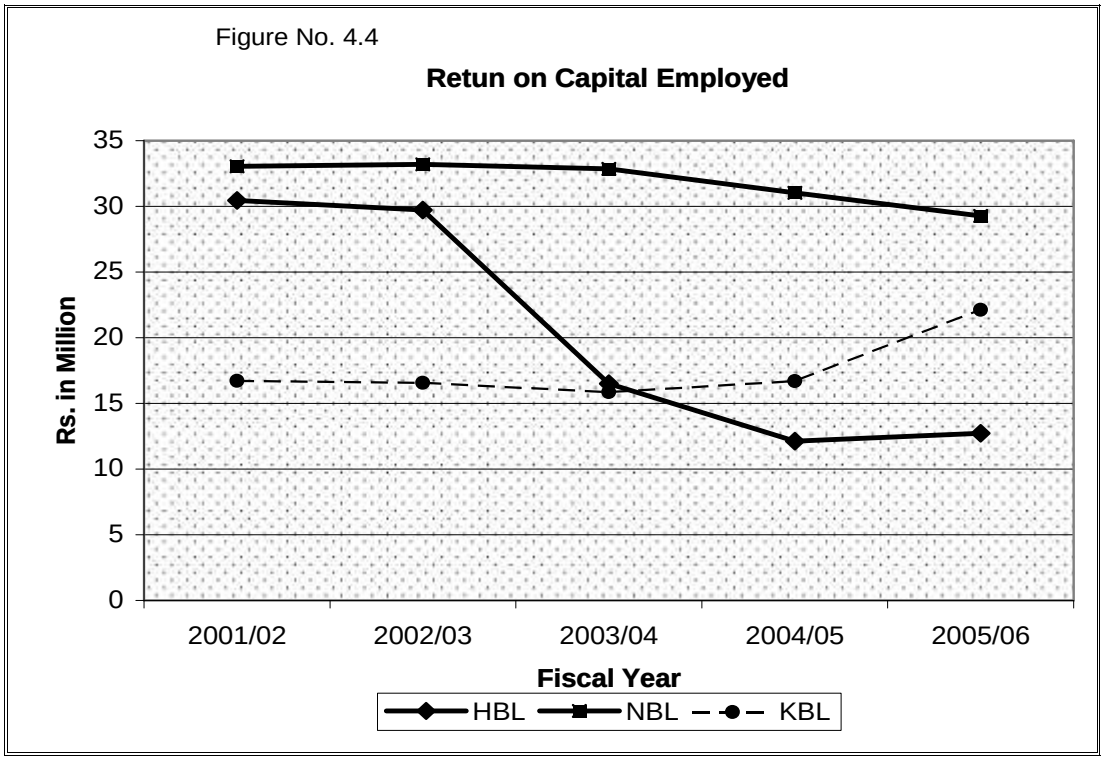
Table No. 4.4

Return on Capital Employed Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	30.44	29.73	16.50	12.13	12.72	20.30	8.13	0.4
NBL	33.05	33.20	32.85	31.04	29.27	31.88	1.52	0.05
KBL	16.72	16.56	15.85	16.69	22.13	17.59	2.29	0.13

Source: *www.nepalstock.com*

Figure No. 4.4



The ROCE ratio of HBL ranges between 12.13% to 30.44%. The highest ROCE ratio of HBL is 30.44%in F.Y. 2007/08 and the lowest ratio is 12.13% in F.Y.2007/08. This indicates that the HBL has decreasing trend ratio. The mean of the ROCE ratio is 20 .30% The HBL has been able to maintain above its average ratio for earlier two years and failure o maintain its average ratio in later three years .The S.D. of the ratio is 8.13% with a C.V. of 0.4% which is highest among the sample banks. This indicates that the level of risk is decreasing trend during the study period.

The average ratio of NBL is 31.88%which represent the highest among the sample banks. The NBL has been able to maintain its average ratio for earlier three years but failure to maintain for later two years. The ROCE ratio of NBL ranges between 29.27% to 33.20%. The highest ratio of NBL is 33.20% in F.Y.2006/07 and the lowest ratio is 29.27%in F.Y.2007/08.The S.D. of ROCE ratio is 1.52% with a C.V. of 0.05% represents the lowest among the selected banks. This indicates that the level of risk is minimum.

The highest ROCE ratio of KBL is 22.13% in F.Y.2007/08 and the minimum ratio is 15.85% in 2007/08.Actually, KBL has fluctuating trend ratio. The mean ratio is 17.59% where the ratio of F.Y.2007/08 is above the average ratio but remaining all the ratio in earlier four years are below the average ratio. However, the trend of this ratio has increased in F. Y. 2007/08 as comparison to earlier years during the study. The S. D of ratio is 2.29% with a C.V. of 0.13. This indicates that the risk is increasing due to increase in return.

From the above analysis shows that the average ROCE of NBL is highest among the selected banks which indicate that the NBL has been efficiently utilizing its resources provided by its owners and creditors.

4.1.5. Analysis of Return on Assets Ratio

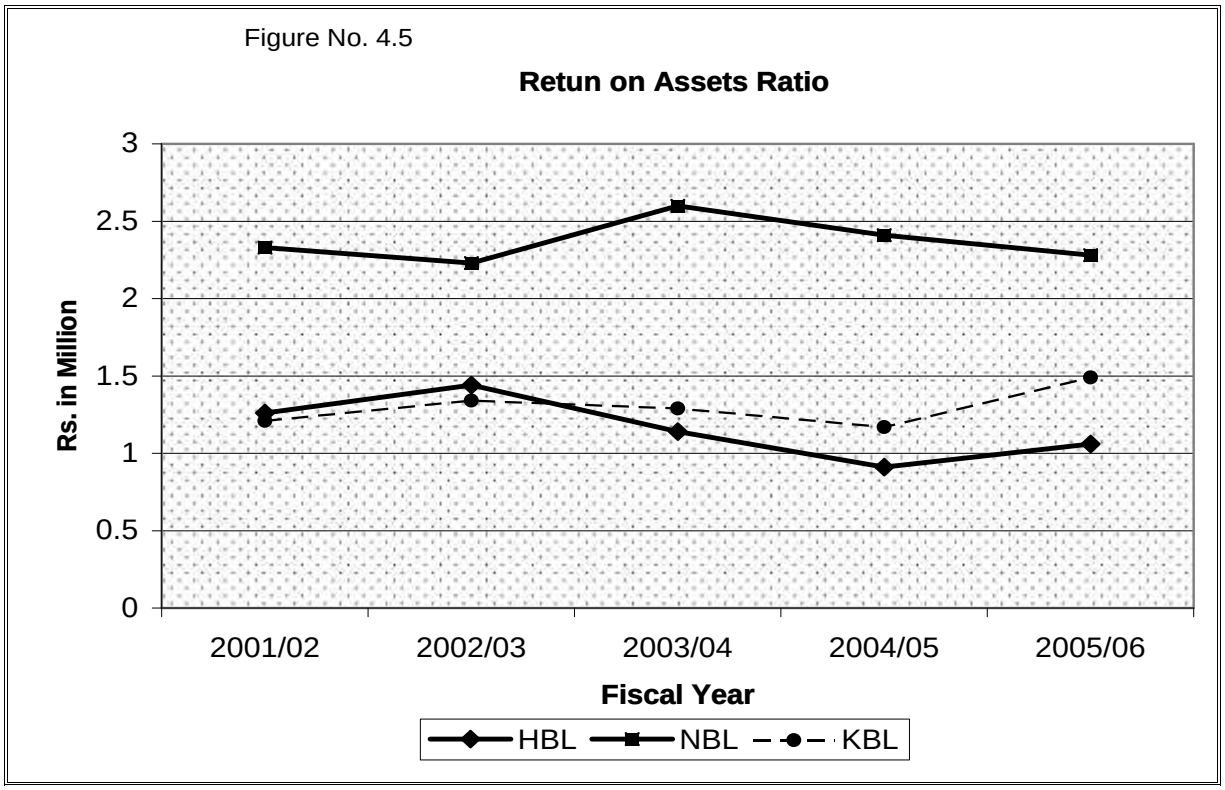
Return on Assets (ROA) ratio is used to measure the productivity of assets employed by a company. The ROA establishes the relationship between net profit after taxes and total assets of three CBN. Total assets includes both current and fixed assets, where current assets refers cash at bank, cash in hand, furniture & fixtures, vehicles& computers etc. The following table can show the ROA of three CBN.

Table No. 4.5
Return on Assets Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	1.26	1.44	1.14	0.91	1.06	1.16	0.18	0.16
NBL	2.33	2.23	2.60	2.41	2.28	2.37	0.13	0.05
KBL	1.21	1.34	1.29	1.17	1.49	1.30	0.11	0.08

Source: *www.nepalstock.com*

Figure No. 4.5



The ROA ratio of HBL lies in the range if 0.91% to l.26%. The maximum ROA of the bank is 1.26% in F. Y.2007/08 where as the minimum ROA is 0.91% in F. Y. 2002/ 03. An average ROA ratio of HBL is 1.16%, which seems to be the lowest among the selected banks. The bank has been able to maintain above its average ratio in earlier 2 years but it has been unable in later 3 years. The S. D of ROA is 0.18% whereas C.V. is 0.16% which indicates comparatively large fluctuation in ROA among the selected banks.

The ROA ratio of NBL ranges between 2.23% to 2.60%. The average ROA of NBL is highest among the selected banks i.e. 2.37%. The bank has been able to maintain its average ROA in F.Y. 2007/08 and F. Y. 2006/07 but failure to maintain in 2007/08, 2007/08 and 2006/07.The KBL has S. D. of 0.11% with a C.V. of 0.08%. The C.V. of 0.08% indicates that

there is moderate fluctuation in ROA of KBL. The ROA of KBL ranges between 1.17% to 1.49%.

The above analysis shows that the average ROA of NBL is the highest and that of HBL is the lowest under the study period. This implies that the Return from total assets of NBL is highest and that of HBL is lowest. The ROA range of the banks under study is between 0.91% to 2.60.The C. V. of NBL is the least among the banks.

4.1.6. Analysis of Return on shareholder equity (ROSE)

ROSE is another summary measurement of company's performance. ROSE compares N. P. to the equity that shareholders have in the company. It determines the sum of return in percentage according to their investment. It tills us the earning power of the shareholders investment in book value. The high ROE often reflects the firm's acceptance of strong investment opportunity and effective management. A lower ROE often reflects the firm's acceptance of weak investment opportunities & inefficient management which is calculated as follows:-

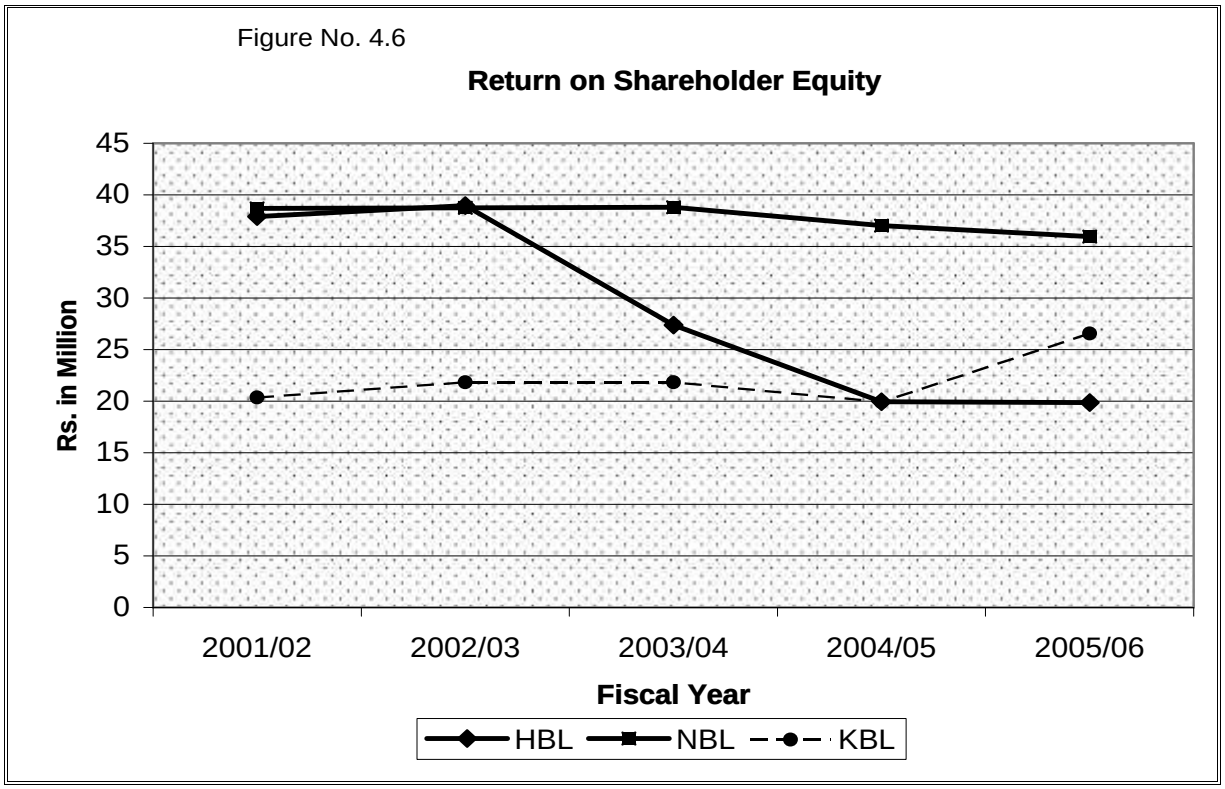
Table No. 4.6

Return on Shareholder Equity

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	37.90	38.95	27.39	19.95	19.87	28.81	8.32	28.88
NBL	38.68	38.74	38.79	37.03	35.96	37.84	1.15	3.04
KBL	20.35	21.82	21.83	19.92	26.57	22.10	2.36	10.68

Source: *www.nepalstock.com*

Figure No. 4.6



The above table depicts that the ROSE of HBL is in more fluctuation trend. The ROSE of the bank is 37.90% in F. Y. 2007/08, and then it slightly increased to 38.95% in F. Y. 2006/07.Thereafter, it has been decreasing till 2003/ 04. The average ROSE of bank is 28.81% .This indicates that the bank has provided at least 28.81of ROSE. The S.D of

ROSE is 8.32% whereas C.V. is 28.88%. The C. V. of 28.88% indicates that there is a moderate fluctuation in ROSE of HBL over the study period.

The ROSE of NBL ranges between 35.96%to 38.79%. The maximum ROSE of the bank is 38.79%in F.Y.2007/08 where as the minimum ROSE is 35.96 in F.Y.2007/08.The Bank has been able to maintain above its average ROSE in F.Y. 2007/08, 2006/07 and 2007/08 respectively. But it failures to maintain its average ROSE in F.Y.2006/07 and 2007/08 respectively. The C.V. of NBL is 3.04% that there is less fluctuation in ROSE of NBL during the study period.

So on, the ROSE of KBL is in increasing trend for 3 years & negatively increased in 4th years i.e. in 2006/07 F.Y. It is 20.35% in F.Y.2007/08, 21.82% in the F.Y. 2006/07, 21.83%in F.Y.2007/08,19.92% in the next year and it is 26.57% in the last fiscal year. It means that its profitability trend is increasing. But is quite low in F.Y.2006/07.The S.D. of ROSE is 2.36% whereas C.V. is 10.68%. AS a whole we can say ROE of KBL is in average position.

From the above analysis, it shows that the average ROSE of NBL is the highest i.e.37.84% and that of KBL is the lowest i.e. 22.10%.The NBL has provided much more satisfactory level of ROSE over the study period. The ROSE of the sample banks ranges between 19.19% to 38.95%. The C.V. of ROSE of HBL is highest and that of NBL is the lowest. This indicates that the ROSE of NBL is more consistent and that of HBL is less. The ROSE of KBL is in moderate level of consistency.

Hence, the analysis of ROSE shows that NBL is better than other over the years.

4.1.7. Analysis of the Interest Coverage Ratio

To analyze the internal power of the company, the interest coverage is one of the major instruments which measure the debt serving capacity of the financial firm. It shows how many times the interest charge is covered by EBIT out of which they will be paid. It must be greater than 1 and becomes good if it is greater. It can be calculated as follows:-

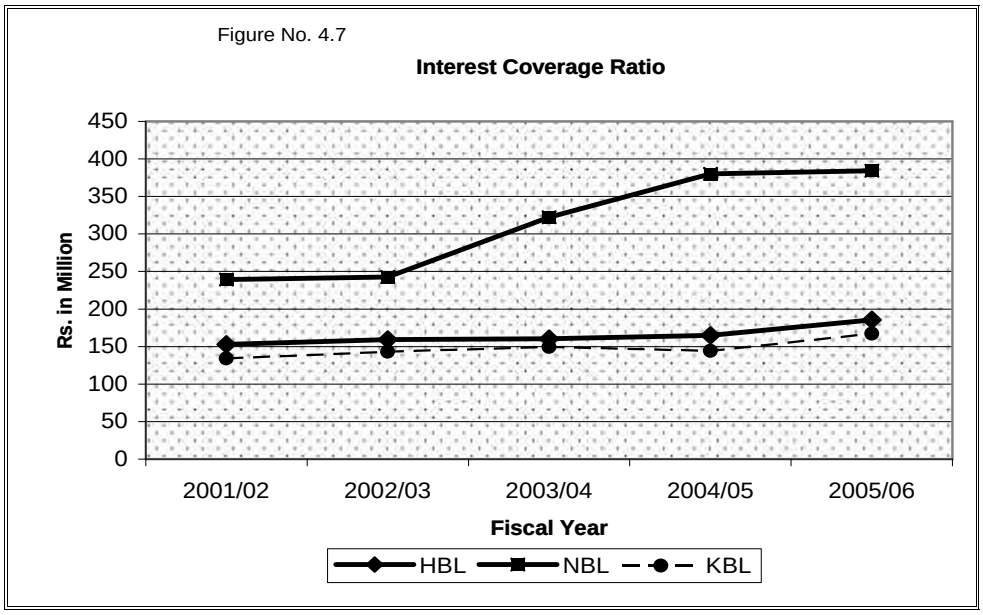
Table No. 4.7

Interest Coverage Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	152.86	159.37	160.37	164.97	185.56	164.63	11.16	6.78
NBL	239.39	242.74	322.36	380.32	384.18	313.80	63.31	20.18
KBL	134.17	143.22	149.55	144.35	167.14	147.69	10.92	7.39

Source: *www.nepalstock.com*

Figure No. 4.7



It has been presented on the above table which shows the ICR of HBL is in increasing trend. The ICR of HBL ranges between 152.86% to185.56 percent. The maximum ICR of the bank is 185.56% in F.Y.

2007/08 where as the minimum ICR is152.86% in F.Y.2007/08. The bank has been able to maintain above its average ICR in F. Y. 2006/07 and 2007/08 respectively but it failures to maintain its average ICR in earlier 3 years respectively. The C. V. of HBL is 6.78% which reflects that the bank has comparatively strong power of interest payment is increasing every year.

Similarly, the ICR of NBL is also in increasing trend. The ICR of NBL ranges between 239.39% to 384.18% . The maximum ICR of the bank is 384.18% in F.Y. 2007/08 where the minimum ICR is 239.39% in F.Y. 2007/08. The bank has been able to maintain above its average ICR in later 3 years but unable in earlier 2 years. The C.V. of NBL is 20.18%, which is comparatively highest among selected banks indicates that the power of interest payment is strong every year but very high ratio may imply unused debt capacity of the firm.

So on, the ICR of KBL ranges between 134.17% to 167.14%. The highest being 167.14% in F.Y. 2007/08. The average ICR of the bank is 147.69%, which has been maintained by the bank in F.Y. 2007/08 and F.Y.2007/08 but has been unable to maintain in F.Y.2007/08, 2006/07 and in F. Y. 2006/07. The ICR of KBL is in fluctuation due to decrease in F. Y. 2006/07 than in F. Y. 2007/08 but in other 2 banks , we cannot see the fluctuation. The S. D. and C.V. of bank is 10.92% and 7.39% respectively.

From the above analysis, it shows that the average ICR of NBL is the highest i. e. 313.80% and that of KBL is the lowest i.e. 147.69%. The ICR shows the power of interest payment of company. Very high ratio may imply unused debt capacity of the firm. In contrast, a low ratio is danger signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditor.

4.1.8. Analysis of Price Earning Ratio

This ratio is closely related to earning yield Which measures investor expectation and the market appraisal of the performance of the firm Its general rule is that the higher P/E multiple is better for owner and it is used to assess forms performance which is calculated as follows:

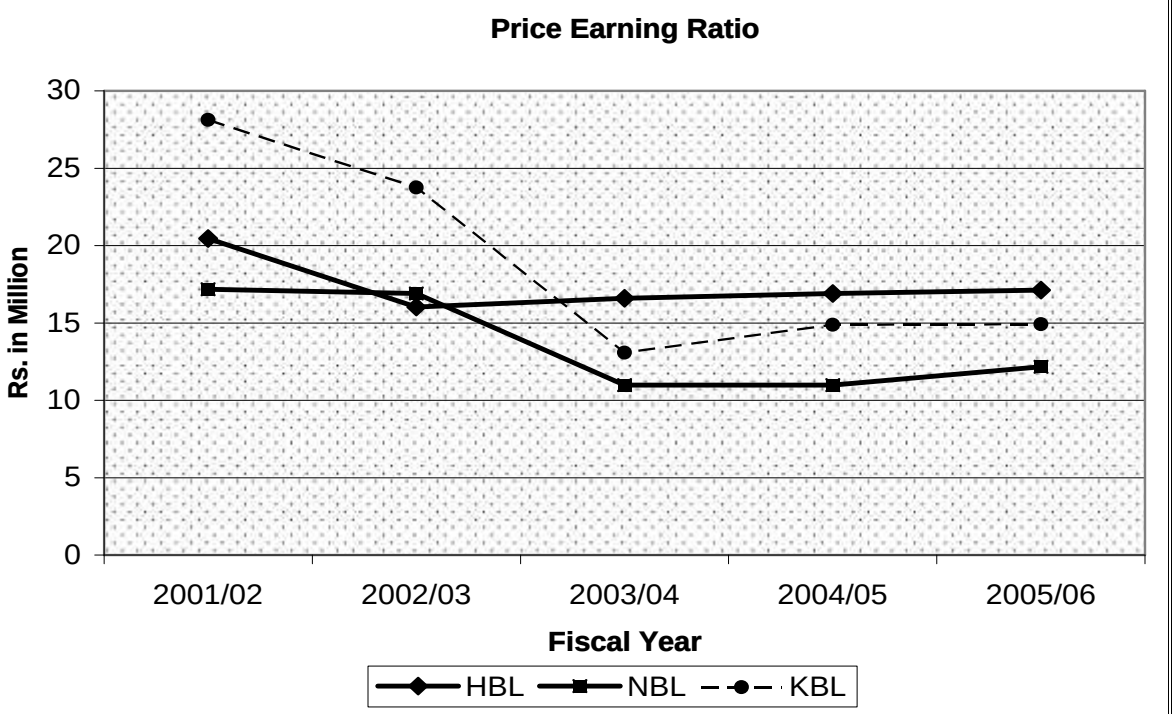
Table No. 4.8

Price Earning Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	20.46	16.03	16.59	16.91	17.12	17.42	1.56	8.97
NBL	17.17	16.90	10.98	10.98	12.16	13.64	2.81	20.59
KBL	28.12	23.76	13.07	14.88	14.92	18.95	5.91	31.19

Source: *www.nepalstock.com*

Figure No. 4.8



The P/E ratio of HBL ranges between 16.03 times to 20.46 times being paid for each rupee of earning of HBL during the study period. The average P/E ratio of HBL is 17.42 times, which implies that the price paid in average Rs. 17.42 of each rupee of earning of HBL over the five years period. The bank has not been able to maintain its average P/E ratio over the study periods except in F. Y. 2007/08. But if we observe closely, the yearly P/E ratio is almost close near about average P/E ratio of HBL over the study period. The S. D. of P/E ratio is 1.56 with 8.97% of C.V. which reflects that the bank has comparatively lowest fluctuation P/E ratio during the study period.

The P/E ratio of NBL ranges between 10.98 to 17.17 tomes. The highest P/E ratio of NBL found to be in 2007/08 i.e. 17.17 times and that of lowest in 2007/08 and 2006/07 respectively i.e.10.98 times for both the

years. It implies that the price Rs.10.98 to Rs. 17.17 being paid for each rupee of earning of NBL over the five years period. The average P/E ratio of NBL is 13.64 times which indicates that the price paid in average of Rs.13.64 for each rupee of earning of NBL during the study period. The bank has maintain its average P/E ratio in earlier two years but could not maintain in later three years. The S.D. of P/E ratio is 2.81 whereas the C.V. of P/E ratio is 20.59%, which indicates the bank has less fluctuation in P/E ratio during the study period.

The above table shows that year to year comparison of P/E ratio of KBL is in fluctuation trend. The P/E ratio of KBL ranges between 13. 07 times to 28.12 times. It implies that the price Rs. 13.07 to Rs.28.12 being paid for each rupee of earning of KBL over the five years period. The average P/E ratio of bank is 18.95 times, which indicates the market price paid in average of Rs 18.95 for each rupee of earning of KBL over the study period. The bank was able to maintain its average P/E ratio in earlier two years but could not maintain in later three years. The S. D . of P/E ratio is 5.91and C. C. of P/E ratio is 31.19%. The large fluctuation of 31.19% in the P/E in the P/E ratio is seen during the study period, which is comparatively high in respect to other banks.

From the above analysis, the average P/E ratio of KBL is the highest among the three banks and that of NBL is the lowest. The C.V. of P/E ratio of KBL is the highest and that of HBL is lowest among the sample banks under study which indicates that there is greater confidence of investor in the KBL future and that of lower in the HBL future. So on, the variability of PO/E ratio of HBL is more consistency or uniformity and that of KBL is less consistency and less uniformity.

4.1.9. Analysis of the Dividend Payout Ratio

The dividend payout ratio measures the relationship between the EPS and dividend paid to them. It shows the percentage between the net profit after tax and preference dividend and dividend paid to the equity shareholders. It is calculated as follows:-

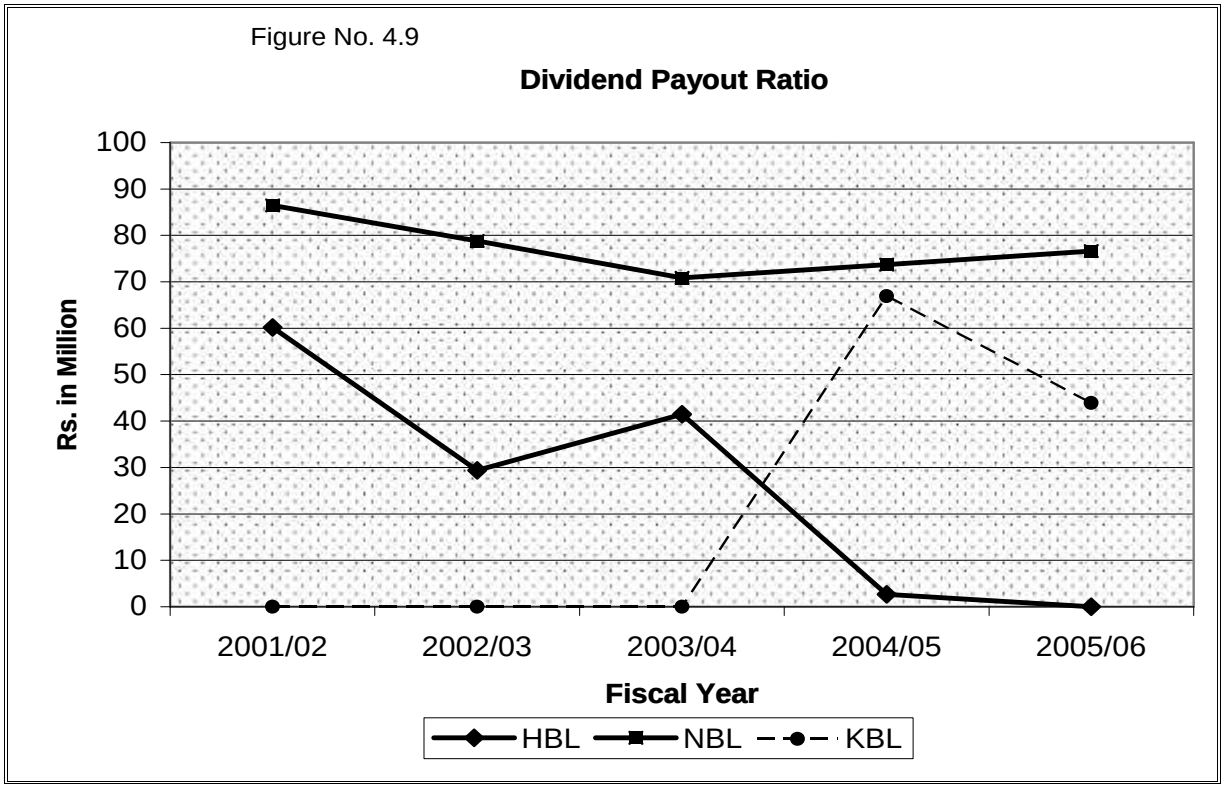
Table No. 4.9

Dividend Payout ratio =DPS / EPS

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	60.19	29.39	41.49	2.66	0	26.75	22.97	85.87
NBL	86.49	78.81	70.86	73.68	76.63	77.29	5.32	6.89
KBL	0	0	0	66.89	43.88	22.15	28.09	1.27

Source: *www.nepalstock.com*

Figure No. 4.9



The above table shows that DP ratio of HBL lies in the range of 0% to 60.19%.An average payout ratio of HBL is 26.75%, which seems to be the second lowest among the selected banks. By analyzing the payout ratio of HBL, we see that it has maintained consistency in DPR in earlier years but it is unable to keep the same ratio in later years. The DPR of bank is 60.19% in F.Y.2007/08 but decreased in faster rate after 2007/08 and reached to minimum of 0% in year 2007/08 from maximum of 60.19%. The S.D. is 22.97% and C.V. is 85.87%. The C.V. of 85.87% shows the large fluctuating in payment pattern of the bank.

Dividend payout ratio of NBL is in the range between 70.86% to 86.49% .An average payout ratio of bank is 77.29%, which seems to be second highest among the selected banks. The average DPR of 77.29% shows that NBL generally pays 77.29% of its total earnings as dividend to its shareholders. Though, bank does not seem to maintain its average DPR over the study period except in year 2007/08 and 2006/07 respectively. But if we observe closely DPR of all the years has been closed to average payout ratio, which shows the management consistent attitude toward treatment of profit in respect to distribution of dividend and retained earnings. The S.D. of DPR is 5.32. The C.V. is 6.89%, which reflects that there is only near about 7% fluctuation in DPR of the bank over the study periods.

The average payout ratio of KBL is 22.15%, which seems to be the lowest among the selected banks. The yearly DPR of KBL lies within the range of 0% to 66.89% where the bank has not been paid any dividend in earlier three years. The S.D. of DPR is 28.09 and C.V. of DPR is 1.27%.

To sum up, DP ratio trend indicates that the banks are not following constant dividend payout ratio. DP ratio of NBL to common shareholders is much more better than that of other two banks.

4.1.10. Analysis of Earning per Share of the Sample banks

Earning per share reflects the rupee amount earned per share of common stock outstanding. In other words, it measures the profit available to the ordinary shareholders on share basis. EPS measures the efficiency of a firm in relative terms. It is a widely used ratio. The earning per share calculation made one years indicates whether the banks earning power on per share basis has changed over that period or not but it doesn't reflect. The higher earning indicates the better achievement in terms of profitability of the banks by mobilizing their funds and vice-versa. EPS is the signal of financial strength and weakness of the bank. It is calculated by dividing total earnings available to common stock holders by number of common share outstanding.

The following table shows the detail relating to EPS.

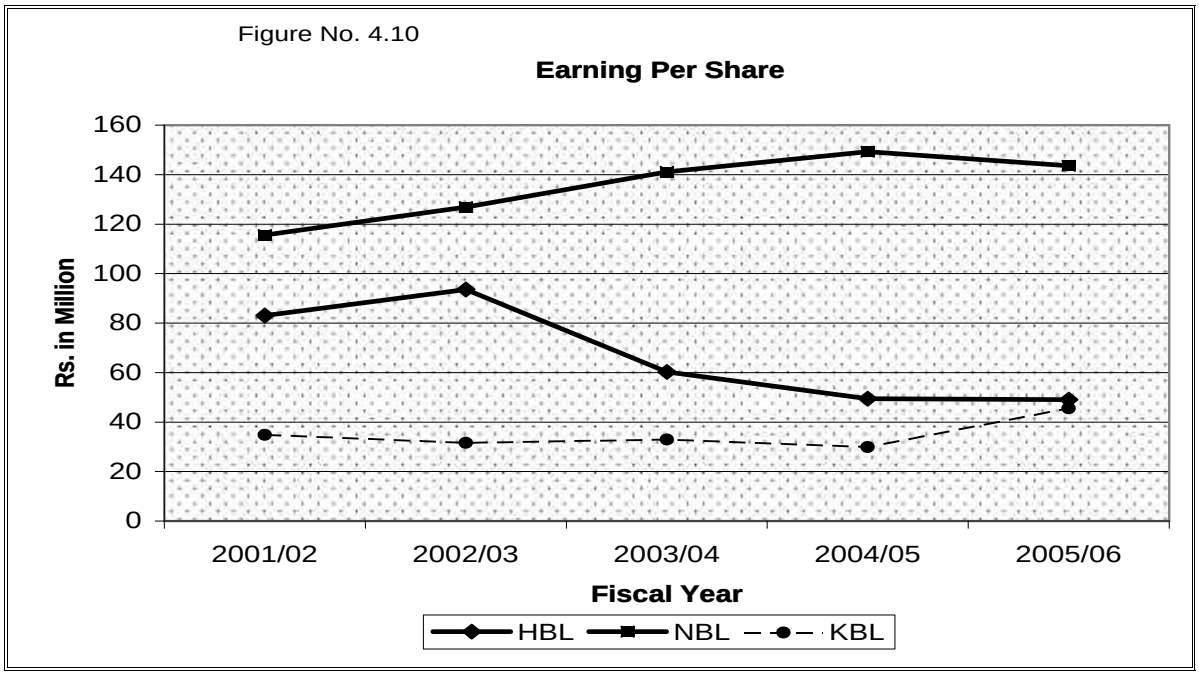
Table No. 4.10

Earning Per Share

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	83.08	93.56	60.26	49.45	49.05	67.08	18.11	27.00
NBL	115.62	126.88	141.13	149.30	143.55	135.3	12.30	9.09
KBL	34.85	31.56	32.91	29.90	45.58	34.96	5.55	15.88

Source: *www.nepalstock.com*

Figure No. 4.10



The above table represents the reported EPS of sample banks over the period from 2007/08 to 2007/08. The yearly EPS of HBL was Rs.83.08 in F.Y.2007/08, and increases to Rs. 93.56 in 2006/07 because increase in total earning. Thereafter EPS is in decreasing trend. Its EPS is decreases to Rs. 60.26 in 2007/08, is 49.45 in 2006/07 and Rs 49.05 in 2007/08 because of issuance of bonus share at 3:10, 1:10,1:5 ratio last year respectively. Which shows that the earning generation capacity of HBL is falling gradually, likewise its position in the stock market is decreasing simultaneously with the decrease in EPS. The average EPS of HBL is Rs.67.08 and S D. is 18.11. The bank has maintained its average EPS for the first 2 years and in last three years bank has been unable to maintain its average EPS. The C.V. of the EPS is 27% which indicates that there is a fluctuation of 27% in EPS of HBL.

NBL has highest average EPS among the selected banks under the study, which has been maintained by the bank almost in all years. The EPS of NBL ranges between Rs.115.62 to 149. 30 during the period of the

study. The average EPS of the bank is Rs 135.3 and S. D. is 12.3.The C.V. of bank is 9.09% which indicates that there is a low fluctuation of 9.09% in the EPS of SCVBL over the period of study.

The KBL had an average EPS of Rs.34.96 during the study period, ranging between Rs. 29.90 to Rs.45.58. The bank has been able to maintain its average ratio only in F.Y.2007/08 and has been unable to maintain its average ratio in earlier 4 years. The maximum EPS of KBL is Rs. 45.58 in F.Y.2007/08 and minimum is Rs. 29.90 in F.Y.2006/07. The S.D. of EPS for KBL is 5.553 where as the coefficient of variation (C.V.) is 15.88%. The C.V. indicates that there is a moderate fluctuation of 15.88% in the EPS of KBL bank during the study period.

From the above analysis , comparing overall performance of banks among selected for the study in respect to EPS, it can seen that the average EPS of NBL is the highest among the selected banks and that of KBL is the lowest. Indicates that the NBL has been able to generate more earnings with best performance and also been able to utilize its fund that of other banks. So, NBL is in strong position in stock market and HBL & KBL are in moderate position.

4.1.11. Leverage Ratio or EBIT-EPS Analysis

This analysis (EBIT-EPS) can be assumed an important tool for company capital structure management, where the financial manage seeks to compare the various alternative methods of financing under different assumptions. Furthermore, EBIT-EPS analysis is one of the widely used methods employed to determine the appropriate level of debt.

Keeping in view the primary objective of financial management of maximizing the market value of the firm, the EBIT- EPS analysis should be considered logically as the first step in the direction of designing a firm's

capital structure. This analysis shows the impact of various financing alternatives on EPS at various level of EBIT. This analysis is useful for two reasons, (1) the EPS is a measure of a firm's performance. Given the P/E ratio, the large EPS, the large would be the firm's share,(2) given the importance if EPS under various financing alternatives at different levels of EBIT, the EBIT-EPS analyses information can be extremely useful to the financial manager in arriving at appropriate financing decision."[80]

Generally, different sources of capital can divided mainly into two parts as owner's capital and loan capital, where the company has a legal binding to pay interest on debt. The rate of preference dividend is also fixed, but the preference dividends are paid when the company earns profit. The common shareholders are entitled to the residual income. Financial leverage at once provides the potentials of increasing the shareholders earning as well as creating the risk of loss to them. It suggests consideration of pertinent variables, the lower the interest rate, greater will be the profit, and the less the chance of loss, the less the amount borrowed the lower will be the profit or loss also, the greater the borrowing, the greater the risk of unprofitable leverage and the greater the chance of gain."[81]

Leverage can be categorized into three parts, where operating leverage, financial leverage and combined leverage. Operating leverage is the function of fixed cost, contribution margin and sales volume. Financial leverage is the relationship between EBIT and EPS and combined leverage is the combined effect of operating and financial leverage. The operating leverage shows the impact of chance sale on operating income and financial leverage exists when the capital structure of the firm included

[80] Khan My & Jain PK., op.cit.,p.518.
[81] Pandey I.M., op. cit., p. 204-5.

debt capital. So, financial leverage is the relevant issue in this study. Therefore, only about the financial leverage is explained in this chapter.

4.1.12. Degree of financial leverage

The financial leverage affects earning after taxes and interest, which is available to common shareholders. The financial leverage is defined as the percentage change in the earnings available to common shareholders due to given change in earnings before interest and taxes.[82] "A ratio between the percentage of change on EBT and EBIT is known as financial leceraage."[83] It can be calculated by using the following formula.

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

[82] Ibid., p. 594
[83] Dongol R. M. & Prajapati K. P., op. cit., p. 324.,

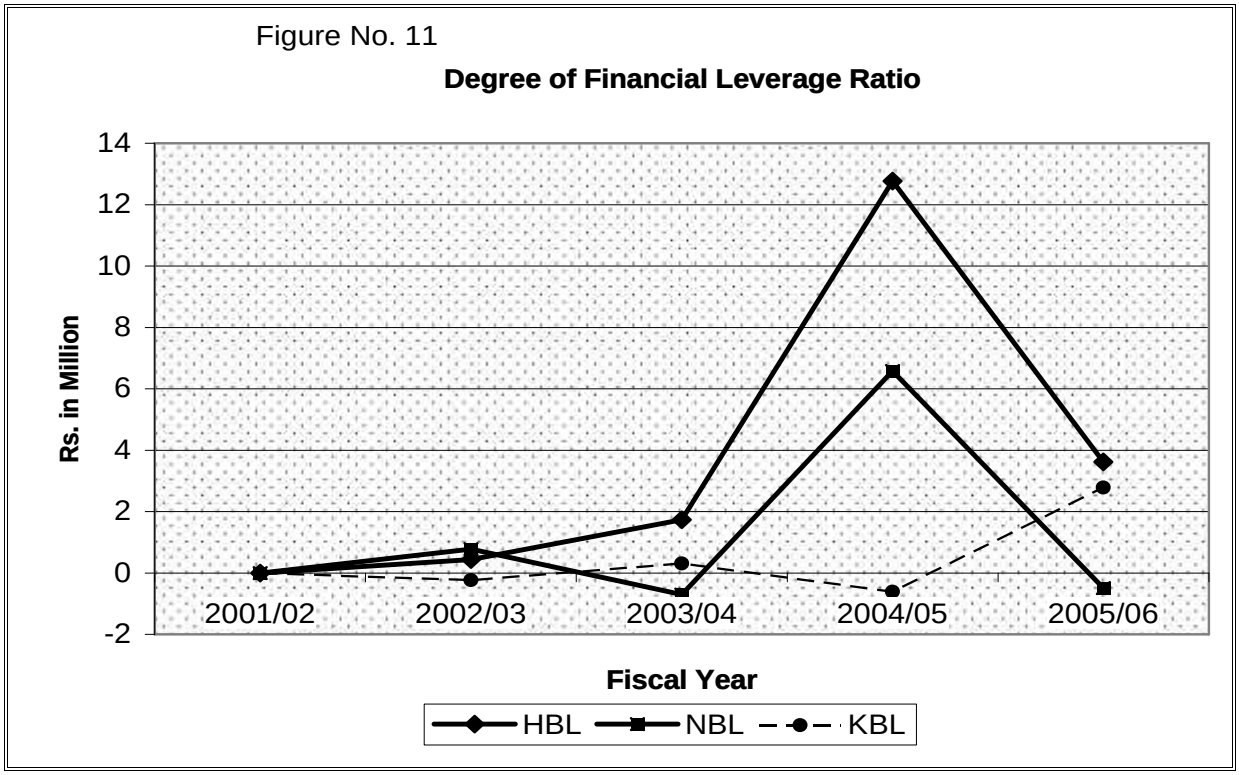
Table No. 4.11

Degree of Financial Leverage Ratio

Year / Bank	2001/02	2002/03	2003/04	2004/05	2005/06	Mean	S.D.	C.V.
HBL	_	0.44	1.73	12.77	3.62	4.64	4.32	0.93
NBL	_	0.78	-0.70	6.58	-0.49	1.54	2.65	1.72
KBL	_	-0.23	0.31	-0.61	2.78	0.56	1.18	2.11

Source: *Form Appendix- III*

Figure No. 11



The DFL of HBL ranges between 0.44 times to 12.77 times. The highest DFL of HBL found to be in 2006/07 i.e.12.77 times and that of lowest in 2006/07.This indicates that the increase in EBIT increase the EPS proportionately. The average DFL of HBL is 4.64 times which indicates that if EBIT is increased by 1%, the EPS will be increased by 4.64%. The HBL has been able to maintain its average ratio only in

F.Y.2006/07 but it failure to maintain in 2006/07, 2007/08 and 2007/08 respectively.

The average DFL of KBL is 0.56 times which is the lowest among the selected banks. The bank has been able to maintain its average DGL only in F.Y.2007/08(i.e.2.78). The bank has negative DFL i.e.-0.23 and 0.61 in F.Y. 2006/07 and 2006/07 respected. The bank has positive DFL i.e.0.31&2.78 in F.Y.2007/08 and 2007/08 respectively. The S.D of DFL is 1.18 with a C.V. of 2.11 which indicates that there is more fluctuating indicating the greater financial risk.

From the above analysis shows that the average DFL of HBL is highest among the selected banks. The C.V. of HBL is lowest indicates that there is low financial risk among the sample banks. The average DFL of KBL is lowest i.e.0.54 which is less than standard ratio (i.e.1).KBL & HBL has also the negative DFL in 2 F.Y. This indicates that there is the need of the change in capital structure for both companies for the efficient and effective use of debt capital.

4.1.13. Coefficient of Correlation Analysis

Correlation analysis is the statistical tools that can be used to describe the degree to which one variable is linearly related to other variable. It is denoted by ‘r’.

In other words, correlation is the relationship between two or more variables where only one variable depended and more variable in depended. In this study, the Karl Pearson’s coefficient of correlation method is used co-efficient of correlation between total debt and shareholders equity, total debt & total assets, total assets & net profit, total debt & interest expenses, return on shareholder equity& EPS and cost of service& net profit are analyzed. The following table shows the correlation coefficient and probable error (PE) of above explained variables:

4.2. Analysis of the Relationship between Total Assets & Net Profit

The following table shows the correlation coefficient between total assets & net profit.

Table 4.12
Correlation Coefficient Between TA &NPAT

Banks	r	Relationship	r2	t-value	Remarks at 5%
HBL	0.3571	positive	0.1275	0.6622	Insignificant
NBL	0.8908	Positive	0.7935	3.3956	Significant
KBL	0.9671	Positive	0.9353	6.5846	Significant

Source : *From Appendix-II*

Tabulated Value of t0.05(3), is 3.182

The above table reveals that the correlation coefficient between TA & NPAT of sample banks. The correlation coefficient between respective banks is 0.3571, 0.8908 and 0.9671 respectively. The highest positive correlation is found for KBL and lowest in HBL. Positive correlation for the sample banks implies that when TA increases NPAT also increases and vice- versa whereas the perfectly positive relationship (i.e.+1) indicates that the NPAT is fully depend on the amount that the NPAT is fully depend on the amount of total assets.

The coefficients of determination (r2) between TA & NPAT of respective banks are 0.1275, 0.7935 and 0.9353. This describes that variation in independent variable (NPAT) explains 12.75%, 79.35% & 93.53% of variation in Total Assets and remaining is due to the effect of other factors in case of HBL, NBL and KBL respectively.

From the above table it can be observe that the computed t- value of coefficient of correlation(r) between total assets and net profit of NBL and KBL are greater than the tabulated value (3.182) at 5% level of significance for two tailed besides HBL whose calculated t value 0.6622 is lower than the tabulated value. Therefore, the null hypothesis (Ho) is accepted in case of HBL and Null hypothesis rejected of NBL and KBL i.e. alternative hypothesis is selected. This

implies that there is no statistically significant correlationship between TA & NPAT in the high majority of Nepalese commercial banks.

4.2.1. Analysis of the Relationship between Costs of Service& Net Profit

The following table shows the correlation coefficient between cost of service & net profit.

Table 4.13

Correlation Coefficient Between Cost of Service & Net Profit

Banks	r	Relationship	r2	t-value	Remarks at 5%
HBL	0.6353	Positive	0.4036	1.4248	Insignificant
NBL	-0.8061	Negative	0.6498	2.3593	Insignificant
KBL	0.9319	Positive	0.8684	4.4491	Significant

Source : *From Appendix-II*

Tabulated Value of t0.05 (3) is 3.182

The correlation coefficient between cost of service & net profit of HBL, NBL and KBL are 0.6353, -0.8061 and 0.9319 respectively. The highest positive correlation is found for KBL. However negative correlation has also been found for NBL. Positive correlation for the two banks implies that when the cost of service increases net profit also increases and vice-versa. The negative correlation implies that the direction or movement of cost of service & net profit is opposite i.e. when the cost service increases the net profit decreases and vice-versa in case of NBL.

The coefficient of determination (r2) between cost of service and net profit of respective banks are 0.4036, 0.6498 and 0.8684 respectively. This indicates that the 40.36%, 64.98% and 86.84% of total variation in net profit has been explained by the variation in cost of service and remaining is due to the effect of other factors.

From the above analysis, it can be observed that the computed t- values of the correlation coefficient (r) between cost of service and net profit of HBL and NBL are lower than tabulated value(3.182) at the 5% level of significance except the KBL whose calculated t-value (i.e. 3.182). Therefore, the Null hypothesis (Ho) is accepted in case of HBL & NBL and Null hypothesis is rejected for KBL. This implies that there is no statistically significant correlationship between cost of service and net profit in the high majority of Nepalese commercial bank.

4.2.2. Analysis of the Relationship between Total Debt & Shareholder Equity

The following table shows the correlation coefficient between Total Debt & Shareholder Equity.

Table 4.14

Correlation Coefficient between Total Debt & Shareholder Equity

Banks	r	Relationship	r2	t-value	Remarks at 5%
HBL	0.9755	Positive	0.9516	7.6803	Significant
NBL	0.9268	Positive	0.8590	4.2751	Significant
KBL	0.9701	Positive	0.9411	6.9234	Significant

Source : *From Appendix-II*

Tabulated value of t0.05 (3) is 3.182

It is clear from the above correlation figures that the relationship between total debt and shareholder equity of sample banks are positively correlated. The correlation coefficients between respective banks are 0.9755, 0.9268 and 0.9701. It indicates that there is the strong and reliable positive correlation between these two sources of capital. With the increase in shareholders equity, the debt capital is also increasing and vice-versa. The highest positive correlation is observed for HBL i.e. j0.9755 which indicates that the trend of increase in shareholders equity is along with the increase in total debt by 97.55%and vice-versa.

The coefficient of determination (r2) between total debt & shareholder equity of HBL, NBL& KBL is 0.9516, 0.8590 and 0.9411 respectively. It means that 95.16%, 85.90% and 94.11%of total variation in shareholder equity has been explained by the variation in total debt and remaining is the effect of other factors.

From the above table it can be observed that the computed t- values of coefficient of correlation(r) between total debt & shareholder equity of all the concerned banks are higher than the tabulated value (3.182) at 5% level of

significance for two tailed. Therefore, the null hypothesis is rejected and an alternative hypothesis is selected. This implies that there is statistically significant relationship between total debt and shareholder equity in the high majority of Nepalese commercial banks.

4.2.3. Analysis of Relationship between Total Debt& Interest Expenses.

The following table shows the correlation coefficient between total debt & interest expenses.

Table 4.15

Correlation Coefficient between Total Debt & Interest Expenses

Banks	r	Relationship	r2	t-value	Remarks at 5%
HBL	-0.5213	Negative	0.2718	1.0582	Insignificant
NBL	-0.5868	Negative	0.3443	1.2551	Insignificant
KBL	0.9775	Positive	0.9555	8.0243	significant

Source : *From Appendix-II*

Tabulated Value of t0.05 (3) is 3.182

The above table reveals that the correlation coefficient between total debt& interest expenses of sample banks. The correlation coefficients between respective banks are -0.5213, -0.5869 and 0.9775 respectively. The KBL has positive correlation and negative correlation has been observed for HBL & NBL. Positive correlation for the KBL implies that when the total debt increases interest expenses also increases and vice-versa. The negative correlation for HBL and NBL implies that the direction or movement of total debt& interest expenses is opposite i. e. when the total debt increases the interest expenses decreases and vice-versa.

The coefficient of determination (r2) between total debt & interest expenses of HBL, NBL& KBL are 0.2718, 0.34437& 0.9555 respectively. It

means that 27.18%, 34.43% and 95.55% of total variation in interest expenses amount has been explained by the variation in total debt and remaining is the effect of other factors.

From the above table it can be observed that the computed t- value of coefficient of correlation(r) between total debt & interest expenses of HBL and NBL are lower than the tabulated value (3.182) at 5% level of significance for two tailed besides KBL whose calculated t- value 8.0243is greater than tabulated value. Therefore, the null hypothesis (Ho) is accepted in case of HBL & NBL and null hypothesis is rejected for KBL. This implies that there is no statistically significant correlationship between total debt & interest expenses in the high majority of Nepalese commercial banks.

4.2.4. Analysis of the Relationship between Return on Shareholder Equity (ROSE) &Earning Per Share (EPS)

The following table shows the Correlation coefficient between ROSE & EPS.

Table 4.16

Correlation Coefficient Between ROSE & EPS

Banks	r	Relationship	r2	t-value	Remarks at 5%
HBL	0.9840	Positive	0.9683	9.57501	Significant
NBL	-0.6425	Negative	0.4128	1.4523	Insignificant
KBL	0.9171	Positive	0.8411	3.9852	Significant

Source : *From Appendix-II*

Tabulated Value of t 0.05 (3), is 3.182

It is clear from the above correlation figures that EPS positively correlated with ROSE in two banks i. e. HBL and NBL. There exist negative correlation between EPS and ROSE in case of NBL. The negative correlation of NBL indicates that when the ROSE of NBL increases the EPS of NBL decreases and

vice-versa. The positive correlation implies that when ROSE increases the EPS of HBL and KBL increases and vice-versa.

The coefficient of determination (r2) between EPS and ROSE of HBL, NBL& KBL is 0.9683, 0.4128 & 0.8411 respectively. It means that 96.83%, 41.28% & 84.11% of total variation in earning per share amount has been explained by the variation in ROSE and remaining is the effect of other factors.

From the above table it can be observe that the computed t-value of coefficient of correlation(r) between EPS and ROSE of HBL & KBL are greater than the tabulated value (3.182) at 5% level of significance for two tailed besides NBL whose calculated t-value 1.4523 is lower than the tabulated value. Therefore, the null hypothesis (HO) is accepted in case of SCB: and Null hypothesis is rejected for HBL & KBL. This implies that there is no statistically significant correlation ship between EPs and ROSE in the high majority of Nepalese commercial banks.

4.3. Trend Analysis:

Trend analysis is one of the most important statistics tools to evaluate the movement of financial variables over a period of tome. It shows the various fluctuation i.e. upward & downward movements of variables. In this topic various data related to capital structure have been analyzes in term of time series to show the actual trend of variables of the banks during the study period. Such as EPS, loan and advances, total deposit, shareholder reserve, total revenue, total expenditure have been presented, The following table shows the trend of above explained financial variables of sample banks over the study period.

4.3.1. Analysis of the EPS Trend of the Sample Banks

Table No. 4.17

Total Earning per Share Trend

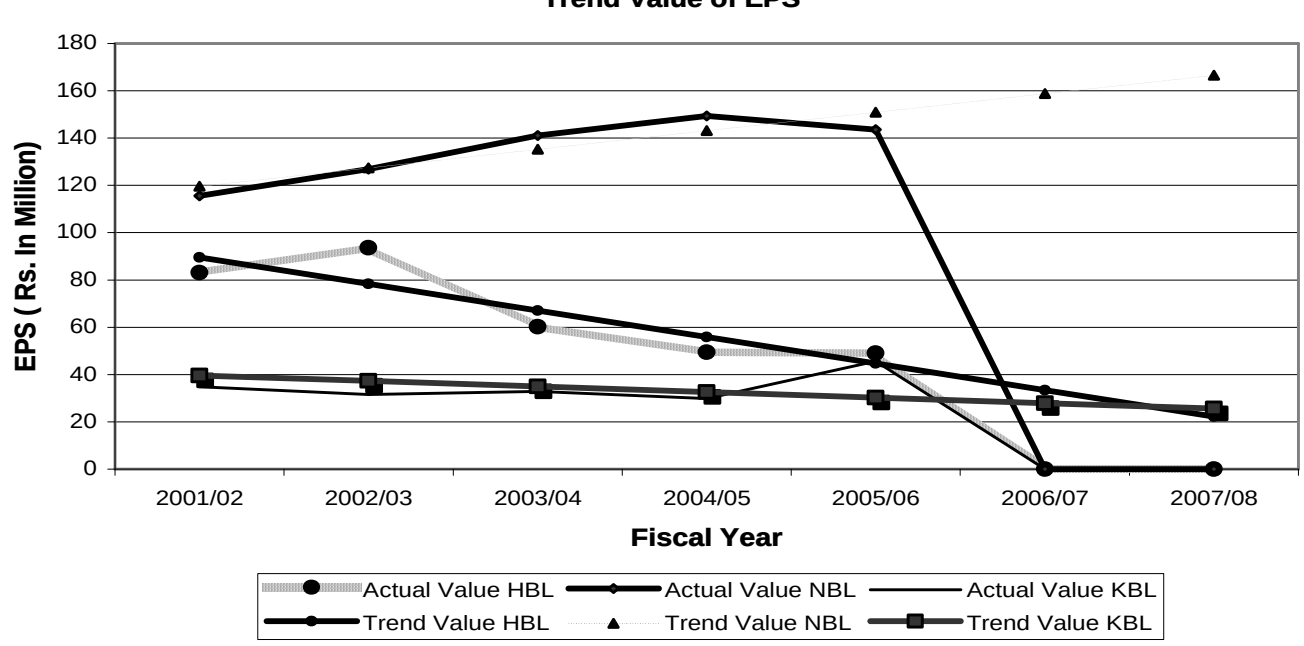
Year	Time	Actual Value			Trend Value		
		HBL	***NBL***	***KBL***	***HBL***	***NBL***	***KBL***
01/02	1	83.08	115.62	34.85	89.52	119.64	39.64
02/03	2	93.56	126.88	31.56	78.3	127.47	37.30

03/04	3	60.26	141.13	32.91	67.08	135.30	34.96
04/05	4	49.45	149.30	29.90	55.86	143.13	32.62
05/06	5	49.05	143.55	45.58	44.64	150.96	30.28
06/07	6	-	-	-	33.42	158.79	27.94
07/08	7	-	-	-	22.2	166.62	25.60

Source : *From Appendix-IV*

The above table depicts that the rate of change of HBL bank is higher than NBL & KBL. The trend analysis of HBL bank is in decreasing trend. The expected total earning per share is Rs. 33.42 and Rs. 22.2 of HBL bank in F.Y. 2006/07 and F.Y. 2007/08 respectively. Similarly, the trend analysis of NBL bank is in increasing trend. The expected earning per share is Rs. 158.79 and Rs. 166.62 of NBL bank in F.Y. 2006/07 and F.Y. 2007/08 respectively. The earning per share of KBL shows that there is decreasing trend i.e. Rs. 2.34, the expected earning per share for F.Y. 2006/07 in Rs. 27.64 and in F.Y. 2007/08 in Rs. 25.60. Similarly, the above graph depicts that the actual and trend line of HBL, NBL & KBL.

Figure No. 4.12



4.3.2. Analysis of the Trend of Loans and Advances to the other Commercial Bank.

Table No. 4.18

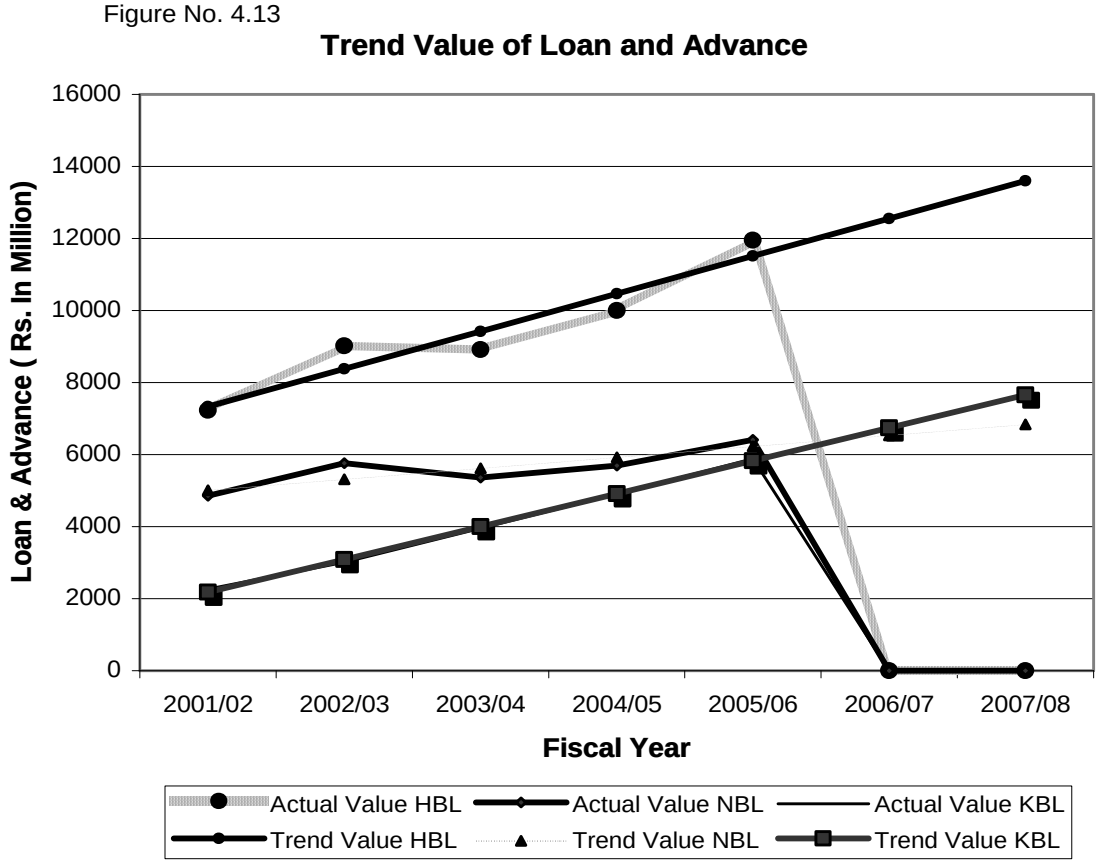
Trend value of Loans and Advances to the other Commercial Bank.

Year	Time	Actual Value			Trend Value		
		HBL	***NBL***	***KBL***	*HBL*	*NBL*	*KBL*
01/02	1	7224.73	4857.17	2270.20	7333.35	5010.19	2177.27
02/03	2	9015.35	5763.13	3005.70	8377.43	5314.19	3090.33
03/04	3	8913.73	5364.00	3948.48	9421.51	5618.07	4003.39
04/05	4	10001.85	5695.82	4908.46	10465.59	5921.95	4916.45
05/06	5	11951.87	6410.24	5884.12	11509.67	6225.83	5829.51
06/07	6	-	-	-	12553.75	6529.71	6742.57
07/08	7	-	-	-	13597.83	6833.59	7655.63

Source : *From Appendix-IV*

The above table depicts that the rate of change of HBL bank is higher than NBL & KBL. The trend analysis of HBL bank shows that there is an increment in total loan and advance every year, which is NPR (Net price) Rs. 7333.35. The expected total loan and advance is Rs. 12553.75 for F.Y. 2004/2005 and F.Y. 2005/2006 is Rs. 13597.83. Similarly, loan and advance of KBL is growing every year. The expected total loan and advance for F.Y. 2004/2005 is Rs. 6742.57 and F.Y. 2005/2006 is Rs. 7655.63. Similarly, loan and advance of NBL is also growing every year. The expected total loan and advance for F.Y. 2004/2005 are Rs. 6529.71 and F.Y. 2005/2006 is Rs. 13597.83.

Figure No. 4.13



4.3.3. Analysis of the Deposit and Other A/C Trend of the sample banks.

Table No. 4.19

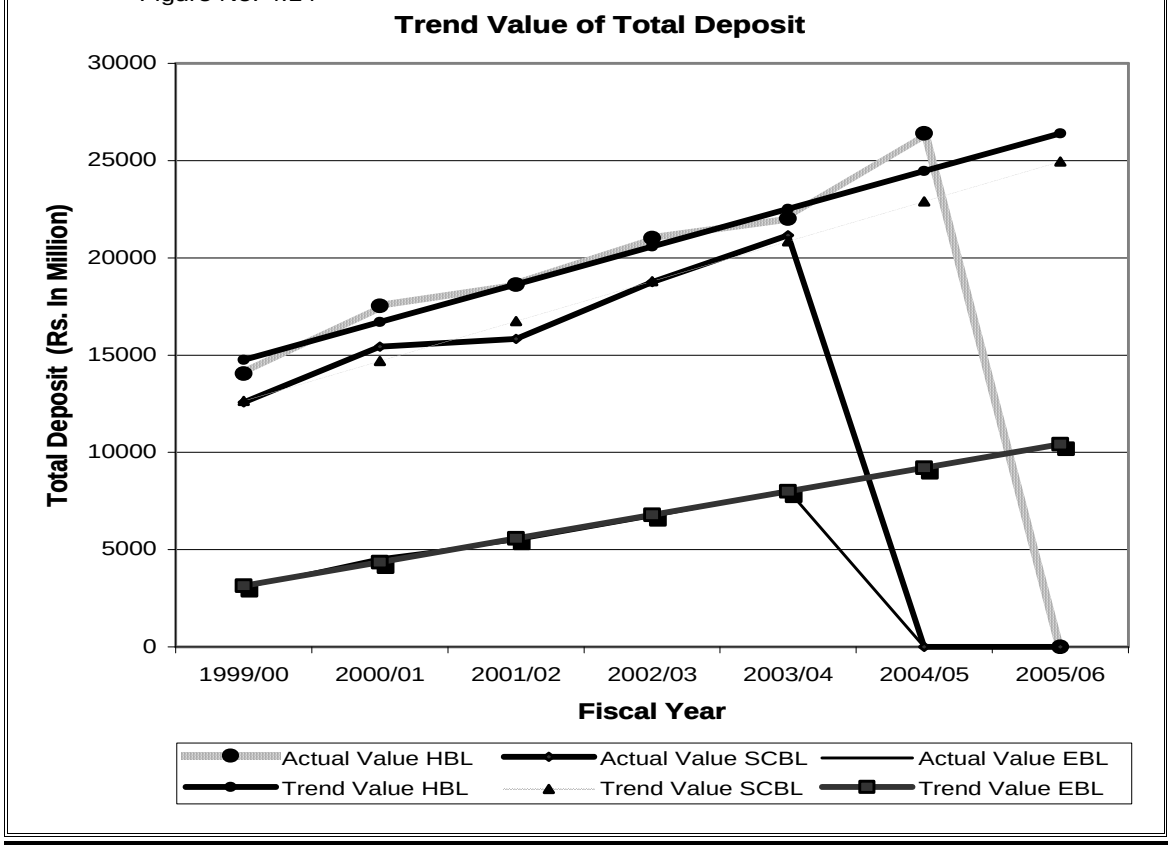
Trend value of Total Deposit

Year	Time	Actual Value			Trend Value		
		HBL	*NBL*	*KBL*	*HBL*	*NBL*	*KBL*
01/02	1	14043.10	12568.49	3057.40	14760.62	12647.98	3144.77
02/03	2	17532.40	15430.05	4574.50	16701.57	14699.13	4358.12
03/04	3	18619.37	15835.75	5466.60	18642.52	16750.28	5571.47
04/05	4	21007.37	18755.64	6694.95	20583.47	18801.43	6784.82
05/06	5	22010.34	21161.46	8063.90	22524.42	20852.58	7998.17
06/07	6	26406.32	-	-	24465.37	22903.73	9211.52
07/08	7	-	-	-	26406.32	24954.88	10424.87

Source : *From Appendix-IV*

From the above table, HBL bank expected total deposit in 2006/07 and 2007/08 are expected to be Rs. 24,465.37 and Rs. 26,406.32. Similarly, NBL expected total deposit in 2006/07 and 2007/08 are expected to be Rs. 22903.73 and Rs. 24954.88 respectively. Same as that way, KBL expected total deposit in 2006/07 and 2007/08 are expected to be Rs. 9211.52 and Rs. 10424.87 respectively. The growth rate of NBL bank in total deposit per year is more than KBL. In the figure, the vertical lines shows the actual and trend value of the variable where as the horizontal lines shows the time in year, the changing rate of total deposit of all the banks is in increasing trend. But NBL bank's growth rate is higher than KBL. Where as, KBL bank has very low increasing slope trend. Therefore, KBL must follow some new schemes to increase their deposits and mobilize them in some income generating activities.

Figure No. 4.14



4.3.4. Analysis of the Share Holders Reserve Trend of the sample Banks.

Table No. 4.20

Trend Value of Shareholder Reserve

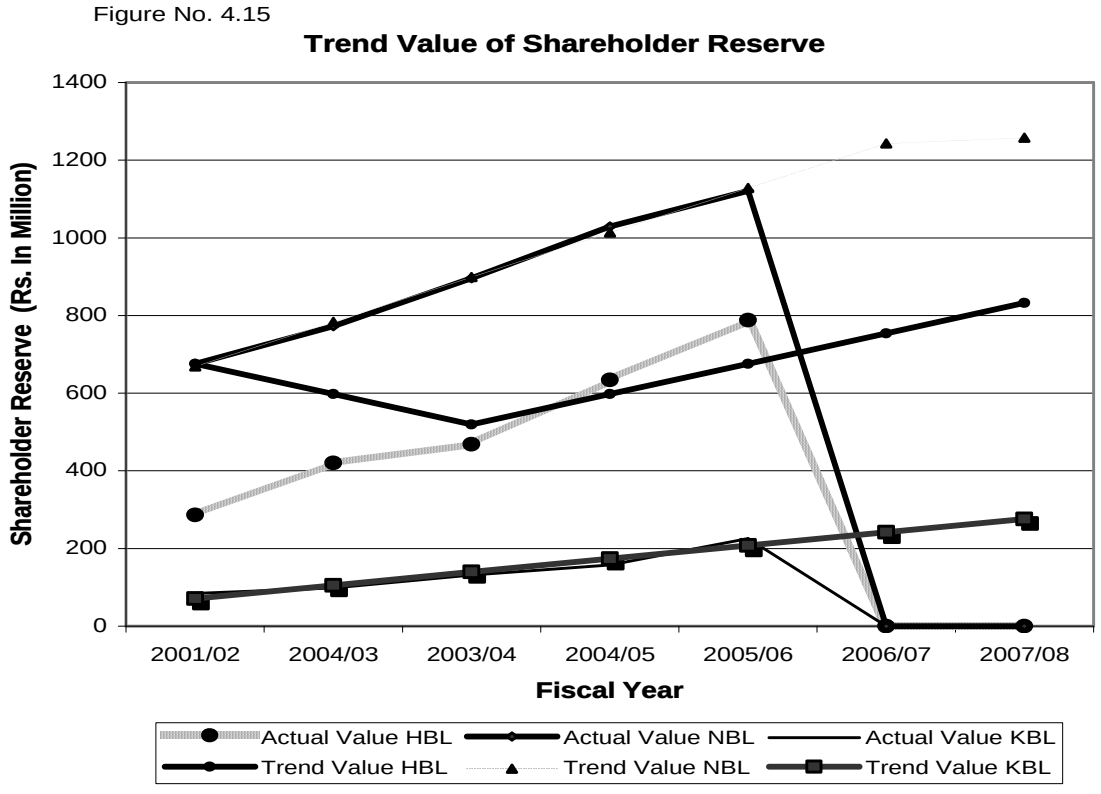
Year	Time	Actual Value			Trend Value		
		HBL	*NBL*	*KBL*	*HBL*	*NBL*	*KBL*
01/02	1	286.05	675.30	84.43	675.9	669.13	71.32
02/03	2	420.59	772.47	98.54	597.63	783.98	105.43
03/04	3	468.11	895.94	131.59	519.36	898.83	139.54
04/05	4	634.13	1029.36	157.83	597.63	1013.68	173.65
05/06	5	787.92	1121.10	225.33	675.9	1128.53	207.76
06/07	6	-	-	-	754.17	1243.38	241.87
07/08	7	-	-	-	832.44	1258.23	275.98

Source : *From Appendix-IV*

According to the table, the trend value of shareholder reserve of HBL bank is in fluctuating trend and that of NBL and KBL is in increasing trend. The expected trend value of shareholder reserve of HBL bank is Rs. 754.17 and Rs. 832.44 in F.Y. 2006/07 and F.Y. 2007/08 respectively. Similarly, the expected trend value of shareholder reserve of NBL is Rs. 1243.38 and Rs. 1358.23 in F.Y. 2006/07 and F.Y. 2007/08 respectively. And the expected trend value of shareholder reserve of KBL is Rs. 241.87 and Rs. 275.98 in F.Y. 2006/07 and F.Y. 2007/08 respectively.

According to the graph, the actual value and trend value of all banks is in increasing trend except the trend value of HBL.

Figure No. 4.15



4.3.5. Analysis of the Trend of Total Operating Income of the sample banks.

Table No. 4.21

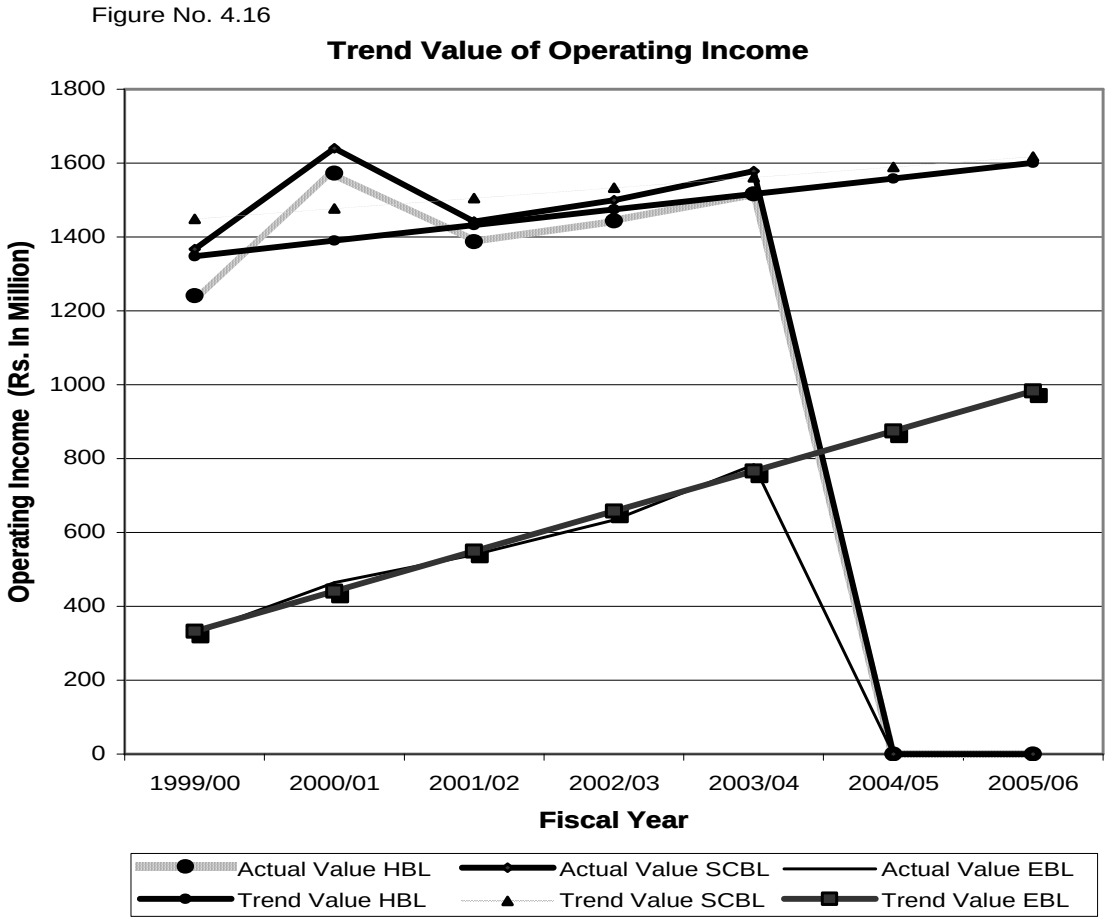
Trend value of Operating Income

Year	Time	Actual Value			Trend Value		
		HBL	*NBL*	*KBL*	*HBL*	*NBL*	*KBL*
01/02	1	1241.01	1366.92	325.78	1347.99	1448.93	332.43
02/03	2	1572.92	1640.26	464.12	1390.11	1477.11	440.91
03/04	3	1387.34	1441.72	539.78	1432.23	1505.29	549.39
04/05	4	1443.54	1499.21	634.08	1474.35	1533.47	657.87
05/06	5	1516.32	1578.35	783.19	1516.47	1561.65	766.35
06/07	6	-	-	-	1558.59	1589.83	874.83
07/08	7	-	-	-	1600.71	1618.01	983.31

Source : *From Appendix-IV*

Each and every business organization and financial institution are established to earn profit in the long run. So earning is the life of any institution. Without which the existence of that institution can't be expected. The above selected banks are also not far from the objectives of profit motive. According to the table, the actual value of operating income is in fluctuating trend of HBL & NBL and increasing of KBL bank. And trend value of operating income of all banks is in increasing trend. The expected operating income is Rs. 1558.59 and Rs. 1600.71 of HBL bank in F.Y. 2006/07 and F.Y. 2007/08. Similarly, the expected operating income of NBL is Rs. 1589.83 and Rs. 1618.01 in F.Y. 2006/07 and F.Y. 2007/08. And the expected trend of operating income of KBL is Rs.874.83 and Rs. 983.31 in F.Y. 2006/07 and F.Y. 2007/08 respectively.

Figure No. 4.16



4.3.6. Analysis of the Expenditure Trend of the sample banks.

Table No. 4.22

Trend value of Total Expenditure

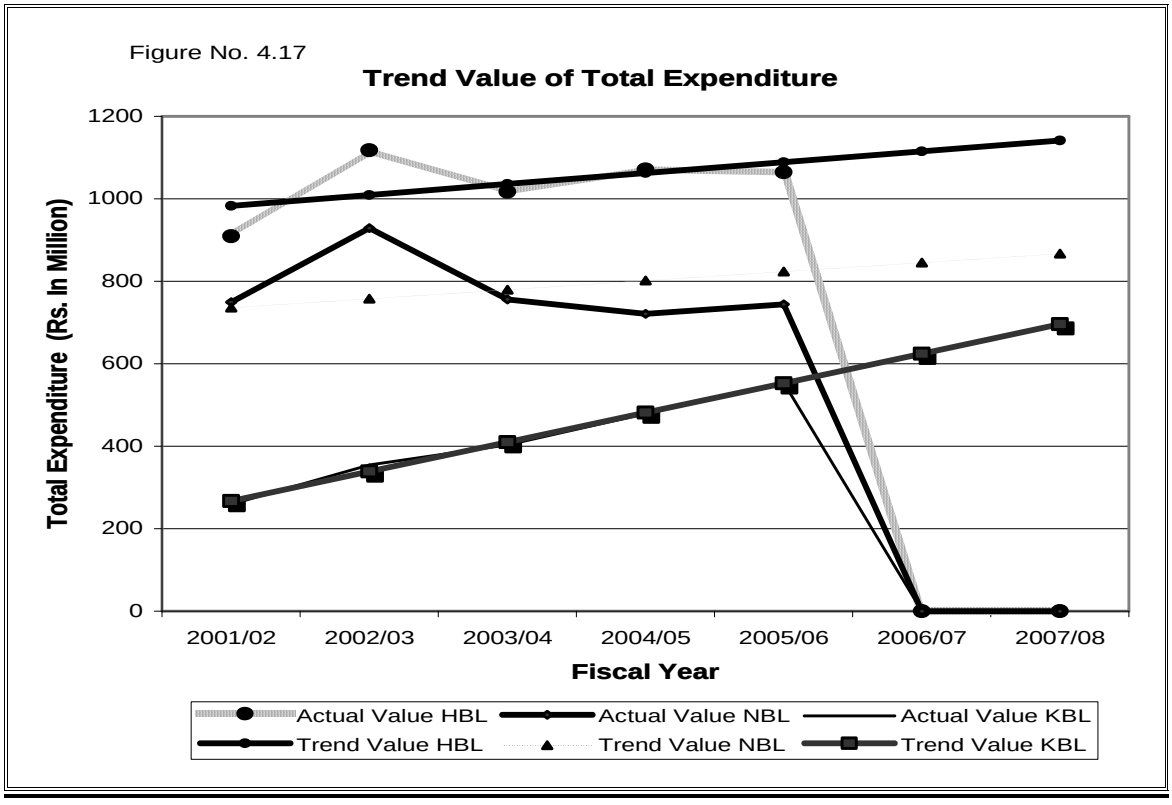
Year	Time	Actual Value			Trend Value		
		HBL	***NBL***	***KBL***	***HBL***	***NBL***	***KBL***
01/02	1	909.42	749.19	259.17	983.20	736.21	267.152
02/03	2	1117.53	929.24	354.55	1009.53	758.05	338.60
03/04	3	1017.01	755.98	403.40	1035.86	779.89	410.052
04/05	4	1071.00	720.82	478.94	1062.19	801.73	481.50
05/06	5	1064.32	744.22	554.20	1088.52	823.57	552.95
06/07	6	-	-	-	1114.85	845.41	624.40

07/08	7	-	-	-	1141.18	867.25	695.85

Source : *From Appendix-IV*

After analyzing the data, it can be concluded that the actual value of total expenditure of KBL has been increasing every year while the actual value of total expenditure of HBL & NBL are in fluctuating trend. Similarly, the above graph shows that the rate of change of trend value of total expenditure of all banks are in increasing trend. However, the bank KBL has been increasing every year relatively higher in increment, the expected value of total expenditure is Rs. 1114.85 and Rs. 1141.18 of HBL bank in F.Y. 2006/07 and F.Y. 2007/08. Similarly, the expected total expenditure of NBL is Rs. 845.41 and Rs. 867.25 in F.Y. 2006/07 and F.Y. 2007/08 respectively. And the expected trend of total expenditure of KBL is Rs. 624.40 and Rs. 695.85 in F.Y. 2006/07 and F.Y. 2007/08. Therefore, it concludes that the trend line of KBL is increasing faster than NBL and KBL.

Figure No. 4.17



4.4. Major Findings of the study

The major findings of the study derived from the comparative analysis and interpretation of secondary data are summarized as follows:

1. The NBL & KBL are engaged in short term debt of the yearly nature but the HBL has been used the long term debt for later 3 years during the study period. The average DE Ratio of HBL is highest with a highest C.V. which indicates the high risk in debt- equity ratio whereas the NBL & KBL has moderate fluctuation in DE ratio.
2. The average debt asset ratio of HBL is highest indicating that the use of debt capital to acquire the shares of total asset is highest. The C. V. of HBL is highest which indicates the HBL has more fluctuation in DA ratio than other 2 banks. The HBL has also used the long term debt in debt capital for later 3 years but others 2 banks have not used the long term debt.
3. The year to year comparison of debt to total capital ratio of all sample banks indicating that the debt portion in total capital is nearly to meet each other during the study period, however the average debt to total capital ratio of HBL is highest with the highest C.V.
4. The average ROCE of NBL is highest with a lowest C. V. which indicates that the bank has been efficiently utilizing its resources provided by its owners and creditors. The KBL has lowest average ROCE with moderate level of consistency and the HBL has highest C.V. indicating that there is more variation in ROCE during the study period, which is in decreasing trend.
5. The contribution of the owner to the total assets of NBL has highest because the average return on assets of that bank is highest with high level of consistency and less fluctuation among all the sample

banks where as the HBL has lowest average return on assets with more fluctuation. The KBL has moderate level of fluctuation.

6. From the analysis, it shows that the average ROSE of NBL is the highest and that of KBL is the lowest. NBL has provided much more satisfactory level of ROSE over the study period. The higher the ratio, the more efficient the management in utilization of shareholders funds. The ROSE of NBL is more consistency and that of is less in KBL. The ROSE of HBL is in moderate level of consistency.
7. The trend value of interest coverage ratio in al sample banks is increasing trend. The average interest coverage ratio of NBL is highest but has also high C. V., which indicates NBL has strong power of interest payment. The KBL has the lowest average interest coverage ratio with a moderate fluctuation. This implies that the average debt serving capacity of KBL is lowest among the sample banks; however all the sample banks have sufficient ability to pay interest on debt.
8. The average P/E ratio of KBL is the highest and also highly fluctuated whereas average P/E ratio of HBL is the lowest with the less fluctuation. The variability of P/E ratio of HBL is more consistency or uniformity and that of KBL is less consistency and less uniformity. SO on, the analysis of P/E ratio shows that P/E ratio of all concerned bank is fluctuating.
9. All the sample banks are not following constant payout ratio. The fluctuation ranges between 85.87% to 1.27%.NBL has the highest average D/P ratio with a lowest C. V., which indicates the low level of fluctuations. Whereas the KBL has lowest average D/P ratio with a lowest C. V., due to not paying the dividend in earlier 3 years. The DP ratio indicates that NBL has paid more portion of earnings as

dividends and have less retained with the comparison of KBL& HBL have paid less portions of earnings as dividend and retained more.

10. The average earning per share of the sample banks do not seen satisfactorily except for NBL. The average EPS of NBL is the highest with more consistency and less fluctuation while KBL has the lowest average EPS with moderate fluctuation. The HBL has more fluctuation in EPS among the banks under the study.

11. The average DFL of HBL is the highest with a lowest C. V. which indicates that there low level of financial risk due to positive DFL in all years among the sample banks. The KBL has the lowest average DFL with a highest C. V. which indicates that there is high level of financial risk due to the negative DFL in two F. Y. and also has the lower average DFL than its standard ratio(i.e. 0.56 ^1)

12. The correlation coefficient between total assets & net profit is positive in all the banks under study. Similarly, the calculated t- value of correlation coefficient between total assets & net profit of NBL & KBL are greater than the tabulated value at 5% level of significance besides HBL. Therefore the null hypothesis (Ho) is rejected for majority of the selected banks. It implies that there is no statistically significant correlation ship between total assets & net profit in the high majority of Nepalese commercial banks.

The coefficients of determination (r2) between total assets & net profit for respective banks are 0.1275, 0.7935 and 0.9353. The KBL has highest r2 i.e. 0.9353 and that of HBL is the lowest i.e. 0.1275.

13. The correlation coefficient between cost of service& net profit is positive in case of 2 banks i.e. HBL & KBL whereas negative in case of NBL. Similarly, the calculated t- values of correlation coefficient between cost of service & net profit of HBL & NBL are lower than the tabulated value at 5% level of significance besides KBL. Therefore, null hypotheses (Ho) are accepted for majority of selected banks. It

implies that there is no statistically significant correlation ship between cost of service & net profit in the high majority of Nepalese commercial banks.

The coefficients of determination (r2) between cost of service & net profit of respective banks are 0.4036, 0.6498 and 0.8684. The KBL has the highest r2 i.e.0.8684 and that of HBL is the lowest i.e. 0.4036.

14. The correlation coefficient between total debt & shareholder equity is positive in all the banks under study. Similarly, the calculated t-value of correlation coefficient between total debt & shareholder equity of concerned banks is greater than the tabulated value at 5% level of significance. Therefore, null hypothesis is rejected and alternative hypothesis is selected for all the selected banks. It implies that there is statistically significant correlation ship between total debt & shareholder equity in the high majority of the Nepalese commercial banks.

The coefficient of determination (r2) between total debt & shareholder equity of respective banks are 0.9516, 0.8590 and 0.9411.HBL has the highest r2i.e. 0.9516 and that of NBL is the lowest i.e. 0.8590.

15. The correlation coefficient between total debt & interest expenses is negative in case of HBL & NBL whereas positive in case of KBL. Similarly, the calculated t- values of correlation coefficient between total debt & interest expenses of HBL & NBL are lower than the tabulated value at 5% significance level besides KBL. Therefore, the null hypotheses (Ho) are accepted for majority of selected banks. It implies that there is no statistically significant correlation ship between total debt & interest expenses in the high majority of the Nepalese commercial banks.

The coefficient of determination (r2) between total debt & interest expenses of respective banks are 0.2718, 0.3443 & 0.9555. The KBL has the highest r2 i.e. 0.9555 and that of HBL is the lowest i.e. 0.2718.

16. The correlation coefficient between EPS and ROSE is positively correlated in case of 2 banks i.e. HBL & KBL whereas negatively correlated in case of NBL. Similarly, the calculated t-value of the correlation coefficient between EPS and ROSE of the concerned banks are greater than the tabulated value at 5% level of significance besides NBL. Therefore the null hypothesis (Ho) is rejected for majority of selected banks. It implies that there is no statistically significant correlationship between EPS and ROSE in the high majority of Nepalese commercial banks.

The coefficient of determination (r2) between $EPS& ROSE for respective banks are 0.9683, 0.4128 & 0.8411. The HBL has the highest r^2 i.e.0.9683 and that of NBL is the lowest i.e. 0.4128.

CHAPTER-V

5. SUMMARY, CONCLUSION AND RECOMMENDATION

This study is the research upon the capital structure of the joint venture banks in Nepal. The study includes three joint venture banks which represents the study of the capital structure of commercial banks in Nepal. The research study covers the period of five years from 1999to 2004 A. D. This chapter summarizes the whole study, draws the major findings, conclusions and forwards the recommendation for the better capital structure management of commercial banks in Nepal.

5.1. Summary:

Industrialization is the essential thing to improve the economic condition of the nation.

Furthermore, industries and business enterprises are fundamental thing of economic development. Without development of industrialization, it is not possible to develop the nation Industrialization also helps in advancement and modernization of science and technology. Thus industrialization was wide prospects in under develop country like Nepal than agriculture even though, the contribution of agricultural sector in economic activities in Nepal can't be under estimated. it has played a vital role in economic scenario.

In the contest of Nepal the importance of such joint venture banks and financial institution is increasing rapidly with the advancement of the country. Such institutions have been proved as the backbone of the economic upliftment of the nation and they are the indicator of the economic development. But also these sectors has not covered the large area in out country as the policy of the government was not clear in panchayat period

and the development of banks started very late and it is still in the growing stage.

To be a sound company and to provide better services with the success coverage of the total market and to provide proper benefits to stock holders the company should be sound in all aspects like financial, operational, capital structure etc. Without soundness of any part of the company, it can not provide proper contribution to its relevant sectors.

This study is focused on the various aspects of financial management of three CBN but the basic focus has been made on capital structure of the banks. It has been divided into five main chapters, viz. introduction, review of literature, research methodology, presentation and analysis of the data and at last summary, conclusion and recommendation. Each chapter has been divided into various sub topics for the easiness of the analysis. Mainly, the financial data collected from the website of the respective banks.

Capital structure is an important part of any business organization, which measures the firm's strengths and weaknesses and helps for future as a guideline. Actually proper capital structure increases the market value of the firm. The position of capital structure of a company can be examined using different financial as well as statistical tools that measure whether the capital structure management of a company is adequate or not.

The firm has many responsibilities out of them the main is to satisfy the interest of its shareholders which is possible only through proper capital structure management.

To evaluate the capital structure management of three CBN is the primary objective of this study. And other objectives are formulated to support this primary objective. This study will help to analyze its past and present that success or failure aspects of the Banks (HBL, NBL & KBL) and may important guideline for future to the manager & shareholders.

This study is based upon some assumption as time, constraint etc. The capital structure management can be evaluated on the basis of financial statements such as, balance sheet, profit &loss account and income statement. For this, different tools (financial & statistical) can be used.

Capital structure is the combination of different components as long-term debt, preferred stock and common stock or equity capital. Furthermore, Capital structure is the composition of long-term sources of funds such as debentures, long- term debt, preference share capital and equity share capital including reserve & surpluses. The capital structure decision can directly affect the value of the firm either by changing the expected earnings or the cost of capital of by both. There are different factors as determinants that should be considered whenever a capital structure decision has to be taken. An appropriate capital structure should have the some important features as profitability, conservation, control etc.

Theory of capital structure is based upon some assumptions. On the basis of these assumptions, different approaches have been made such as NI approach, NOI approach. Traditional approach and Modigliani- Miller approach.

The optimal capital structure is obtained when the market value per share is maximum or the average cost of capital is minimum. To be an optimal capital structure, the combination of equity & debt should be considered that could be minimize the cost of capital and could be maximized the value of the firm or shareholder wealth.

In this study, the necessary data have been collected from the websites. Under this study, both financial and statistical tools such as ratio analysis, financial leverage, trend analysis and so on arithmetic mean, standard deviation, co-efficient of variation, testing of hypothesis are the major data analytical tools of this study, where related table & figure have been presented in this study, to make sound study.

5.2. Conclusion

From the analysis of financial and statistical indicators of all the sample banks, the researcher has been able to draw certain conclusion that the three banks have different financial performance situation. In this study, it was already found that NBL is more effective than the HBL & KBL.

Based on the data provided by the concern company, the above analysis has been made. And based on upon this analysis; the following conclusion can be made.

a) A capital structure of any organization is affected by different types of environment. Such as management attitude, shareholders expectation and socio-economic condition of the country. Regarding this bank, top level management plays a vital role to decision different financial decision. The bank is bounded by certain rules and regulation.

b) While analyzing the total debt of sample banks. It found that the total debt came only from the short-term debt in case of NBL & KBL or it means the NBL & KBL are engaged in short term of the yearly nature. But the HBL has been used both the long-term debt and short-term debt in later three years.

c) The dividend payout ratio of all the sample banks is not constant. It is in the fluctuating trend. However the KBL has not paying the dividend earlier three years. Where as the NBL has paid more portion of earnings as dividend and have less retained.

d) The average earnings per share of banks do not seen satisfactory except for NBL. The NBL has the highest average EPS with more consistency and less fluctuation.

e) The degree of financial leverage of all the sample banks have not seen the satisfactory level however the HBL has quite satisfaction in the financial leverage position. The HBL has low DFL in F.Y. 2007/08 i.e. 0.44 which is below the standard level and very high ratio in F.Y. 2006/07.

f) The expenditure trend of the banks is increasing which is not good signal of the bank.

From the analysis of financial and statistical indicators of all the sample banks, the researcher has been able to draw certain conclusion that the three banks have different financial performance situation. In this study, it was already found that NBL is more effective than the HBL & KBL.

5.3. Recommendation

The banks have been aggressively using current liabilities as a source of short term financing. Certainly, over utilization of current liabilities may be adversely impact to the short- term solvency position of the banks.

The banks should take capital structure matter seriously and it is recommended to be conscious in the theoretical aspect of capital structure management and to maintain records accordingly. This helps the company to plan their capital structure properly and to find out the cause effect relationship between or among the components of capital structure and others factors which affect the capital structure of these firms.

While analyzing the capital structure of the banks, the main part of capital which is known as long term debt has not been found included in case of NBL & KBL except HBL which has been used long term debt for later 3 years under the study.

The commercial banks have been found to adopt no definite dividend payment policies. This policy has negative impression in the mind of investor. So, the commercial banks are advised to follow stable or consistency in dividend payment.

The banks should consider the betterment of earning per share because the earning per share is the indicator for the share attracts the investor and makes the investors more confident on the investment in that company.

From the analysis of financial leverage, the banks do not seen satisfactory level. Therefore, the bank should try to increase its leverage position.

There are many workers who may be unskilled and inactive as well as untrained too so, such worker should be replaced by trained skilled and able hands along with some experts in various fields.

To meet social responsibilities, it is recommended that all the banks should promote and mobilize the funds in the rural sector by bringing new and easy schemes, which will help in the up- gradation of overall economic development of the country. The development of competition reduces the non- fund based income along with share in credit market for traditional area of lending. So the areas of lending must be increase to rural sector in search of raw lending areas.

Nepalese investors are investing their funds on commercial banks haphazardly, randomly and without consulting capital market analysts. So, they are suggested to analyze capital market situation before pouring their funds.

The management of all the banks should be providing to make the success of the banks in future regarding their capital structure.

BIBLIOGRAPHY

Ahmad, Nisar. (1998). 2nd edition, *Management Accounting,* India: prentice hall of India (P) ltd.

Dongol, RM & Prajapati,KP. (2054). 1st edition., *Accounting for Financial Analysis & Planning*". Votahity. Nepal. Taleju prakashan.

Gupta, SC. (1996), *Fundamentals of Statistics*, India: Himalaya publishing house.

Hampton, John J. (1998). 4th edition, *Financial Decision Making,* India: prentice hall of India.

Horne, James C Van (2000). 11th edition, *Financial Management and Policy,* India: Prentice hall of India.

Keown, Petty, Scott & Martin. (1998), 2nd edition, *Foundations of Finance,* India: prentice hall of India.

Khan, MY. & Jain PK. (1998). 2nd edition, *Financial Management,* India: TaTa Mcgraw hill publishing co. ltd.

Kothari, CR. (2000). 3rd edition, *Quantitative Techniques,* India: Vikash publishing house(P) ltd.

Munakarmy, SP. (2002).1st edition, *Management Accounting*, Kathmandu. Nepal: Buddha Academic publishers & distributors.

Pandey, IM. (1986). Revised edition, *Financial Management,* India: Vikash publishing house (P) ltd.

Shrestha, KN.(2053). 8th edition, *Mathematics & Statistics for Management,* Kathmandu. Nepal: Valley publisher.

Shrestha, KN & Manandhar KD. (2056). 3rd edition, *Statistics & Quantitative Techniques for Management,* Kathmandu. Nepal: Valley publishers.

Weston, J Fred & E Copeland, Thomas (1990).9th edition, *Managerial Finance,* Florida. The Dryden press.

Wolf, HK & Pant PK. (1999). 2nd edition, *A Hand Book for Social Science Research & Thesis Writing*, Kathmandu. Nepal: Buddha Academic enterprises(P) ltd.