CHAPTER - I
INTRODUCTION

1.1 Background Information

Nepal is one of the least developed countries in the world. It is an agricultural and landlocked country bounded on the north by the Tibetan Autonomous Region in China and on the east, south, and west by India. Its total area is about 147181 sq. km (56,827 sq miles). According to the annul report of National Planning Commission, still 30.8% of Nepalese people are below the line of poverty. Majority of the people still depend upon the agriculture. At the same time, higher percentage of illiteracy can be found among the people. Geographically, Nepal is divided into mountain, hill, inner plain and plain area. Politically, it is divided into five development regions, fourteen zones and seventy five districts. The population of Nepal according in 2066 B.S. is approximately 26,900,000. (Year Book 2067, International Forum). The per capita income of the average Nepalese is USD 400, according to the World Bank's Report World Development Report 2010. Nepal is poorly developed in the entire sectors; the poor economic condition of the country is due to low level of income, low education, lack of awareness etc. economic status is growing very slowly. The unstable political environment and rapidly growing terrorism also affects directly in the development of the country. However there are many more alternatives like developing roads, transport, electricity and tourism to support the economic growth of our country, it is being very slowly.

Nepal is a landlocked country surrounded by mountains and hills. About 17% of area lies in Terai region. Physically, Nepal is divided into three regions of the basis of geographic features. The Himalayan region consists of area ranging from 4887m to 8848m above the sea level; embraces eight earth's tallest mountain peaks. These regions are least flexible. So there is sparse human habitant in this region and occupy only about 15% of the total area of the

country. The Terai region consists of nearly 17 % of the total area. About 40% of this region is under cultivation.

Population in this region constitutes 46.7 of the total population of the country. The hilly region covers about 68% of the total area. Only 10% area of the region is cultivated. Out of the total population 46% of population constitutes in this region (Seth, 1998).

Financial institutions include banks, finance companies, co-operative organizations and insurance companies. All of them do contribute something to the economy of the country. Financial institutions play a vital role in the proper functioning of an economy. These institutions act as intermediary between the individuals who lend and who borrow. These institutions accept deposits and in return lend it to people who are in need of financial resources. These institutions make the flow of investment easier. So we cannot deny the role of a bank for the development of the country. It pulls the funds scattered in the economy and mobilizes them to the productive sector. But these institutions inherent a large amount of risk, which cannot be denied. If a bank behaves irresponsibility, the costs borne by the economy are enormous.

Bank is an institution that deals in money and its substitute and also provides other financial services. Bank accepts and makes loan as well as derives a profit from differences in interest rates paid and charges respectively.

The term "Bank" is originated from the Latin word "Bancus" which refers to the bench on which the banker would keep its money and his/her records. Some persons trace its origin to the French word "Banque" and the Italian word "Banca" which means a bench for keeping, lending and exchanging of money or coins in the market place by moneylenders and moneychangers.

The first bank called the "Bank of Venice" was established in Venice a city and sea-port in north-east Italy, in 1157 to finance the monarch in his wars. But actually, it was not a bank in broad sense but simply an office for the transfer of the public debt. Many of the early banks dealt primarily in coin and bullion, much of their business being money changing and the supplying of foreign and domestic coin of the correct weight and fineness. As a first central bank, "The Bank of England" was incorporated on July 27, 1694, as a private joint-stock association, with a capital of £1.2 million. In return for the loan of its entire capital to the government it received the right to issue notes and a monopoly on corporate banking in England.

According to Chamber's Twentieth Century Dictionary – "Bank is an institution for keeping, lending and exchanging etc. of money".

According to the Shorter Oxford Dictionary – "Bank is established for the custody of money received from on behalf of its customer its essential duty is to pay their draft in it, its profit arise from its use of the money left unemployed by them".

Indian Banking Regulation 1949 Sec 5(b) defines bank as "Accepting for the purpose of lending or investment of deposit from the public, repayable on demand or otherwise, and withdrawal by cheque, draft, order or otherwise".

According to above definition, the bank accepts deposit with a view of lending or investing and insisting that money deposits are withdrawn by cheque, draft and order or otherwise. Although the above act defines the banking in broad sense, at present time banking is such a vague term. It does a lot more than deposits and credit, remitting of money, letter of credit (L.C.), guarantee, issue of money, controlling monetary activities of country etc.

The kingdom of Nepal lies along the southern slopes of Himalayas, though the modern banking institution has a very recent origin in Nepal. Therefore the

term bank is new thing for Nepalese economy. Modern banking system makes the economy always alive and smart to run and maintain day-to-day commercial, economic and banking transaction. In short, banking transaction helps a country to develop its economy swiftly.

Banking sector plays an important role in the economic development of the country. Commercial banks are one of the vital aspects of this sector, which deals in the process of channelizing the available resources in the needed sectors. It is the intermediary between the deficit and surpluses of financial resources. Financial system contains two components viz. depository financial institution and non-depository financial institution. Commercial banks and finance companies (in Nepalese context) are the example of depository financial institutions whereas employee provident fund, development banks, insurance companies etc. are the examples of non-depository financial institutions. All the economic activities are directly or indirectly channeled through these banks. People keep their surplus money as deposits in the banks and hence banks can provide such funds to finance the industrial activities the form of loans and advances.

The present structure of financial institutions is based on the foundation laid by commercial banks. The commercial banks command the highest share of national resources, which must be utilized for the rapid economic development of the company. Realizing the importance of commercial bank, Dr. Pant has remarked, "Indeed no institution has greater or closer interest in well established, expanding and successful industry and agriculture than a commercial bank" (Wolf Howard and Pant, 2002).

Commercial banks are stated as a key component of the financial institution. They can play vital role in accelerating the pace of economic development of the country through the mobilization of the scattered savings and channeling it in the real sector of the economy. Besides that, commercial banks grant

business loan on the basis of proposal and also grant traditional loan with the guarantee of valuables i.e. gold and silvers.

In order to fulfill the demand and need of modern banking transactions and to remove all the inconveniences, in past time Nepal Bank Limited was established on 30th Kartik 1994 B.S. as the first commercial bank in the country. Before the establishment of NBL, there was hardly any source other than the organized money market to meet the financial needs of people. As there was political change in 2007 B.S., solid and important events took place in 2012 B.S. because of establishment of Nepal Rastra Bank as a control bank. The Rastriya Banijya Bank (RBB) which is fully state-owned came into existence on 22nd Magh 2022 B.S. under RBB Act 2021 with the explicit objectives banking facilities to areas or regions of the country not covered by Nepal Bank Ltd. and making RBB's activities more development oriented rather than profit oriented. Various branches in various times were opened by these two banks. And after two decades of establishment of RBB, Joint venture bank Nabil bank was established in 2040 B.S. Then after commercial banks were established with joint stock and increasing tremendously. However, we can say that the development of commercial banks in 6 decades history is very much satisfactory.

There are 31 commercial banks in the country licensed by NRB as of May 2011. At the time of expanding the branches of commercial banks, emphasis was given to the deposit mobilization and credit disbursement. However, the importance of the quality-credit could not be recognized and the banking sector failed to witness the expected developments. The term capital denotes the long-term funds of the firm. The long-term funds o the firms are financed by two major components, i.e., debt capital and equity capital. Debt capital includes long-term borrowings incurred by the firm. Equity capital consists long-term funds provided by the firm's owners. The mix of long-term debt and equity maintained by the firm is called capital structure. Capital structure shows, what

percentage of the firm's capital is in equity and what percentage of firm's capital is in debt.

Capital structure is one of the most complex areas of financial decision making due to its inter-relationship with other financial decision variables. A financial manager must understand the firm's capital structure and its relationship to risk, return and value for attainment of its primary objective of wealth maximization.

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

Capital is a scare sources and much more essential to maintain smooth operation of any firm. The available capital and financial sources should be utilized so efficiently that could generate maximum return.

Capital structure is considered as the mix of debt and equity and to operate in long run prospect. A firm must concentrate in its proportion. A firm can raise required fund by issuing various types of financial instruments. Investors and creditors being the key supply of capital, they hold greater degree of risk and hence have claims over firm's assets and cash flow. Similarly debt holders are also a source of financing fund and they have risk considering firm's cash flow in uncertain and there is probability that it may default in it's obligations to pay off it's interest ands principle. In the other hand, if a firm issues preference share, those shareholders have the priority in payment of dividend is fixed as

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the percentage of interest to debt, it is preferably paid off only after interest payment. Common shareholders are as the owner of the firm; they are paid from cash remaining after all payment is being made. Since the common share i.e. equity fluctuate in the market more than the preference share and debt, there is more risk.

The above statement states in brief that either fund is raised by debt or equity financing, risk is associated in proportion of its uncertainty is being paid off. The required rate of return expected by investors according to their risks is cost of capital. Therefore a firm should try to obtain necessary fund at lowest cost. This cost of capital is fully dependent upon the proportion of debt and equity i.e. financial leverage, which is actually the capital structure used by the firm.

Capital structure concepts has important place in financial management theory. It is basically decision is concerned with shareholders wealth maximization. As capital refers to the proportion of debt and equity, a choice in proportion is actually financial decision in case to fulfill investment requirement. Therefore, it is a wise decision to select a financing mix, which maximizes shareholders wealth.

1.2 Profile of Machhapuchchhre Bank Limited

Machhapuchchhre Bank Limited was registered in 1998 as the first regional commercial bank to start banking business from the western region of Nepal with its head office in Pokhara. As per the decision of the ninth annual general meeting for 10:6 right shares and 12.5% bonus shares from the profit of the fiscal year 2064/65 as decided the tenth annual general meeting Bank's capital increased by 80% to Rs. 1.48 billion. (Eleventh Annual Report F/Y 2008/09). As per the decision of the 12th general meeting, 10% Bonus share has been distributed from the profit of fiscal year 2066/67, Banks capital has been raised to 1.68 billion. Today, it is one of the full fledged commercial bank operating in Nepal; and it ranks in the topmost among the private commercial banks.

Machhapuchchhre Bank Limited is striving to facilitate its customer needs by delivering the best of services in combination with the state of the art technologies and best international practices.

Machhapuchchhre Bank Limited is the pioneer in introducing the latest technology in the banking industry in the country. It is the first bank to introduce centralized banking software named GLOBUS BANKING SOFTWARE developed by Temenos NV, Switzerland. The bank provides modern banking facilities such as Any Branch Banking, Internet Banking and Mobile Banking to its valued customers.

The bank in the last few years have really opened up with branches spread all around the country. At this stage, it has its Corporate Office in Kathmandu and branch offices in other parts of Kathmandu, Damauli, Bhairahawa, Birgunj, Banepa, and different parts of Pokhara in addition to the Head Office in Naya Bazar, Pokhara. A full-fledged banking branch is in operation in Jomsom located high up in the mountains too.

The bank aims to serve the people of both the urban and rural areas. The bank intends to open 8 more branches and 4 ATM network in 2010/2011. Which have already 31 branches and 47 ATM network, after this bank will have 39 branches and 51 ATM networks.

1.3 Focus of the Study

Capital is the most important factor from beginning of the business organization. Due to lack of the capital, the business organization cannot operate regularly their daily activities. The success of business organization depends upon proper composition of debt equity in the capital structure. The proper composition of debt and equity help to generate high return to the business organization and help in long-term solvency.

Investors invest their funds in ownership securities or debt securities of the organization with the expectation of getting favourable return in the future. In absence of proper utilization of the capital it fails to meet their expectation and damages the creditworthiness o the organization and leads to fall the market value of the organization.

The banks are such business organization which deals with others money and the capital structure incase of the bank are very crucial. This study mainly focuses on the capital structure management of MBL.

1.4 Statement of the Problem

Today the functions of commercial bank is not only confined to do its usual functions but also to do something for the development of the economy. The development of the country depends upon the financial position in this regard; the commercial bank collects the scattered idle savings from different sectors and mobilizes them in productive sectors.

Commercial banks are very important for the development of a country. They channel funds from saver unit and productivity in the country. At present, there are altogether 31 commercial banks operating in the country with heavy competitions. The banks are introducing various new technologies and schemers to lure to customers. Today most of the banks have introduced E-banking services, ATM, Debit and Credit Cards, Any Branch Banking and Mobile Banking systems. The banking business is one of the fastest growing businesses in the country.

The study of capital structure for banking business is very essential since the business is operated with outsider's funds. The capital structure decision is important for long run profitability and solvency of the business. Generally, high debt-equity ratio is concerned to be disadvantageous from owner's point

of view especially when the firm is earning higher rate of return on the capital employed.

The study of the capital structure in banking business is very important as it deals with other money. The capital structure decision also impact upon long run profitability and solvency of the firm. The capital structure decision is important for long run profitability and solvency of business. Generally high debt-equity ratio is considered to be disadvantageous from owner's point of view especially when the firm is earning higher rate of return o the capital employed. The financial manager must be able to maintain appropriate proportion of debt-equity to avoid financial risk. The proportion of debt in the banking business is obviously larger than in any other business. The banks accumulate deposit from various unit groups paying certain percent interest and mobilize in productive sector and earn high return. The banks are considered as mechanism to canalize the funds from the small saver to the productive sectors. The study of capital structure, in case of banking business very important of liquidation of one bank creates contagion effect over the economy of the country. In this study, debt is considered to be cost bearing liabilities (i.e. saving deposit, fixed, call deposit and short term loan).

Under new policy of commercial banks, NRB directed the entire bank to increase the capital to Rs. 1 billion by mid July 2009 through minimum 10 percent paid up capital increment every year effective from mid may 2002. So, the banks are being highly sensitive business. NRB reforms their policy from time in favours of depositors and owners of the companies. Beside these rules, it is necessary to take permission from NRB to open new branch also. The problems area for the study is reflected in the following research questions:
- Does the capital structure affect the cost of capital?
- Is the sample bank capable to enhance the earning by its capital structure?
- What is the relation between capital structure, profitability and EPS of the bank?

1.5 Objective of the Study

The major objectives of the study are to evaluate the capital structure of Machhapuchchhre Bank Ltd., Kathmandu Office. It is the study about the capital structure & profitability of MBL by taking the financial data. It tries to analyze the overall capital structure & profitability. The specific objectives are as follows:

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

1.6 Significance of the Study

The capital structure affects on the profitability and long-term financial position of the organization. The earning nature of the organization helps to adopt appropriate mix of debt and equity in the capital structure. On account of this significance, the capital structure and profitability of the organization is justified as a specific matter for the study.

The study helps to analyze the relation between the capital structure and performance of the organization and leads to design appropriate capital structure. This helps also the researcher, creditors, investors and stockholders to analyze the financial position of the organization and they may know the impacts if capital structure on the profitability of the organization.

1.7 Limitation of the Study

This study has been made for the partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S.) but not a comprehensive study. The study has been conducted with certain limitations. The time is the one

factor of limitations. Besides it, the scope of the study is limited within the bank. Some more limitations are follows:

- The study analyzes capital structure and profitability of a particular bank.
- The whole study is based on secondary data.
- Difficult to collect all required data, due to business secrecy.
- The study is fully based on the student's limited financial resources within a limited period.
- Variation of data in itself is also found when comparing with different sources.
- The study is not a final study of the subject.

1.8 Organization of the Study

The study has been organized into five chapters. The title of each of these chapters is as follows:

Chapter I   : Introduction

This chapter comprises background of the study, profile of Machhapuchchhre bank ltd., focus of the study, statement of problem, objectives of the study, significance of the study and limitation of the study.

Chapter II   : Review of Literature

This chapter comprises conceptual review of the capital structure and review of the past thesis.

Chapter III : Research Methodology

This chapter deals with the method of investigation and includes research design, nature of the data, data collection procedure and tools used.

Chapter IV   : Presentation and Analysis of Data

This chapter deal with different statistical and the financial tools that used in the analysis of the data.

Chapter V   : Summary, Conclusion and Recommendation

Last chapter includes the summary, findings of the study and recommendation.

CHAPTER - II
REVIEW OF LITERATURE

Review of the Literature is undertaken in order to find out what works have already been conducted in the area of the concerned research problem. It promotes greater understanding of the problem under study, provides comparative data to evaluate and interpret the significance of the findings, and provides fruitful sources of hypothesis and conceptual framework. It is the chapter where a researcher reviews the books, journals, magazines or any other types of studies, which are related to his/her field of study. Research is a continuous process it never ends. The procedures and the findings may change but research continues. This chapter is focused on brief discussion about the abstract regarding the theories of capital structure and profitability management.

The purpose of reviewing the literature is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas for developing a research design. Thus, the previous studies can't be ignored because they provide the foundation to the present study. In other words, there has to be continuity in research. This continuity in research is ensured by linking the present study with the past research studies. From this, it is clear that for analyzing the data and to find something new a researcher must review the study and know if there are any studies ahead or not.

2.1 Conceptual Review of the Study

As this study follows with Capital Structure and Profitability, here it is most important to open up the conceptual thought behind it.

2.2 General concept of Capital Structure

Capital, collective term for a body of goods and monies from which future income can be derived. Generally, consumer goods and monies spent for

present needs and personal enjoyment are not included in the definition or economic theory of capital. Thus, a business regards its land, buildings, equipment, inventory, and raw materials, as well as stocks, bonds, and bank balances available, as capital. Homes, furnishings, cars, and other goods that are consumed for personal enjoyment (or the money set aside for purchasing such goods) are not considered capital in the traditional sense.

In the more precise usage of accounting, capital is defined as the stock of property owned by an individual or corporation at a given time, as distinguished from the income derived from that property during a given period. A business firm accordingly has a capital account (frequently called a balance sheet), which reports the assets of the firm at a specified time, and an income account, which reckons the flow of goods and of claims against goods during a specified period.

Capital is a scare sources and much essential to maintain smooth operation of any firm. The available capital and financial sources should be efficiently that could generate maximum return.

Capital Structure is considered as the mix of debt and equity and to operate in long run prospect. A firm must concentrate in its proportion. A firm can raise required fund by issuing various types of financial instruments. Investors and creditors being the key supply of capital, they hold greater degree of risk and hence have claims over firm's assets and cash flow is uncertain and there is probability that it may default in it's obligations to pay off it's interest and principal. In the other hand, if the firm issues preference share, those shareholders have the priority in payment of dividend before common shareholders but after debt holders. Since the percentage of preference dividend is fixed as the percentage of interest to debt, it is preferably paid off only after interest payment. Common shareholders as are the owner of the firm; they are paid from cash remaining after all payment is being made. Since the common

share i.e. equity fluctuate in the market more than the preference share and debt, there is more risk.

The above statement states in brief that either fund is raised by debt or equity financing, risk is associated in proportion of its uncertainty is being paid off. The required rate return of expected by investors according to their risk is cost of capital. Therefore a firm should try to obtain necessary fund at lowest cost. The cost of capital is fully dependent upon the proportion of debt and equity i.e. financial leverage, which is actually the capital structure used by the firm.

2.3 Conceptual basis of Capital Structure

Capital Structure concept has important place in financial management theory. It is basically known as financial structure, financial plan or leverage. Financing decision of a firm, as the other financial decision is concerned with shareholders wealth maximization. As capital structure refers to the proportion of debt and equity, a choice in proportion is actually financial decision in case to fulfill investment requirement. Therefore, it is a wise decision to select a financing mix, which maximizes shareholders wealth.

The term capital denotes the long-term funds of the firm. The long-term funds o the firms are financed by two major components, i.e., debt capital and equity capital. Debt capital includes long-term borrowings incurred by the firm. Equity capital consist long-term funds provided by the firm's owners. The mix of long-term debt and equity maintained by the firm is called capital structure. Capital structure shows, what percentage of the firm's capital is in equity and what percentage of firm's capital is in debt. Capital structure is one of the most complex areas of financial decision making due to its inter-relationship with other financial decision variables. A financial manager must understand the firm's capital structure and its relationship to risk, return and value for attainment of its primary objective of wealth maximization (Saxena and Vashist, 2002).

A financial manager must strive to obtain the best financing mix or optimum capital structure for his/her firm. The firm's capital structure is optimum when the market value of share is maximized. The use of debt affects the return and risks of shareholders; this will increase the return on equity but also risk at the same time. When the shareholders' return is maximized with the minimum risk, the market value per share will be maximized and firm's capital structure would be optimum (Van Horne, Wachowicz and John, 1995).

Capital structure is permanent financing of the firm represented primarily by long-term debt, preferred stock and common stock, but excluding all short term credit (Weston and Brigham, 1998).

Both debt and equity are used in most large corporation. The choice of the amount of debt and equity is made after a comparison of certain characteristics of each kind of securities, of interest factor related to the firm's and of external factors can affect the firm (Hampton, 1989).

The term of capital structure is used to represent the proportionate relationship between debt and equity. The debt and equity mix of a firm is called capital structure. The capital structure decision is a significant financial decision since it affects the shareholders' return, risk and market value of shares (Pandey, 1992).

The importance of an appropriate capital structure is the obvious. There is a viewpoint that strongly supports the close relationship between leverage and value of firm. There is an equally strong body of opinion, which believes that financing mix or the combination of debt and equity has no impact on the shareholders' wealth and the decision on financial structure is irrelevant. In other words, there is nothing such as optimum capital structure (Khan and Jain, (1995).

Under the assumption that a firm will attempt to maximize the run market value of ownership shares; there exists an optimum capital structure for each individual firm. It varies in different industries because the typical assets structure and stability of earning, which determine inherent risks vary for different type of (Kulkarni, 1983).

The concern of the financial decision is with the financing mix or capital or leverage. The financing decision of a firm relates to the choice of the portion of these sources to finance the investment requirement. There are two aspects of the financing decisions. First, the theory of capital structure which shows the theoretical relationship between the employment of debt and the return to the shareholders. The use of debt implies a higher return to the shareholders and also the financial risk. A proper balance between debt and equity to ensure a trade off between risk and return to the shareholders are necessary. A capital structure with reasonable proportion of debt and equity capital is called optimum capital structure (Khan and Jain, 1995).

Capital structure of a company refers to the composition or make-up of its capitalization and it includes all long-term capital resources, viz. loans, reserves, shares and bonds (Charles, 1960).

2.4 Assumptions of Capital Structure

Capital structure theory has some assumptions which are as follows:

- There are only two sources of funds used by a firm: Debt and Ordinary Shares.
- There are no corporate taxes (this assumption is removed later)
- The dividend payout ratio is 100% i.e. the total earnings are paid out as cash dividend to the shareholders and there is no retained.
- The firm's total assets are given and do not change. The investment decisions are in other words, assumed constant.

- The firm's total financing remains constant. The firm can change its degree of leverage either by selling shares and use the proceeds to retire debentures or by raising more debt and reduce the equity capital.
- The operating profits (EBIT) are not effect to grow.
- All investors are assumed to have the same subjective probability of the future expected EBIT for a given firm.
- The firm's business risk is constant over the time and it assumed to the independent of its capital structure and financial risk.
- Perpetual life of the firm. (Khan and Jain 1995).

2.5 Classification of Capital Structure

There are different classifications of capital structure. These are mentioned below:

1. Simple Capital Structure

   (i)   **Balance Sheet** as at……….

Equity Share	Rs.2,00,000	Fixed Assets	Rs.1,20,000
Capital		Current Assets	80,000
	2,00,000		2,00,000

   (ii)   **Balance Sheet** as at……….

Equity Share	Rs.1,60,000	Fixed Assets	Rs.1,20,000
Capital	40,000	Current Assets	80,000
Retained Earnings	2,00,000		2,00,000

2. Complex Capital Structure

   (i)

Balance Sheet as at……….

Equity Share	Rs.1,80,000	Fixed Assets	Rs.1,20,000
Capital	20,000	Current Assets	80,000
Current Liabilities	2,00,000		2,00,000

(ii)

Balance Sheet as at………..

Equity Share Capital	Rs.1,40,000	Fixed Assets	Rs.1,20,000
Preference Share	40,000	Current Assets	80,000
Capital	20,000		
Retained Earnings	2,00,000		2,00,000

(iii)

Balance Sheet as at………..

Equity Share Capital	Rs.80,000	Fixed Assets	Rs.1,20,000
Preference Share Capital	40,000	Current Assets	80,000
Retained Earnings	20,000		
Debentures and long term	60,000		
loan	2,00,000		2,00,000

(iv) Mostly short-term liabilities are omitted in considering capital structure, but some authors (for example, J.R. Lindsay and A.W. Samtez) have held the view that considering the importance of bank credit, etc. it is better to include all liabilities (long-term and short-term) in consideration of capital structure. The view is not common view. If this view is also considered, the capital structure will be shown as follows:

Balance Sheet as at………..

Equity Share Capital	Rs.80,000	Fixed Assets	Rs.1,20,000
Preference Share Capital	40,000	Current Assets	80,000
Retained Earnings	20,000		
Debentures and long term	40,000		
loan	20,000		
Current Liabilities	2,00,000		2,00,000

Normally, current liabilities are considered only in working capital analysis and not in the analysis of sources of long-term funds. (Saxena and Vashist, 2002).

3. Classification Based on Sources

Under this category long-term funds can be financed from (i) Internal capital, and (ii) External capital. Internal capital includes bonus issue, capital reserve and reserves and surplus. External capital refers to share capital, share premium, forfeited share, debentures and long-term liabilities.

4. Classification Based on Ownership

- Ownership capital comprises of equity share capital and retained earnings.
- Debt capital includes debentures and long-term loans.

Preference share capital is treated both as part of ownership capital or as part of debt capital. It should be grouped based on the view taken by the management.

5. Classification Based on cost behaviour

Classification is also attempted based on cost behaviour of various sources of capital, i.e., fixed cost capital and variable cost capital.

Fixed cost capital includes preference share capital, debentures, long-term debt. Variable cost capital includes equity share capital.

2.6 Theories of Capital Structure

2.6.1 Net Income (NI) Approach

Two capital structure theories, i.e., the net income approach and the net operating income approach, were propounded by David Durand. According to NI approach, the firm can increase its total valuation (V), and lower its cost of capital (K_o) when it increases the degree of leverage (D/V). The optimum capital structure can be attained when the cost of capital of a firm is the lowest and value of the firm is the greatest. The main feature of the NI approach is that a firm can lower its cost of capital continuously by use of debt capital and thus increase its total valuation. Reduction in the cost of capital (i.e., more and more use of debt and increase in the value of the firm) is possible when:

- Cost of debt (K_d) is less than cost of equity (K_e) and it remains constant;
- The firm does not become more risky in the minds of investors and creditors consequent upon increase in the degree of leverage (Saxena and Vashist, 2002: 5-3).

The financial leverage according to the NI approach is an important variable in the capital structure decision of the firm. With the judicious mixture of debt and equity, a firm can evolve an optimum capital structure which will be the on, at which value of the firm is the highest and overall cost of capital the lowest. At that structure the market price per share would be maximum. If the firm uses no debt 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 on (Pandey, 1984: 412).

According to this approach, there is optimal capital structure where the market price per share of stock is maximum. The significances of this approach are that a firm can lower its cost of capital continually and increase its total valuation by the use of debt funds. This will increase use of leverage overall cost of capital declines and total value of the firm rises (Khan & Jain, 1984: 411).

Figure 2.1

Financial Leverage

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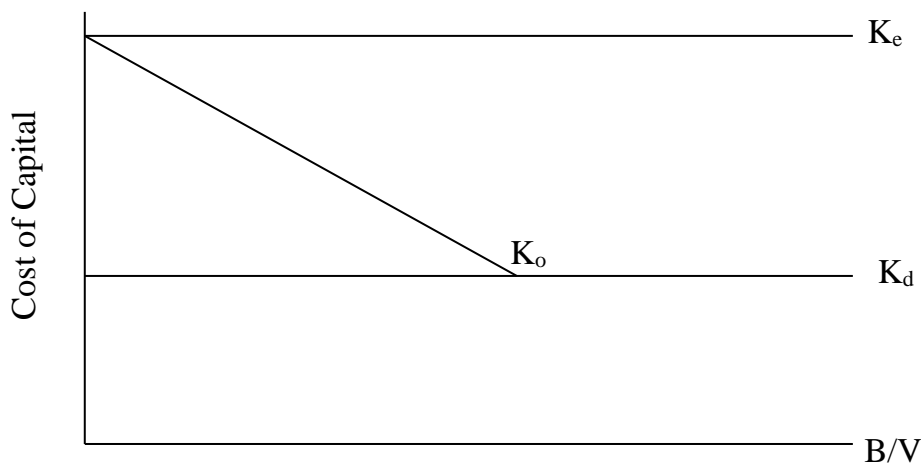
Graphically, the effect on the firm's cost of capital and its total market value is shown in Figure No. 1. If cost of debt and cost of equity are constant as is assumed in the NI approach, then the proportion of cheaper debt funds in capital structure increases, the cost of capital decreases. Thus, under the NI approach the firm can lower its cost of capital and raises its total market value through the addition of debt capital (Gitman and Pinches, 1990:710).

Assumption of Net Income (NI) Approach

NI approach is based on the following three assumptions:

- The cost of debt is less the cost of equity.
- The debt content does not change the risk perception of the investors, as a result the equity capitalization rate K_e and the debt capitalization rate K_d remain constant with change in leverage.
- There are no corporate taxes. Therefore as firm increases its leverage by increasing its level of debt relatives to equity, the overall cost of capital declines (Saxena & Vashist, 2002:5-3).

As per NI approach, the value of the firm can be determined as under:

$$V = S + D$$

Where,

       V = Value of the firm;

       S = Market value of equity;

       D = Market value of debt.

Market value of debt can be determined as follows:

$$S = E/K_e$$

Where,

       S = Market value of equity;

       E = Earnings available for equity shareholders;

       K_e = Equity capitalization rate or cost of equity (Saxena & Vashist, 2002: 5-3).

2.6.2 Net Operating Income (NOI) Approach

NOI approach was also advocated by David Durand. This approach is diametrically opposite to the net income approach. The essence of this approach is that the capital structure decision to the firm is irrelevant. Any change in leverage will not lead any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage (Saxena & Vashist, 2002:5-5).

Assumption of Net Operating Approach (NOI) Approach

NOI approach is based on following assumptions:

- Overall cost of capital (K_o) does not vary with leverage, i.e., it remains constant for all degree of leverage.
- Both Earning Before Interest and Taxes (EBIT) and overall cost of capital (K_o) are constant and independent of leverage. Value (V) of the firm does not change as leverage is changed. The market capitalizes the value of the firm as a whole. The split between debt and equity is not important. The value of the firm is found out by capitalizing the net operating income (EBIT) at overall cost of capital (K_o). Thus:

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

a) The value of equity (S) is a residual value, which is arrived at by subtracting the value of debt (D) from the constant of the firm (V), i.e.,

   $$S = V - D$$

b) The cost of debt, i.e., K_d is a constant.

The cost of equity (K_e) is arrived at as follows:

$$K_e = \frac{EBIT - I^*}{S}$$

Where,

$I^* = $ Interest

The use of cheaper debt capital increases the risk to shareholders. This raises the cost of equity or capitalization rate.

The main point of NOI approach is that cost of equity (K_e) increases with increase in leverage, but the cost of debt (K_d), the weighted average cost of capital, K_e and total value of the firm V remain constant (Saxena & Vashist, 2002: 5-5).

Features of Net Operating Approach (NOI) Approach
- Total market value of the firm (V) is obtained by capitalizing net operating income (EBIT) at the overall cost of capital (K_e), which is constant.
- Total value of the stock (S) is found by subtracting the value if debt from total market value of the firm.
- The cost of equity (EBIT - I)/S tends to rise in correspondence in the degree of leverage.
- The overall cost of capital is an average of the cost of debt and equity.

Figure 2.2

Financial Leverage

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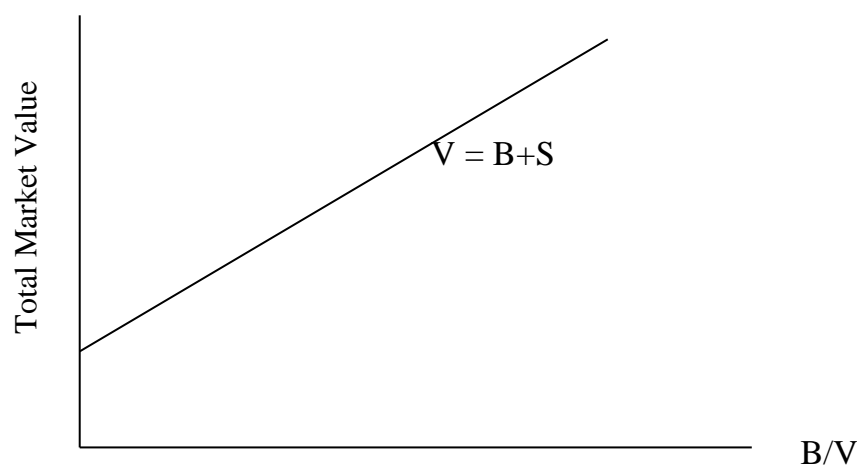
Under the NOI approach, the capital structure selected is a "more detail" since the value of the firm is independent of the firm's capital structure. If the firm increases its uses of financial leverage more debt directly offset by an increase in the cost of equity capital. This relationship as presented in Figure No. 2 indicates that as more debt is added to the firm's capital structure, the cost of equity capital rapidly rises. According to NOI approach, the cost of debt has two parts. The explicit cost which is represented by the interest rate, and an implicit or hidden cost, which result from the increased cost of equity attribute to increase in the degree of financial leverage. At extreme degree of financial leverage, this hidden cost becomes very high. Hence, the firm's cost of capital and its total market value is not influenced by the use of additional "cheap" debt funds (Gitman & Pinches: 792).

2.6.3 Modigliani – Miller's (M-M) Hypothesis

Franco Modigliani and Meron H. Miller (M-M) developed a hypothesis, which fundamentally affects the understanding of effects of gearing. They argue that in the absence of corporate tax, cost of capital and the market value of the firm remain invariant to the changes in capital structure or degree of leverage (Saxena & Vashist, 2002: B.5.7).

Assumptions of Modigliani – Miller's (M-M) Hypothesis

The M-M Hypothesis is based on following assumptions relating to the capital market, behaviour of investors, actions of the firm and tax environment.

- The securities are traded in perfect market. This means that investors are free to buy and sell securities. The investors can borrow from the market at the rate of interest at which firms can borrow.
- The investors have homogeneous expectations.
- It is possible to classify the firms into homogeneous risk classes. The firms in a given risk class are equally risky and their expected future earnings are capitalized at the same rate, i.e., in a given class, the firms have same expected and required rate of returns.

- The dividend payout ratio is 100%, i.e., firms distribute all net earnings to shareholders.
- There is no corporate tax. This assumption was later on removed (Saxena & Vashist, 2002:5-7).

Based on the above assumptions, the M-M Hypothesis gave two propositions- Proposition I and Proposition II. These propositions are discussed below:

Proposition I:

This proposition is identical to the NOI hypothesis. The M-M hypothesis argues that the market value of the firm (V), and its overall cost of capital (K_o) are independent of its capital structure. For a firm's risk class, the market value of the firm is established by capitalizing net operating income (NOI = EBIT) at an appropriate rate as follows:

$$V = S + D = \frac{\text{EBIT}}{K_o} = \frac{X}{K_o} \quad \text{or} \quad K_o = \frac{\text{EBIT}}{V}$$

Or,

$$K_o = K_d (D/V) + K_e (S/V)$$

V = The market value of the firm.

S = The market value of equity share.

D = The market value of debt.

X = Net operating income or earning before interest.

K_o = The capitalization rate appropriate to risk class of the firm.

In the above formula, EBIT is calculated before interest and for this reason it is independent of capital structure or leverage. Cost of capital K_o is equal to the capitalization rate appropriate to the risk class of the firm, and therefore, it is independent of capital structure, market structure, market value (V) must also be independent of capital structure or leverage. This is explained in the diagram given below:

Figure 2.3

Effect of leverage on cost of capital (M-M Hypothesis- Proposition I)
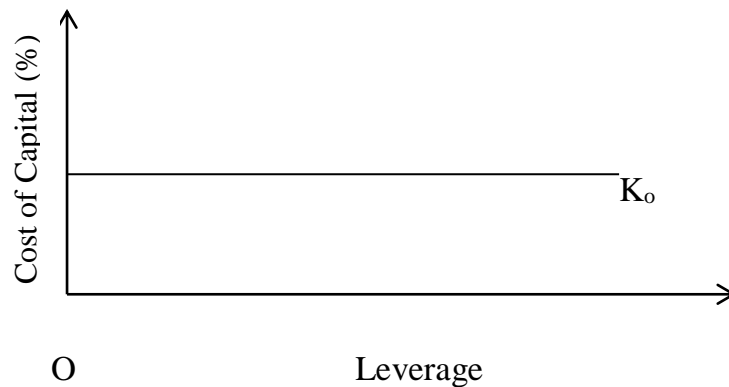
The cost of capital function as hypothesis by M-M through Proposition I is shown above in Figure No. 3. It is evident from this that average cost of capital is a constant and is not affected by leverage (Saxena & Vashist, 2002: 5.7-5.8).

Arbitrage Process

M-M hypothesis does not accept the NOI approach as valid. It is held in this hypothesis that two identical in all respects except for their capital structure cannot command different values or have different cost of capital. M-M argue that if two firms differ only (a) in the way they are financed, i.e., capital structure are different; and (b) in their total market values, investors will sell the share of over-valued firm and buy the shares of under-valued firm. This process will continue till the two firms have the same market value. This is called arbitrage or switching process. When the equilibrium is reached, the NOI condition will be fulfilled and the value of the firm and their average cost of capital will be the same. Thus, it is held that V and K_o are independent of capital structure (Saxena & Vashist, 2002: 5-8).

Proposition II

The M-M Hypothesis argues that cost of capital K_e is equal to constant average cost of capital K_o plus a premium for the financial risk. This can be written as follows:

$K_e = K_o + $ Risk premium

The premium for financial risk equals to the difference between equity capitalization rate K_e and cost of debt multiplied by the ratio of D/S, that is:

$K_e = K_o + (K_o - K_e) \times D/S$

In brief, the Proposition II implies that firm's cost of equity increases to offset the use by cheaper debt capital. Alternatively, the firm's use of debt increases its cost of equity as well. Proposition II of M-M Hypothesis presumes a linear relationship between K_e and debt equity ratio (D/S) (Saxena & Vashist, 2002: 5-9).

2.6.4 Traditional Approach

The traditional view, which is also known as an intermediate approach, is a compromise between NI approach and NOI approach. The crux of the traditional view relating to leverage and valuation and valuation is that through judicious use of debt-equity proposition, a firm can increase its total value and thereby reduce its overall cost of capital (Barges, 1963: 11).

The approach justifies the view that debt capital is relatively cheaper than ordinary shares. So changing leverage i.e., using debt instead of equity capital obviously causes a decline in the overall cost of capital is minimum or raised further the firm would become financially more risky to the investors who whole penalize the firm by demanding a higher equity capitalization rate (Khan & Jain, 1992: 495).

Traditional approach is a compromise between two extremes, i.e., net income approach and net operating income approach. The advocates of this approach hold the view that the value of the firm, i.e., V, can be increased or the cost of capital can be reduced up to a certain point by a judicious mix of debt and equity capital. Beyond that, the increase of equity more than offsets the use of cheaper debt capital in the capital structure and average cost of capital begins to rise. The average cost of capital structure further rises, when cost of debt

also begins to rise. The optimum capital structure is the point at which overall cost of capital is the minimum or value of the firm is maximum. The essence of the traditional approach is that a firm may, through judicious mix of debt and equity, reduce the cost of capital and increase its total value. Graphically, traditional approach can be depicted as follows: (Saxena & Vashist, 2002: B.5.10)

Figure 2.4

The Cost of Capital Behaviour (Traditional Approach)
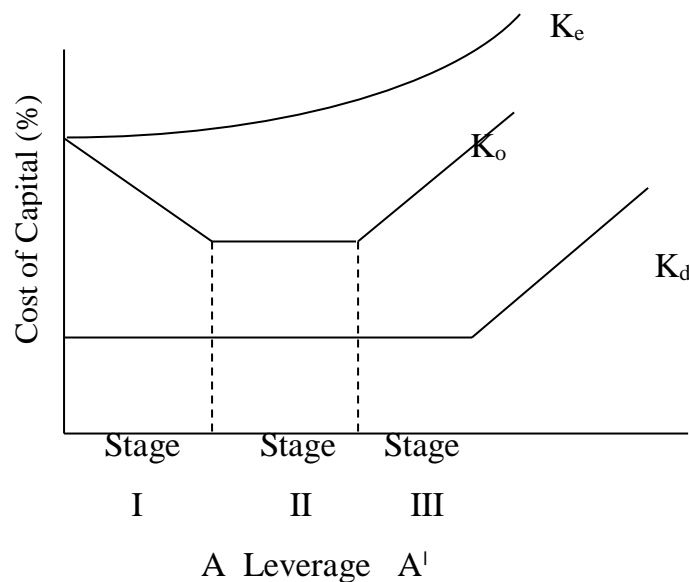
The traditional theory implies that the cost of capital is not independent of the capital structure of the firm. The traditional theory holds that this is an optimum level of capital structure. For degree of leverage before this point marginal cost of debt is less than the marginal cost of equity. Beyond this point, the marginal cost of debt exceeds that of equity (Saxena & Vashist, 2002:5-10).

Solomon holds the view that the reaction of the overall cost of capital to changes in capital structure can be divided into following three stages:

First Stage (Increasing value)

In the joint stage cost of equity K_e remains constant or rises slightly with debt, but it does not rise fast enough to offset the advantage of low cost of debt. Thus

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during this stage the market value of the firm increases and the average cost or overall cost of capital. i.e., K_o decreases as leverage increases.

Second Stage (Optimum value)

Once the firm has reached certain degree of leverage, increase in leverage (i.e., additions of debt capital) will have insignificant or negligible effect on the value of the firm and the cost of capital. During this stage, there is a range in which value of the firm V will be maximum and the average cost of capital K_o will be minimum.

Third Stage (Declining value)

Beyond the acceptable limits of leverage, the value of the firm V will decrease and overall cost of capital K_o will increase with in lend of leverages. This happens because both cost of debt K_o and cost of equity K_e will rise abnormally as the investors perceive high degree of financial risk (Saxena & Vashist, 2002: 5.10 - 5.11).

The three stages have been expressed graphically as below:

Figure 2.5

Effect of leverage on Cost of Capital (Traditional Approach – A variation)

30
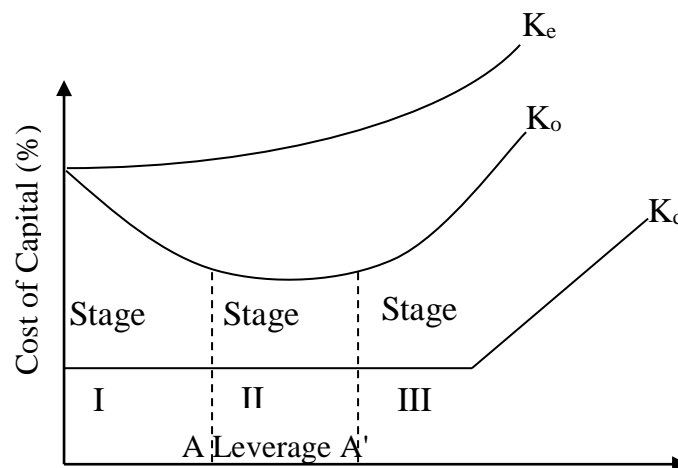
2.7 Other related concept of Capital Structure

Common Stock

Common stock is a security representing the residual ownership of a corporation. It guarantees only the right to participate in sharing the earning of the firm if the firm is profitable. Common shareholders usually have the additional right to vote at stockholders meeting on issues affecting fundamental policies of the corporation. Also, the shareholders have the right to select the members of their board of directors, the right to inspect the firm's books (only for the legitimate purpose of evaluating the performance of management), and the right to obtain a list of the names and address of other shareholders (Hampton, 1986: 38).

Common equity in a corporation or partnership or proprietorship interests in an unincorporated firm constitute the first source of funds to a new business and the base of support for borrowing by existing firms. The nature of equity ownership depends on the form of the business or organization. The central problems of such ownership revolve around an apportionment of certain rights and responsibilities among those who have provided the funds necessary for the operation of the business. The rights and responsibilities attached to equity consist of positive considerations (income potential and control of the firm) and negative considerations (loss potential, legal responsibility, and personal liability) (Weston & Copeland, 1981: 931).

When the investors buy common stock, they receive certificates of ownership as proof of their part as owner of the firm. The certificate states the number of shares and their par value (Bhalla, 1983: 154).

Preferred Stock

Shares whose holders are the first to receive dividends from available profit are preference shares. Preference shares are redeemed before ordinary shares when a company is liquidated (Microsoft Encarta, 2006).

Preference stock is a source of capital that is part of shareholders equity. It has lower claim priority than the firm's debt but a higher priority than its common stock (Bolten and Robert, 1981: 612).

Accountants classify preferred stock as equity and generally list it in the equity proton of the balance sheet under the title "preferred stock" or "preferred equity". However in financial analysis preferred is sometimes treated as debt and sometimes as equity, depending on the type of analysis being made. If the analysis is being made by a common stockholder's then the key consideration is the fact that the preferred dividend is a fixed charge, which must be paid ahead of common stock dividends, so the common stock holder will view preferred stock as being similar to debt. Suppose, however that the analysis is being made by a bondholder studying the firm's vulnerability to failure due to a decline in sales and income. If the firm's income declines the debt holders have a prior claim ahead of preferred stockholder's to the available income and if the firm fails, debt holders have prior claims to assets when the firm is liquidated. Thus to the bondholder preferred stock is similar to common equity. From management's perspective preferred lies between debt and common equity. Since the dividends on preferred stock are not a fixed charge in the sense that failure to pay them represents a default on an obligation, preferred stock is safer to use than debt. On the other hand, if the firm is highly successful, then the common stockholders will not have to share that success with the preferred stockholders, because preferred dividends are fixed. We see then, that preferred has come characteristics of debt and some the characteristic of common stock and it is entirely appropriate (Brigham, 1988: 510).

Long-term Debt
If an existing obligation is not to be paid within one year or current operating cycle (whichever is longer) or replaced by another current liability, it is properly classified as long-term liability. The most frequently encouraged long-term liabilities are holds payable; long-tern notes payable, lease obligations,

pension obligations, differed taxes, other long-term deferrals and occasionally contingent liabilities.

The use of borrowed funds is known as the trading on equity. The customary reason for using borrowed fund is the expectation of investing them in a capital project that will provide a return in excess of the cost of the acquired funds.

When additional funds are needed to expand the business or for current operations, a corporation has the choice of issuing debt or equity securities. There are four basic reasons why a company may wish to issue debt rather than equity securities.

- Bonds may be the only available source of funds.
- Debt financing has a lower cost.
- Debt financing offers a tax advantage.
- The voting privilege is not shared.

Debenture

The word "debenture" has derived from the Latin word 'debere' meaning merely a debt and it has nothing to do with the security or lack of it.

A corporate debenture is a security representing a long-term promise to pay a certain sum of money at a certain time or over the course of the loan, with a fixed rate of interest payable to the holder of the debenture. Debenture have significant place in corporate finance. It enables to have funds without sharing control with the holders of the security. It may be unsecured or secured, convertible or non-convertible.

Retained Earning

Retained earning is also called reinvested earnings. It is increased in stockholders equity due to profitable operation. It may be capital reserve, revenue reserve etc.

Dividend

Dividend, in corporation finance, a fund appropriated out of the profits of a corporation and distributed among its stockholders; also the share of the fund received by a stockholder. Dividends are usually declared periodically (quarterly, semi-annually, or annually) by the directors of a corporation. The action of a board of directors with respect to the declaration or non-declaration of dividends is usually final and conclusive upon the stockholders and is subject to review by the courts only in the event that the action is arbitrary or capricious.

Dividends are distributed on a proportional basis; the fractional share of the total dividend received by stockholders is equal to the proportional share of the stocks owned by them. Holders of the preferred stock of a company generally have a prior right to the payment of dividends over holders of common stock, and if their stock so provides, are paid at a fixed periodic rate. Preferred dividends may be cumulative or non-cumulative. Cumulative dividends are those that, if not paid for one or more periods, constitute charges on the profits of succeeding periods and must be paid at a future date before dividends may be distributed on common stock. Non-cumulative dividends, if omitted, do not constitute charges on future profits. Dividends may take the form of additional shares of stock or of the right to purchase stock for a fixed sum per share; such dividends are called stock dividends and rights.

The term dividend is applied also to the assets of a bankrupt or insolvent business that are distributed among its creditors during the course of its liquidation. The term is used in insurance to signify the sum appropriated out of profits for distribution among policyholders whose policies so provide; such dividends may be used to reduce the next premium (Microsoft Encarta 2006).

Dividend, in the normal use of the word, refers to that portion of retained earnings that is paid to stockholders. Dividend policy refers to the policy or

guidelines that management uses in establishing the portion of retained earnings that is to be paid in dividend (Bhalla, 1983: 167).

2.8 Determination of Capital Structure

There is some element of capital structure for decision. Without study of these element, the company cannot make appropriate capital structure and analysis of leverage may be incomplete. So we have to make a study of determinants of capital structure in the following ways.

EBIT / EPS Analysis

In the study of leverage the EBIT-EPS analysis is must because it is a method of financing under various assumptions of EBIT that should raise its capital position in different situation. In that situation, they have to choose better capital source as per the profitability of the company in the near future. To make balanced and appropriate capital structure for better future, the company needs to select different alternatives from different source in different proportion. The EBIT-EPS analysis is one of the best ways by which, we can understand the exclusive use of equity capital, debt capital, preference capital, a combination of different proportion and so on. These are analytical instrument, which will be useful in planning the capital structure and increasing earning before interest and taxes with greater value of EPS.

The main objective of any company is to maximize the market value of the firm as well as shareholder's wealth position. Keeping this in view, the EBIT-EPS analysis should be considered logically at the first stage of designing capital structure. The EBIT-EPS analyses show the impact of various financial alternatives on EPS at various levels of EBIT. This method involves the comparison of alternative method of financing under various assumptions as to EBIT. With these methods, the financial manager can make an appropriate financial decision.

Cost of Capital

Cost of capital is generally used in the sense of overall cost of capital. This overall cost of capital is comprised of the costs of various components of financing, i.e., the sources from which the capital has been raised. Each source has got own cost. All these costs are combined to compute overall cost of capital of a firm.

Cost of capital is a very widely used term in the literature of finance. It is defined as the minimum rate of return (or required rate of return), that a firm must earn on its assets in order to maintain its market value and attract needed funds. It is the rate of return at which the market value of a firm remains unchanged. In capital investment proposals, cost of capital is used as discounting rate or hurdle rate, or cut-off rate that is applied to projects' cash flow stream to determine whether the project is worthwhile or not. One of the financial objectives of a firm is to earn more than cost of capital. It is the rate of return required by those who invest in the firm (Saxena & Vashist, 2002: 5-16).

Flexibility

Flexibility means the firm's ability to adopt its capital structure to the needs of changing condition. The firm should keep flexible financial plan in order to economize use of funds by substituting one from financing other.

The restrictive covenants are commonly included in long-term loan agreement and debenture. The covenants in loan agreement may include restriction to distribute cash dividend, to purchase assets or to raise additional external financial. The firm also is required to maintain a certain ratio, as debt equity ratio or current ratio at certain ratio.

The firm having the discretion of refunding its debt and preference shares capital can enjoy considerable degree of flexible. The financial plan of the firm

should be flexible enough to change the composition of the capital structure as warranted by the firm's operating strategy and needs.

2.9 General Concept of Profitability

Profit, in business, the monetary difference between the cost of production and marketing of goods or services and the prices subsequently received for those goods or services. Profit is an essential competitive feature of buying and selling in the economic system. The opposite of profit is loss, whereby the cost of producing certain goods or services is higher than the price a buyer is willing to pay for them. In free market economy, the will to make and function by profits is termed the profit motive. Though normally taken as the basic motive for business, its universality has been challenged by the theory of the firm. Japanese firms, especially, are renowned for preferring market share over at least short-term profits.

The term 'Profit' is being used in several senses. According to Prof. Knight, "Perhaps no term or concept in economic discussion is used with a more bewildering variety of well-established meaning that profit". Some writers have defined it as the percentage returns on investment of capital while others have called it the reward of ownership. Some have referred to it as reward for risk-taking, while others have called it as a reward for entrepreneurship. There are still others who have defined profit as the residual income which results after all the three factors of production have been paid off. To get an accurate meaning of profit, it appears necessary to distinguish gross profit from net profit (Seth, 1998: 438).

The profit and simply the money gained from a sale, which is more than the money spent. According to the dictionary of commerce, profit is termed as to describe the surplus resulting after a defined trading period but must be regarded as the first essential charge upon business, being a reward for engaging resources in conditions of speculative risk for the satisfaction of

consumer resources of speculative risk for the satisfaction of consumer demand. It furnishes resources to invest in future operations and consequently its absence must result in a decline in effective capital resources and ultimately competitive extinction of the business.

The term 'profit' can be used in two senses. As a owner oriented concept it refer to amount and share of national income which is paid to the owners of business, that is those who supply equity capital as variant is described as profitability. In other word, profitability refers to situation where output exceeds input that is the value created by the use of resources is more than the total of input resource.

Profitability is a deviation of the term profit which explains ability to make a profit is a primarily a measuring rod of success of business enterprise. It is the basic test performance of any business simply stating. Profit is money excess of sale over money spent but the term "Profit" is very controversial and there are several different interpretations about it.

An economist will say that profit is the reward of entrepreneurship for risk taking. A labour leader might say that it is a measure of how efficiently labour has produced and that it provides a base for negotiating a wage increase. And investor will view it is a gauge of the return on his/her money. An internal revenue agent might regard it as a base for determining income taxes. The accountant will define it simply as the excess of firm's revenue over expenditure of producing revenue in given fiscal period (Lynch & Williamson, 1989: 99).

In this regard, American Institute of Banking says, "Under the free enterprise system like USA, the interest of the nation as well as those of the individual stockholders is supposed to be best served by vigorously seeking profit. But the profit cannot be a sole objective of an enterprise and an enterprise should not

be evaluated just on the ground of the profit it earned. Neither bank nor the community will be the best served it the banker unreasonably sacrifices safety funds of the liquidity of bank in an effort to increase income" (American Institute of Banking, 1972).

Every business firm has different types of goal. Profit maximization is the goal of business. Profit is very important for business firm. It is equally important as for is water. To cover cost of staying in business such as replacement of machines, furniture, obsolescence of machines, market or technical risks etc. Profit is essential in the sense to the self-financing principal. It provides structure and helps to minimize cost of capital. Profit of business is attraction for investors. So investors would invest their money where there is adequate profit. Hence profit is required to ensure and satisfy the entire expectation of management, shareholders, investors, employees and nation as whole.

2.9.1 Traditional Approach Towards Profit

Profit maximization is the traditional approach of business environment and economic theory on the ground of profit for firm. In the economic theory, one of the assumptions is profit maximization. It always assumes that a firm sets a target to maximize the profit and is discretionary behaviour of the firm, so in the managerial economics, to maximize profit is the central belief.

"Profit is the measurement of the business firm's overall performance. A business firm can claim it to be successful if it can maintain maximum profit to justify the worth of return on investment. This helps business firm to save from shortage of funds and provides best opportunities to under take the expansion of assets to enlarge business" (Shrestha, 1980: 23-24).

The promise of profit provides a strong incentive to owners and manager to act efficiently. Therefore it is common in economic theory to hypothesis that the criteria for evaluating the action of the firm are profit maximization. The basic

incentives for business are to produce goods and services. The profit in this sense is revenue that remains after deducting both explicit and implicit costs, including nominal profit considered of the entrepreneur's services. "Profit is essential for every enterprise to survive in the long run as well as to maintain capital adequacy through retained earning. It is also necessary to accept market for both and equity to provide funds for increased assistance to the productive sector" (Robinson, 1951: 21-22).

2.9.2 Modern Approach towards Profit

Business environment is totally different from past to today. In past time one of main objectives of firm was profit maximization. But today salsas maximization is the main objective of the firm. So that firm's objective may be to maximize its growth rate or satisfaction shareholders' wealth maximization.

Today every business firms finance by equity owners, creditors. Professional management is related to customer, employee, government and society concerned with firm. Besides other objectives of business firm, wealth maximization of shareholders' is normal objective of firm or otherwise a firm should set a standard for reasonable profit.

There are threats given to profit maximization and the economists to the profitability concept of firm give so many alternatives. Though there are denials towards profitability maximization model of a firm. Economists still do not have unified views to cover the alternative model when markets are perfect competitive, monopolistic or oligopolistic form. Therefore, the profitability model is still in the existence. A business firm still prefers to maximize profit as far as possible. "Business has multiple goals and the needs of survival, goodwill, security and both commonly call for some sacrifice of short term profits. Most business does, however, rate profitability consistently high among their term objectives and it could be argued short term goal such as security and growth rate, subordinate to long term profitability."

2.10 Review of Journals and Articles

Nagano (2008), in their study, "*Determinants of Corporate Capital Structure in East Asia: Are there differences from the Industrialized Countries?"* has stated that the determinants of firm capital structure in East Asian countries are different from that in industrialized countries. Cross-country investigation of the financing environment in each of the sample countries showed that firms in the region appear to have a pecking order in so far as their corporate finance decision-making is concerned. They have the highest preference for internal funds, with its characteristic smaller information cost, and secondarily for short-term bank loans. In general, banks exercise close monitoring of their debtor clients, which enable them to understand and anticipate credit risks. The generally close relationship between debtor firms and creditors appear to lower information asymmetry and may be one of the factors in the high dependency of firms on external bank loans.

On the other hand, the decision to use equity financing appears to be unrelated to the level of debt in firms in these countries. East Asian countries experienced explosive growth in their capital markets in the 1990s, which was however put to a halt after the 1994 financial crisis. Empirical results reveal that high share prices do not necessarily motivate firms to issue equity to raise funds. Although firms in the sample countries commonly have high dependency on internal and short-term external funding, there also appeared heterogeneity between the five countries. Better understanding of corporate capital structure in the region may be achieved by enhancing this study in the future. First, future research should focus on obtaining more and longer-period data during the post-crisis period, when many institutional reforms were implemented.

Teker and Battal (2009), in their study, *"Macroeconomic Determinants of Capital Sturcture for Turkish Firms"*, have stated that there are several factors that influence the leverage decisions of firms. Within the highlight of various theories that define the relation of this decision with macroeconomic factors,

the aim of this research is to figure out initially the capital structure of Turkish firms over the period from 2001-2008. The database covers the financial data of 42 firms that are traded at ISE 100 index. The companies operate the different sectors such as agricultural fertilizer, automotive, cement, energy, food, glass, iron and steel, petrochemicals, retail and service. The findings indicate that through 2004-2008, the average debt ratio varies at a range of 67%-71%. During this period, agricultural fertilizer, automotive, food, iron and steel and retail sectors are the ones that use a high amount of leverage. Thereafter there is a decrease in the debt usage which is between 44%-48%.

Furthermore, the study includes panel data analysis to gain information about the effects of macroeconomic determinants on leverage decision. The macroeconomic factors included in the analysis are tangibility, size, growth opportunities, profitability and non debt tax shields. The study suggests that rerun on assets (ROA) and tangibility of assets(Tan) affect firms' leverage positively and significantly. On the other hand, ration of total depreciation to total assets (DA) and profit margin on sales (PMS) affect firm's leverage negatively and significantly.

Leao and Cristino (2009), in their study, *"Minimum Capital Requirements and Profitability"*, have stated that in many countries around the ghost of the crisis, there is the indebtedness of banks(even in some notorious heavens of prosperity) and the need to rescue the financial institutions problems. This troubled credit cooperatives context, participants, with growing importance.

In the case of credit cooperatives Sicoob of Central Crediminas, requirements that deal minimum capital by risk weighted assets, appear to cause significant modifications in the results, and show they are not barriers to management and the management of belief, because the flexibility given to institutions to manage their assets to facilitate clearance of those aspects highlighted capital. In light of these issues highlighted, the mini9mum capital requirements cannot

produce the expected impacts and possible to occur, such as reducing the profitability and risk of insolvency, according to results of empirical research conducted.

The financial system can make use of loopholes in the agreement on the funding, through the purchase of securities on the capital market, which in certain cases, such as the federal government securities would be exempt from any consideration of equity, as the weighting applied be zero. The cooperative system, object of this study, does not work in the capital market and therefore the results for the index of Basileia are not affected by this strategy. Another possible alternative for use by the banking system to reduce the capital requirements without a commensurate reduction in exposure to risk would be the securitization of assets. In this case the banks are merely intermediaries, receiving only its provision of services.

Frangouli and Neokosmides (2010), in their article, "*Profit Margin And Capital Structure: An Empirical Relationship"*, have stated that financial structure is a very important element for firms' profitability. Firms may use their debt-to-equity ratio to affect profitability. Some firms choose a high debt-to-equity ratio, whereas others prefer to choose a lower one. The successful selection and use of the debt-to-equity ratio is one of the key elements of the firms' financial strategy. Most of the studies undertaken to examine the impact of financial indices on firms' profitability have used industry level data. Studies, which have used various financial indices to capture the financial structure, found either a positive or a negative impact on firms' profitability.

However this has used firm level data from various industries and it has found a strong negative impact of the debt-to-equity ratio on firms' profitability. Generally, this means that either the cost of borrowed capital is higher than the benefit from investment or that firms which prefer to finance their investment activities through self-finance are more profitable than firms which finance

investment by borrowed capital. The firms that finance their investment activities by retained profits are more profitable than those that finance their activities through borrowed capital. Further, a negative and statistically significant impact of concentration on firms' profitability has been found, which means that although firms take into consideration their interdependence they prefer to compete with each other than to cooperate.

2.11 Review from past Thesis

Pathak (1999), had carried out a study on "*Capital and Profitability*: *a comparative case study between Nepal Indosuez Bank Ltd. and Nepal Grindlays Bank Ltd".* The capital structures of both banks are highly levered, so it is difficult for them to interest and principal that may ultimately lead them to liquidity and bankruptcy. There is no significance relationship between debt and equity ratio in term of fixed deposits to net worth and overall capitalization rates of the banks. The ROE fluctuation is found to be influenced by the dividend payout ratio and interest margin in NIB Ltd. Both banks vary in the total assets, number of bank branches and volume of truncations. Both the banks are efficient and well established and doing well. He has suggested that NIB Ltd. should expand assets and branches, which ultimately affect the bank's performance and increase the profitability more than ever.

Tamang (2001), had done the comparative study about two Hotels, Yak & Yeti and Soaltee, which is entitled "*An Impact of Capital Structure on Profitability*". He has found that to provide maximum returns to the shareholders and to increase the value of the firm, the firm has to focus on profit which is one of the measurements of successful firm in planning its most optimal capital structure. By analyzing the debt to equity ratio in terms of long-term debt and shareholders equity, both Hotels' D/E ratios are not higher according to the standard ratio, which constitute 1:1. Hotel Yak & Yeti is trying to be levered company, which has practice of increasing the D/E ratio, since 2055/056 by approximately 27% every year. While calculating the correlation coefficient, he

found that Hotel Soaltee has negative correlation and there is safety to lenders last year, which is indicated by the decreasing D/E ratio. Hotel Soaltee does not have financial leverage that is why changes in EBIT are not able to bring multiplier and increase the use of assets efficiently. In other words to get higher ROE, both Hotels have once higher profit margin but it is impossible to get high profit margin every time. So thy should try to increase assets turnover and redeem the amount of total debt, otherwise such debt would be a burden in terms of paying fixed interest while Hotels are not getting high profit. He has also recommended that they should give equal importance to other factor like operating efficiency and assets efficiency, etc. and the government also should make effective tourism policy.

Parajuli (2001) had carried out a study on "*Capital & Ownership Structure: It's Impact on Profitability: a Case Study of Nepal Lever Limited*". He found that firm's debt equity ratio has been decreasing & has reached zero level from the fiscal year 2055/56. This in other words means that the management has decided against the use of leverage in its financial structure. But the firm could do well if it does lever its financial structure as the ROE has decreased from the fiscal year 2055/56 i.e. the year in which it relinquished its long term debt from the financial structure. From the Du pont analysis, it is seen that the asset use efficiency if somewhat consistent over the study periods but profit margin and equity multiplier is in decreasing trend which caused continuous decrease in ROE over the period. Now it appears that ROE could be levered up by increasing amount of debt in the firm.

The current liabilities also have been increasing with the decrease in the long term debt. The increase in current liabilities would affect the liquidity aspects of the firm. The flexible financing policy implies surplus cash and little short-term borrowing. But in the case of NLL, it is just opposite. To rely on current liabilities for the employment of capital increases the profitability that the firm will experience long lived asset with short term borrowing, maturity

mismatching would necessitate frequent & is inherently risky because short term interest rate are more volatile than longer rates.

Therefore he has suggested maintaining a proper capital structure by including long term debt also.

Aryal (2001), had submitted a thesis study on "*An Evaluation of Capital Structure of Bottlers Nepal Limited*". He has found that the long-term debt on BNL is increasing year by year because the company has borrowed more long-term debt. Different ratio analyses show the inefficient capital structure management of the company. He had made his analyses only five years periods and he suggested that the company has to follow good policy to set capital structure. The calculation of leverage position indicates the bad performance of the company because it is in increasing trend. After doing all calculations like ratio, leverage, capital structure position, correlation and P/E ratio etc, it was found that the company is facing bad situation due to inefficient capital structure. So the company has to lower down the amount of debt and to obtain additional fund through the issue of equity share by using cheaper source of collecting funds. In order to build up public image, share must be issued to the general public. Moreover the company should think about other new product for winter season to increase good image of the company. The company ahs regarded as highly geared up capital structured company. Thus, to design suitable pattern of capital structure for the company, the management must bring about a satisfactory compromise among these conflicting factors of cost, risk, control and timing. He recommended that the company to shift debt capital to equity capital when the company has high earning per share.

Shrestha (2003), had conducted a study on the topic of "*Focus on Capital Structure of Selected and Listed Public Companies*". Her objective of the study was to analyze the capital structure of selected and listed companies. She used data from 19 companies and study had covered different sectors manufacturing

finance, utility service and other allied area. She had found that most of these companies have debt capital relatively very higher than equity capital. Consequently, most of them are operating at losses to the extent that payment of interest on loan has been serious issues. Most of the losses are after charging interest on loan. She has suggested that the government has to consider in public enterprises is that of evaluating the relationship between use of debt and its impact on overall earning of public enterprises. So, the government should be sure in knowing how using debt capital will minimize return. Government of Nepal invested large amount of money in public enterprises. It should need to develop a suitable capital structure guideline to make public enterprise aware of the responsibility to repay the debt schedules. The other thing, which needs to be made publicity transparent that government money is not a lost less, found. Government has to analyze cost and risk return trade off. Thus, capital structure needs to be made more determinate by realistic analysis of cost.

Giri (2006), had conducted a thesis on "*Capital Structure Management of Listed Joint Venture Commercial Banks*". He studied on two joint venture commercial banks; they are Standard Chartered Bank Nepal Limited (SCBNL) and Nepal Bangladesh Bank Limited (NBBL). He found that JVBs have lack of theoretical and practical knowledge with regard to capital structure theories. Nepalese investors are not attracted by the theories. JVBs in Nepal have concentrated their business with big businessmen and industrialists. Their clients are mostly big manufacturer; carpet and garment exporters, multinational companies, large scale of industries, NGOs as well as INGOs, travel agencies, cargo agencies, housing companies etc. Therefore, the JVBs are suggested to open their doors to the small depositors and entrepreneurs also. The capital structure of selected banks is highly levered. The proportion of debt and equity capital should be decided keeping in mind the efforts of tax advantage and financial distress. The banks, when they are in difficult to pay interest and principal, ultimately lead to liquidation or bankruptcy. For such, the banks should reduce the high use of debt capital. Return ratios like; return

on total assets and return on shareholder's equity are not satisfactory in NBBL. SCBNL seems very good performing than NBBL in case of ROE. The savings from rural communities are neglected by JVBs, without which they can't contribute much to the economic development of the country. So, JVBs recommended being cooperative and should expand the branches by covering all the five development regions of the country including rural areas to achieve geographically balanced approach. JVBs are basically not concentrated to mobilize their deposit funds in productive areas. Nepalese shareholders are very much concerned about the payment of cash dividend by the joint venture banks rather than their financial statement. He has suggested paying cash dividend consistently. He also has suggested expanding branches and assets, which ultimately affect the bank's capital structure and expected to increase the profitability more than the present. Last but not the least; the banks have to enhance effectiveness, efficiency and proper coordination of its departmental tasks by continuously reviewing its structural design in accordance with the need of the changing time and situation.

Research Gaps

This study is different from the above studies. The study revolves around the banking industry and name of the selected bank is Machhapuchchhre Bank Ltd. This study is done considering the data of five years for the bank from the year 2005/2006 to 2009/2010 A.D. This study attempts to analyze and evaluate the relationship of the capital structure with various variables as like profitability, cost of equity and so on that will provide useful information for policy maker and the implementation of suggested findings. Others have done research on only capital structure but this research has been included profitability also.

CHAPTER – III
RESEARCH METHODOLOGY

3.1 Introduction

Stated, simply, research means to search again. We study the social problems again and again to find out something more about the phenomena. The first look may not always be adequate. It may be prone to error. Therefore, we look into the phenomena again and again and study the problems differently and thoroughly each time. This process of searching again and again is known as research. It is essentially a systematic enquiry seeking facts through objectives verifiable methods in order to discover the relationship among them and to deduce from them broad principle or laws. The term "Research" refers to a critical, careful and investigation or enquiry or examination or explanation having as its aim the revision of accepted conclusion in the newly discovered facts.

In this chapter, it has been used research design, nature and source of data, population and samples, data collection procedure and method of analysis. Also it has been used the methods of investigation followed by the objectives of the study, states the sources and limitations of the data in the study.

3.2 Research Design

Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance.

The study is evaluative and analytical type of study regarding the capital structure and profitability. The research design used in the study is descriptive and evaluative. The data relative to topics are collected through financial statement of the bank and other available sources. The data for five years has been collected and various financial and statistical tools has been used to resolve the objectives.

3.3 Nature and Sources of Data

Generally this study is based on secondary data. Annual report of the concerned firm, supporting data and information are collected from the office of the concerned firm and another institution. Documents, books, other publishes or unpublished material, thesis, newspapers are the important data and informal quires, with the authorities of the concerned firm is primary source in nature.

3.4 Population and Sample

In this study, all the financial statements published by the concerned bank from the beginning till the period of the study are taken as the population of the study and the statement taken to analyze about the bank is taken as the sample of the study. So the entire operating periods of the company from establishment till now is the population of the study and the period covered by this study is the sample period of the study.

This study on capital structure and profitability of MBL is based on the financial statement of the concerned bank from fiscal year 2001/2002 to 2005/2006 A.D. (2058/59 to 2062/63 B.S.). In this study the mentioned five-year period are take as the sample period.

3.5 Data Collection

Almost secondary data has been taken in this study. The data needed are collected from Balance Sheet, Profit & Loss Account, other related books of account of the concerned bank, stock exchange board and Nepal Rastra Bank.

3.6 Tools and Techniques Employed

As mentioned earlier, this study is confined to the single analysis of capital structure and profitability of the private commercial bank. To reach the objectives, the collected data are computed and analyzed using statistical and financial tools.

3.6.1 Statistical Tools

Statistical tools such as simple correlation coefficient, simple regression analysis, time series and test of hypothesis etc. have been used in this study.

Correlation Analysis

Correlation analysis is defined as the statistical technique, which measures the degree and direction of relationship between the variables. Among the various methods, Karl Pearson's method is used in this study. The result of correlation coefficient lies between +1 and -1, i.e. correlation can either be positive or negative. If correlation is positive it explains that the variables are moving in the same direction. If correlation is negative, it explains that the variables are moving in the opposite direction. Correlation coefficient (r) is calculated as below:

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

Where,

  N= number of observations.

  X and Y are variables.

Regression Analysis

Regression is one of the statistical tools, which is used to determine relationship between two or more variables and to make estimate of one variable on the basis of the other variable. It helps which unknown value of one variable can be estimated on the basis of known value of the variable. In this study the researcher uses simple regression equation.

Simple Regression Model

Regression analysis shows how variables are related. Regression is the estimation of unknown values or prediction of one variable from known of the

other variables. The regression equation can be determined by:

$$Y = a + bX$$

Where,

a = Intercept or Regression Constant

b = Slope of regression line or regression coefficient

Regression Constant (a)

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

Regression Coefficient

The regression coefficient of each independent variable (b) indicates the marginal relationship between that variable and value of dependent variable, holding constant effect of all other independent variable in the regression model. It is known as the slope of regression line. In other words, the coefficient describes how to change in dependent variable affect the variable of the dependent variable estimate. It is also that the numerical constant change in dependent variable.

T- Statistic

In order to test whether the sample correlation coefficient is significance of any correlation between the variable in the population, t-test for the significance of an observed sampled correlation is applied. The t-statistic is calculated by the following formula under Ho:

$$t = \frac{r}{\sqrt{1-r^2}} \sqrt{n-2}$$

Decision: t calculated value ≤ t tabulated at α = 5% level of significance, it is not significant

Analysis of Time Series

A series formed from a set of statistical data arranged in accordance with their time occurrence is said to be a time series. A time series shows the relation between two variables, one being the time. With the view of MBL, it helps in future forecasting & planning on the basis of past information.

To measure the Trend, Least Square Method is widely used and the straight-line trend is represented by the following equitation:

$Y = a + bX$ --------------- (I)

Where,

Y= Estimated Value of Y

a = Value of Y variable when X=0

b = Slope of line or the amount of change in Y variable that is associated with a change of one unit in X variable.

In order to determine the value of the constants a and b, the following two normal equations are to be solved.

$\sum Y = Na + b\sum X$ --------------- (II)

$\sum XY = a\sum X + b\sum X2$ --------------- (III)

Where,

N = Number of years for which the date are given.

The value of 'a' and 'b' can be determined by solving equations (II) and (III). These values of a and b are substituted in equation (I) to have the required tend line. To make calculation easier, the deviation of the independent variable (i.e. time) are taken from the middle of the time period so that $\sum X=0$; then the above two equations change to:

$$\sum Y = na \qquad \sum XY = b\sum X2$$
$$\therefore a = \sum Y/n \qquad \therefore b = \sum XY/\sum X2$$

The constant 'a' gives the arithmetic mean of Y and the constant 'b' indicates the rate of the change.

3.6.2 Financial Tools

1. Capital Structure Analysis

Fixed deposit analysis

Fixed deposit composition and index statement

Fixed deposit to total assets

Fixed deposit to total debt

2. Shareholders' Equity Analysis

- Shareholders' composition and index statement
- Net worth as percentage of total liabilities

3. Analysis of Financial Mix

The financial analysis mix is performing by using ratio analysis. It is a powerful tool of financial analysis. Ratio analysis is assess enterprise efficiency and to help to find reason for inefficiency, and also to see management ratio. Ratios reflect symptoms not causes. It is used to interpret the financial statement so that the strengths and weakness of a firm as well as its historical performance and current condition can be determined.

4. Capital Structure Ratio

The ratio indicates the proposition of debt and debt equity in financing the firm's assets. It is concerned with long-term debt solvency of a firm. Capital structure ratios are calculated to measure the financial risk and firm's ability of using the debt for the benefit of the shareholders. The capital structure ratios are as follows:

- Fixed deposit to net worth
- Debt to net worth

- Fixed deposit to capital employed

- Debt to total assets adequacy

- Capital sufficiency ratio

- Debt competence ratio

- Capital structure & capitalization rate

5. Profitability Analysis

This is performed by analyzing earning capacity of the assets, expenses analysis, return ratio, market related profitability ratios to arrive at the conclusion. Profitability analysis would be incomplete if these above aspects are not taken into considerations.

- Earning capacity of assets analysis

- Proportion of investment in assets

- Income of assets as % of total income

6. Expenses Analysis

- Major Expenses to total operating expenses

- Major Expenses to total income

7. Profitability ratio to investment or Return Ratio

- Return on total deposit

- Return on total assets

- Return on capital employed

- Return of shareholders' equity

- Earning per share

- Dividend per share

- Earning and dividend yield

- Price earning ratio

- Market value per share

- Book value per share

CHAPTER - IV
DATA PRESENTATION AND MAJOR FINDINGS

The basic objectives of this study have been already highlighted in the first chapter. In order to achieve the highlighted objectives, analytical and research methodology have been followed. In this chapter, the researcher analyses capital structure and profitability of MBL.

Stated, simply, research means to search again. We study the social problems again and again to find out something more about the phenomena. The first look may not always be adequate. It may be prone to error. Therefore, we look into the phenomena again and again.

4.1 Financial Analysis
4.1.1 Capital Structure Analysis

Capital structure of bank is analysis of the relationship between fixed deposit & shareholder's equity, its composition and index, financial mix and capitalization rate analysis.

Fixed Deposit Analysis

Fixed deposit includes only long-debt, collected from the customers, which a bank generally accepts for maximum periods of two years. The following table shows the position of fixed deposit in the bank over the past five-year (2005/06 - 2009/10).

Table 4.1

Fixed Deposits Position & Index Table of MBL

Fiscal Year	Fixed Deposits (Rs.)	Index	Increase or Decrease
2005/2006	2604900000	100	
2006/2007	2733360000	104.93	4.93**%**
2007/2008	2961140677	113.26	8.33
2008/2009	3681829529	137.60	24.34
2009/2010	6754150810	221.05	83.45
Average Change			24.21

Source: Appendix 1

Above table shows fixed deposit position & index of MBL. In fiscal year 2006/07 fixed deposit was increased by 4.93 %. Then fixed deposit increased by 8.33 % in fiscal year 2007/08, 24.34 % in 2008/09 and 83.45 % in 2009/10. This table shows its fixed deposit is increased as well as the fixed deposit trend too. But in the fiscal year 2009/10 the trend was positive and it was increased higher. The bank had increasing fixed deposit in its capital structure or financial mix. An average collection of fixed deposit of bank was 24.21%.
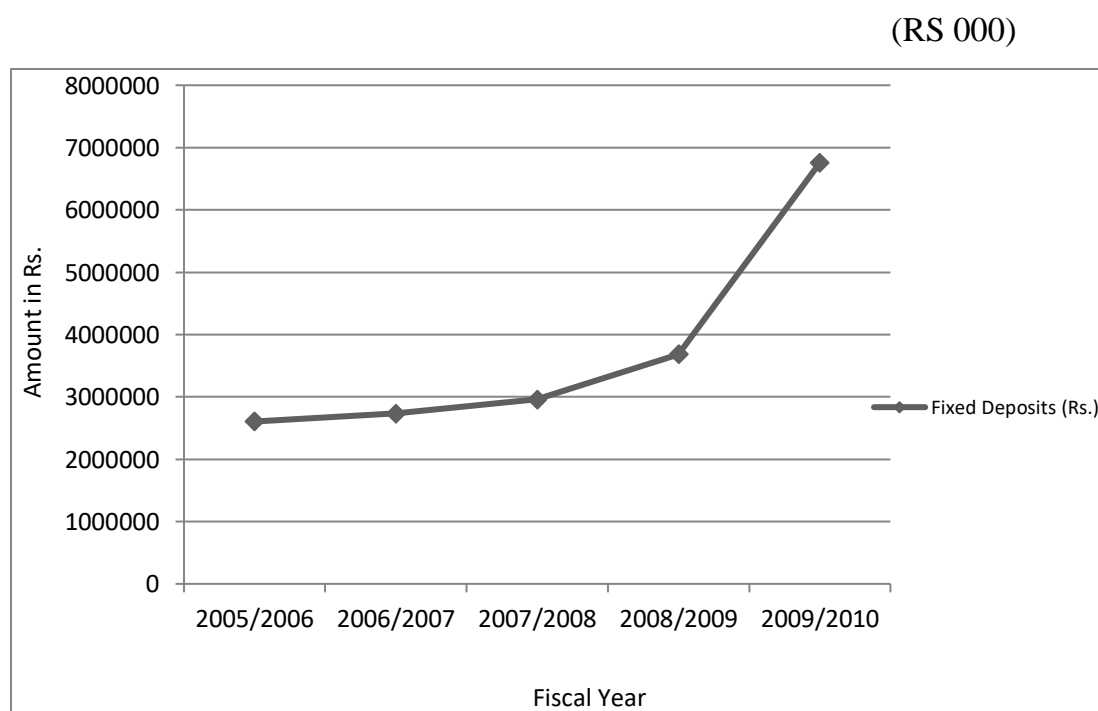
Figure 4.1

Fixed Deposit

(RS 000)

57

Table 4.2

Fixed Deposit as Percentage of Total Liabilities of MBL

Fiscal Year	Total liabilities (Rs.)	Fixed Deposits (Rs.)	Percentage	Change
2005/2006	9069830401	2604900000	28.72	
2006/2007	10807616906	2733360000	25.29	-3.43
2007/2008	12410040092	2961140677	23.86	-1.43
2008/2009	17490782101	3681829529	21.05	-2.81
2009/2010	20678790827	6754150810	32.66	11.61
		Average	26.32	

Source: Appendix 2

Fixed deposit of MBL was two-third of the total claims on assets in fiscal year 2001/02, which was the highest fixed deposit collection against the total claims. The bank had 25.29% of fixed deposit collected in fiscal year 2006/07; it was decreased to 23.86% i.e. changed by 1.43 of total claims on assets. It was still decreased to 23.86% in fiscal year 2007/08. Then after it was in the decreasing trend like 21.05% in 2008/09, but increased by 11.61% and become 32.66% in 2009/10, making an average of 26.32% of fixed deposit in total liabilities. In year 2009/10 the bank focused on fixed deposit collection rather than other deposits.
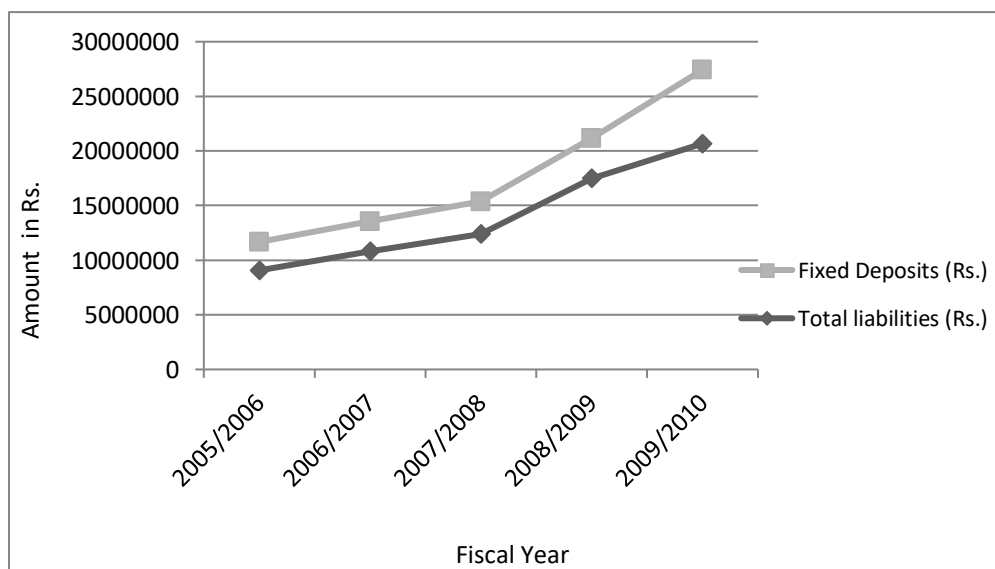
Figure 4.2

Total Liabilities and Fixed Deposit

(RS 000)

58

Table 4.3

Fixed Deposit to Total Debt of MBL

Fiscal Year	Total Debt (Rs.)	Fixed Deposits (Rs.)	Percentage	Change
2005/2006	8122632242	2604900000	32.07	
2006/2007	9795666264	2733360000	27.90	-4.17
2007/2008	11234894674	2961140677	26.36	-1.55
2008/2009	15778707275	3681829529	23.33	-3.02
2009/2010	18905279932	6754150810	35.73	12.39
		Average	29.08	

Source: Appendix 3

Total debt includes deposits, borrowings from other bank, bills payable and other liabilities. The portion of fixed deposit of MBL in total debt is almost more than two-third in the fiscal year 2005/06. But it was decreased to 27.90% in the fiscal year 2006/07 i.e., changed by negative 4.17%. It was still in the decreasing trend. It was 26.36% in the fiscal year 2007/08 also it decreased to 23.33% in the year 2008/09 and 35.73% in the year 2009/10. On an average, 29.08% of fixed deposit was in total debt. As increase in fixed deposit the debts also has increased.

Figure 4.3

Fixed Deposit and Total Debt

(RS 000)

59
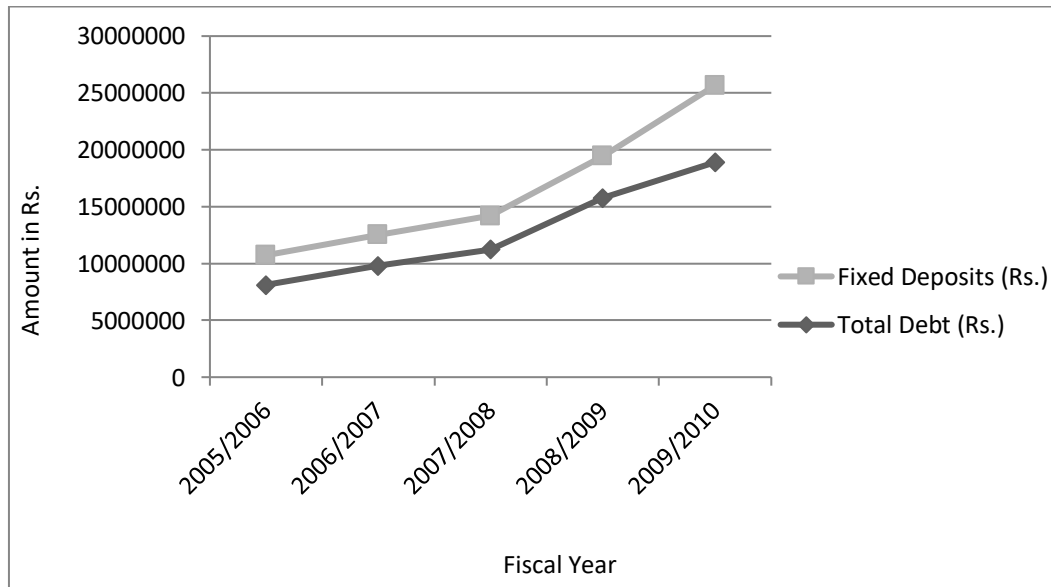
4.1.2 Analysis of Shareholders' Equity

Paid up capital, reserve and funds are included in the shareholders' equity of the bank. The reserve and funds include accumulated profit/loss, general reserve, capital reserve, share premium, exchange gain loss, proposed bonus share and other reserve. The researcher had taken shareholders' equity composition and net worth per share.

Table 4.4

Composition of shareholders' equity of MBL

(in Rs.)

Fiscal Year / Particulars	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Paid up capital (Rs.)	715000000	821651300	901339300	1479269600	1627196500
Reserve and Funds (Rs.)	216091357	178613335	262007658	220928496	146314335
Total SHS equity Rs.)	931091357	1000264635	1163346958	1700198096	1773510835
No. of shares	7150000	8216513	9013393	14792696	16271965
Net worth per share (Rs.)	130.22	121.74	129.07	114.93	108.99

Source: Appendix 4

Paid up capital of MBL was increased every year till the study period.. In the fiscal year 2005/06 paid up capital was Rs. 715000000 which was increased to Rs. 821651300 in the next year. Then it increased to Rs. 1627196500 while preparing this thesis. Over the study period reserve and funds was found increasing.

Figure 4.4
Paid up Capital & Reserve and Funds
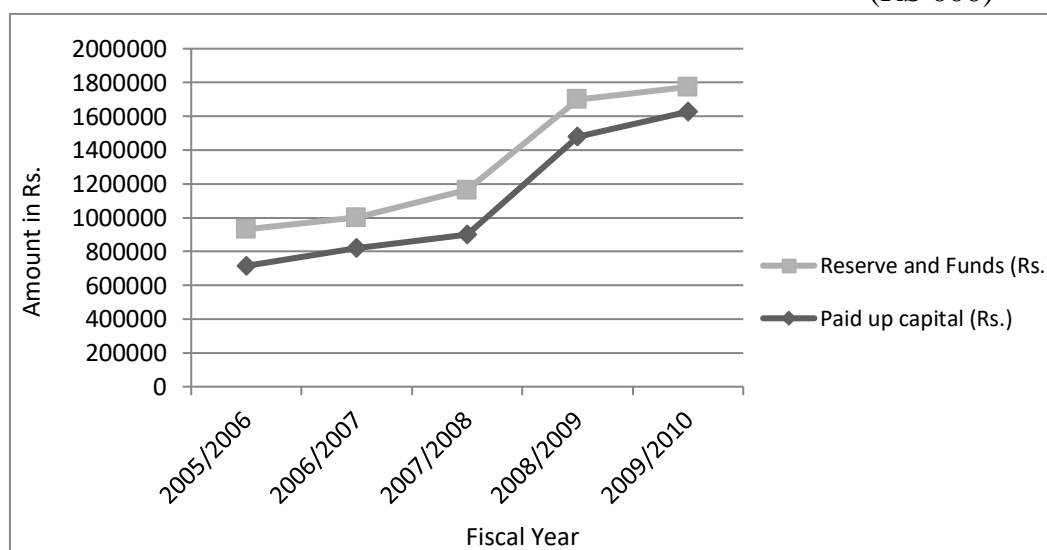
(RS 000)

Table 4.5

Net Worth to Total Liabilities of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	10.27	9.26	9.37	9.72	8.58	9.44
Change		-1.01	0.12	0.35	-1.14	

Source: Appendix 5

Shareholders' equity of MBL was covered 10.27% in fiscal year 2005/06 of total liabilities. The proportion decreased in 2006/07 to 9.26% from last year. But shareholders' equity to total liabilities of the bank was decreasing like 9.37% in 2007/08 and 9.72% in 2009/10. Again it decreased to 8.58% from previous two years. This was because of more increment of shareholders' equity over increment in total debt. On an average, the ratio was 9.44%, which was 3 times less than the average of fixed deposit to total liabilities ratio. However the bank had lower ratio of shareholders' equity over the total claims on assets.

The following table shows increase or decrease percentage of shareholders' equity in the past five-year.

Table 4.6

Shareholders' Equity Composition & Index of MBL

Fiscal Year	Net Worth (Rs.)	Index	% Increase or Decrease
2005/2006	931091357	100	
2006/2007	1000264635	107.43	7.43
2007/2008	1163346958	123.73	16.30
2008/2009	1700198096	169.88	46.15
2009/2010	1773510835	174.19	4.31
	Average Change		14.838

Source: Appendix 6

There was a drastic change in the fiscal year 2008/09 i.e. of 146.15% over the study period, which was because of positively less paid up capital and negative reserve & funds in comparison to coming to coming years, then after the rate of shareholders' equity was in the increasing trend. Average changes the rate if shareholders' equity was 14.838%.

Figure 4.5

Net Worth

(RS 000)
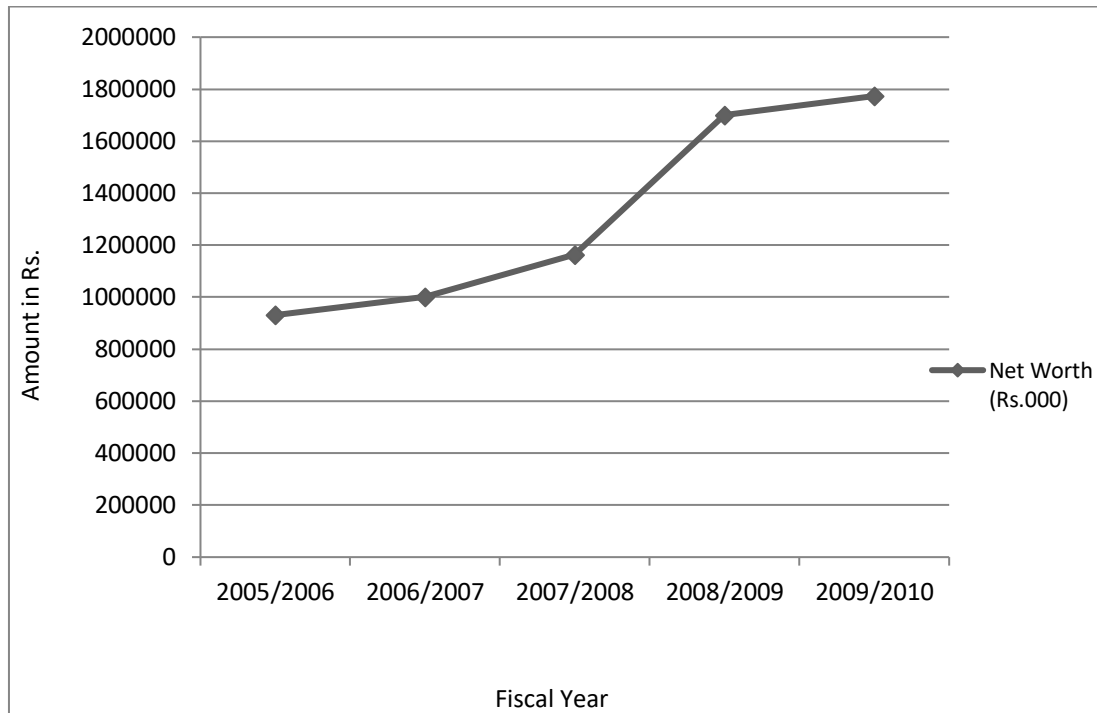
4.1.3 Analysis of Financial mix of the Bank

Using ratio analyses as financial tools for analyzing financial mix of bank, data available from bank was "Annual Report."

Debt to Equity Ratio (DER)

It shows the relationship between borrowed funds and owner's capital. This ratio reflects the relative claims of creditors and shareholders against the assets of the firm. This ratio measures the long-term financial viability of a firm and it is also an important tool to appraise the financial structure. It can be calculated in different ways:

Debt to equity ratio in term of fixed deposit to net worth

$$DER = \frac{Fixed\ Deposit}{Net\ Worth}$$

Debt to equity ratio in term of total debt to net worth

$$DER = \frac{Total\ Debt}{Net\ Worth}$$

A higher ratio shows a large share of financing by the creditors relatively to owners. So that, there is a large claims against the assets of the company. It would be riskier to the creditors. Smaller ratio shows smaller claims of creditors which imply sufficient safety margin and protection against shrink in assets. A high proportion of debt in the financial structure would lead to inflexibility in the operation of the company because company must pay the interest still the company.

Table 4.7

DER in Term of Fixed Deposit to net Worth of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	279.77	273.26	254.54	216.55	380.84	280.99
Change		-6.50	-18.73	-37.98	164.28	

Source: Appendix 7

The following table shows DER in term of fixed deposit to net worth of bank. This ratio is used to determine whether fixed deposit financing is sufficient to build up the profitability of the bank. The bank has more DER, so that the worth is less than creditors.

DER of MBL in fiscal year 2005/06 was 279.77% which was grater proportion of fixed deposit over the study period. In fiscal year 2008/09 it was 216.55%, which was the least proportion of fixed deposit to net worth, decreased to 273.26% fiscal year 2006/07 and also decreased to 254.54% in fiscal year

2007/08. Then after the next year it increased to 380.84% in fiscal year 2009/10. Every year the bank had 100% over claims of creditors than that of owners. On an average, the bank had 280.99% of DER. The bank was highly leveraged because their business depended on the deposit rather net worth.

Figure 4.6

DER in Term of Fixed Deposit to net Worth of MBL
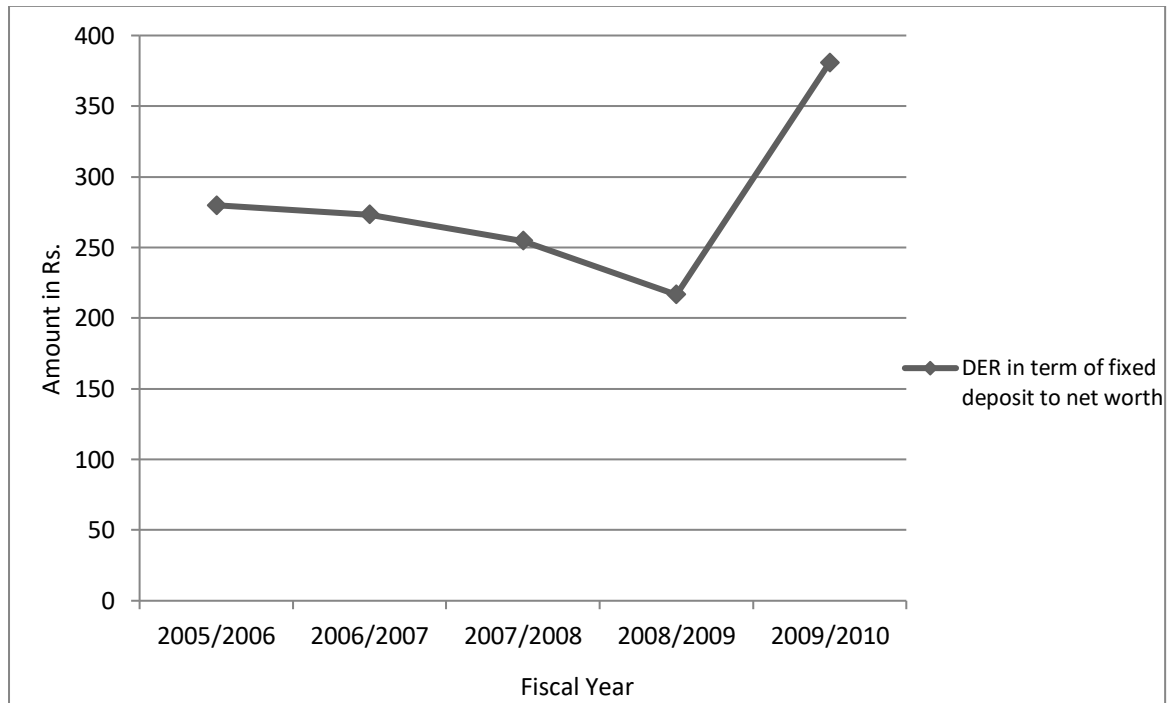
Table 4.8

DER in Term of Total Debt to net Worth of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	872.38	979.31	965.74	928.05	1065.98	962.29
Change		106.93	-13.57	-37.69	137.93	

Source: Appendix 8

High ratio shows that the bank is very conservative in using debt and low shows that the bank is using excessive debt. It does not have the ability to offer assured payment of interest to the creditors.

Above table shows proportion of total debt to net worth. In fiscal year 2005/06, MBL had 872.38% of debt to net worth. Then it increased to 979.31% in fiscal year 2006/07.,. The proportion of debt was decreasing in the fiscal year 2007/08 to 965.74% and in the fiscal year 2008/09 to 928.05%, which was the lowest proportion over the study period. But again total debt to net worth was increased to 1065.98% in fiscal year 2009/10. On an average the bank used 962.29% of debt to net worth.

We can say that bank is leveraged over the study period. Because in using more debt and depended upon deposits and borrowings.

Figure 4.7

DER in Term of Total Debt to net Worth of MBL
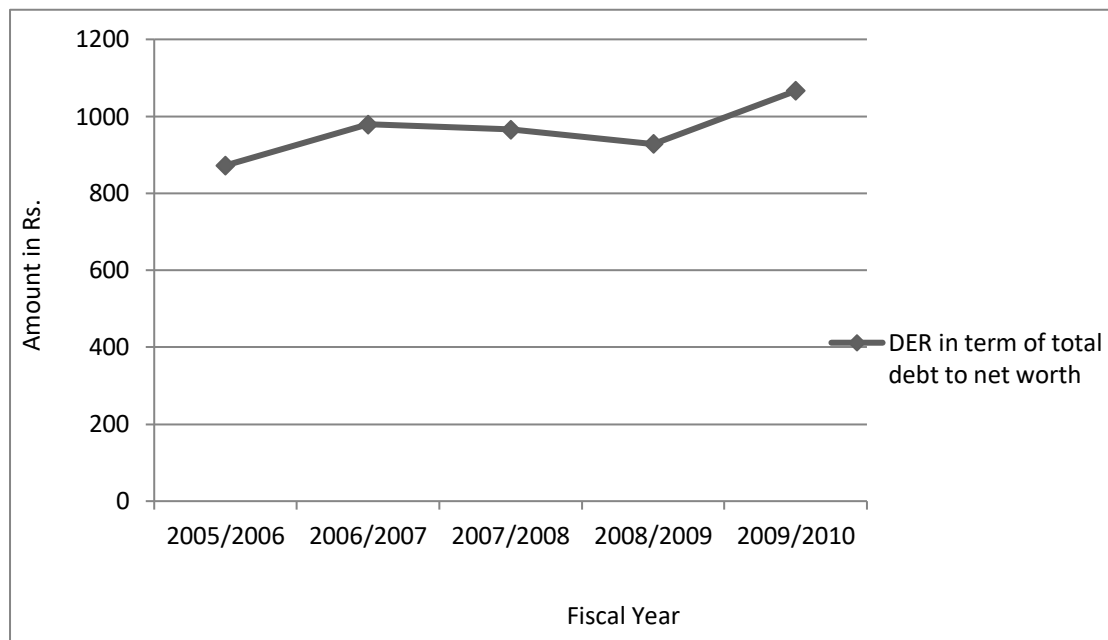
Debt to Total Capital Ratio (DCR)

This ratio indicates the relationship between creditors funds and owners capital. It states that the outsiders' liabilities are related to the capitalization to the bank and not only to the shareholders' equity. These are calculated in this ways:

Fixed deposit to total capital ratio $= \dfrac{\text{Fixed deposit}}{\text{Total capital employed}}$

Debt to total capital ratio $= \dfrac{\text{Total debt}}{\text{Total assets}}$

Where,

    Total assets = Shareholders' equity + current liabilities

    Total capital employed = Shareholders' equity + fixed deposit

Table 4.9

DCR in Term of Fixed Deposit to Total Capital Employed of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	73.67	73.21	71.79	68.41	79.20	73.26
Change		-0.46	-1.42	-3.38	10.79	

Source: Appendix 9

Above table shows DCR in term of fixed deposit to total capital employed of MBL. This ratio constituted about 73.67% in fiscal year 2005/06. This means about 70% of permanent capital has contributed by fixed deposit, which indicates more than the satisfactory level of long-term debt. This ratio was decreased for a year in 2006/07 to 73.21%. On an average, fixed deposit to capital employed was 73.26%. The ratio was fluctuating over the study period.

Figure 4.8

DCR in Term of Fixed Deposit to Total Capital Employed of MBL
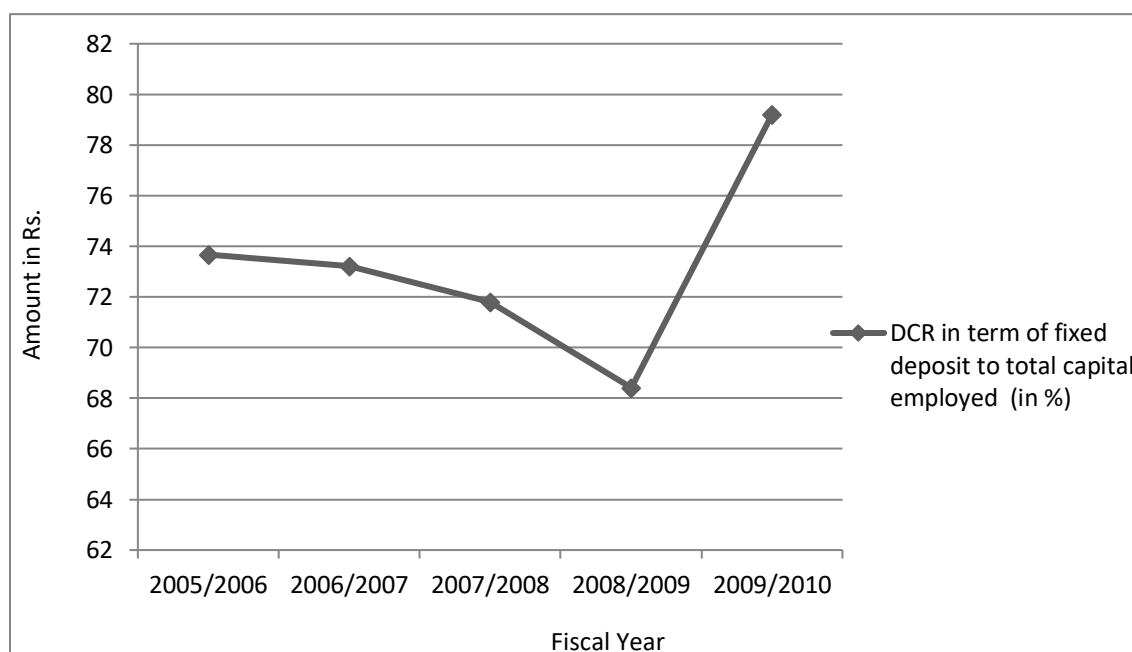
Table 4.10

DCR in Term of Total Debt to Total Assets of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/20010	Average
MBL	89.56	90.64	90.53	90.21	91.42	90.47
Change		1.08	-0.11	-0.32	1.21	

Source: Appendix 10

Above table shows DCR in term of total debt to total assets. The ratio of total debt to total assets was fluctuated through out the study period. There was highest total debt to total assets ratio i.e., 90.64% in fiscal year 2006/07. There was least total debt to total assets ratio i.e., 89.56% in fiscal year 2005/06 because of decreeing total deposit. On an average, 90.47% of debt capital was used to finance.

Figure 4.9

DCR in Term of Total Debt to Total Assets of MBL
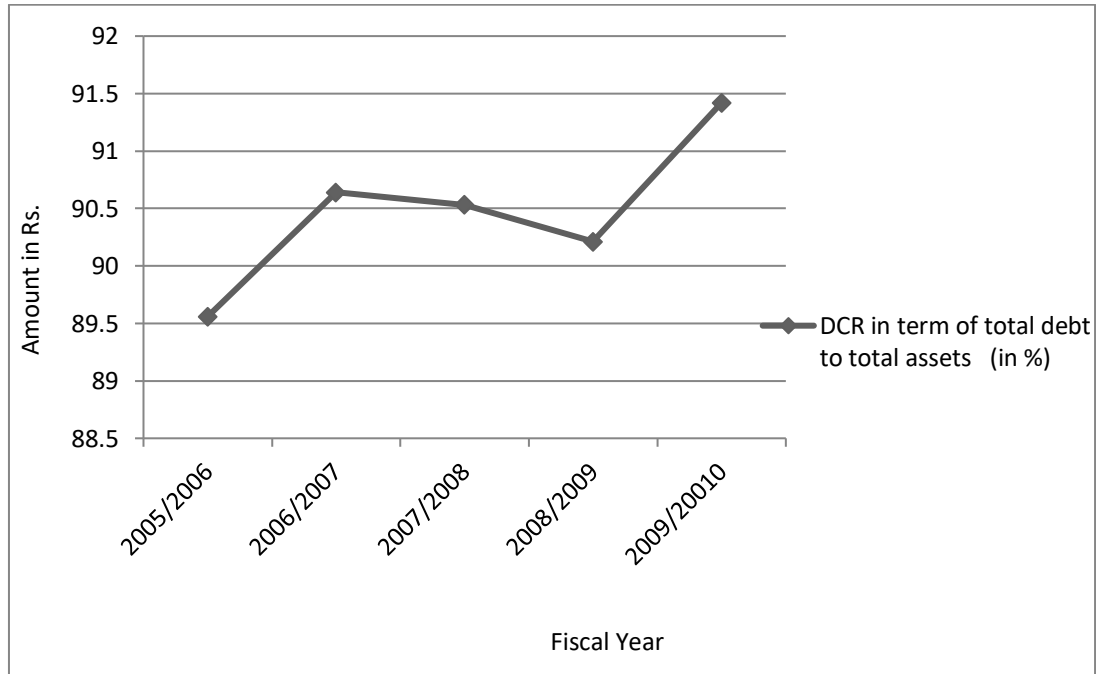
Analysis of Capital Sufficiency of the Bank

It is used in case of bank to assess the strengths of the capital, the sufficiency of the capital. Appropriate capital sufficiency ratio always been a controversial

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issue for the commercial banks, however very higher or lower capital sufficiency ratio is considered to be unfavorable in term of lowered return or lowered solvency respectively. Capital sufficiency is calculated as below:

$$\text{Capital Sufficiency Ratio (CSR)} = \frac{\text{Capital fund}}{\text{Total deposit}}$$

Where,

Capital fund = Paid up capital, general reserve and undistributed profit

Table 4.11

Capital Sufficiency Ratio of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/20010	Average
MBL	9.94	11.53	11.30	12.26	10.31	11.07
Change		1.59	-0.23	0.96	-1.95	

Appendix 11

Above table shows capital sufficiency ratio of MBL. The capital sufficiency ratio was ranged between 9.94% in 2005/06 and 11.53% in 2006/07. Capital sufficiency ratio was seems constant over the study period. There was the highest ratio i.e. 11.53% in 2006/07. on an average the capital sufficiency ratio of MBL was 11.07%.

Figure 4.10
Capital Sufficiency Ratio of MBL
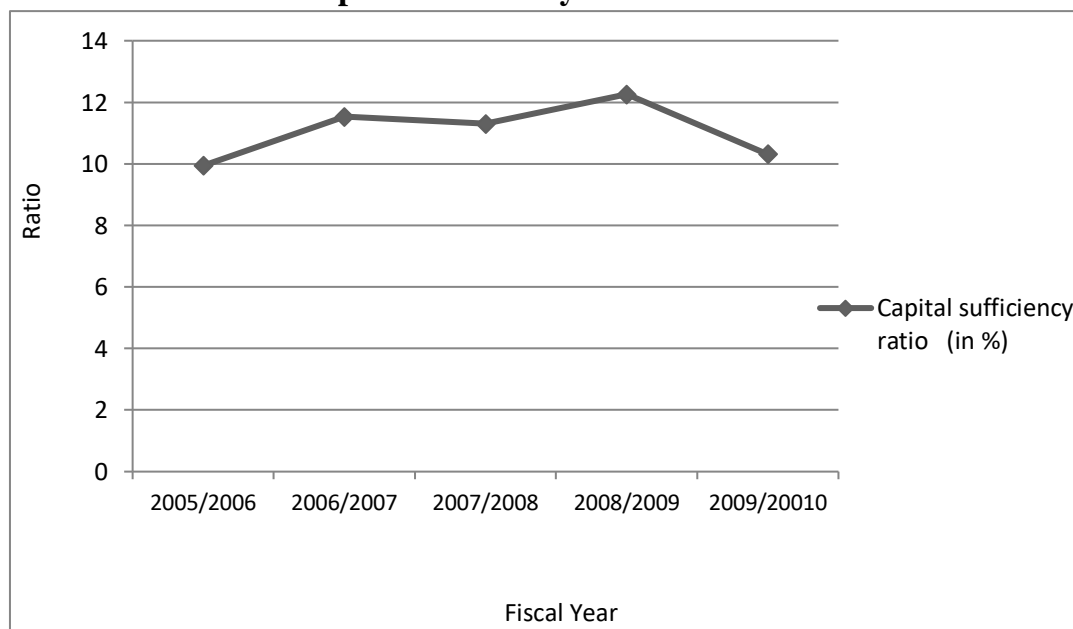
Analysis of Debt Competence of the Bank

For the analysis of debt competence the bank, it has been calculated interest coverage ratio. It is one of the most conventional ratios, which measures the relationship between what is normally available from operation of the bank and claims of the outsiders. It is used to test bank's debt servicing capacity. It is calculated as below:

Interest Coverage Ratio (ICR) = $\dfrac{\text{EBIT}}{\text{Interest}}$

The ratio is too high or too low as well as unfavorable to company. High ratio implies that the bank is very conservative in using debt and low ratio implies that the bank is using excessive debt and does not have the ability to offer assured payment of interest to the creditors.

From the point of creditors the larger the coverage ratio the greater the ability of the bank to handle fixed charges and guarantee of the payment of interest to the creditors.

Table 4.12

Interest Coverage Ratio of MBL

(in times)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/20010	Average
MBL	2.24	2.02	2.23	2.06	1.61	2.03
Change		-0.21	0.20	-0.16	-0.45	

Source: Appendix 12

Above table shows interest coverage ratio of MBL. In fiscal year 2005/06, the interest coverage ratio was 2.24 times which, was the greatest ratio and 1.61 times in fiscal year 2009/10, which was the lowest ratio throughout the study period. Then other years the ratio was fluctuated ranging 1.61 times to 2.24 times. All the ratios were smaller than normal times 3. On average the bank had 2.03 times interest coverage ratio, which could be considered as tight debt

service capacity. The bank is able to meet the interest obligation. Interest coverage should be not being tight in banking business so that the bank could not be able to service the debt capital. In this regard the bank do not have sufficient interest ratio.

Figure 4.11

Interest Coverage Ratio of MBL
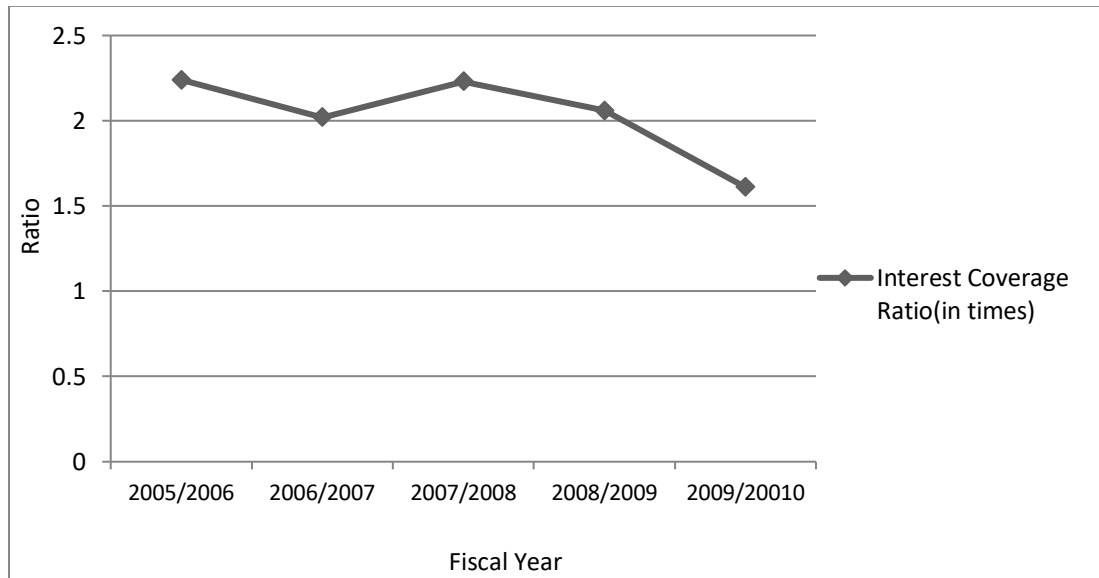
Capital Structure Position of the Bank

Capital structure is a mix of debt and equity capital. So that if minimized the cost of capital and maximized the value of company, the debt capital & equity capital would be properly mixed. Fixed deposit and equity share capital were taken to analyzing the value of the bank. Net income approach is considered to find the overall capitalization and net operating income approach is considered to find out the equity capitalization rate. Value of the bank is determined by adding debt capital and equity capital. Fixed deposit is debt capital and equity capital only i.e. equity share capital is added at market price.

Table 4.13

Capital Structure mix of MBL

Fiscal Year	Fixed Deposits (Rs.)	Equity Share Capital	Total Value	Proportion
2005/2006	2604900000	715000000	3319900000	0.78:0.22
2006/2007	2733360000	821651300	3555011300	0.77:0.23
2007/2008	2961140677	901339300	3862479977	0.77:0.23
2008/2009	3681829529	1479269600	5161099129	0.71:0.29
2009/2010	6754150810	1627196500	8381347310	0.81:0.19

Source: Appendix 13

Above table shows the capital structure mix of MBL. In fiscal year 2005/06, there was 0.78:0.22proportion debt capital to equity capital. In fiscal year 2009/10, there was 0.81:0.19 proportion debt capital to equity capital which was higher proportion over the study period. It was because at that time fixed deposit was higher than equity share capital. The lower proportion was 0.71:0.29 in fiscal year 2008/09; it was because decreased in fixed capital.

Figure 4.12

Proportion of Debt & Equity Capital

(RS 000)
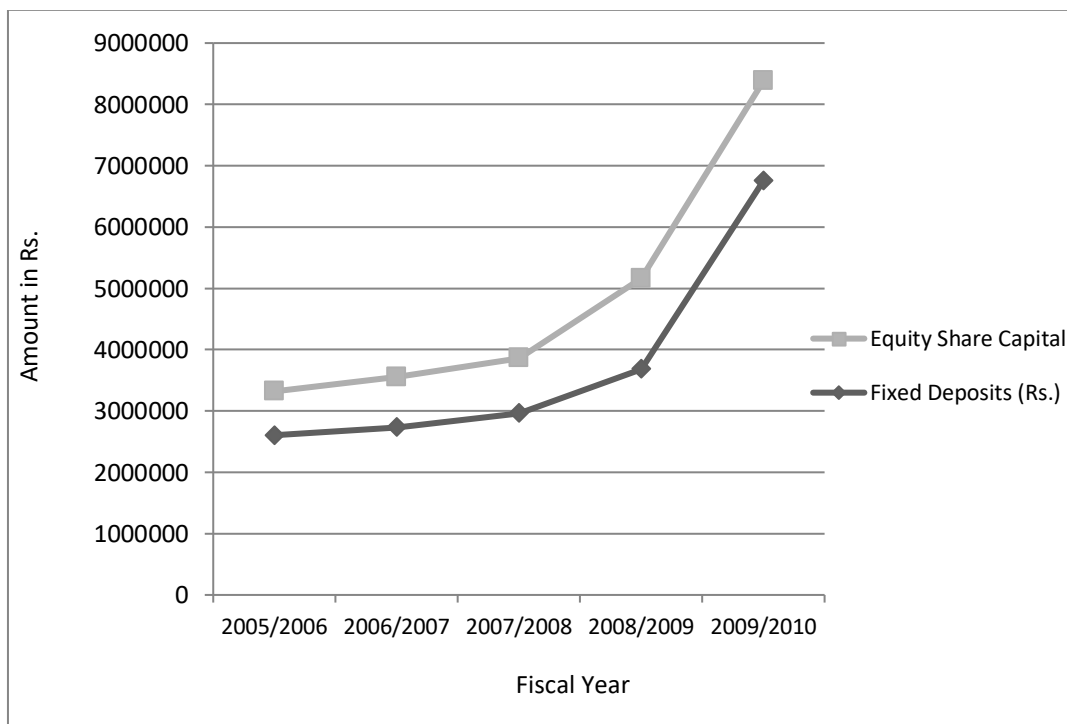
Overall Capitalization Rate (K$_o$)

The overall capitalization rate is calculated under net income approach, which measures the financial degree of leverage of the bank. This approach assumes that the cost of debt is less than cost of equity, if financial degree of leverage is increased the weighted average cost of capital will decline as a result value of bank will increase. The higher use of debt lowers the cost of increase in value. It is calculated as follows:

$$\text{Overall capitalization rate (K}_o) = \frac{\text{EBIT}}{\text{Value of firm}}$$

Table 4.14

Overall Capitalization Rate of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	19.45	22.64	23.51	23.18	21.98	22.15
Change		3.20	0.86	-0.32	-1.21	

Source: Appendix 14

Above table shows overall capitalization rate of MBL. Overall capitalization rate was fluctuating over the study period. In 2005/06, there was the lowest overall capitalization rate of 19.45%. After it was increased for remaining years till 23.51% in fiscal year 2007/08, which was the highest rate among the five years. On an average 22.15% was recorded over the study period.

Figure 4.13

Overall Capitalization Rate of MBL
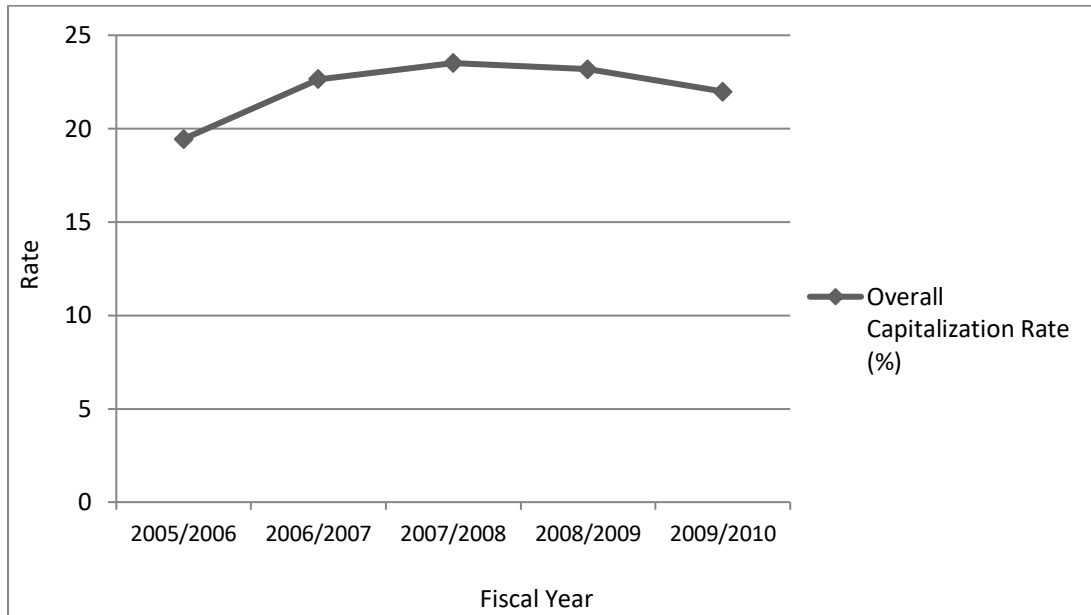
Equity Capitalization Rate (K_e)

The net operating income approach is considered to find out and analyze the equity capitalization rate of MBL. This approach implies that the total valuation of the bank is unaffected by its capital structure. In this approach the equity capitalization rate has to be analyzed.

It is calculated as follow:

Equity capitalization rate (K_e) = $\dfrac{\text{EPS}}{\text{MVPS}}$

Table 4.15

Equity Capitalization Rate of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	5.86	1.45	0.81	1.98	1.76	2.37
Change		-4.40	-0.65	1.18	-0.22	

Source: Appendix 15

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Above table shows the equity capitalization rate of MBL. It was in fluctuating trend over the study period. There was highest cost of equity of 5.86% in fiscal year 2005/06 and the lowest cost of equity of 0.81% in fiscal year 2007/08. It was because earning per share was lower than market value per share. On an average cost of equity was 2.37%.

Figure 4.14

Equity Capitalization Rate of MBL
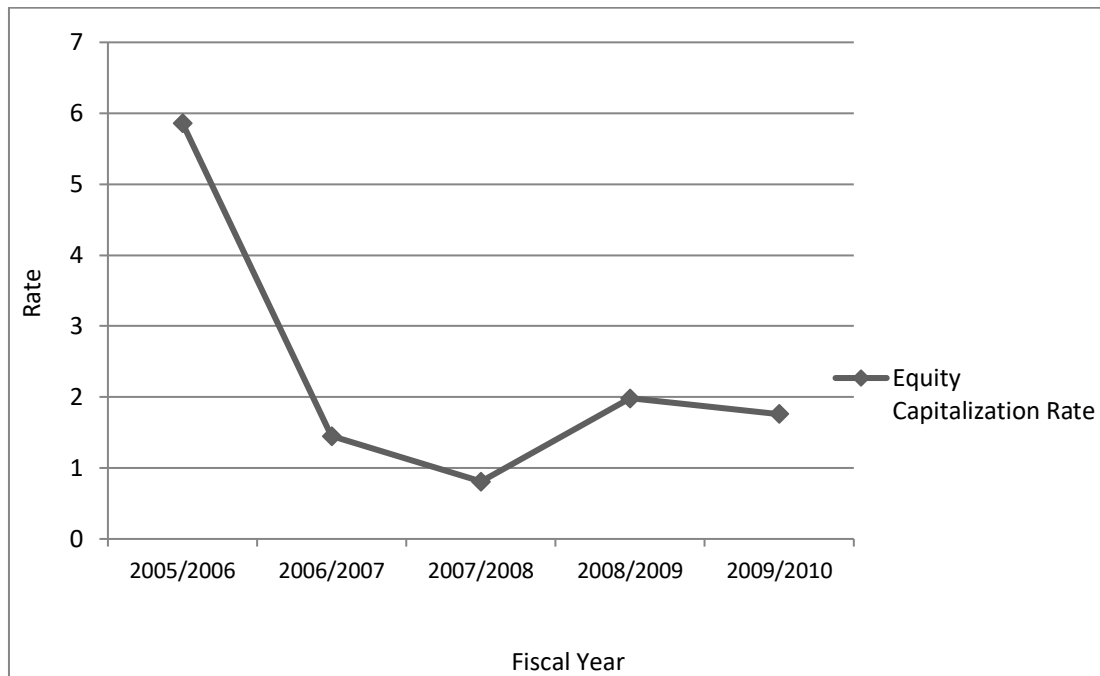
4.1.4 Profitability Analysis

Profitability depends upon earning and expenditure. Every business institution should be attempted to increase earning and minimize expenses. For profitability analysis the researcher has to analyze earning capacity of assets, expenses analysis, profitability related to sales, profitability related to investment of return etc.

Earning Capacity of Assets Analysis

It is important source of earning for the bank. Following table shows different investment in assets and income of each asset as percentage of total income according to the types of assets are expressed in percentage.

Table 4.16

Proportion of Investment in Assets of MBL

(in %)

Fiscal Year Assets	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
Loan, Advances and Bills Purchase	66.91	65.97	69.64	71.56	69.10	68.64
Investment	13.13	11.83	11.63	7.12	10.14	10.77
Other assets	19.96	22.20	18.73	21.32	20.76	20.59
Total assets	100.00	100.00	100.00	100.00	100.00	100

Source: Annual Report of MBL

Above table shows the proportion of investment in assets of MBL. Investment included government securities and other investment, where the earning assets are loan & advance, Govt. securities, bills purchase. The highest earning asset was Loan, Advances and Bills Purchase, which was 68.64% in an average. The lowest earning asset was investment, which was 10.77% in an average.

Figure 4.15

Proportion of Investment in Assets of MBL

75
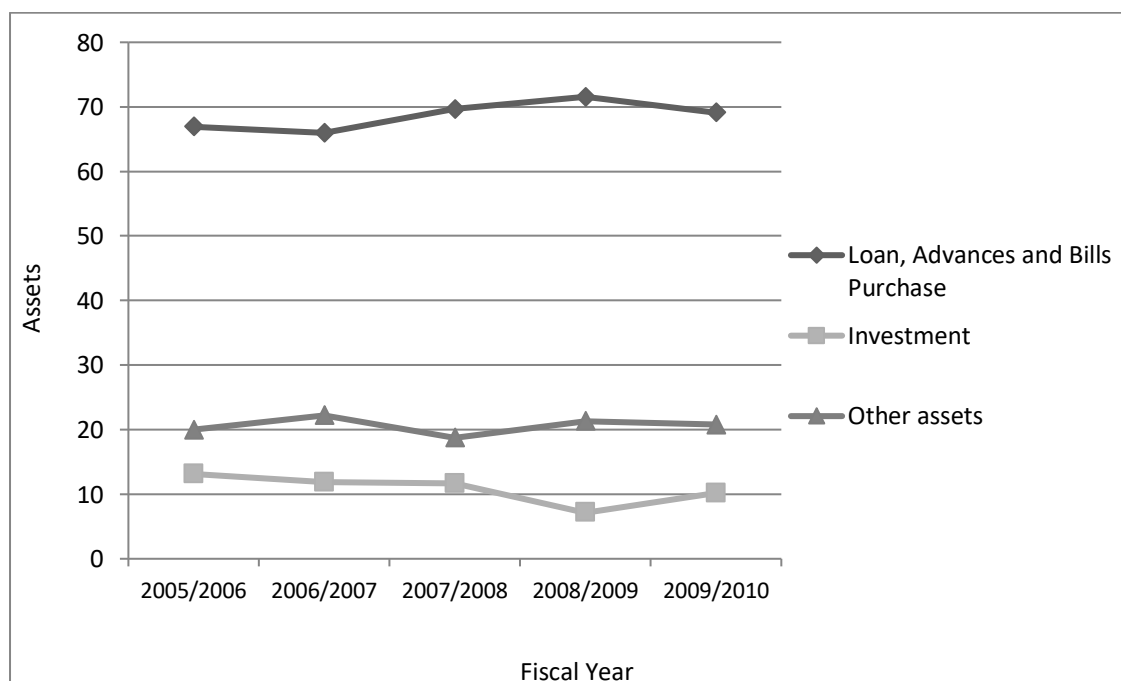
Table 4.17

Income of Assets as % of Total Income of MBL

Fiscal Year Assets	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
Loan & Adv. + Interest	87.26	86.27	87.73	87.05	91.68	87.9991
Commission & Discount	5.17	4.26	3.92	3.18	2.71	3.84898
Exchange Gain	5.44	3.37	5.03	5.00	2.32	4.23
Other Incomes	2.12	6.09	3.31	4.78	3.29	3.92
Total	100	100	100	100	100	100

Source: Annual Report of MBL

Above table shows the income of each asset of the bank. Interest was highest earning assets of the bank. In 2005/06, the loan & advance was 91.68% of total assets, which covered 77.49% as interest to total income. It was lower than assts. The asset of bank was decreased to 86.27% in 2006/07 but the earning from asset was also decreased to 70.06% of the total income. It was higher than lower than asset similarly to in 2007/08. The asset was decreased but earning was decreased, similarly to in 2008/09. On an average the investment of 68.64% to total assets alone was able to cover income 87.99%, which was just high over the study period. On an average 10.77% was covered by investments of total assets. On an average 20.59% of the other assets had earning capacity of 3.92%. On an average 4.23% of income was covered by exchange gain.

Figure 4.16

Income of Assets as % of Total Income of MBL
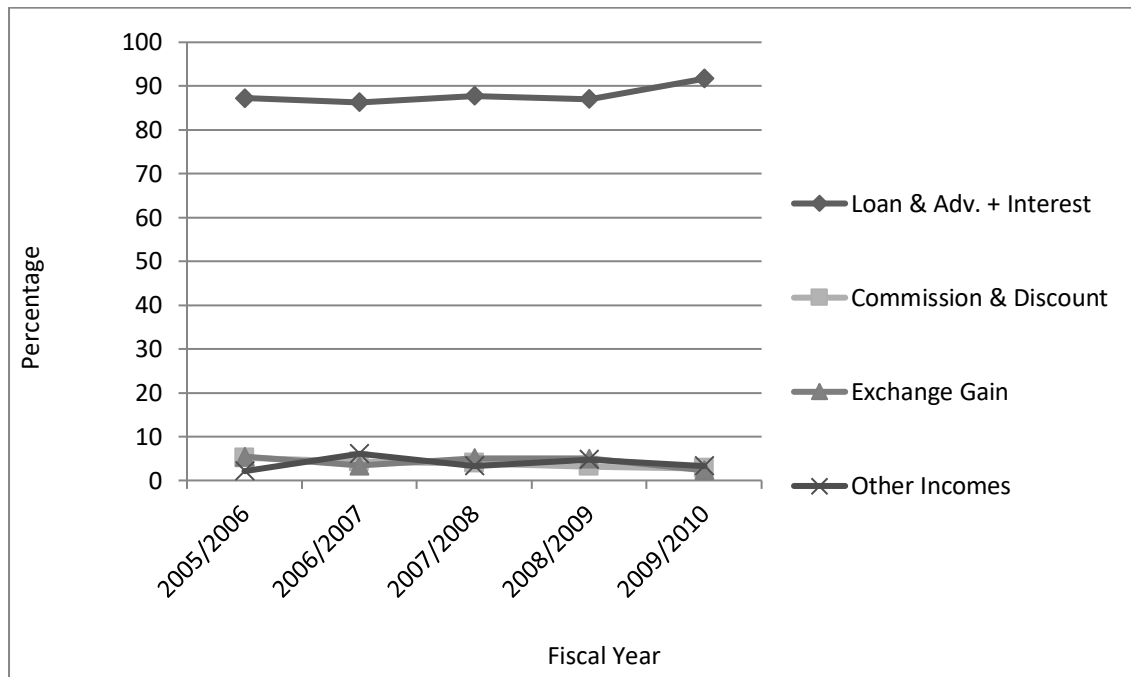
4.1.5 Expense Analysis

Expense flow of any business firm has to be evaluated. So that it can be able to identify major expenses of total expenses. The firm may be able to limit down the unnecessary expense. Here major expenses only analyze for the profitability analysis. It includes interest & commission paid, office operating expenses, employees expense and provision for staff bonus.

Table 4.18

Major Expenses to total Operating Expenses of MBL

(in %)

Fiscal Year Expenses	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
Interest Expenses	66.02	70.06	65.83	66.56	74.79	68.65
Employees Expenses	9.93	9.58	11.53	10.44	9.94	10.28
Office Expenses	19.65	18.35	20.08	20.98	14.60	18.73
Provision for Staff Bonus	4.40	2.01	2.57	2.02	0.68	2.34
Bad Debt	0	0	0	0	0	0
Total	100	100	100	100	100	100

Source: Annual Report of MBL

Table 4.19

Major Expenses to Total Expenses of MBL

(in %)

Fiscal Year Expenses	2005/2006	2006/2007	2007/2008	2008/09	2009/2010	Average
Interest Expenses	53.94	50.38	46.61	43.68	42.18	47.36
Employees Expenses	9.88	11.54	8.16	6.91	6.34	8.56
Office Expenses	19.39	22.54	17.38	14.01	12.56	17.18
Provision for Staff Bonus	-	1.13	2.13	3.01	2.81	1.82
Others	16.79	14.41	25.72	32.39	36.11	25.08
Total	100	100	100	100	100	100

Source: Annual Report of MBL

Above table shows major expenses to total expenses of MBL. Interest paid by MBL was fluctuating over the study period. In fiscal year 2005/06, interest expense was 64.82%. After it decreased to 58.87% in 2006/07, but suddenly it increased to 62.75% in the year 2007/08 because at that time total deposit would be increased. Then in 2008/09 and 2009/10, it was 64.62% and 66.02% respectively. On an average, 68.65% of interest expenses was recorded over its total operating expenses, which covered 47.36% of total income on an average interest is major expenses of the bank so that it plays an important role to increase or decrease the profit of bank.

Employees' expenses include salary & allowances, trainings, uniforms & liveries, contribution to provident fund and other staff expenses. Employees' expense of MBL was fluctuating over the study period. In 2005/06, 9.93% was employees' expenses to total operating expenses. In 2006/07, it was 9.58% after it was found increasing for the two years. In 2007/08 it was 11.53%. Similarly, in 2008/09 and 2009/10, it was 10.44% and 9.94% respectively. On

an average, 10.28% employees' expense was recorded over its total operating expenses, which was 8.56% of total income on an average.

Office operating expenses to its total operating expenses of MBL was fluctuating over the study period. There was 19.39% in 2005/06 to 22.54% in 2006/07 for first two years. Thereafter for two years it was in increasing trend and reached up to 20.98% in fiscal year 2008/09. On an average, 18.73% was recorded over the study period, which covered 17.18% of total income on an average.

Provision for staff bonus of MBL was fluctuating over the study period. The highest provision for staff bonus in 2005/06 was 4.44%.

4.1.6 Profitability Ratio to Investment of Return Ratio

Deposit collection and deposits are mobilized for loans & advances and other investments are major financial sources of the bank to earn profit. This ratio helps the bank either the bank is well efficient or not in mobilizing its total deposit so that corrective action could be forward to the concerned bank. This ratio is calculated as below:

$$ROD = \frac{Net\ income}{Total\ deposit}$$

Higher the ratio signifies better mobilization and utilization of deposits and vice versa. If ratio is decreasing trend of ROD represents the weak aspect of a bank because the major fluctuation of a bank is to utilize the deposit.

Table 4.20

Return on Total Deposit of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	1.70	0.78	0.77	0.79	0.40	0.89
Change		-0.92	-0.02	0.02	-0.39	

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Above table shows return on total deposit of MBL. Return on total deposit of MBL was fluctuating over the study period. It was ranged between 1.70% in 2005/06 and 0.40% in 2009/10. There was highest positive change of 0.02% in 2008/09 and highest negative change of 0.92% in 2006/07 because net income was much less than the total deposits. On an average, 0.89% was recorded over the study period.

Figure 4.17

Return on Total Deposit of MBL
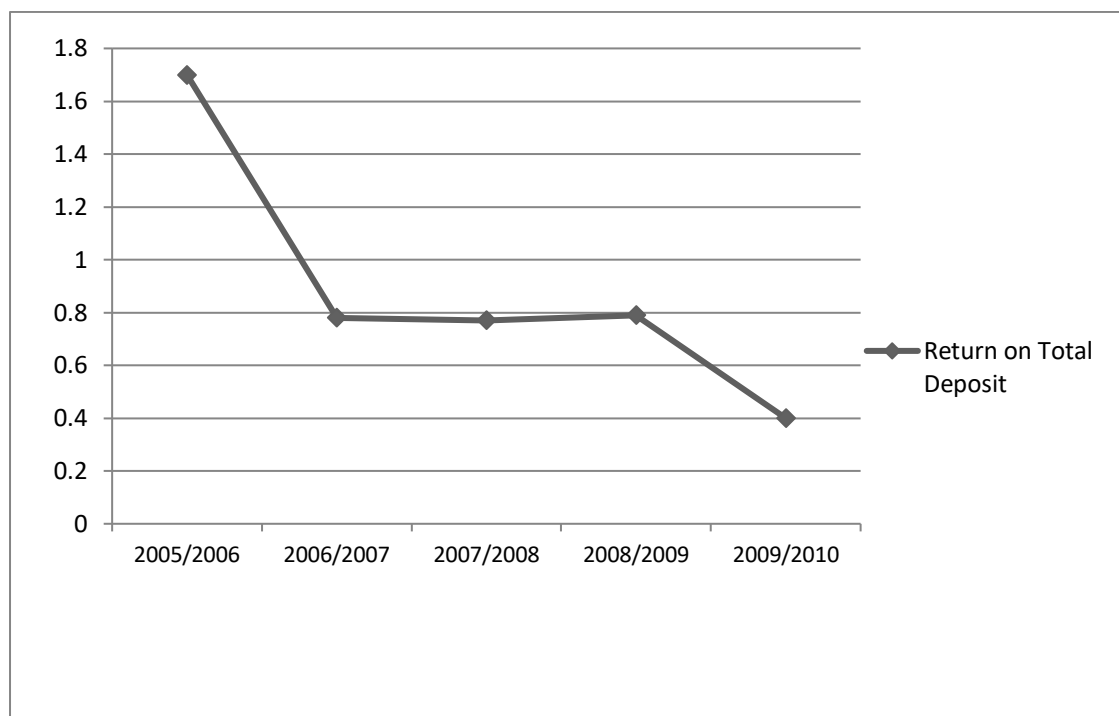
Return on Total Assets (ROA)

Return on total assets ratio measures the profitability of the firm that explains firm to earn satisfactory return on all financial invested assets otherwise its survival is threatened. The ratio explains net income for each unit of asset. Higher the ratio means efficiency in utilizing its overall resources and vice versa. It is computed as follow:

$$ROA = \frac{Net\ income}{Total\ assets}$$

Table 4.21

Return on Total Assets of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	1.48	0.69	0.69	0.70	0.35	0.78
Change		-0.79	0.00	0.02	-0.35	

Source: Appendix 17

Above table shows return on total assets of MBL. It was ranged between 1.48% in 2005/06 and 0.35% in 2009/10. The highest return on total assets was 1.48% in 2005/06 and the lowest return on total assets was 0.35% in 2009/10, because at that time net income was lower than the assets. On an average, 0.78% was recorded over the study period.

Figure 4.18

Return on total Assets of MBL
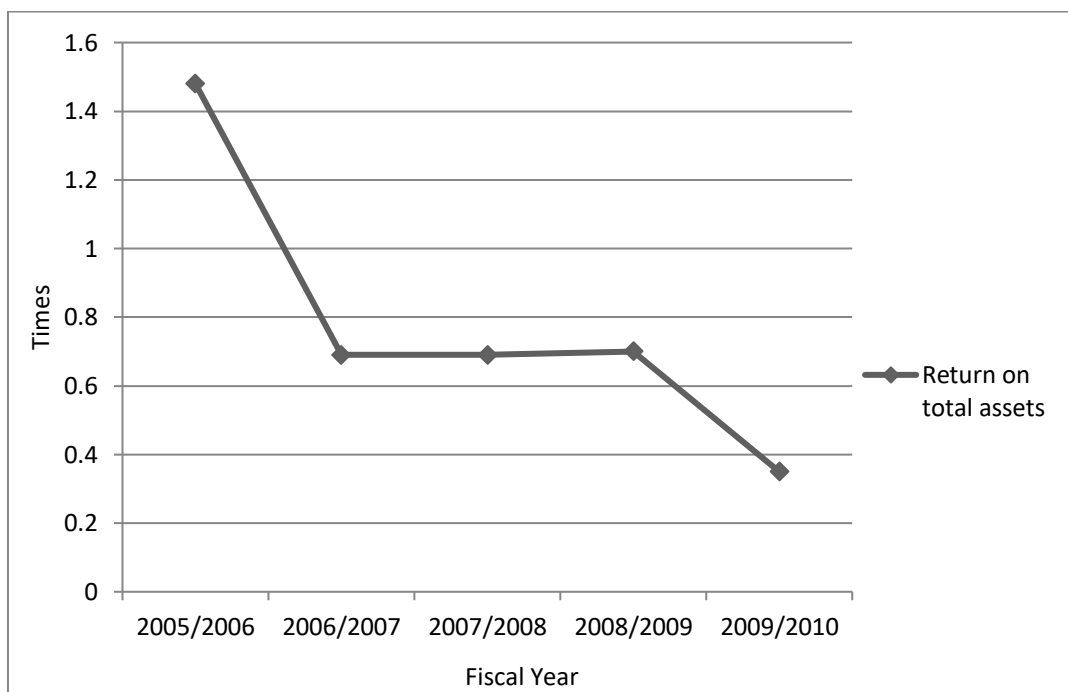
Return on Capital Employed

This is another type of return on investment, which is similar to ROI. The term "Capital Employed" refers to the fund supply by creditor and owner of the

firm. The higher the ratio the more efficient is the use of capital employed. It is computed as follow:

$$ROCE = \frac{EBIT}{Capital\ employed}$$

Table 4.22

Return on Capital Employed of MBL

(in %)

Fiscal Year	2005/06	2006/07	2007/08	2008/09	2009/2010	Average
MBL	3.79	3.32	2.62	1.07	0.17	2.19
Change	-	0.47	0.7	1.55	0.9	

Source: Appendix 18

Above table shows the return on capital employed of MBL. It was between 0.17% in 2009/10 and 3.79% in 2005/06. There was highest return on total assets 3.79% and the lowest return on capital employed was 0.17% in 2001/02. It was fluctuating over the study period. In 2001/02, the return on capital employed was lowest because of the lowest income among the years. On an average the bank recorded 2.19% of ROCE.

Figure 4.19

Return on Capital Employed of MBL
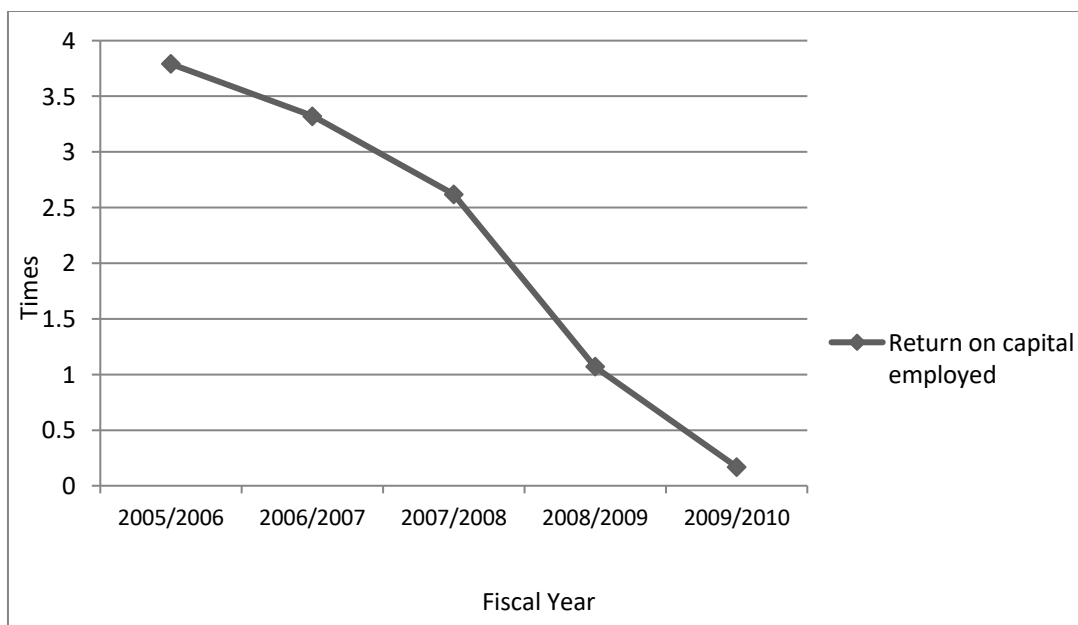
Return on Shareholders' Equity (ROSE)

ROSE measures an available return for investor from their investment. According to this ratio of profitability can be measured by net profit after taxes before interest dividend by shareholders' equity. Higher the ratio, higher will be the investment, which will undertake.

$$\text{ROSE} = \frac{\text{Net profit after tax}}{\text{Shareholders' equity}}$$

Table 23

Return on Shareholders' Equity of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	14.39	7.41	7.31	7.25	4.13	8.10
Change	-	-6.98	-0.10	-0.06	-3.12	

Source: Appendix 19

Above table shows return on equity of MBL. ROE of MBL was found fluctuating over the study period. The ratio found in 2005/06 was highest ratio of 14.39% and in 2009/10 was the lowest ratio of 4.13%. The ratio was in decreasing trend after. The average ratio of 8.10% was found over the study period.

Figure 4.20

Return on Shareholders' Equity of MBL
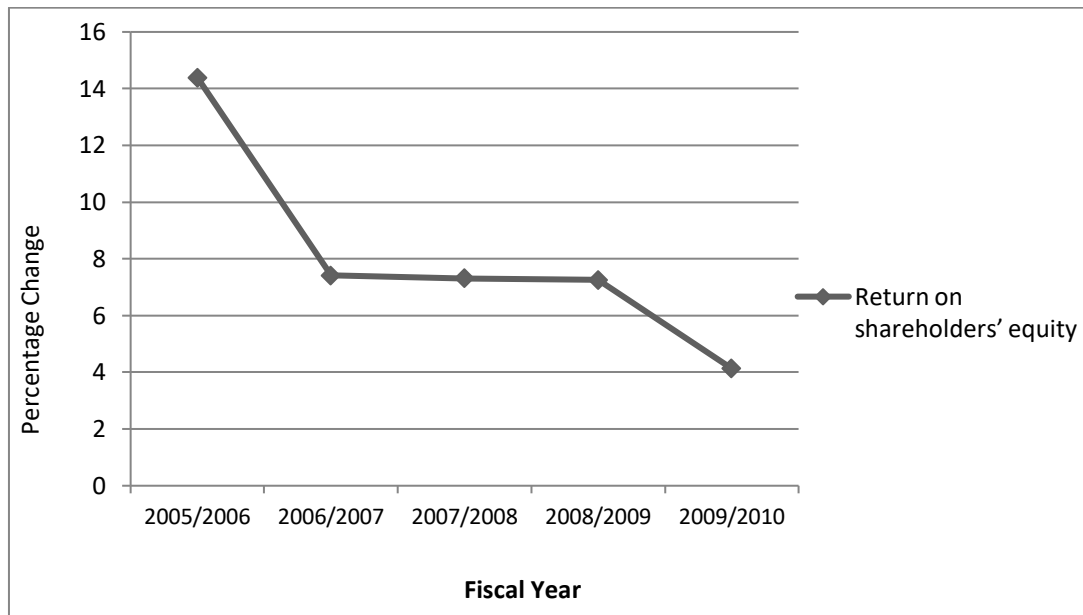
Earning per share (EPS)

The profitability of firm from the point of view of the ordinary shareholder is earning per share. The ratio explains net income for each unit of share. EPS of the firm gives the strength of the share in the market. As EPS does neither reveal how much dividend paid out to the owners nor how much of the earning retained firm? Thus, it only shows how much theoretically belongs to the ordinary shareholders. It is computed as follow:

$$EPS = \frac{Net\ Income}{No.of\ Share\ Outstanding}$$

Table 4.24

Earning per share of MBL

(in Rs.)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	18.74	9.02	10.35	8.33	4.96	10.28
Change	-	-9.72	1.33	-2.02	-3.37	

Source: Annual Report of MBL

Above table shows earning per share of MBL. It was fluctuating over the study period. in 2005/6 EPS was Rs.118.74. afterwards it was in the decreasing trend. In the year 2006/07 and 2007/08, it was Rs.9.02 and Rs.10.35 respectively. Similarly in the year 2008/09 and 2009/10, the EPS was Rs 8.33 and Rs.14.96 respectively. In 2005/06, it was the highest EPS because the net income was higher. On an average, Rs.10.28 was recorded over the study period.

Figure 4.21

Earning per share of MBL
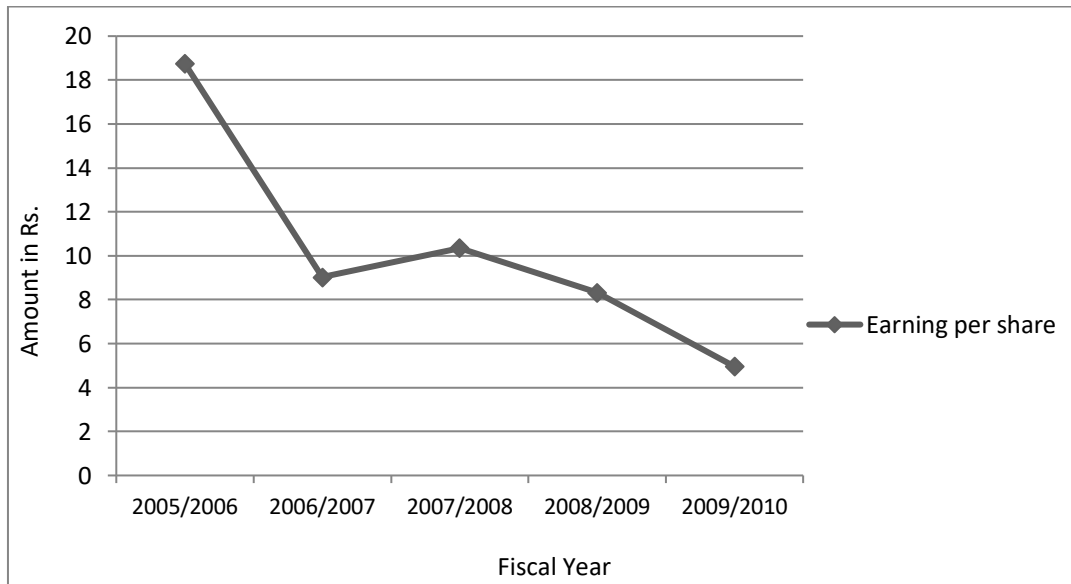
Dividend per share (DPS)

Table 4.25

Dividend per share of MBL

(in Rs.)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
DPS	15.79	0.00	21.05	0.00	10.00	9.37
Change	-	-15.79	21.05	-21.05	10.00	

Source: Annual Report of MBL

Above table shows that, during the study period only once i.e. in the fiscal year 2005/06 the dividend was declared of Rs.15.79. On an average, DPS of Rs.9.37

was recorded over the study period. In year 2006/2007 and 2008/2009, DPR was not allowed due to earning per share.

Figure 4.22

Dividend per share of MBL
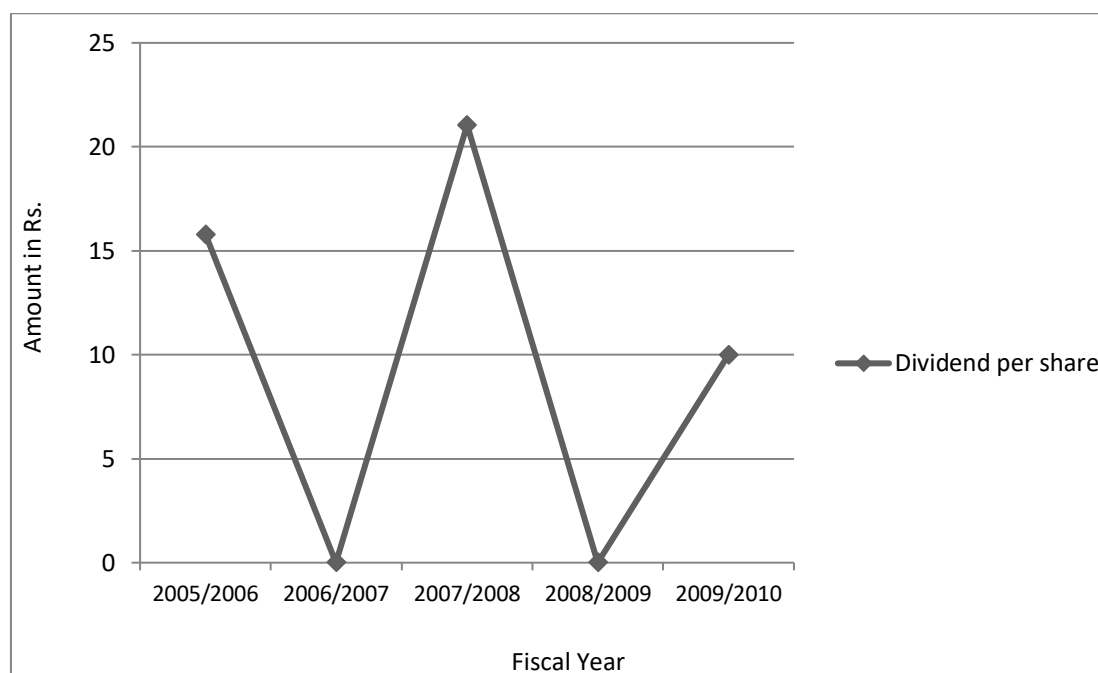
Market value per share (MVPS)

Market value per share is market related profitability ratio. It helps to indicate the financial achievement though the exchange of firm's shares. The ratio explains market value of each unit of ordinary share. Higher the ratio shows higher achievement of firm.

Table 4.26

Market Value per Share of MBL

(in Rs.)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MVPS	320.00	620.00	1285.00	420.00	282.00	585.40
Change	-	300.00	665.00	-865.00	-138.00	

Source: Annual Report of MBL

Above table shows market value per share of MBL. Market value per share of MBL is increasing during the study period till 2007/08. The maximum value of

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MVPS of MBL was Rs.1285 in 2007/08 because of higher earning per share and minimum value of MVPS of MBL was Rs.320 in 2005/06. On an average, MVPS was Rs.585.40 over the study period.

Figure 4.23

Market Value per Share of MBL
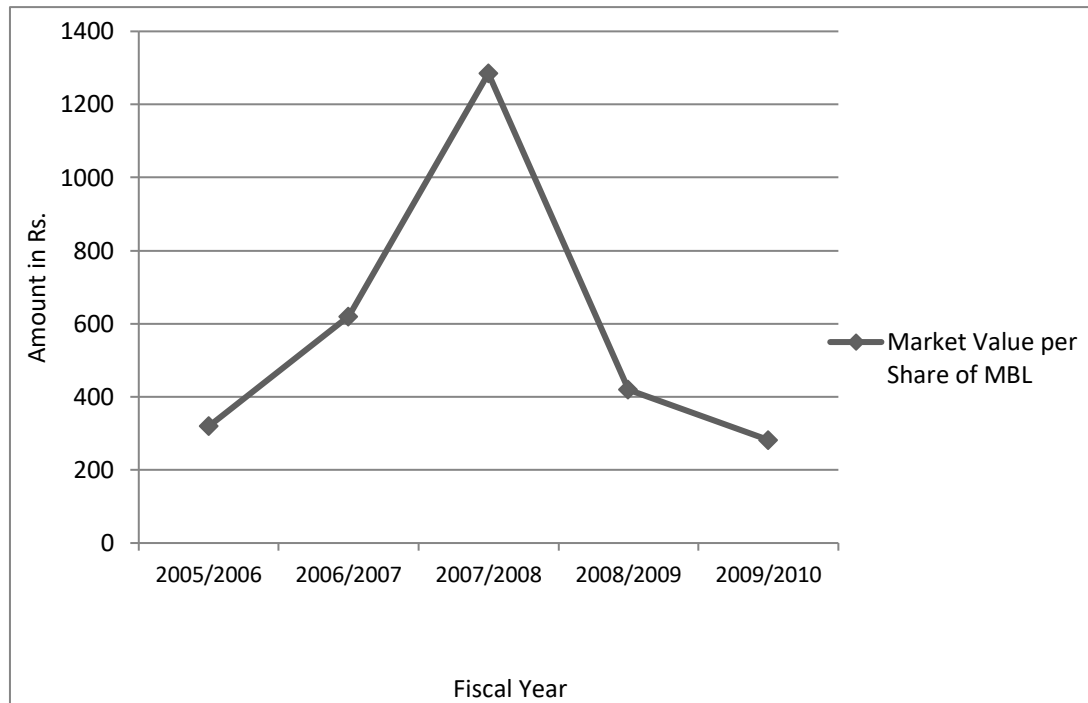
Book value per share (BVPS)

Book value per share is market related profitability ratio. It helps to indicate the financial achievement through the operation. The ratio explains net worth of each unit of ordinary share. Higher the ratio, higher is the value of firm.

Table 4.27

Book Value per Share of MBL

(in Rs.)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
BVPS	130.22	121.74	141.59	114.93	109.00	123.50
Change	-	-8.48	19.85	-26.66	-5.93	

Source: Annual Report of MBL

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Above table shows book value per share of MBL. The book value of MBL was decreasing over the study period. it was ranged between Rs.130.22 to Rs.109.00. There was highest book value in 2005/06 and the lowest in 2009/10. On an average Rs.123.50, book value per share was recorded through the study period.

Figure 4.24

Book Value per Share of MBL
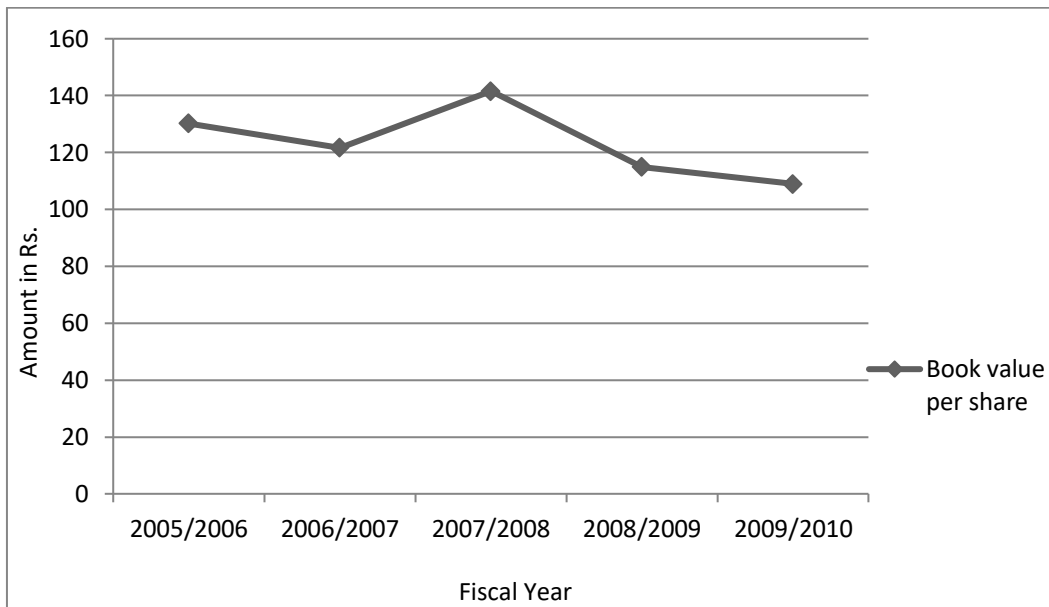
Earning and Dividend Yield

Investors invest their money for a reasonable return as dividend. They can analyze their profit from their investment with the help of this ratio. It is closely related to the EPS and DPS. They are concerned with the book value per share, while the dividend yield is related to the market value per share. The earning yield is designed to calculate the ratio earning per share and market value per share. Similarly, dividend yield can be calculated by DPS by MVPS

Earning yield $= \dfrac{EPS}{MVPS}$

Dividend yield $= \dfrac{DPS}{MVPS}$

Table 4.28

Earning Yield of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	5.86	1.45	0.81	1.98	1.76	2.37
Change	-	-4.40	-0.65	1.18	-0.22	

Source: Appendix 20

Above table shows the earning yield of MBL. The earning yield of MBL was increasing throughout the study period. It was ranged between 5.86% in 2005/06 and 0.81% in 2007/08. In the year 2008/09 and 2009/10, earning yield was 1.98% and 1.76% respectively. On an average, it was 2.37% which was less than in 2006/07, 2007/08, 2008/09 and 2009/10 throughout the study period.

Table 4.29

Dividend Yield of MBL

(in %)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	4.93	0.00	1.64	0.00	3.55	2.02
Change	-	-4.93	1.64	-1.64	3.55	

Source: Appendix 21

Above table shows the dividend yield of MBL, which was declared 3 times during the study period. The dividend yield was 4.93% in 2005/06. On an average, it was 2.02%.

Price Earnings Ratio (P/E Ratio)

P/E ratio refers to the price currently being paid by market for each rupee of currently reported EPS. In other words, it measures investors' expectation and the market appraisal of the performance of the firm. It is an indication of the way that the investors think the firm would perform better future. Lower the

ratio indicates investors feel that earning is not likely to rise. It is computed as follow:

P/E ratio = $\dfrac{MVPS}{EPS}$

Table 4.30

P/E Ratio of MBL

(in times)

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
MBL	17.08	68.74	124.19	50.41	56.90	63.46
Change	-	51.66	55.45	-73.78	6.49	

Source: Appendix 22

Above table shows P/E ratio of MBL. The P/E ratio was increasing for three years. It was ranged between 17.08 times in 2005/06 and 124.19 times in 2007/08. There was slightly increasing in the year 2009/10 to 50.41 times and in the year 2009/10 to 56.90 times. On an average, P/E ratio was 63.46 times throughout the study period.

Figure 4.25

P/E Ratio of MBL
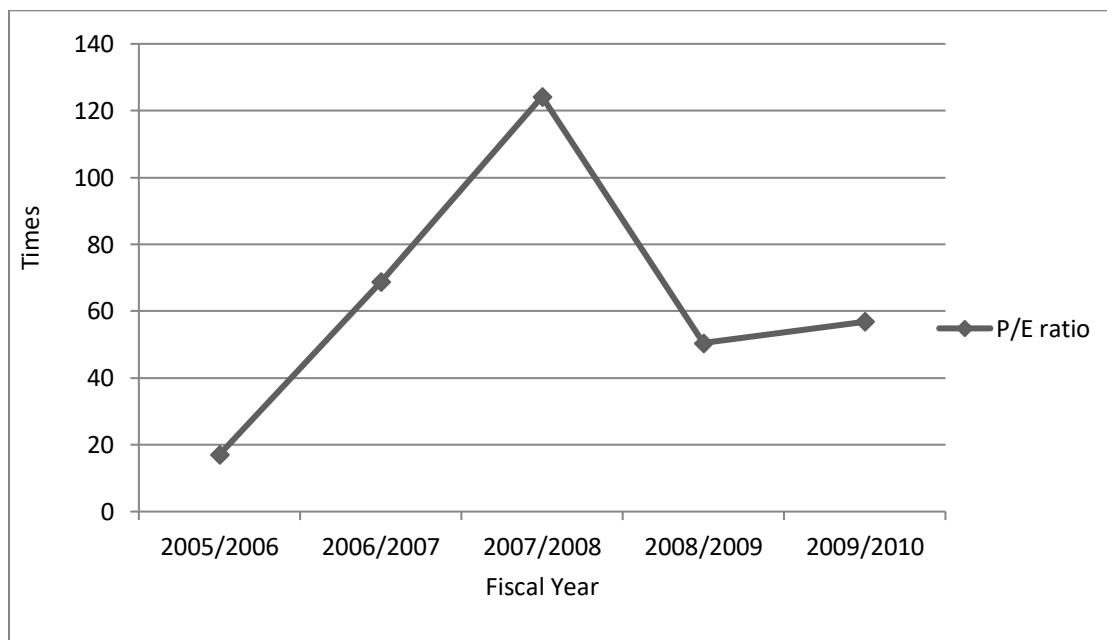
4.2 Statistical Analysis

This chapter includes some statistical analysis such as Karl Pearson's coefficient of correlation, regression analysis and t-test, which are used to analyze the data to achieve the objective of the study.

4.2.1 Correlation Analysis

Coefficient of correlation between Return on Equity (ROSE) & Debt Equity Ratio (DER). The correlation between DER (X) in term of fixed deposits to net worth & ROSE (Y) of the bank is analyzed in order to know whether increase in debt capital portion in the capital structure increase return on equity.

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

Under t Statistic Test

Null hypothesis Ho: That is the variables in population are uncorrelated (insignificant).

Alternative hypothesis H1: $p \neq 0$. That is the variables in population are correlated (significant).

The following result is obtained for MBL.

Table 4.31

Coefficient of Correlation between ROSE & DER

Evaluation Criterion						
Bank	r	r²	t calculated value	t tabulated value	Relationship	Sig. / Insig.
MBL	-0.35	0.1225	**1.121**	3.182	Negative	Insignificant

Source: Appendix 23

Above table shows coefficient of correlation between ROSE & DER of MBL. Correlation between ROSE & DER, ROSE is being independent on DER.

There was negative relationship between ROSE & DER i.e. decrease in DER, increases ROSE and vice-versa. Coefficient of determination (r^2) indicates that 12.25% of the variation in ROSE was explained by DER of MBL. Considering t statistic calculated value, which was 1.121 and tabulated value of t statistic, was 3.182 in 5% level of significance. t statistic is insignificant because t statistic value calculated is less than tabulated value.

Coefficient of correlation between Overall Capitalization Rate (Ko) & Debt Equity Ratio (DER).

The correlation between overall capitalization rate (X) and debt equity ratio (Y) in terms of fixed deposit to net worth was calculated in order to measure whether increase in debt equity ratio decrease overall capitalization rate of the bank. Applying Karl Pearson's correlation, the following result obtained for MBL.

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

Under t statistic test

Null hypothesis Ho: p = 0. That is the variables in population are uncorrelated (insignificant).

Alternative hypothesis H1: p ≠ 0. That is the variables in population are correlated (significant).

The following result is obtained for MBL.

Table 4.32

Coefficient of Correlation between K_o & DER

Evaluation Criterion						
Bank	r	r^2	t calculated value	t tabulated value	Relationship	Sig. / Insig.
MBL	-0.303	0.092	**1.02**	3.182	Negative	Insignificant

Source: Appendix 24

Result from calculation, correlation between K_o & DER of bank was obtained poor negative relationship i.e. increase in debt capital portion in capital structure then decrease in K_o and vice-versa. Coefficient of determination (r^2) indicated that only 9.2% of variation in K_o was explained by DER. Considering t statistic calculated value, which was 1.02 and tabulated value of t statistic, was 3.182 at 5% level of significance. t statistic is insignificant because t statistic calculated value is less than tabulated value. So that it cannot be concluded that increase in debt ratio significantly decrease the K_o of the bank though the variation move in the opposite direction. There is no significant relation between K_o & DER.

Coefficient of Correlation Between EPS & Debt Capital

Debt capital is a source of long-term financing of the bank. It is a component of capital structure. And earning per share (EPS) is the earning of a share from one-year business activities. If the earning of the bank is high, the EPS will also be high. The relationship between debt capital and EPS has been analyzed by the Karl Pearson's correlation co-efficient formula. In order to find out the relationship between these two variables, thus correlation co-efficient has been calculated. From the calculation, we try to measure where increase in debt capital requires in EPS or not. The calculated 't' value and tabulated 't' value have been shown in below table:

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

Under t Statistic Test

Null hypothesis Ho: p = 0. That is the variables in population are uncorrelated (insignificant).

Alternative hypothesis H1: p ≠ 0. That is the variables in population are correlated (significant).

The following result is obtained for MBL.

Table 4.33

Coefficient of Correlation between EPS & Debt Capital

Evaluation Criterion						
Bank	r	r²	T calculated value	t tabulated value	Relationship	Sig. / Insig.
MBL	0.36	0.13	1.181	3.182	Positive	Insignificant

Source: Appendix 25

In above table the Karl Pearson's co-efficient between debt capital and EPS is 0.36. This means there is strongly positive correlation between debt capital and EPS. It shows that the relationship between debt capital and EPS. It shows that the relationship between debt capital and EPS of MBL is significant due to the positive value of correlation of co-efficient. In other words, t statistic calculated value was 1.181 and the tabulated value was 3.182 in 5% level of significance. t statistic is Insignificant because t statistic calculated value is less than tabulated value. So increase in debt capital increases the EPS.

4.2.2 Simple Regression Analysis

The simple regression helps to determine the relationship between different variable considering one as dependent and the other as independent variable. With the help of known variable one unknown variable can be estimated and it

determined the relation between each dependent variable. For the study only simple regression analysis had been considered.

Relationship Between Cost of Equity (Ke) and DER

The main objective of this section is to determine the relationship between leverage and cost of equity of the MBL. Based on the traditional view Ke either remains constant or raise slightly with moderate level of debt and increase with leverage at increasing rate. Beside, the MM proposition argues that the cost of equity increase linearly with leverage. Above stated view hold the equity decrease or remaining constant up to a point with the leverage. There is simple regression equation for MBL.

$Y = a + bX$

Where,

$Y = K_e$

$X = DER$

Under t statistic test

Null hypothesis H_o: $\beta_1 = 0$. The regression model of Y on X is not significant.

Alternative hypothesis H_1: $\beta_1 \neq 0$. The regression model of Y on X is significant.

Table 4.34

Coefficient of Regression Between K_e & DER

Evaluation Criterion						
Bank	Intercept	Regression coefficient	t calculated value	t tabulated value	Relationship	Sig. / Insig.
MBL	5.17	**-0.0189**	1.181	3.182	Negative	Insignificant

Source: Appendix 26

The regression coefficient of K_e on DER is negatively related, so this indicates that decrease in funded debt to shareholder's funds lead to increase in K_e. And t statistic is insignificant so regression result is closely with traditionally view.

4.2.3 Time Series Analysis

Time series is used to predict future forecasting and planning of variable on the basis of past and present information. In regard to MBL basically the trend of debt and share Capital utilization is analyzed. MBL has taken loan from different sources for certain period. The company has also issued share capital but remains constant before few years, hence the ratio between total debt and share capital and interest coverage are forecasted for next 3 years. And the value of MBL is also forecasted. The projections are based on the following assumptions:-

- The main assumption is that other things will remain unchanged.
- The forecasted will be true only with the limitations of least square methods are carried out.
- The MBL will continue to run in present position.
- The economy will remain in the present stage.

Trend Analysis of Interest Coverage

The analysis of interest coverage ratio of MBL for five years from F/Y 2005/06 to 2009/10 and forecast of the same for next 3 years are given in the following table.

$$Y = a + bX$$

Where,

$$Y = \text{Actual Value of ICR}$$

The fitted trend line is

$$Y = a + bX$$
$$Y = 2.03 + 0.46X$$

Table 4.35

Calculation of Trend Values & Actual Value of Interest

Coverage Ratio of MBL

Fiscal Year	Actual Value (%)	Trend Values (%)
2005/06	2.24	3.06
2006/07	2.02	2.96
2007/08	2.23	3.05
2008/09	2.06	2.98
2009/10	1.61	2.77
2010/11	-	2.49
2011/12	-	2.95
2012/13	-	3.41

Source: Appendix 27

In the above table of trend value of interest coverage ratio, shows decreasing trend. In the fiscal year 2005/06, it was 3.06 times where as it will be decreased to 2.95 times for the forecasted year 2011/12. It means the company has ability to pay interest of Rs.1 by earning Rs.2.49. The above calculations of trend values are fitted in the following figure.

Figure 4.26

Trend Line of ICR of MBL
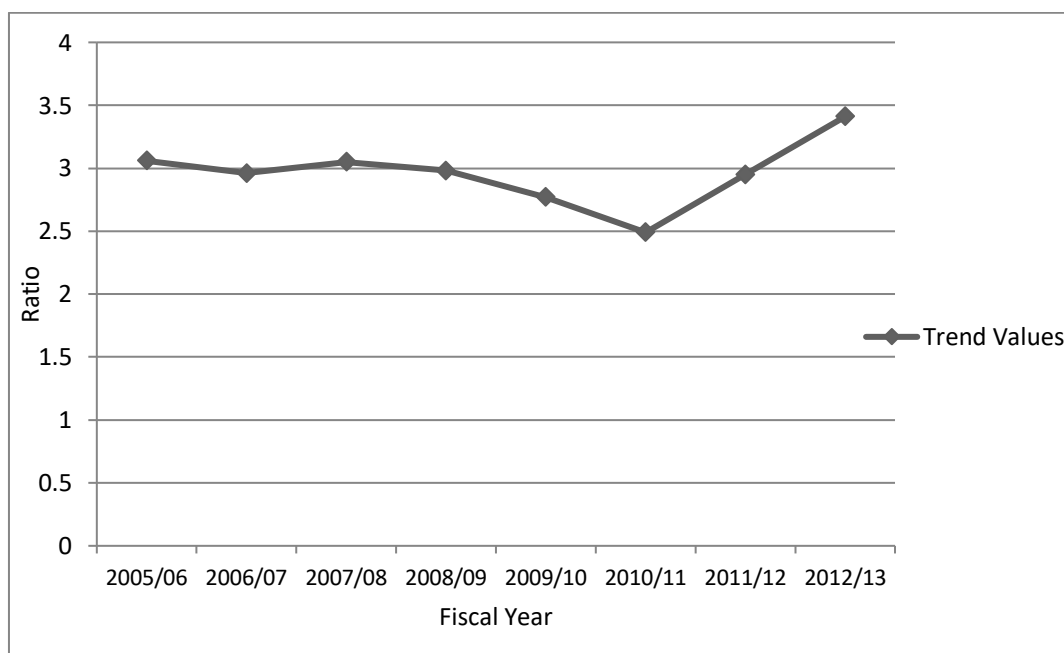
Figure 4.27

Trend & Actual line of ICR of MBL
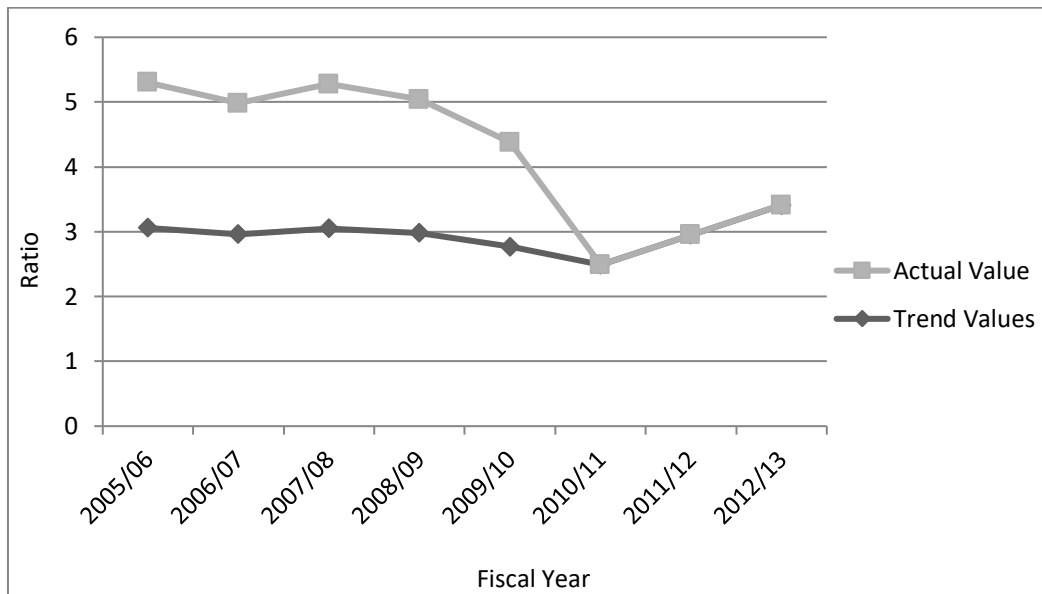
Trend Analysis of Book Value and Market Value of MBL

The trend value of Book Value (BV) and market value (MV) of MBL for five
years from 2001/02 and forecasting of the next three years till 2012/13 are give
in the below table:-

$Y = a + bX$

Where,

Y = Book value of MBL

The fitted trend line is:

$Y = a + bX$

$Y = 540860457.2 + 367812171.2X$

Table 4.36

Calculation of Trend Value of BV & MV of MBL

(in Rs.)

Fiscal Year	Actual Book Value	Trend Value of Book Value	Actual Market Value	Trend Value of Market Value
2005/06	931091357	359773409	2288000000	3665181895
2006/07	1000264635	836727893	5094238060	4809198399
2007/08	1163346958	1313682376	11582210005	5953214903
2008/09	1700198096	1790636860	6212932320	7097231407
2009/10	1773510835	2267591343	4588694130	8241247911
2010/11	-	2744545826	-	9385264415
2011/12	-	3221500310	-	10529280919
2012/13	-	3698454793	-	11673297423

Source: Appendix 28

From the above table, of trend value of Book Value of the bank shows the increasing trend from Rs. 359773409 for F/Y 2005/06 to Rs. 3698454793 for F/Y 2012/13.

From the above table, the trend value of market value of MBL shows increasing trend with Rs. 3665181895 for F/Y 2005/06 to Rs. 11673297423 for F/Y 2012/13. The change in MVPS of common share has been affected in the change of trend values.

Figure 4.28
Trend line of Book Value & Market Value of MBL

(Rs 000)

Figure 4.29
Actual line of Book Value & Market Value of MBL

(Rs 000)

4.3 Major Findings

From the study, the bank is found to be highly lever. The company's financial mix account is a higher proportion of long-term debt and it is increasing every year. The study reveals the following results.

4.3.1 Financial Analysis

Fixed deposit of MBL is increasing year by year since 2005/06. On average, collection of fixed deposit of bank is 24.21%, but it trends is in fluctuating rate. Fixed deposit is decreasing since 2008/09 in total l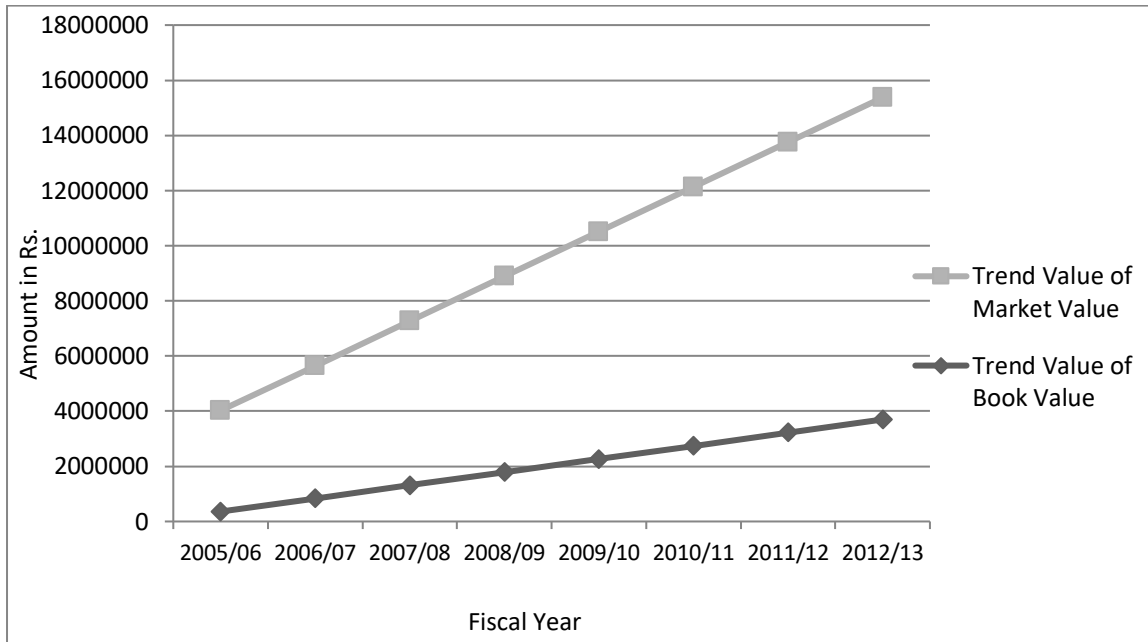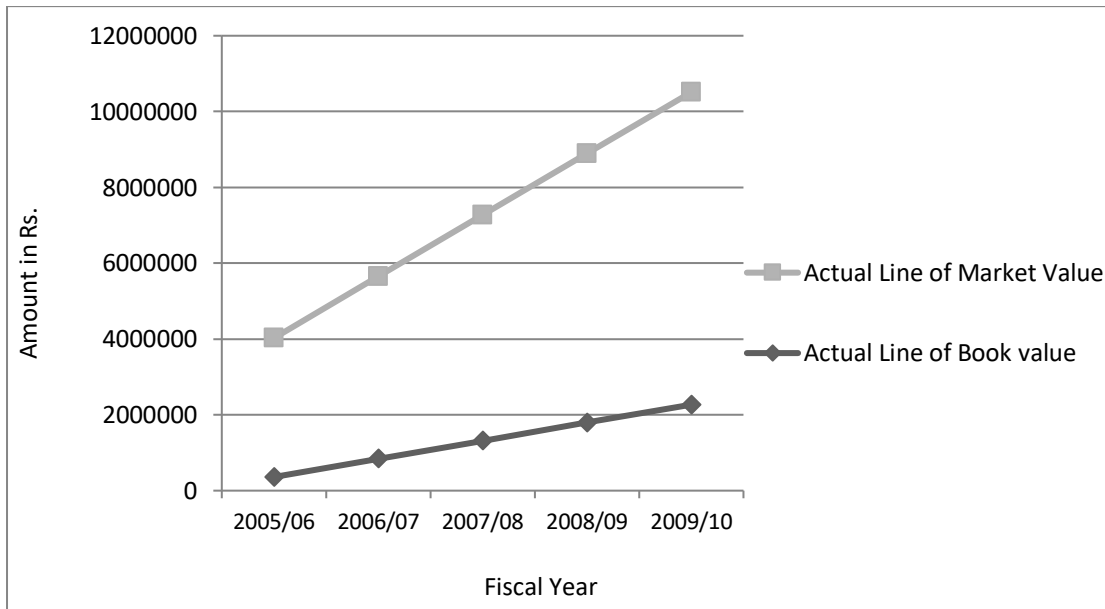iabilities during the study period. Also fixed deposit is decreasing since 2005/06 in total debt. But it claims always between one-fourth to two third in total liabilities and total debt. Shareholders' equity of MBL has been increasing while the study period. But proportion of shareholders' equity is in fluctuating trend. Paid up capital of MBL has been increasing while the study period. Reserve fund and provision for loan losses have been increasing over the study period. Numbers of shares have been increasing over the study period.

- Debt equity ratio in term of fixed deposit to net worth of MBL is found the highest 380.84% in 2009/10, which is reduced thereafter to the least 216.55% in 2008/09. The average proportion of fixed deposit to net worth of MBL is 280.99%. DER in term of total debt to net worth of MBL is found the highest 1288.40% in 2001/02, which is reduced to 928.05% in 2008/09. And then increased for next year and fluctuate during the study period.

- Debt capital ratio in term of fixed deposit to capital employed is found that the proportion of fixed deposit in permanent capital is two-third & above every year. The highest ratio is 79.20% in 2009/10, which is more than average i.e. 73.26%. It is found that the bank uses equally & above below fixed deposit portion in its permanent capital.

- Debt capital ratio in term of total debt to total assets is found that the highest ratio was in 2006/07 of 90.64% and the lowest in 2005/06 of 89.56%. Average ratio is found 90.47%, total debt used in financing its assets and only 9.53% shareholder equity is employed to finance the remaining assets. It is found that the outsiders finance the higher percent of total debt in financing in total assets.

- The capital sufficiency ratio is ranged between 9.94% in 2005/06 to 11.53 in 2006/07 and average ratio is 11.07%. It shows that the bank has

averagely maintained the ratio as directed by the central bank. It is found that the bank has maintained excess capital fund to safeguard that depositor's interest.

- Banking sector play more debt capital in its financing activities than shareholders' equity. So that it has to pay fixed charges upon it. So the bank has to adequacy earning to cover the interest charges and to pay back the debt amount (Principal amount). In this regard the bank cannot be said to have sufficient interest coverage ratio.

- Capital structure is mix of debt capital and equity capital. In this case debt means fixed deposit. If minimized cost of capital and maximized the value of company, the debt capital and equity capital would be properly mixed. There is the highest debt capital use in the bank because in banking sector there is exchange money. The highest debt & equity proportion is 0.81:0.19 and the lowest debt & equity capital proportion is 0.71:0.29.

- Overall capitalization rate measures the financial degree of leverage of the company. Under the net income approach, the Ko of MBL is found to be 22.15% in an average. The rate is ranged from 19.45% to 23.51% over the study period. It can be concluded that ht overall capitalization rate is increasing trend because of decreased in the value of the firm and increased in EBIT. The correlation coefficient in between debts to equity ratio and overall capitalization rate of MBL is found -0.014. Its relation is insignificant.

- The loan & advance is most earning assets of total assets. It is found that 68.64% of total assets which covers that income of 87.99% of total income of MBL. It is fluctuating over the study period. Commission & discount and foreign exchange are the other important income assets. They cover 3.84% and 4.23% respectively of total income on an average. Other income covers only 3.92% of total incomes on an average.

- A major expense of the bank is interest & commission found 66.02% of total expenses, which covers 68.65% of total income on an average. Office operating expenses is second major expense, which is found

17.18% of total expenses, which covers 18.73% total income on an average. It is found that, it is most important role on profit.

- Employee expenses include salary & allowances, training, uniforms & liveries, contribution to provident fund and other staff expenses. It is found 8.56% of total expenses, which covers 10.28% of total income in an average. It is found that if maintained staff and other office activities it would be less employee expenses.

- Provision for staff bonus is one of the major expenses of total expenses. It is found 2.34% of total expenses, which cover 1.82% of total income. It is found that more provision for staff bonus of MBL has decreased profit.

- Return on total deposit of MBL is found fluctuating over the study period. The highest ROD is 1.70% in 2005/06. Similarly the lowest ROD is 0.40% in 2009/10. There is highest negative change because net income is much less than the total deposit. It is found that the bank cannot utilize the deposit.

- Return on total assets is found to be in increasing trend from 2005/06 to 2009/10, which was constant in 2006/07, 2007/08 and again increased in 2008/09 again it decreased in 2009/10 over the study period. The maximum ROA is 1.48% and the minimum ROA is 0.35% in 2005/06 and 2009/10 respectively. The highest negative change is in 2009/10 because net income is lower than the assets. It is found that the bank has insufficient return from assets.

- ROCE of MBL is fluctuating over the study period. It is found the highest of 3.79% in 2005/06 and the lowest of 0.17% in 2009/10 because of lower income. It found that the bank cannot use sufficiently its long-term debt.

- Return of shareholders' equity of MBL is increasing over the study period. It is found the highest return of 14.39% on 2005/06 and the lower of 4.13% in 2009/10. It is also found that the return is satisfactory because the bank can utilize its internal source.

- Earning per share of MBL is in fluctuating trend over the period. It is decreases from 18.74 in 2005/06 to 4.96 in 2009/10. It is found that the bank can earn much net income so the EPS will increase.

- The bank has declared the dividend only three times during the study period i.e. in 2005/06, 2007/08 and 2008/09, the DPS was 15.79, 21.05 and 10.00 respectively. It was found that the bank cannot give much more dividend for investors.

- P/E ratio of MBL is decreasing for the study period. The maximum ratio was 124.19 times in 2007/08 and the lowest ratio was 17.08 times in 2005/06. It was found that market appraisal of the performance of the bank is not at satisfactory level at all.

4.3.2 Statistical Analysis

The correlation coefficient between ROSE and DER is negative relation and the calculated value of 't' is less than the tabulated value of 't', so it is insignificant. There was no proper relationship between ROSE and DER.

- The correlation coefficient between Ko and DER is positive relationship and the calculated value of 't' is less than the tabulated value of 't'. Hence, it is insignificant relation.

- The correlation coefficient between EPS and debt capital is positive relationship. The calculated value of 't' is more than the tabulated value of 't', so it is significant. It can be concluded that if debt capital is increased then EPS will increase too.

- The regression coefficient of Ke on DER is negatively related so this indicates that decrease in funded debt to shareholder's funds lead to increase in Ke. Regarding correlation coefficient is also negative which means the average in DER leads to decrease in Ke. And 't' statistic is insignificant so regression result is closely with traditional view.

CHAPTER - V
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

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

Every business needs capital to operate business smoothly and the capital is said to be blood of the business. Capital is a scare sources and much more essential to maintain smooth operation of any firm. As in order form, capital structure is crucial part for banking industry too. The study had been carried based on commercial bank i.e. Machhapuchchhre Bank Ltd. for Capital Structure and Profitability Management. The major objective for the study had been pointed out as follows:

a) To evaluate whether the capital structure affects the cost of equity, EPS, P/E ratio of MBL. b) To analyze the debt serving capacity of MBL. c) To analyze the relationship between capital structure and profitability. d) To identify problem in the capital structure of the company and provide suggestion and recommendation for their improvement.

The study is completed based on secondary data and carried over one bank among 31 commercial banks. The research methodology is followed to achieve the objective of the study and which constitutes Research design, Nature and source of data, population and sample, Data processing and method analysis.

Moreover, financial tools and statistical tools have been employed according to requirement to achieve the target result.

Capital is a scare sources and much more essential to maintain smooth operation of any firm. The available capital and financial sources should be utilized so efficiently that could generate maximum return. The term of capital structure is used to represent the proportionate relationship between debt and equity. The debt and equity mix of a firm is called capital structure. The capital structure design is a significant financial decision since it affects the shareholders' return, risk and market value of shares. Both debt and equity are used in most large corporation. The choice of the amount of debt and equity is made after a comparison of certain characteristics of each kind of securities of interest factor related to the firm's and of external factors can affect the firm.

The main theories of capital structure are Net Income Approach, Net Operating Income Approach, Traditional Approach and Modigliani-Miller Approach. EBIT/EPS Analysis, Cost of capital, Flexible etc. are the determinant of capital structure. Without study of these elements, the company cannot make appropriate capital structure and analysis of leverage may be incomplete.

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

5.2 Conclusion

During the studied periods from 2005/06 to 2009/10, both the fixed and the shareholders' equity of the bank are in rising trend. But the average of the fixed

and shareholders' equity position are 24.21% and 108.99% respectively. As a result, it can be concluded that the bank has more claims of owners than the creditors. In banking business, fixed deposits (on which the banks are dependent to strengthen the profitability) would obviously be more than the equity capitals when the capital markets are not well developed. So the bank is not facing heavy burden of interest payment.

- The average capital sufficiency ratio is 11.07% which as directed by the central bank has been satisfied. So it can be concluded the bank has maintained the capital sufficiency ratio.

- As the studied found that the highest debt capital & equity proportion is 0.81:0.19 and the lowest debt & equity capital proportion is 0.71:0.29, it can be concluded the bank has almost used debt capital. That means the bank has to pay burden interest.

- Overall capitalization rate is increased because of decreased in value of firm and increased in EBIT. As the correlation coefficient between debt to equity ratio and overall capitalization rate of MBL is found negative correlation and its relation is insignificant. It can be concluded that increase in debt to equity makes decrease in overall capitalization rate of the bank.

- It can be concluded that the profitability of the bank is mostly contributed by loan & advance alone compared to the other assets as loan and advance covered 87.26% out of the total income and remaining from other assets.

- It can be concluded that expense in interest & commission play vital role to increase & decrease the profit. It is because 66.02% of total income is expended in bank.

- Return on deposit, assets, capital employed, shareholders' equity and EPS all are in increasing trend. All these are because of proper utilization of the deposit and assets as well as higher net income. Even though the dividend was declared only once during the study period.

- The normal interest rate is nearly 2 times. The interest coverage ratio is

not satisfactory for the bank because using more debt capital the ratio is less than the normal rate i.e. 2 times.

- The correlation coefficient between K_o and DER is negative relationship and the calculated value of 't' is less than the tabulated value of 't'. So that it is insignificant relation. It can be concluded that if DER increases than K_o decreases.

- The correlation coefficient between EPS and Debt capital is positive relationship. The calculated value of 't' is more than the tabulated value of 't' so it is significant. It can be concluded that it if debt capital is increased then EPS also will be increased.

- The regression coefficient of K_e on DER is negatively related so this indicates that decrease in funded debt to shareholder's funds lead to increase in K_e. Regarding correlation coefficient is also negative which means the average in DER leads to decrease in K_e. And 't' statistic is insignificant so regression result is closely with traditional view.

5.3 Recommendation

The sound capital structure enhances the profitability and growth of any company and it is also indicated sound financial position of the company. The capital structure decision in term of banking industry is very much different from other industry. Bank enjoys by using outsiders' funds by various measures in variety of assets in order to provide good return to their shareholders. As the outsiders fund is very higher than owners' fund, financial manager must be very sensible in each step of investing and lending the funds in various assets. The researcher expects that to provide suggestion wound help for the betterment of the bank in relation to capital structure and profitability management. The recommendations are as follows:

- The capital structure of bank is highly levered. The proportion of debt and equity capital should be decided keeping in mind the effects if tax advantage. It is difficult to pay interest and principal, ultimately lead to liquidation or bankruptcy. The capital structure position is not better. The

bank requires maintaining improved capital structure by increasing equity i.e. issuing more capital, expanding general reserve and retaining more earning.

- Return on shareholder equity and EPS are not satisfactory. So bank need to seek more profitable sectors in order to increase profit of the bank. And also need to maintain optimal capital structure considering cost of capital so that it helps to enhance the ROSE and profitability of the bank.

- The central bank as regarding, supervising and directing bank mandates all the commercial banks to increase their capital funds to Rs.1 billion and also to maintain sufficient capital adequacy ratio as per NRB directives. So the bank needs to adopt the guidance of the central bank to maintain appropriate capital structure to safeguard the depositor's money.

- MBL is bearing high interest expenses since it used long-term debt on its capital structure. As a result, the return of the firm is not satisfactory. So the bank is recommended to minimize interest expenses by using cheaper debt as well as decrease other operating expenses to increase the return of the firm.

- It is found that this bank is unable to plan their capital structure properly because its debt equity ratio is not satisfactory. Due to this reason, even the EPS is in the increasing trend, it is below the optimal level. And weighted average cost of capital may not be minimized. So this bank is recommended to plan its capital structure by analyzing the possible alternative financial plans or analyzing future cash flow of the bank, which trade off between risk and return of the company.

- Bank needs to review and monitor leverage ratio regularly so that risk to the bank may not increase which may effect in efficient operation of the bank.

- Bank needs to employ better marketing strategy in order to reap handsome benefit and to sustain for long period.

- The bank should give continuity in providing both conceptual and practical trainings to the staff to enhance their knowledge, skill and

competency level. They should remain consistently vigilant in enhancing their motivation.

- The bank has to enhance effectiveness, efficiency and proper coordination of its departmental tasks by continuously reviewing its structural design in accordance with the need of the changing time and situation.

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APPENDICES

Appendix - 1

Calculation of Fixed Deposit Position

Fiscal Year	Fixed Deposits (Rs.)	Index	% Increase or Decrease
2005/2006	2604900000	100	
2006/2007	2733360000	104.93	4.93%
2007/2008	2961140677	113.26	8.33
2008/2009	3681829529	137.60	24.34
2009/2010	6754150810	221.05	83.45
		Average Change	24.21

Calculation of fixed deposit position

Fixed deposit position (Increase or decrease $\qquad = \frac{2006/07 - 2005/06}{2005/06} \times 100$

For 2006/07 = 4.93 % and so on………………..

$$\text{Index} = 2005/06 + 2006/07$$
$$= 100 + 4.93$$

For 2006/07 = 104.93 and so on………………..

Appendix - 2

Calculation of Fixed Deposit as Percentage of Total Liabilities

Fiscal Year	Total liabilities (Rs.)	Fixed Deposits (Rs.)	Percentage
2005/2006	9069830401	2604900000	28.72
2006/2007	10807616906	2733360000	25.29
2007/2008	12410040092	2961140677	23.86
2008/2009	17490782101	3681829529	21.05
2009/2010	20678790827	6754150810	32.66
		Average	26.32

Fixed deposit as percentage of total liabilities $= \frac{\text{Fixed deposit}}{\text{Total liabilities}} \times 100$

For 2005/06 $\quad = \frac{2604900000}{9069830401} \times 100$

$\quad\quad\quad = 28.72$ % and so on……………..

Appendix- 3

Calculation of Fixed Deposit to Total Debt

Fiscal Year	Total Debt (Rs.)	Fixed Deposits (Rs.)	Percentage
2005/2006	8122632242	2604900000	32.07
2006/2007	9795666264	2733360000	27.90
2007/2008	11234894674	2961140677	26.36
2008/2009	15778707275	3681829529	23.33
2009/2010	18905279932	6754150810	35.73
		Average	29.08

Fixed deposit to total debt $= \frac{\text{Fixed deposit}}{\text{Total debt}} \times 100$

For 2005/06 $\quad = \frac{2604900000}{8122632242} \times 100$

$\quad\quad\quad = 32.07$% and so on……………..

Appendix - 4

Calculation of Composition of Shareholders' Equity

(In Rs.)

Fiscal Year / Particulars	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Paid up capital	715000000	821651300	901339300	1479269600	1627196500
Reserve and Funds	216091357	178613335	262007658	220928496	146314335
Total SHS equity	931091357	1000264635	1163346958	1700198096	1773510835
No. of shares	7150000	8216513	9013393	14792696	16271965
Net worth per share	130.22	121.74	129.07	114.93	108.99

$$\text{Net worth per share} = \frac{\text{Total SHS equity}}{\text{No of shares}} \times 100$$

$$\text{For } 2005/06 = \frac{931091357}{7150000} \times 100$$

$$= 130.22 \text{ \% and so on}\ldots\ldots\ldots\ldots..$$

Appendix - 5

Calculation of Net Worth to Total Liabilities

Fiscal Year	Net worth	Total Liabilities	Percentage
2005/2006	931091357	9069830401	10.27
2006/2007	1000264635	10807616906	9.26
2007/2008	1163346958	12410040092	9.37
2008/2009	1700198096	17490782101	9.72
2009/2010	1773510835	20678790827	8.58

$$\text{Net worth to Total Liabilities} = \frac{\text{Net worth}}{Total\ Liabilities} \times 100$$

$$\text{For } 2005/06 = \frac{931091357}{9069830401} \times 100$$

$$= 10.27 \text{ \% and so on}\ldots\ldots\ldots\ldots..$$

Appendix 6

Shareholders' Equity Composition & Index

Fiscal Year	Net worth	Index	% increase or decrease
2005/2006	931091357	100	
2006/2007	1000264635	107.43	7.43
2007/2008	1163346958	123.73	16.30
2008/2009	1700198096	169.88	46.15
2009/2010	1773510835	174.19	4.31
		Average change	14.838

Shareholders' equity composition (increase or decrease)

$$= \frac{2006/07 - 2005/06}{2005/06} \times 100$$

For 2006/07 = 7.43 % and so on………………..

Index   = 2005/06 + 2006/07 (last year + current year)

= 100 + 7.43

For 2006/07 = 107.43 and so on………………..

Appendix - 7

Calculation of fixed Deposit to net Worth

Fiscal Year	Net worth	Fixed deposit	Percentage
2005/2006	931091357	2604900000	279.77
2006/2007	1000264635	2733360000	273.26
2007/2008	1163346958	2961140677	254.54
2008/2009	1700198096	3681829529	216.55
2009/2010	1773510835	6754150810	380.84

$$\text{Fixed deposit to net worth} = \frac{\text{Fixed Deposit}}{\text{Net Worth}} \times 100$$

$$\text{For } 2005/06 = \frac{2604900000}{931091357} \times 100$$

$$= 279.77\% \text{ and so on}\ldots\ldots\ldots\ldots\ldots$$

Appendix 8

Calculation of Total Debt to net Worth

Fiscal Year	Net worth	Total debt	Percentage
2005/2006	931091357	8122632242	872.38
2006/2007	1000264635	9795666264	979.31
2007/2008	1163346958	11234894674	965.74
2008/2009	1700198096	15778707275	928.05
2009/2010	1773510835	18905279932	1065.98

$$\text{Total debt to net worth} = \frac{\text{Total Debt}}{\text{Net Worth}} \times 100$$

$$\text{For } 2005/06 = \frac{8122632242}{931091357} \times 100$$

$$= 872.38\% \text{ and so on}\ldots\ldots\ldots\ldots\ldots$$

Appendix - 9

Calculation of Fixed Deposit to Capital Employed

Fiscal Year	Fixed Deposit	Capital Employed	Percentage
2005/2006	2604900000	815768033	73.67
2006/2007	2733360000	1423337898	73.21
2007/2008	2961140677	1781501843	71.79
2008/2009	3681829529	2552502384	68.41
2009/2010	6754150810	3535991357	79.20

$$\text{Fixed deposit to capital employed} = \frac{\text{Fixed Deposit}}{\text{Capital employed}} \times 100$$

$$\text{For 2005/06} = \frac{2604900000}{815768033} \times 100$$

$$= 73.67\% \text{ and so on}\dots\dots\dots\dots$$

Appendix - 10

Calculation of Total Debt to Total Assets

Fiscal Year	Total debt	Total assets	Percentage
2005/2006	8122632242	9069830401	89.56
2006/2007	9795666264	10807616906	90.64
2007/2008	11234894674	12410040092	90.53
2008/2009	15778707275	17490782101	90.21
2009/2010	18905279932	20678790827	91.42

$$\text{Total debt to total assets} = \frac{\text{Total debt}}{\text{Total assets}} \times 100$$

$$\text{For 2005/2006} = \frac{8122632242}{9069830401} \times 100$$

$$= 89.56\% \text{ and so on}\dots\dots\dots\dots$$

Aₚpendix - 11

Calculation Capital Sufficiency Ratio

Fiscal Year	Capital fund	Total deposit	Percentage
2005/2006	784700754	7893297672	9.94
2006/2007	913958902	9475451509	9.65
2007/2008	992403756	11102242263	8.94
2008/2009	1691147420	15596790845	10.84
2009/2010	1764318123	18535917002	9.52

$$\text{Capital fund to total deposit} = \frac{\text{Capital fund}}{\text{Total deposit}} \times 100$$

$$\text{For } 2005/06 \qquad = \frac{784700754}{7893297672} \times 100$$

$$= 9.94\% \text{ and so on}\ldots\ldots\ldots\ldots..$$

Appendix 12

Calculation of Interest Coverage Ratio

Fiscal Year	EBIT	Interest	Times
2005/2006	645607352	288661549	2.24
2006/2007	804969481	397721715	2.02
2007/2008	907984877	407919238	2.23
2008/2009	1196443884	580036192	2.06
2009/2010	1841850955	1144808132	1.61

$$\text{Interest coverage ratio} \qquad = \frac{\text{EBIT}}{\text{Interest}}$$

$$\text{For } 2005/06 \qquad = \frac{645607352}{288661549}$$

$$= 2.24 \text{ times and so on}\ldots\ldots\ldots\ldots..$$

Appendix - 13

Calculation of Capital Structure Mix

Fiscal Year	Fixed Deposits(Rs.)	Equity share Capital	Total value of Bank	Proportion
2005/2006	2604900000	715000000	3319900000	0.78:0.22
2006/2007	2733360000	821651300	3555011300	0.77:0.23
2007/2008	2961140677	901339300	3862479977	0.77:0.23
2008/2009	3681829529	1479269600	5161099129	0.71:0.29
2009/2010	6754150810	1627196500	8381347310	0.81:0.19

$$\text{Fixed deposit proportion} = \frac{\text{Fixed deposit}}{\text{Total value of bank}}$$

$$\text{For 2005/06} = \frac{2604900000}{3319900000}$$

$$= 0.78 \text{ and so on}………………..$$

$$\text{Equity share capital proportion} = \frac{\text{Equity share capital}}{\text{Total value of bank}}$$

$$\text{For 2005/06} = \frac{715000000}{3319900000}$$

$$= 0.22 \text{ and so on}………………..$$

Appendix - 14

Calculation of Overall Capitalization Rate

Fiscal Year	EBIT	Total value of Bank	K_o
2005/2006	645607352	3319900000	19.45
2006/2007	804969481	3555011300	22.64
2007/2008	907984877	3862479977	23.51
2008/2009	1196443884	5161099129	23.18
2009/2010	1841850955	8381347310	21.98

$$\text{Overall capitalization rate} = \frac{\text{EBIT}}{\text{Total value of bank}} \times 100$$

$$\text{For 2005/06} = \frac{645607352}{3319900000}$$

$$= 19.45\% \text{ and so on}\ldots\ldots\ldots\ldots..$$

Appendix - 15

Calculation of Equity Capitalization Rate

Fiscal Year	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	Average
EPS	18.74	9.02	10.35	8.33	4.96	10.28
MVPS	320	620	1285	420	282	585.4
Rate	5.86	1.45	0.81	1.98	1.76	5.86

$$\text{Equity capitalization rate} = \frac{\text{EPS}}{\text{MVPS}} \times 100$$

$$\text{For 2005/06} = \frac{18.74}{320}$$

$$= 5.86\% \text{ and so on}\ldots\ldots\ldots\ldots..$$

Appendix- 16

Calculation of Return on Total Deposit

Fiscal Year	Total deposit	Net income	ROD
2005/2006	7893297672	133996709	1.70
2006/2007	9475451509	74085647	0.78
2007/2008	618367758	85016002	13.75
2008/2009	760591312	123251098	16.20
2009/2010	763711776	73312799	9.60

$$\text{Return on total deposit} = \frac{\text{Net income}}{\text{Total deposit}} \times 100$$

$$\text{For 2005/06} \qquad = \frac{133996709}{7893297672} \times 100$$

$$= 1.70\% \text{ and so on}\ldots\ldots\ldots\ldots..$$

Appendix 17

Calculation of return on total deposit

Fiscal Year	Total assets	Net income	ROA
2005/2006	9069830401	133996709	1.48
2006/2007	10807616906	74085647	0.69
2007/2008	12410040092	85016002	0.69
2008/2009	17490782101	123251098	0.70
2009/2010	20678790827	73312799	0.35

$$\text{Return on total assets} = \frac{\text{Net income}}{\text{Total assets}} \times 100$$

$$\text{For 2005/06} \qquad = \frac{133996709}{9069830401} \times 100$$

$$= 1.48\ \% \text{ and so on}\ldots\ldots\ldots\ldots..$$

Appendix - 18

Calculation of Return on Capital Employed

Fiscal Year	Fixed Deposits (Rs.)	Total SHS	Total	Net Income	ROCE
2005/2006	2604900000	931091357	3535991357	133996709	3.79
2006/2007	2733360000	1000264635	3733624635	74085647	1.98
2007/2008	2961140677	1163346958	4124487635	85016002	2.06
2008/2009	3681829529	1700198096	5382027625	123251098	2.29
2009/2010	6754150810	1773510835	8527661645	73312799	0.86

$$\text{Return on capital employed} = \frac{NI}{\text{Fixed deposit} + \text{Shareholders' equity}} \times 100$$

$$\text{For } 2005/06 = \frac{133996709}{2604900000 + 931091357} \times 100$$

$$= 3.79 \text{ \% and so on}\ldots\ldots\ldots\ldots..$$

Appendix - 19

Calculation of Return on Shareholders' Equity

Fiscal Year	Total SHS	Net Income	ROSE
2005/2006	931091357	133996709	14.39
2006/2007	1000264635	74085647	7.41
2007/2008	1163346958	85016002	7.31
2008/2009	1700198096	123251098	7.25
2009/2010	1773510835	73312799	4.13

$$\text{Return on shareholders' equity} = \frac{\text{Net income}}{\text{Total SHS}} \times 100$$

$$\text{For } 2005/06 = \frac{133996709}{931091357} \times 100$$

$$= 14.39 \text{ \% and so on}\ldots\ldots\ldots\ldots..$$

Appendix - 20

Calculation of Earning Yield

Fiscal Year	EPS	MVPS	Percentage
2005/2006	18.74	320	5.86
2006/2007	9.02	620	1.45
2007/2008	10.35	1285	0.81
2008/2009	8.33	420	1.98
2009/2010	4.96	282	1.76

Earning yield $\quad = \dfrac{\text{EPS}}{\text{MVPS}} \times 100$

For 2005/06 $\quad = \dfrac{18.74}{320} \times 100$

$\quad = 5.86 \%$ and so on………………..

Appendix 21

Calculation of Dividend Yield

Fiscal Year	DPS	MVPS	Percentage
2005/2006	15.79	320	4.93
2006/2007	-	620	0
2007/2008	21.05	1285	1.64
2008/2009	-	420	0
2009/2010	10.00	282	3.55

Dividend yield $= \dfrac{\text{DPS}}{\text{MVPS}} \times 100$

For 2005/06 $= \dfrac{15.79}{320} \times 100$

$= 4.93 \%$ and so on………………..

Appendix 22

Calculation of P/E Ratio

Fiscal Year	EPS	MVPS	Times
2005/2006	18.74	320	17.08
2006/2007	9.02	620	68.74
2007/2008	10.35	1285	124.15
2008/2009	8.33	420	50.42
2009/2010	4.96	282	56.85

$$\text{P/E ratio} = \frac{\text{MVPS}}{\text{EPS}}$$

$$\text{For } 2005/06 = \frac{320}{18.74} \times 100$$

$$= 17.08 \text{ times and so on}\ldots\ldots\ldots\ldots..$$

Appendix 23

Calculation of Correlation Coefficient between DER in term of fixed Deposit to net Worth and Return Shareholders' Equity (ROSE)

FY	X (DER)	Y (ROSE)	XY	X^2	Y^2
2005/2006	279.77	14.39	4025.89	78271.25	207.07
2006/2007	273.26	7.41	2024.86	74671.03	54.91
2007/2008	254.54	7.31	1860.69	64790.61	53.44
2008/2009	216.55	7.25	1569.99	46893.90	52.56
2009/2010	380.84	4.13	1572.87	145039.11	17.06
	1404.96	40.49	11054.29	409665.90	385.04

N = 5

$\sum X = 1404.96$, $\sum Y = 40.49$, $\sum XY = 11054.29$, $\sum X^2 = 409665.90$, $\sum Y^2 = 385.04$

Where,

N = No. of observation of X and Y

$\sum X$ = Sum of the observations in series X

$\sum Y$ = Sum of the observations in series Y

$\sum XY$ = Sum of the square of observations in series X

$\sum X^2$ = Sum of the square of observations in series Y

$\sum Y^2$ = Sum of the product of the observations in series X and Y

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

or, $\quad r = \dfrac{5 \times 11054.29 - 1404.96 \times 40.49}{\sqrt{5 \times 409665.90 - (1404.96)^2} \times \sqrt{5 \times 385.04 - (40.49)^2}}$

or, $\quad r = \dfrac{55271.45 - 56886.83}{\sqrt{2048329.50 - 1973912.60} \times \sqrt{1925.20 - 1639.44.}}$

or, $\quad r = \dfrac{-1615.38}{\sqrt{74416.90} \times \sqrt{285.76}}$

or, $\quad r = \dfrac{-1615.38}{272.79 \times 16.90}$

or, $\quad r = \dfrac{-1615.38}{4610.15}$

or, $\quad$ r = -0.35

$\quad r^2 = (-0.35)^2$

or, $\quad r^2 = 0.1225$

$t \quad = \dfrac{r}{\sqrt{1-r^2}} \sqrt{n-2}$

$\quad = \dfrac{-0.35}{\sqrt{1-0.1225}} \sqrt{5-2}$

$\quad = \dfrac{-0.35}{\sqrt{0.8775}} \sqrt{3}$

$\quad = -1.121$

$\quad$ /t/ = 1.121

Degree of freedom (d.f.) = n-2 = 5-2 = 3

$\quad \alpha = 5\% = 0.05$

Tabulated value of t for 3 d.f. at α = 5% level of significance for two tails test is 3.182

Appendix- 24

Calculation of Correlation Coefficient Between K_o & DER

FY	X (K_o)	Y (DER)	XY	X^2	Y^2
2005/2006	19.45	279.77	5441.53	378.30	78271.25
2006/2007	22.64	273.26	6186.61	512.57	74671.03
2007/2008	23.51	254.54	5984.24	552.72	64790.61
2008/2009	23.18	216.55	5019.63	537.31	46893.90
2009/2010	21.98	380.84	8370.86	483.12	145039.11
	110.76	1404.96	31002.86	2464.03	409665.90

N = 5

$\sum X = 110.76$, $\sum Y = 1404.96$, $\sum XY = 31002.86$, $\sum X^2 = 2464.03$, $\sum Y^2 = 409665.90$

Where,

N = No. of observation of X and Y

$\sum X$ = Sum of the observations in series X

$\sum Y$ = Sum of the observations in series Y

$\sum XY$ = Sum of the square of observations in series X

$\sum X^2$ = Sum of the square of observations in series Y

$\sum Y^2$ = Sum of the product of the observations in series X and Y

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

or, $\quad r = \dfrac{5 \times 31002.86 - 110.76 \times 1404.96}{\sqrt{5 \times 2464.03 - (110.76)^2} \times \sqrt{5 \times 409665.90 - (1404.96)^2}}$

or, $\quad r = \dfrac{155014.3 - 155613.37}{\sqrt{12320.15 - 12267.78} \times \sqrt{2048329.5 - 1973912.60}}$

or, $\quad r = \dfrac{-599.07}{\sqrt{53.72} \times \sqrt{74416.9}}$

or $\quad r = \dfrac{-599.07}{7.23 \times 272.79}$

or $\quad r = \dfrac{-599.07}{1974.55}$

or, $\quad r = -0.3033$

$\quad r^2 = (-0.3033)^2$

or, $\quad r^2 = 0.092$

$t \quad = \dfrac{r}{\sqrt{1-r^2}}\sqrt{n-2}$

$\quad = \dfrac{-0.3033}{\sqrt{1-0.092}}\sqrt{5-2}$

$\quad = \dfrac{-0.3033}{\sqrt{0.908}}\sqrt{3}$

$\quad = -1.02$

/t/ = 1.02

Degree of freedom (d.f.) = n-2 = 5-3 = 3

$\quad \alpha = 5\% = 0.05$

Tabulated value of t for 3 d.f. at α = 5% level of significance for two tails test is 3.182.

Appendix - 25

Calculation of Correlation Coefficient between EPS & Debt Capital

FY	X (total debt) in million	Y (EPS)	XY	X^2	Y^2
2005/2006	8122.63	18.74	152218.09	65977118.12	351.19
2006/2007	9795.67	9.02	88356.94	95955150.75	81.36
2007/2008	11234.89	10.35	116281.11	126222753.31	107.12
2008/2009	15778.71	8.33	131436.65	248967689.26	69.39
2009/2010	18905.3	4.96	93770.29	357410368.09	24.60
	63837.2	51.4	582063.08	4075188103.84	633.66

N = 5

$\sum X$ = 63837.2, $\sum Y$ = 51.4, $\sum XY$ = 582063.08, $\sum X^2$ = 4075188103.84, $\sum Y^2$ = 633.66

Where,

      N = No. of observation of X and Y

      $\sum X$ = Sum of the observations in series X

      $\sum Y$ = Sum of the observations in series Y

      $\sum XY$ =   Sum of the square of observations in series X

      $\sum X^2$ = Sum of the square of observations in series Y

      $\sum Y^2$ = Sum of the product of the observations in series X and Y

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

or, $r = \frac{5 \times 582063.08 - 63837.2 \times 51.4}{\sqrt{5 \times 4075188103.84 - (63837.2)^2} \times \sqrt{5 \times 633.66 - (51.4)^2}}$

or, $r = \dfrac{2910315.4 - 3281232.08}{\sqrt{2037594051.92 - 4075188103.84} \times \sqrt{3168.3 - 2641.96}}$

or, $r = \dfrac{-370916.68}{\sqrt{-2037594051.92} \times \sqrt{526.34}}$

or $r = \dfrac{-370916.68}{-45139.71 \times 22.94}$

or $r = \dfrac{-370916.68}{-1035504.94}$

or, r = 0.36

$r^2 = (0.36)^2$

or, $r^2 = 0.13$

$t = \dfrac{r}{\sqrt{1-r^2}} \sqrt{n-2}$

$= \dfrac{0.36}{\sqrt{1-0.13}} \sqrt{5-2}$

$= \dfrac{0.36}{\sqrt{0.87}} \sqrt{3}$

$= 1.24$

Degree of freedom (d.f.) = n-2 = 5-3 = 3

$\alpha = 5\% = 0.05$

Tabulated value of t for 3 d.f. at α = 5% level of significance for two tails test is 3.182.

Appendix -26

Calculation of Coefficient of Regression Between K_e & DER

FY	Y	X	Y^2	X^2	XY	$\hat{y}$	$(y - \hat{y})$	$(y - \hat{y})^2$
2005/2006	5.86	872.38	34.34	761046.86	5112.15	2.372	3.49	12.17
2006/2007	1.45	979.31	2.10	959048.08	1420.00	2.372	-0.92	0.85
2007/2008	0.81	965.74	0.66	932653.75	782.25	2.372	-1.56	2.44
2008/2009	1.98	928.05	3.92	861276.80	1837.54	2.372	-0.39	0.15
2009/2010	1.76	1065.98	3.10	1136313.36	1876.12	2.372	-0.61	0.37
	11.86	4811.46	44.12	4650338.85	11028.06			15.98

N = 5

$\sum X = 4811.46$, $\sum Y = 11.86$, $\sum XY = 11028.06$, $\sum X^2 = 4650338.85$, $\sum Y^2 = 44.12$

Simple regression equation of MBL

Y = a + bX

According to the least square method, two normal equation for estimating two numerical constant 'a' and 'b' are given by,

$\sum Y = Na + b\sum X$ --------------------- (i)

$\sum XY = a\sum X + b\sum X^2$ --------------- (ii)

Putting the value of $\sum X$, $\sum Y$, $\sum XY$ and $\sum X^2$ in equations (i) and (ii), we get,

11.86 = 5a + 4811.46b --------------------- (iii)

11028.06 = 4811.46a + 4650338.85b --------------------- (iv)

Multiplying eqⁿ. no. (iii) by 4811.46 and eqⁿ. no. (iv) by 5, we get,

$57063.92 = 24057.3a + 23150147.33b$

$55140.30 = 24057.3a + 23251694.25b$
_____
$1923.62 = -101546.92b$

$$b = \frac{1923.62}{-101546.92}$$

$\therefore b = -0.0189$

Putting the value of b in eqⁿ no. 3, we get,

$11.86 \quad = 5a + 4811.46b$

or, $\quad 11.86 \quad = 5a + 4811.46(-0.0189)$

or, $\quad 11.86 \quad = 5a - 91.14$

or, $\quad 5a = 11.86 + 91.14$

or, $\quad 5a = 103$

or, $\quad a = \dfrac{103}{5}$

$\therefore a = 20.6$

Putting the value of 'a' and 'b' on $Y = a + bX$ model, we get,

$Y = 20.6 - 0.0189X$

$H_o : b_1 = 0$, the regression model of Y on X_1 is not significant.

$H_1 : b_1 \neq 0$, the regression model of Y on X_1 is significant.

Testing t-statistic

$$t = \frac{b_1}{Sb_1}$$

Where,

$$Sb_1 = \frac{S}{\sqrt{\Sigma(x-\bar{x})^2}}$$

$$S = \sqrt{\frac{SSE}{n-2}}$$

$$SSE = \sum(y-\hat{y})^2$$

$$S = \sqrt{\frac{\Sigma(y-\hat{y})^2}{n-2}}$$

$$= \sqrt{\frac{15.98}{5-2}}$$

$$= \sqrt{\frac{15.98}{5-2}}$$

$$= \sqrt{5.33}$$

$$\therefore S = 2.31$$

$$Sb_1 = \frac{S}{\sqrt{\Sigma(x-\bar{x})^2}}$$

$$= \frac{2.31}{\sqrt{20309.38}}$$

$$= \frac{2.31}{142.51}$$

$$= 0.016$$

$$t = \frac{b_1}{Sb_1}$$

$$= \frac{-0.0189}{0.016}$$

$$= -1.181$$

/t/ = 1.181

Degree of freedom (d.f.) = n-2 = 5-3 = 3

α = 5% = 0.05

Tabulated value of t for 3 d.f. at α = 5% level of significance for two tails test is 3.182.

Appendix -27

Calculation of Trend Values of Interest Coverage Ratio of MBL

Fiscal Year (t)	Actual Value (%) (y)	x = t – mid year	xy	Y=2.032 - 0.244X
2005/2006	2.24	-2	-4.48	2.52
2006/2007	2.02	-1	-2.02	2.28
2007/2008	2.23	0	0	2.03
2008/2009	2.06	1	2.06	1.79
2009/2010	1.61	2	3.22	1.54
N = 5	$\sum y = 10.16$	$\sum x = 0$	$\sum xy = -1.22$	

The equation of the straight-line trend is,

$$Y = a + bX\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Since, $a = \sum y / N = 10.16 / 5 = 2.032$

$b = \sum xy / N = -1.22 / 5 = - 0.244$

Now putting the value of a and b in the equation (1), we have,

Y = 2.032 - 0.244X, is the straight line trend equation-

Therefore, $Y_{f/y\ 2005/06\ (1)} = 2.032 - 0.244 \times (-2) = 2.52$ & so on…..

Trend value of interest coverage ratio for next 3 years-

Fiscal Year (t)	X = t – 3	Trend Values (Y) = 2.032 - 0.244X
2010/11	3	2.032 - 0.244×3= 1.3
2011/12	4	2.032 - 0.244×4= 1.06
2012/13	5	2.032 - 0.244×5=0 .81

Appendix - 28

Calculation of Trend Value of BV & MV of MBL

Fiscal Year (t)	Total Book Value (y)	x = t – mid year	xy	Y=1313682376.2+476954483.4X
2005/2006	931091357	-2	-1862182714	359773409
2006/2007	1000264635	-1	-1000264635	836727893
2007/2008	1163346958	0	0	1313682376
2008/2009	1700198096	1	1700198096	1790636860
2009/2010	1773510835	2	3547021670	2267591343
N = 5	∑y=6568411881.2	∑x=0	∑xy=2384772417	

The equation of the straight-line trend is,

$$Y = a + bX……………………(1)$$

Since, $a = \sum y / N = 6568411881 / 5 = 1313682376.2$

$b = \sum xy / N = 2384772417 / 5 = 476954483.4$

Now putting the value of a and b in the equation (1), we have,

Y = 1313682376.2+476954483.4X, is the straight line trend equation-

Therefore, $Y_{f/y\ 2005/06\ (1)}$ = 1313682376.2+476954483.4×(-2)

= 359773409 & so on…..

Trend value of BV for next 3 years-

Fiscal Year	X = t – 3	Trend Values (Y) =

(t)		1313682376.2+476954483.4X
2010/11	3	1313682376.2+476954483.4×3= 2744545826
2011/12	4	1313682376.2+476954483.4×4= **3221500310**
2012/13	5	1313682376.2+476954483.4×5= 3698454793

Calculation of Trend Value of MV of MBL

Fiscal Year (t)	Total Market Value (y)	x = t − mid year	xy	Y=5953214903 + 1144016504X
2005/2006	2288000000	-2	-272400200	3665181895
2006/2007	5094238060	-1	-544174000	4809198399
2007/2008	11582210005	0	0	5953214903
2008/2009	6212932320	1	1408000000	7097231407
2009/2010	4588694130	2	4576000000	8241247911
N = 5	∑y=29766074515	∑x = 0	∑xy=572008252	

The equation of the straight-line trend is,

$$Y = a + bX\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Since, $a = \sum y / N = 29766074515 / 5 = 5953214903$

$b = \sum xy / N = 572008252 / 5 = 1144016504$

Now putting the value of a and b in the equation (1), we have,

$Y = 5953214903 + 1144016504X$, is the straight line trend equation-

Therefore, Y_f/y 2005/06 $(1_)= 5953214903 + 1144016504 \times (-2)$

$= 3665181895$ & so on…..

Trend value of MV for next 3 years-

Fiscal Year (t)	X = t – 3	Trend Values (Y) = 5953214903 + 1144016504X
2010/11	3	5953214903 + 1144016504×3=9385264415
2011/12	4	5953214903 + 1144016504×4=10529280919
2012/13	5	5953214903 + 1144016504×5=11673297423