CHAPTER I

INTRODUCTION

1.1 Background of the Study

Finance is the life blood of the economic development of any country. Every kinds of organization such as profit making or non- profit making organization need finance to achieve its objectives and goal. Financial ratio analysis is a technique of analyzing the financial statement i.e. income statement, balance sheet, trial-balance and cash flow statements etc. of any organization by which we can identify the financial strength and weaknesses of the concern organization by establishing proper relationship between the items of the financial statements. Balance sheet shows the financial position of the concerned organization at a particular date in terms of assets structure and liability and capital structure. At the same time, income statement shows the profitability of the concern organization during the specified period (Gyawali, et al. 2064).

Financial infrastructure of an economy consists of financial intermediation, financial institutions and financial markets. Financial institutions in the economy play a role of catalyst in the process of economic growth of the country.

The bank means of institution which deals with money a bank performs several financial, monetary and economic activities which are essential for economic development of any country. "A bankar is a person, firm or company, having a place of business where creditors are opened by the deposit or collection of money subject to be paid or remitted upon draft, cheque or order or where money is advanced or loud stocks, bonds and bills of exchange and promising notes are received for discount and sales" (Khadka and Singh, 2065).

Nepal has short history of banking sector as compared to other developed country in the world. Bank is the lifeline of a nation and its people. In regard of commercial banks they are internal parts of the economy in all countries. Outside the commercial banking realm, there are several financial institution that affects financial operation in a country. The place of commercial banks in financial system is more significant to play increasingly dynamic and vital role in the economy of the least developed likes ours, which provides economic and financial intermediation in the economy (NRB, 2009).

Speaking of priority to the establishment of Nepal Bank limited, there was no organized financial institution in Nepal. During the Primeministership of Ranodip Singh around 1877 AD a number of economic and financial reforms were introduced. The establishment of the Teejarath Adda was the outcome of that reform. Adda may be regarded as the father of modern banking institution and for quite a long time intended a good service to government servant as well as to the general public. However, the installation of Kausi Tosha Khana as a banking agency during the regime of king Prithivi Nayaran Shah could also claim to be regarded as the first step towards initiating banking development in Nepal. The inception of Nepal Bank Limited in 1937 was a landmark in the field of banking and financial sector in Nepal. It was established under special banking act 1936 having elementary function of commercial bank a semi-government organization. The central bank named as Nepal Rastra Bank which was established in 26th April 1955 with the objective of supervising, protection and direction. The function of commercial banking activities by the government named as Rastriya Banijya Bank was established in 1966. Later on large number of commercial banks have been come into operation till date (Chaudhary, 2066).

Government involvement in business, trade and transit was indispensable and the end of the 18th century through few sole trading were also in existence during that pursued Adam Smith through his popular Wealth of National advocated minimum government intervention in business in 1776 AD through his first treatise on economic development. He suggested government to develop adequate infrastructure to promote the business rather actively participate in it. Major economic in the world followed Smith fill they approached great depression in 1929 AD. The year 1929-30 proved smith theory's of invisible hand's to be unsuccessful and left the growing economic of the world at crossed. To overcome the sudden and unexpected disaster in the economy, Keyn's theory of multiplier came which redefined the role of government and suggested it to invest a lot in business to mitigate the problems of unemployment and scarcity of affective demand in the market. Thus adoption of Keynesian theory once again moved the world economy towards mixed economy. The USSR started to use the concept of planned economic development from the same time (Chaudhary, 2066).

During the 1970's, the economic development come to be redefined in terms of reducing the rate of poverty and unemployment. In order to boost up the economy of any country both public and private firm most play vital role. Concept of public enterprise was emerged in the USA during the regime of Roosevelt through his view dealt although other countries are also followed this concept that public enterprise couldn't run smoothly while arriving in 70's decade (Chaudhary, 2066).

Their productivity decline and ultimately they resulted in heavy loss. The oil price hike of 1973 forced even developed countries to flash back there economic structure. This wave of privatization slowly speeded up all over the world. Ending year 1980's and beginning of 90's are characterized by the political change. Germany unified USSR split up and changed its socialist pattern of economy. Centralized economy of china slightly directed towards liberalization in 1990's led to global economy (Chaudhary, 2066).

Developed countries have opened their market not only scare raw material from developing countries but also finished good with economic quality. Economic development in Nepal is really started only after Rana Regime. In the late period of Rana Regime some positive attempts were made .as a result dog perished for in existent in 1935AD, Biratnagar Jute Mill in 1936AD and Raghupati Jute Mill in 1946AD. Before the break of Second World War a twenty-year plan was announced and national planning committee was set up in 1949AD (Chaudhary, 2066).

Thus the present study focused on the comparative financial performance analysis of Machhapuchhre Bank Limited. For this purpose an evaluation of position of the Bank with respect to liquidity, leverage, capital adequacy, turnover and profitability and the relationship between various variable are made. This study assumes the hypothesis that the performance of sampled banks does not differ significantly (MBL, 2066/67).

1.1.1 Commercial Banking and Activities

Origin of the Banks

Development history of the financial institutions in Nepal is not very long. The history of banking in Nepal begins with the establishment of Nepal Bank Limited in 1994 B.S. as the first commercial in Nepal. After that Nepal Rastra Bank, the central bank of Nepal was established in 2013 B.S. That was fully owned by the government. After that so many commercial banks were established gradually. The development of financial institutions was accelerated, when the Nepal government adopted liberal economic policy in 1980's A.D. After that so many private banks are coming into operation.

How did the use of word Bancus become popular? The origin of Bank is traced to Latin word Bancus which means a bench. European money lender and money changers used to transit their business at bench at benches or tables. They followed the practice of receiving gold and other metals as deposit and issuing receipts. The bench or table used by the trader in money was the symbol of the business of banking or dealing in money. The success of failure in trading was associated with his bench when a banker railed his bench used to be destroyed by the people (Khadka and Singh, 2066/67).

Origin and Growth of Banks in Nepal

The growth of banking in Nepal is not so long in comparison with other developing or developed country. The institutional development in banking system of Nepal is far behind Nepal had to wait for long time to come to the present banking position. The stepwise development of banking in Nepal can be narrated as follows: (NRB, 2009):

Nepal Bank Ltd.

Nepal Bank Ltd (1994,30th Kartik) and was established under the Nepal bank act 1994BS. Its initial authorized capital was 10 million rupees and issued capital was 25 lakh and paid up capital was 8 lakh 42 thousand.

Nepal Rastra Bank

The Nepal Rastra Bank act 2012 Nepal Rastra Bank was established in 2013 BS, Baishskh 14th but this act has been replaced and the Nepal Rastra Bank act 2058 is coming very soon.

Rastriya Banijya Bank

Rastriya Banijya Bank was another important Bank established in Nepal. The bank was established in the government sector in 2002BS. After connection the commercial bank act 2031 both the Banijya Bank act 2020 and the Rastriya Banijya Bank act 2021 were replaced.

Agriculture Development Bank

Under the Agriculture Development Bank act 2024 the Agriculture Development Bank (ADB) was established on 2024 7th Magh. Prior to the establishment of ADB cooperative Bank was established to meet requirement of found in the agriculture sector. But later on this cooperative Bank was converted into Agriculture Development Bank.

The Modern Phase of Banking Development

The process of the Development of Banking system in Nepal was not satisfied up to 2040. Not a single Bank was opened during this period except expanding the branches of the banks, which were established in the earlier period. Nepal was observing the event that taking places in the world also.

Nepal was deeply studying and searching what sorts of programs, policies, law and regulation should be brought into the practice. The country can't change it status by using only its own capital in the country without importing the new technology from foreign country. Accordingly, law, and policy have been enacted by the state to encourage the foreign investment on banking sector. As a result of it the Development of the Banking system started in Nepal. The competition began to grow the banks began to offer their valuable service to the people through new technology. This was the great significant event. Thus some Banks were opened on the joint investment basis brief accounts of such banks are as follows:

S.N.	Names	Head Office
1	Nepal Bank Limited	Kathmandu
2	Rastriya Banijya Bank	Kathmandu
3	Agriculture Development Bank Ltd.	Kathmandu
4	NABIL Bank Limited	Kathmandu
5	Nepal Investment Bank Limited	Kathmandu
6	Standard Chartered Bank Nepal Limited.	Kathmandu
7	Himalayan Bank Limited	Kathmandu
8	Nepal SBI Bank Limited	Kathmandu
9	Nepal Bangladesh Bank Limited	Kathmandu
10	Everest Bank Limited	Kathmandu
11	Bank of Kathmandu Limited	Kathmandu
12	Nepal Credit and Commerce Bank Limited	Siddharthanagar, Rupendehi
13	Lumbini Bank Limited	Narayangadh, Chitwan

14	Nepal Industrial & Commercial Bank Limited	Biaratnagar, Morang
15	Machhapuchchhre Bank Limited	Pokhara, Kaski
16	Kumari Bank Limited	Kathmandu
17	Laxmi Bank Limited	Birgunj, Parsa
18	Siddhartha Bank Limited	Kathmandu
19	Global Bank Ltd.	Birgunj, Parsa
20	Citizens Bank International Ltd.	Kathmandu
21	Prime Bank Ltd	Kathmandu
22	Sunrise Bank Ltd.	Kathmandu
23	Bank of Asia Nepal Ltd.	Kathmandu
24	Development Credit Bank Ltd.	Kamaladi, Kathmandu
25	NMB Bank Ltd.	Babarmahal, Kathmandu
26	KIST Bank Ltd.	Kathmandu
27	Janata Bank Ltd.	Kathmandu
28	Mega Bank Ltd.	Kathmandu
29	Nepal Trust and Commerz Bank Ltd.	Kathmandu
30	Civil Bank Limited	Kathmandu
31	Century Bank Ltd.	Kathmandu

Sources**:** NRB, Mid-July, 2010.

Hence, there are so many commercial banks in operation in Nepal till date operating with their main objectives of carrying out activities under the Commercial Bank Act 2031, Nepal Rastra Bank Act 2058 the Company Act 2053.

After the restoration of democracy in Nepal, there is tremendous development in banking sector. Different types of banking activities are being operated. It has played positive role in economic activities. Till now apart form commercial banks have five rural development banks are in operation in Nepal. They are as follows.

Eastern Rural Development Bank Ltd.

Far Western Rural Development Bank Ltd.

Western Rural Development Bank Ltd.

Mid Western Rural Development Bank Ltd.

Middle Rural Development Bank Ltd.

The main objectives of these Bank is to uplift the living standard of the people by without security group basis to operate an income generating business these bank established according to the Rural Banks system by the government of Bangladesh with the objectives of providing loan to the poor people who are derived from the institutional loan facilities due to the lack of reasonable security and guarantee. The Rural Development Banks have their own fundamental concept every man has own characteristics and skill. The Rural development Banks have a concept, it can bring the poor mass of people in the level of respectable living standard providing the opportunity to the rented people and oppressed to increase the income and create the productive poverty.

Before the introduction of Nepal Development bank Act 2052 the Nepal Industrial Development corporation and Agricultural Development Bank were established but after this Act various Development Banks Have been opened in the different place of Nepal. They are performing their function according their objectives. These Banks have given benefits to their owners and they are also helping, the people and the nation in the process of economic development directly of indirectly. It is clear that the establishment of the different mentioned Banks is also the development of banking field in Nepal

Role of Commercial Banks in Economic Development

It has already been stated that commercial banks are the most effective means for mobilizing the country's resources efficiently and effectively to accelerate the development of the national economy. The commercial banks therefore are called the engine of economic growth in the modern age of liberalization and privatization and they play as such as important role for capital formation as the heart plays in the circulation of blood in the human body.

The main objectives of commercial bank are to mobilize idle resources for productive use after collection them form scattered resources. The essence of commercial banking is the financial inter mediation between the ultimate savers and borrowers. In other words, main functions of bank is to act as an intermediary between the surplus and deficit units in the economy. A bank as any other firm is in business to make profit for its shareholders it draws its profit mainly from the different of interest on deposits and lending. Commercial banks have become in hearts of financial system as they hold the deposits of millions of people, government and business units, and make fund available through their lending and investing activities of individual business firms and government. So, the commercial banks are the most important institutions for capita formation.

CV Chandler has view regarding economic development of country as “the low income underdeveloped countries are not only ones that have recently awakened to the possibility of growth and low attach unprecedented important to promoting it. The highest income most highly developed countries in the world are also giving unprecedented attention to these objectives.”

“Economic development is a process whereby an economy’s real income increases over a long period of time.

In the history of Nepal the important of bank has been accepted many years also. In the beginning 1994 B.S Nepal Bank limited was established in 2013 Nepal Rastra Bank in 2021 B.S commercial Bank act was ruled out in 2031 B.S and new Act 2031 was ruled which helped to open the private commercial banks. The importance of banks in economic life is greater Nepal, is a small and poor country it has sufficient natural resources. To use those resources, capital is most important the commercial bank should grant long term loan in the industrial sector. By providing loan in industry the productive capacity of industry can be increased. It thus reduces import of foreign goods and increases exports. Again due to development of industry, goods can be available in cheap price. Similarly the loan advanced to the agricultural sector can enhance the agriculture production thus it helps to increase the level of income of the majority of the Nepalese people. Therefore, Nepal needs commercials banks to accumulate the saving and to invest them. Banks provides facilities to their costumers by other services also, such as, remittance of fund, purchase and sale of bills, supplying of timely credit and other market information. Some of the important roles of the commercials bank are mentioned below.

1. Commercial bank is important of the country for the further development of the country so for this commercial banks are established to provide loan by taking the different kinds of collaterals
2. To facilitate the citizen of the country and outside the country for sending and receiving the money form different places easily and reliably.
3. To collect the unutilized funds from the different parts of the country and to mobilize this capital.
4. For the comfort of the traveler banks also provide the travelers cheque facilities etc.
5. For the promotion of businessman bank provides letter of credit facilities.

These services help to run the business and other economic activities rapidly as well as smoothly. Thus, these services of commercial banks also affect the development process of a country (Khadka and Singh, 2066/67).

Profile of Machhapuchchhre Bank Limited

Machhapuchchhre bank, the first commercial bank in the western part of the kingdom has been established by Nepalese promoters and begin its operations on 17th Aswan 2057 B.S. MBL fully computerized bank. It has the most sophisticated GLOBUS banking software with modern banking facilities like tale banking, internet banking, mobile banking, ATM facilities and many more. The branches are interlinked by centralized database system and enable the bank to provide anywhere facilities to its valuated customer. At the time of establishment of MBL with total authorized capital 240 million and issued and paid up capital Rs. 84 million. At the present of MBL with authorized capital 1000 million and issued and paid up capital 550 million. (MBL bank, annual reports 2066/67). The shareholders of the bank are as follows.

a. Promoters, 70%sharesholders
b. Public share issue, 25% shareholders
c. Employees, 5% shareholders

The success of business largely depends on management quality. Generally the management body of any business organization has two fold major objectives, first to manage the firm well and second, to maximize profit and enhance shareholder's wealth.

Machhapuchchhre bank limited is managed by chief executive officer (CEO) under the supervision and control of board of directors. Board of directors appoint the chief executive officer. The board of directors of Machhapuchchhre bank limited is constituted by the body of seven (7) member altogether. Directors are appointed as follows.

1. Director (Chairman)	MR.	Surya Bahadur K.C.
2. Director	MRS.	Gita Shrestha
3. Director	MR.	Kishor Kumar Shah
4. Director	MR.	Ajad Shrestha
5. Director	MR.	Prakash K. C.
6. Director	MR.	Praneshower Pokharel
7. Director	MR.	Naresh Bahadur Malla
Chief Executive Officer (CEO)	Mr.	Bhai Kaji Shrestha

The management under the board is entrusted to nominate CEO under which corporate office at various branch operations. Currently there are 39 numbers of branches offices of the bank (Annual Report of MBL, 2066/67)

1.2 Statement of the Problem

In response to the liberal economic policy adapted by the Nepal government, so many private owned commercial banks, development banks, finance companies, co-operatives and insurance companies has been established. But most of the financial institutions like commercial banks are concerned at urban area of the country. These types of establishment cannot contribute to the socio-economic development of the country where 90% of the population lives in rural area and about 80% population depends upon agriculture. So, it is necessary that, these commercial banks should extend their operation to the rural area of the country. But these banks ignored the aspect of Nepal Rastra Bank. Which is compulsory investment of 12% of the total investment in the rural area; these banks are inclined to pay fines rather than investing their resources in the less profitable sectors. This problem remains to be solved, if they follow NRB's introduction then the small investors in the rural area will be benefit able from the service of such bank. Besides these problem, resources are not properly utilized due to some reasons i.e. not able to perform the activities for which they have been established. Out of 31 many commercial banks, only one commercial bank i.e. Machhapuchhre Bank Limited is selected as sample to analysis the problem associated with these banks in terms of their financial ratio.

Other most of the business organization along with banks are facing different problems due to the lack of political stability and unrest. Bank has been facing the considerable pressure to lower the lending rates, which affects the profitability adversely. The problem of the study refers the study of strength and weakness of the Machhapuchhre Bank Limited. Although the study is not compressive as expected, attempts are made to sort out the answer for the following question.

1. How far the MBL is able to maintain its financial position?
2. What is financial growth condition of this joint venture banks?

3. Is their a value maximizing financial position?

1.3 Objectives of the Study

The main objectives of the study is to analyze the financial performance of joint venture Bank for the past six years and also find out the causes of the high and low performance. It is study about the financial performance of this bank by studying the detail data. It tries to evaluation the overall financial performance of Machhapuchhre Bank Limited and by using various tools such as statistical tools and financial tools.

The main objectives of the study are as follows.

- To explore the financial ratios of Machhapuchhre Bank Ltd.
- To examine into the financial statement of the latest minimum five year to examine financial performance.
- To forecast the financial performance for coming five years and find out the correlation coefficient between financial variables.

1.4 Significance of the Study

Analysis of financial performance of any company is very important. Actually, on the basis of the financial analysis we can say that the concerned company is strong or not. The financials published by the banks gives the meaningful picture to the public regarding the financial position of the banks. Thus, the analysis of these statements is necessary in order to give the full and clear-cut position and performance of the banks. The study evaluates the financial performance of Machhapuchhre Bank Limited. The study highlights financial performance by using of ratio analysis, which helps the concerned companies to formulate strategies to face the increasing competition and to achieve the targeted objectives.

Similar the aim of the study is to identify the financial problems. It provides a useful feedback, remedial action, and good financial planning and takes appropriate division to the policy makers to the selected organization, government and also the other concerned field.

Similarly, the research will provide required information to the persons and parties such as general readers, decision makers, brokers traders, stock holder financial agencies, businessman and general public and also useful for teacher and students of the particular subjects and the other those having interested on financial management.

1.5 Limitations of the Study

Following are the limitations of the study made:

- This study is limited to the study of Machhapuchhre Bank Limited only.
- This study is mostly based on the secondary data of the bank.
- The study covers the analysis of only five years (Fy 2062/63 to Fy 2066/67) data.
- Having the limited time and limited resources, this study does not examine the factor affecting the financial performance in different sectors

1.6 Organization of the Study

This research has been divided into five parts which are as follows.

Chapter I: The introduction chapter briefly explains about the meaning and historical background of commercial bank in Nepal and also the joint venture banks. It describes the introduction of research study, which explains the focus of the study, statement of problem, objective of the study, significance of the study and limitation of the study.

Chapter II: In this second chapter consists of review of books, thesis, journal and dissertations. .

Chapter III: Chapter third contents research design, population and sample, sources of data, data collection and processing techniques analysis of tools.

Chapter IV: In this fourth chapter, the data required for the study has been presented analyzed and interpreted by using various tools and techniques of financial management, accounts and statistics to present the result relating to the study in a very lucid manner.

Chapter V: Last part of the study deals together with summary of finding conclusion and recommendation.

At the end of the chapters bibliography and appendices are incorporated.

CHAPTER- II

REVIEW OF LITERATURE

Review of the literature is focused and directed towards specific purposes. It is a selective subject. A researcher has to select the kind of literature to be reviewed and determine the purpose. It starts with the selections of a problem for research, continues through the various stages of the research process and end with report writing.

Reviewing different available literature from various sources are the major objective of this chapter. The prime focus for collecting external literacy information through various textbooks, research journals and research thesis. Various articles relating to different aspects of commercial bank will help to conduct the study smoothly. Review of literature is divided into two categories.

2.1 Conceptual Framework/Theoretical Review

Financial decisions are very sensitive and important and cannot be taken blindly or in a vacuum. Financial decisions must be based on proper financial analysis by using, financial tools-such as financial ratios are used to measure the financial performance of the company. “Financial analysis is to analyze the achieved statement to see if the result meet the objectives of the firm, to identify problems, if any, in the past or present and /or likely to be in the future, and to provide recommendation to solve the problems” (Pradhan, 2000; 120).

The modern financial evaluation has greatly affected the role and importance of financial performance. Nowadays, finance is best characterized as ever changing with new ideas and techniques. Only efficient manager of the company can achieve the set up goals. If a bank does not maintain adequate equity capital, it makes the bank more risky. If a bank has inadequate equity capital, it must be used more debt that has high fixed cost. So any firm must have adequate equity capital in their capital structure.

The main objectives of the banks are to collect deposits as much as possible from the customers and to mobilize into the most profitable sector. If a bank fails to utilize it's collected resources than it can not generate revenue. Resource mobilization management of bank includes resource collection, investment portfolio, loans and advances, working capital, fixed assets management etc. It measures the extent to which bank is successful to utilize its resources. To measure the bank performance in many aspects, we should analyze its financial indicator with the help of financial statements.

Financial analysis is the process of identifying the financial strength and weakness of the concerned bank. It is the process of finding strength and weakness of the concerned bank. It is the process of finding details accounting information given in the financial statement. It is performed to determine the liquidity, solvency, efficiency and profitability position of an organization. The function or the performance of finance can be broken down into three major decisions i.e. the investment decision, the financing decision, and the dividend decisions. An optional combination of the three decisions will maximize the value of the firm.

2.1.1 Banking: An Introduction

The Lexis "Banking" is a derivative of terminology "Bank". Bank itself is an organizational engaged in any or all the various functions of banking viz. receiving, collecting, transferring, paying, lending, investing, dealing exchanging and servicing (safe deposit, trusteeship, agency, custodianship) money and claims to money both domestically and internationally. This is a board concept under which different types of bank includes. There are several popular modalities of banking. It may differ country to country. Commercial banking is one of them. (Prashikshan, 2006, NRB). Banking and Financial Institutions are also the transmission channels of monetary policy, it is important for the effective monetary policy management to ensure that their financial health is sound and overall financial sector is stable.

2.1.2 Development of Banking System in Nepal

Nepal's first commercial bank, the Nepal Bank Limited, was established in 1937. The government owned 51 percent of the shares in the bank and controlled its operations to a large extent. Nepal Bank Limited, its headquarter is in Kathmandu and its branches in other parts of the country.

There were other government banking institutions. Rastriya Banijya Bank (National Commercial Bank), a state-owned commercial bank, was established in 1966. The Land Reform Savings Corporation was established in 1966 to deal with finances related to land reforms.

There were two other specialized financial institutions. Nepal Industrial Development Corporation, a state-owned development finance organization headquartered in Kathmandu, was established in 1959 with United States assistance to offer financial and technical assistance to private industry. Although the government invested in the corporation, representatives from the private business sector also sat on the board of directors. The Co-operative Bank, which became the Agricultural Development Bank in 1967, was the main source of financing for small agribusinesses and cooperatives. Almost 75 percent of the bank was state-owned; 21 percent was owned by the Nepal Rastra Bank, and 5 percent by cooperatives and private individuals. The Agricultural Development Bank also served as the government's implementing agency for small farmers' group development projects assisted by the Asian Development Bank (see Glossary) and financed by the United Nations Development Programme. The Ministry of Finance reported in 1990 that the Agricultural Development Bank, which is invested with the leading role in agricultural loan investment, had granted loans to only 9 percent of the total number of farming families since 1965. Since the 1960s, both commercial and specialized banks have expanded. More businesses and households had better access to the credit market although the credit market had not expanded.

In the mid-1980s, three foreign commercial banks opened branches in Nepal. The Nepal Arab Bank was co-owned by the Emirates Bank International Limited (Dubai), the Nepalese government, and the Nepalese public. The Nepal Indosuez Bank was jointly owned by the French Banque Indosuez, Rastriya Banijya Bank, Rastriya Beema Sansthan (National Insurance Corporation), and the Nepalese public. Nepal Grindlays Bank was co-owned by a British firm called Grindlays Bank, local financial interests, and the Nepalese public.

Nepal Rastra Bank was created in 1956 as the central bank. Its function was to supervise commercial banks and to guide the basic monetary policy of the nation. Its major aims were to regulate the issue of paper money; secure countrywide circulation of Nepalese currency and achieve stability in its exchange rates; mobilize capital for economic development and for trade and industry growth; develop the banking system in the country, thereby ensuring the existence of banking facilities; and maintain the economic interests of the general public. Nepal Rastra Bank also was to oversee foreign exchange rates and foreign exchange reserves.

There is a significant growth in the number of banks in Nepal in the last two decades. At the beginning of the 1980s when the financial sector was not liberalized, there were only two commercial banks. During 1980s, there were only few banks. After the liberalization in the 1990s, financial sector has made a progress both in term of the number of banks and financial institutions and their branches. As on Mid July 2008, the number of commercial banks is 25 based on the applications for establishment of new banks as well as for the up-gradation of other financial institution, the number is likely to grow in the near future as well.

Growth of Financial Institutions									
	Mid July								
Type of Financial institution	1985	1990	1995	2000	2005	2006	2007	2008	2009
Commercial Banks	3	5	10	13	17	18	20	25	26
Development Banks	2	2	3	7	26	28	38	58	59
Finance Companies	0	0	21	45	60	70	74	78	79
	0	0	4	7	11	11	12	12	12
Total	5	7	38	72	114	127	144	173	176

(Source: - Nepal Rastra Bank)

Banking system occupies an important role in the economic development of a country. A banking institution is indispensable in a modern society. It plays a pivotal role in the economic development of a country and focus the core of the money market in an advance country. The pivotal function of the bank is to collect deposits as much as possible from customers and mobilize it into the most preferable and profitable sector like industry, commerce, agriculture, entertainment etc.

2.1.3 Concept and Definition of Commercial Bank

A commercial bank is a type of financial intermediary and a type of bank. Commercial banking is also known as business banking. After the Great Depression, the U.S. Congress required that banks only engage in banking activities, whereas investment banks were limited to capital market activities. As the two no longer have to be under separate ownership under U.S. law, some use the term "commercial bank" to refer to a bank or a division of a bank primarily dealing with deposits and loans from corporations or large businesses. In some other jurisdictions, the strict separation of investment and commercial banking never applied. Commercial banking may also be seen as distinct from retail banking, which involves the provision of financial services direct to consumers. Many banks offer both commercial and retail banking services.

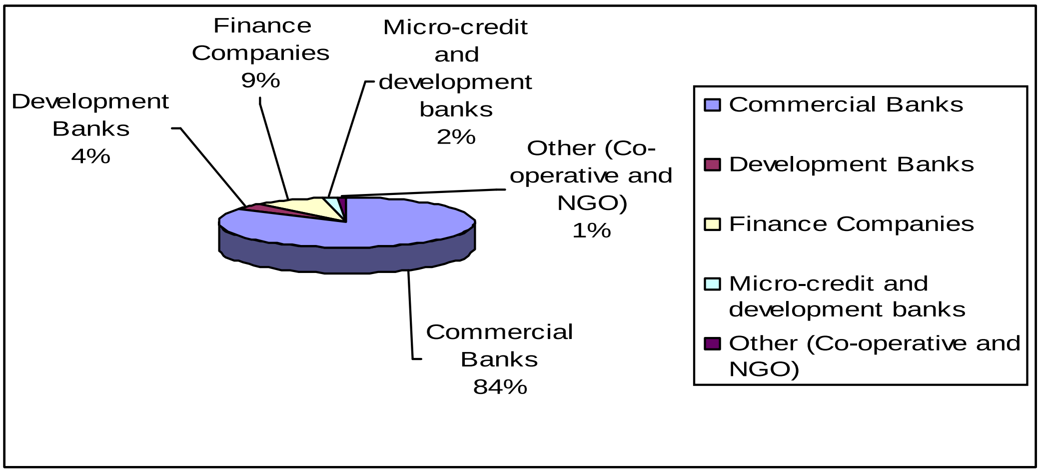
An institution which accepts deposits, makes business loans, and offers related services. Commercial banks also allow for a variety of deposit accounts, such as checking, savings, and time deposit. These institutions are run to make a profit and owned by a group of individuals, yet some may be members of the Federal Reserve System. While commercial banks offer services to individuals, they are primarily concerned with receiving deposits and lending to businesses.

The Nepalese organized financial sector is composed of banking sector and non-banking sector. Besides commercial banks, there are sizeable numbers of development banks, finance companies, micro-credit development banks, co-operative, NGOs and postal saving offices that undertake limited banking and near banking financial services. Non-bank financial sector comprises saving funds and trusts like Employee Provident Fund, Citizen Investment Trusts, and Mutual fund.

The growth of financial sector in Nepal is much better compared to other sectors in the country. The economic reforms initiated by the Government more than one and half decade ago have changed the landscape of several sectors of the Nepalese economy including the financial sector. Despite the decade's conflict and political insurgency, this sector has continued to grow. Over the past 20 years, Nepal's financial significantly both in terms of business volume as well as size of assets and market has increased. Nepal has a reasonably diversified financial sector, as evidenced by the number and variety of institutions that plays an active role in this sector, relative to Nepal's small and underdeveloped economic base.

Though Nepalese financial sector is reasonably diversified with institutional arrangement of varied nature of financial institutions, commercial banks are the major players in this system and they occupy substantial share in the structure of financial sector. The following table depicts the share of commercial banks out of total financial assets.

Share of Total Assets



(Source: - Nepal Rastra Bank)

The banking sector is an important part of the national economy. Banks take deposits, support the payment system and provide the largest source of funds in the market. Safe and sound banking system is of crucial importance for the financial stability and sustainable development. Nepal has a special characteristic of bank dominated financial sector. As the domestic capital and stock markets are in the initial stage of development, the banking sector largely dominates the entire financial sector.

The financial performance of the commercial banks can be categorized on the basis of assets, composition of assets, composition of liabilities, capital, deposit, loans and advances, non banking assets, investment, earnings, and liquidity. The total assets of the commercial bank increased by 7.67 percent in the year 2008/09 (previous year 13.29%). The increase in the total assets is mainly on account of the increase in the loan portfolio of the banks. The increase was 40.06 billion on the previous year. The loan portfolio of the banks has posted an increase of Rs. 26.18 billion during the period. The assets of the banking industry comprises of various assets, but is dominated by loans, which accounts for almost half of the total assets. Loans and advances comprises major share in the total assets followed by investment and cash and bank balance in that order. The bank's liability consists of various forms of liability, primarily of share capital and reserves, deposits and borrowings. The consolidated capital of the Nepalese banking industry has shown positive trend during the review period. The capital has improved by Rs. 8.10 billion in 2008/09. The total deposit of the banking sector was approximately Rs. 337 billion as on Mid July 2008. The deposits have increased by 15.51 percent in 2008/09 as compared to 29.20 percent in 2007/08. The total loans and advances extended by the banking industry on Mid July, 2008 rose to 232 billion which is an increment of 19.50 %. The total amount of non banking assets on Mid July 2008 was Rs. 2.94 billion, a decrease of Rs. 1.01 billion from the previous year. The total volume of the investment as on Mid July 2008 was Rs. 94.96 billion which is an increment of 3.55 per cent. Total earnings of the banking industry in 2008/09 were Rs. 32.08 billion, which is an increase of Rs. 3.45 billion from the previous year.

Nepal Rastra Bank is committed to strengthen and ensure the stability and soundness of the banking system. In order to achieve the role of protecting the interests of depositors, the department has crafted a number of prudential requirements to be complied with by banking institutions. The prudential requirements advised on banking institutions are designed to limit risk taking to levels that are manageable and that do not place the individual banking institution and the banking system at risk. In addition other prevailing laws, the main legislative framework for supervision function includes: -

- Nepal Rastra Bank Act 2002
- Bank and Financial Institutions Act, 2006 (Umbrella Act)
- Company Act, 2006
- Supervision by-laws
- Directives to commercial banks and financial institutions issued by Nepal Rastra Bank.

NRB has continued to review the relevant legislations and regulations in 2007/08 in order to put in place up-to-date regulatory framework that meets international standards and resolves the issues of the banking industry.

The role of commercial banks

Commercial banks engaged in the following activities:

- Processing of payments by way of telegraphic transfer, EFTPOS, internet banking or other means.
- Issuing bank drafts and bank cheques,
- Accepting money on term deposit
- Lending money by way of overdraft, installment loan or otherwise
- Providing documentary and standby letter of credit, guarantees, performance bonds, securities underwriting commitments and other forms of off balance sheet exposures
- Safekeeping of documents and other items in safe deposit boxes
- Currency exchange

2.1.4 Functions of Commercial bank

Normally, commercial bank's function can be categorized into two types: -

a. Primary function

b. Secondary function

Primary function

i. **Acceptance of deposit: -** An important function of commercial bank is to attract deposit from the Public. Those people who want to keep their money safe deposit their cash in the bank. Commercial bank accepts deposits from every class and takes responsibility to repay the deposit in the same currency whenever they are demanded by the depositors.

Hence one of the primary functions of commercial bank is acceptance of deposits.

ii. **Lending**: - Another function of commercial bank is to make loans an advance of deposit received in various forms. Banks apply the accumulated public deposits to productive use by way of loans and advance, overdraft and cash credit against approved security.

iii. **Investment: -** Now-a-days commercial banks are also involved in the investment activities. Generally, investment means long-term and mid-term investments.

Secondary Function

Secondary functions are of two types: -

A. Agency Service: -

1. Collection and payments of Cheques
2. Standing Instruction
3. Acting as correspondence
4. Collecting of bills- electricity, gas, WASA, telephone etc.
5. Purchase & Sales of stocks/share-act as a banker to issue

B. Miscellaneous or General Services: -

1. Safe Custody
2. Lockers-Trustee
3. Remittance facilities –DD, TT, MT and PO
4. Advisory Services
5. Providing Credit Reports
6. Opening L/C
7. Demand ForEx/Travers Cheque only Authorized Dealer branches
8. Compete service in Foreign Trade
9. Other Services: Debit Card, Credit Card, On-Line banking SMS Banking

10. Creation of Credit: a multiplier effect, deposit creates credit and credit creates deposits – derivative deposit.

Beside these activities, commercial bank may perform further tasks; all its activities are guided by its authority for the betterment of the company or for society.

2.2 Review of Related Studies

2.2.1 Review of Journals/Books

Finance is a broad field and there are various books written in this subject. The book of M.Y. Khan and P.K. Jain (1990) is considered to be a useful book in the financial management. The modern approach of Khan and Jain views the term financial management in broad sense and provides a conceptual and analytical framework for financial decision making. According to them, “The finance function covers both acquisitions of funds as well as their allocation; hence apart from the issues of acquiring external funds, the main concern of financial management is the efficient and wise allocation of funds to various uses.” The major financial decisions according to Khan and Jain are: -

- The investment decision
- The financial decision and
- The dividend policy decision.

The article *"Financial policies to Prevent Financial Crisis"*, (2060) Nepal Rastra Bank Samachar, the author has suggested that the financial markets have become an exciting, challenging and ever changing sector in the recent years. The emergence of global financial institutions as a result of increased economic liberalization has raised a host of questions for financial planners and policy makers.

According to the author of the article, the financial crisis in most of the markets, particularly in emerging market, undergo several stages. The, initial stage is deterioration' in financial and non-balance sheets and which promotes the second stage that is currency crisis. The third stage is a further determination of financial and non- financial balance sheets as a result of the currency crisis. This stage is the one that caused the economy to full- fledged financial crisis with its devastating consequences.

"The world economy has been growing at a rapid pace, yet amounting global imbalance poses a significant changes. The United States has been pulling the global economy but at the cost of an ever wedering trade deficit. This pattern cannot go on forever. Economics, call for a multilateral efforts to redress global imbalances. This can be achieved in part through an expansion of demand in key industrialized countries other than the US such as Japan and Germany which have huge surpluses. In this way, a recession are adjustment and financial troublanace that might reverberate through he developing world could be avoided. Developing countries company should not be overly restricted by international trade rules or by conditions imposed by international under from doing what is best for their economies. Such freedom of actions has become a major issue in recent years and is often referred to as policy space" (UNCTAD, 2006).

I.M. Pandey (1997), in his book "Financial Management" defines financial management as that managerial activity which is concerned with the planning and controlling of the firm's financial resources. I.M. Pandey believes that among the most crucial decision of the firm are those, which relate to finance, and an understanding of the theory of financial management provides the conceptual and analytical insights to make the decisions skillfully.

I.M. Pandey further identifies two kinds of finance functions: -

(a) Routine and (b) Managerial finance functions.

The routine finance function do not require a great managerial ability to carry them out and they are chiefly clerical in nature. Managerial finance functions on the other hand are so called because they require skillfull planning Control and execution of financial activities. There are, according to I.M. Pandey four important managerial finance functions: -

- Investment or long-term assets miss decision.
- Financing or capital-mix decision.
- Dividend of profit allocation decision.
- Liquidity of short-term asset-mix decision.

Finance is defined as the acquisition and investment of fund for the purpose of enhancing the value and wealth of an organization. The various finance areas include investments, public finance, corporate finance and financial institutions. The basic function of finance is to manage the firm's balance sheet in most efficient way. The balance sheet reflects how a firm acquired financing through. The objective of the company must be to create value for its shareholders. Market price of company's stock represents its value and this can be maximized by firm's optimum investment, financing and dividend decisions. The capital investment decision is the allocation of the capital to investment proposals whose benefits are to be realized in the future. As the future benefits are not known with certainty, investment proposal necessarily involve risk. Consequently they should be evaluated in relation to their expected return and risk. In the financial decision, the financial manager is concerned with determining the best financing mix or an optimum 'Capital structure'. If a company can change its total valuation by varying its capital structure, an optimal financing would exits, in which market price per share could be maximized.

Another important decision of the firm, according to Van Horne (1994), is its "Dividend Policy." The decision includes the percentage of earnings paid to stockholders in cash dividends. The dividend payout ratio determines the amount of earnings retained in the firm and must be evaluated in the light of the objective of maximizing shareholder's wealth. The Financial management involves the solution of the three major decisions altogether. They determine the value of a company to its share holders. Van Home believes that the objective of any firm is to maximize its value, and therefore, the firm should strive for an optimal combination of the three inter-related decisions solved jointly. The main thing is that the financial managers relate each decision to its effect on the valuation of the firm debt and equity resources, and it reflects the disposition of acquired financing among the various asset accounts.

The major financial functions required for managing the banks balance sheet are summarized below: -

a. Analysis and planning
b. Financial structure management &
c. Asset management

The first function financial analysis and planning is to understand the bank's current financial condition and plan for its future financial requirement in different economic scenarios.

After analyzing the financial needs, the second function is to manage the financial structure of the bank, which can be done by optimizing the use of debt and equity in the capital structure. While deciding about this optimum structure, a financial manager must concentrate in minimization of cost of funds in one hand, and maximization of value of the firm in the other. Moreover financial structure management for a banking sector includes, a typical treasury function, which is also called funds management this function contributes a significant portion in profits earned by banks.

The final function is the management of asset structure of the bank. Advances of credit and investment in certain portfolios constitute the major portion of the bank's asset. The major financial function related to assets management is to decide for the least risky and most profitable alternatives of investments. This can be conducted by determining returns and risks associated with the loans and advances made by bank. All the above financial decisions or functions as mentioned by different writers are instrumental towards effective handling of financial management. Which includes activities beginning from rising or funds to efficient and effective use of funds no matter either it is a baking or non-banking institution.

In the book “Financial Management” I.M. Pandey (1997) has defined as “The finance statement provides a summarized view of the financial operation of the firm. Therefore, something can be learnt about a firm and careful examination of the financial statements as invaluable documents or performance reports. Thus, the analysis of financial statement is an important aid to financial analysis or ratio analysis is main tool of financial statement analysis.

B.N. Ahuja (1998), “Financial Performance Analysis" is a study or relationship among the various financial factor in business a disclosed by a single set of statement and a study of the trend of these fact as shown in a series of statements. By establishing a strategic relationship between the item of a balance sheet and income statements and other operative data, the financial analysis unveils the meaning and signification of such items.”

According to R.W. Metcalf and P.H. Tatar (1996), “Financial Performance analysis is a process of evaluating the relationship between components parts of a financial statement to obtain a better understanding of a firm’s position and performance.”

Similarly, Khan and Jain have defined that (1990) “The ratio analysis is defined as the systematic use of ratio to interpret the financial performance so that the strength and weakness of firm as well as its historical performance and current financial condition can be determined.”

In the word of Van Horne (1994) “Financial ratio can be derived from the balance sheet and the income statement. They must be analyzed on a comparative basis. Ratio may also be judged in comparison with those of similar firms in the same line of business and when appropriate, with an industry average and we can look to future progress in this regard."

A comparative study of financial performance is a basic process, which provides information on profitability, liquidity position, earning capacity, efficiency in operation, sources and use of capital, financial achievement and status of the companies. These information will help to determine the extend of efficiency and effectiveness of the company in respect of deploying financial resources in the profitable manner.

2.2.2 Review of Thesis

Prior to this study, the several researchers have found various studies regarding financial performance of commercial and joint venture banks. In this study, only relevant subject matters are reviewed which are as follows:-

Deoja (2001) in "A Comparative Study of the Financial Performance between Nepal SBI Bank Ltd. and Nepal Bangladesh Bank Ltd.," analyzed different ratio of NSBIBL and NBBL for the period of five years till fiscal year 2000. Here, in some cases the liquidity position of NBBL is higher where as in some cases the ratio of NSBIBL is higher. It concludes that liquidity position of these two banks is sound. NBBL has better utilization of resource in income generating activity than NSBIBL. They are on decreasing trends while interest earned to total assets and return or net worth ratio of NBBL is better than NSBIBL. It seems overall profitability position of NBBL is better than NSBIBL and both banks are highly leveraged."

A thesis conducted by Oli (2002) entitled, "A comparative study of financial performance of HBL, NSBIBL and NBBL" concludes that the liquidity position of two JVBs i.e. NSBIBL and NBBL are always above than non standard and HBL is always below than normal standard. Total debt with respect to shareholders fund and total assets are slightly higher for HBL than NSBIBL and NBBL. The researcher has found from the analysis that NBBL has been successfully utilized their total deposits in terms of extending loan and advances for profit generating purpose on compared to NSBIBL and HBL. But NSBIBL is also better than HBL. It has concluded that net profit to total assets ratio in case of HBL is found better performance by utilizing overall resources but the generated profit is found lower for the overall resources in three JVBs."

Joshi (2003) in thesis "A Study on Financial Performance of Commercial Banks," concludes that "Liquidity position of commercial banks is sound. Their debt to equity ratio is high which doubts on solvency. Debt to equity ratio of local commercial banks is higher than other joint venture banks. Assets utilization for earning purpose is 2/3 of the total assets. The main source of income for these banks is interest from loan and advance of overall profitability position, is better than others."

A study conducted by Luitel (2003) on, "A Study on Financial Performance Analysis of Nepal Bank Limited" reveals that, since NBL has not maintained a balanced ratio among its deposit liabilities during the second period with the first period, the bank seems to be unable to utilize its high cost resources in high yielding investment portfolio. During both the periods there are negative operating profit for two years however, the company enjoyed the net profit due to the non-operational activities from first period of both years. Hence, there is a demarcation between operational and non-operational activities of the bank and performance and result of the first period shows that the bank is more inclined towards non-operating activities. Furthermore, the liquidity position of the bank is also not satisfactory during both periods. It is even worse during the second period as various current ratios have fluctuated during these periods and it shows lack of specific policy of holding various types of current assets. Thus, it can be said that the financial position of the NBL is worse during the second period due to its inefficiency in risk management. Yet, the overall financial position of the bank is unsatisfactory during both periods.

Joshi (2004), has conducted study on “Financial Analysis of Nepalese Commercial Banks” with the objectives of finding the comparative financial strengths and weakness of various commercial banks, return rate and expected return to the shareholders, systematic and unsystematic risk of the banks and providing recommendation on the basis if research findings, by using financial ratios, it is calculated that lending condition of banks are in decreasing trend. Banks in strong condition are holding good customers and discoursing low rated and less amounted loans. Instead of that, they are initiated towards remittance, bank guarantees and other commission generating activities, while other banks are showing aggressive and are spontaneously increasing loan loss provision. Deposits in the banks are also decreasing while some banks are holding enough funds. Its recommended for SCBNL was utilizing the maximum of the outsider’s funds towards the credit sector because return on credit sector is higher than on investment sector. Loan loss provision of SCBNL is comparatively higher. It is recommended to control while sanctioning loan outflows. So, the bank should improve its credit management.

Maharjan (2006), performed a research work on” A Study on Financial Performance of NABIL Bank Limited” concluded that the liquidity position of the bank is good enough to meet the short-term obligations. The study shows that the bank is mobilizing its loan and advances adequately. The bank has better mobilization of its saving deposits in loans and advances adequately. The bank has better mobilization of its saving deposits in loan and advances for income generating purpose but it has not nicely mobilized its fixed deposits in loans and advances to generate the income. So it is suggested investing more in loan and advances a well as less in government securities efficiently for generating profit. Interest earned by the bank is inadequate in comparison to the assets. So it has drawn attention of the bank towards the sense of significant EBIT. Since the net profit of the bank in comparison to the total deposit is relatively low, it focused on earning operational profit wither by increasing their operational efficiency, or by decreasing their operational expenses as far as possible. The bank is also suggested to formulate and implement some sound and effective financial and non financial strategies to meet required level of profitability as well as the social responsibility.

Rajbhandari (2009), has conducted a research entitled "A Comparative Study on Financial Performance of Nabil Bank Limited and Standard Chartered Bank Nepal Limited." The main objective of her study was to analyze, examine and interpret the financial position of SCBNL and NABIL with the help of ratio analysis and other financial tools. In her study she had chosen only two commercial banks as sample i.e. SCBNL and NABIL.

The main findings in her study were that the liquidity positions of these banks were not satisfactory. The current ratio should be in the normal standard of 2:1 but both banks are below the normal standard 2:1, which indicates the both banks i.e. NABIL bank and SCBNL were not adopting constant policy regarding liquidity ratio. The cash and bank balance to total deposit ratio, cash and bank balance to current assets and cash and bank balance to saving deposit ratio of SCBNL is higher than that of NABIL bank as per mean ratio. It signified SCBNL is more successful in utilizing its amounts of total deposits, current assets and saving deposits in cash and bank balance. Cash and bank balance to saving deposit ratio, fixed deposit to total deposit ratio and performing assets to total assets ratio of NABIL bank is higher than that of SCBNL as per mean ratio. The leverage or capital structure ratio reveals that the capital structure of NABIL bank was more leverage than that of SCBNL. This implies that NABIL bank is utilizing more outside funds for the benefit of its shareholder than SCBNL. The total assets to net worth ratio of NABIL bank are lesser than that of SCBNL as per mean ratio. This shows investment of owner's equity in total assets is minimum than SCBNL. Analysis of activity ratio signifies that both the banks are successful in utilizing or managing the resources or assets satisfactorily. Comparatively, loans and advances to total deposits ratio and loans and advances to saving deposits ratio of NABIL bank is more efficiently utilizing the outside funds in extending credit for profit generation.

Similarly, loans and advances to fixed deposits ratio and investment to total deposits ratio of SCBNL is higher than that of NABIL bank and it shows that SCBNL is also more successful in utilizing its amounts of deposits in loans and advances and investment. According to her study, both the banks under study had not been able to earn positive profit but not to the satisfactory level. Among the various profitability ratio, net profit to investment ratio, net profit to total assets ratio and net profit to total deposits ratio of NABIL bank were greater on an average than that of SCBNL. Other essential ratios: price-earning ratio, market to book ratio and dividend yield ratio of SCBNL on mean was greater than NABIL bank.

Pandey (2010), has conducted a research entitled “An Analysis of Key Financial Ratio of Commercial Banks in Nepal: A Special Reference with Himalayan Bank Limited and Everest Bank Limited.” The main objective of his study was to find out exact financial ratio of these two commercial banks over the periods of time. Again the basic objective of this study was to examine the overall financial ratio of the selected commercial bank. He had taken Everest Bank Limited and Himalayan Bank Limited as sample. Mainly he had conducted this research based on secondary data available in both banks' annual reports and manuals. He had presented data using both financial and statistical tools in his study.

His main findings were that current ratio of both of the banks showed consistent trend. Both the banks could not maintain the conventional standard of 2:1. EBL has higher average ratio which implies that EBL is more capable to meet short term obligation in comparison to HBL. Normally, the ratio remained consistent in HBL but the ratio of EBL is fluctuated more which is reflected by higher standard deviation. Both the selected banks were successful to mobilize their fund as loan and advance with respect to total assets. However, EBL has higher mean ratio than HBL over the study period which implies that EBL can be taken as better investor than HBL as concerned to consistency, both the sample banks able to maintain consistency. According to the analysis of assets management ratio, both the banks were successful in on-balance sheet utilization. Out of these two banks, EBL is found to be best in mobilizing the assets to the profitable sector.

Similarly, analysis of leverage ratio, HBL had used more debt fund than that of EBL. It means HBL is more levered than EBL. Capital adequacy ratio was taken into consideration. EBL was in safer position. Average value of return on assets ratio is higher in EBL than HBL. HBL had higher mean value of return on shareholder's equity than EBL, Ratio of HBL was fluctuating more than EBL as shown by C.V. EBL had able to earn more profit than HBL by mobilizing its total assets into different profitable sectors. So, EBL had found better profitability than HBL. By analyzing the valuation ratio of selected bank, market value of EBL was higher position than HBL. Total deposits and loan and advances of both the bank were almost positively perfect correlated. Correlation coefficient between total deposit and total investment of both the banks were more than 0.5 with positive sign, which means investment will increase proportionally with the increment in total deposit. The trend analysis of EBL was better than that of HBL in all the cases. The growth rate of total deposit, total loan and advance, total investment and total net profit of EBL is higher than that of HBL.

2.3 Research Gap

Large numbers of research are available bearing the same topic, "An Analysis of Financial Performance of Commercial Banks". I will draw insights from them. However, the researcher will sustain gap by covering the relevant data and information from the year 2062/63 to 2066/67. Moreover, the researcher has selected only one commercial bank of Nepal as sample banks i.e. Machhapuchhre Bank Limited. That itself demonstrates the gap of this research from the previous one because the researcher has not found any research done in the bank in collective form. Under this topic many research have been done but none of the researcher are undertaken regarding the case study of financial performance of Machhapuchhre Bank Limited. Financial analysis is the major function of every commercial bank for evaluating the financial performance. Therefore it is the major concern of stakeholders to know the financial situation of the bank.

Machhapuchhre Bank Limited is a leading commercial bank of the country having the huge market share and its investment activities and the bank has significant impact on developing the economy of the country. Every year the financial performances are changing according to the environment of the country. Hence, this study fulfills the prevailing research gap about the in-depth analysis of the financial performance which is the major concern of the shareholders and stakeholders.

CHAPTER III

RESEARCH METHODOLOGY

Research Methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that we generally adopted by a researcher, studying his research problem among with the logic behind them.

An appropriate choice of research methodology is a difficult task which is most necessary to support the study in realistic term with sound empirical analysis (Sharma, 2064), so that, the study uses the following research methodology like research design, population and sample, data collection procedure, method of data analysis, method of presentation etc explanations of the above points are given which seems appropriate to understand methodology in detail.

3.1 Research Design

Research design is the plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances. In other words research design is the frame work for a study that helps the analysis of data related to study topic. The research design followed is basically the evaluation of financial performance of Machhapuchhre Bank Limited. Analytical as well as descriptive approaches are used to evaluate the financial performance of the bank. Analysis is basically on the basis of secondary data.

3.2 Sources of Data

Secondary data are used for the purpose of the study. They are collected form official publication of the bank. Also some data has been gathered from website, article, journals related to the financial performance study, previous research reports etc.

3.3 Population and Samples

On the basis of researcher's judgment the study cover only one sample bank of all joint venture banks.

3.4 Method of Data Analysis

Different data obtained through various sources are arranged and analyzed using financial and statistical tools which are presented as under.

3.4.1 Financial Tools

In this research study various financial tools are employed for the analysis. There are more than 200 ratios existing today, but in this study some selected ratio are used.

A ratio is defined as "the indicated quotient of two mathematical expression" and as the relationship between two or more things (Pandey, 1998).

3.4.1.1 Liquidity Ratio

Liquidity is measure by the speed with which a bank's assets can be converted into a cash to meet deposit withdrawals and other current obligation. These ratios provide insight into the present cash solvency in the event of adverse financial condition. This ratio is used to measure the company's short-term obligation with short term resources available at a given point of time.

The following ratios are evaluated liquidity ratios:

a. Current Ratio

It is computed dividing current assets by current liability

i.e. $\dfrac{Current\ \ assets}{Current\ \ liabilities}$

The current ratio of a firm measures its short-term solvency that is its ability to meet short-term obligations. As a measure of short term current financial liquidity it indicates the rupees of current assets available for each rupee of current liability. The higher the current ratio the larger is the amount of rupees available per rupees of current liability, the more is the firm ability to meet current obligations and the greater is the safety of funds of short term creditors. Thus current ratio in a way is a measure of margin of safety to the creditors.

b. Cash and Bank Balance to Current Saving Deposits Ratio

The ratio is computed by dividing the cash and bank balance by current saving and deposit

$$\text{i.e.} = \frac{Cash\ \ and\ \ bank\ \ balance}{Current\ \ saving\ \ deposit}$$

The ratio measures the ability of bank to meet immediate obligations. The bank should maintain adequate cash and bank balance to meet the unexpected as well as heavy withdrawal of deposits. High ratio indicated sound liquidity position of the bank however too high ratio is not good enough as it reveals the under utilization of fund.

c. Cash and Bank Balance to Total Deposit Ratio

The ratio is computed by dividing cash and bank balance by total deposits

$$\text{i.e. } \frac{Cash\ \ and\ \ bank\ \ balance}{Total\ \ deposit}$$

The ratio shows the proportion of total deposits held as most liquid assets. High ratio shows the strong liquidity position of the bank. But too high ratio is not favorable for the bank because it produces adverse effect in profitability due to idleness of high interest bearing fund .

d. Fixed Deposit to Total Deposit Ratio

The ratio is computed by dividing fixed deposit by total deposit

$$\text{i.e. } \frac{Fixed\ \ deposit}{Total\ \ deposit}$$

The ratio shows what percentage of total deposit has been collected in form of fixed deposit. High ratio indicates better opportunity available to the ban to invest sufficient generating long term loans. Low ratio means the bank should investment the fund of low cost in short term loans.

3.4.1.2 Leverage Ratio

The long term position of the firm is judge by the leverage of capital structure ratios. The leverage ratio is calculated to measure the financial risk and the firm ability or using debt or benefit of share holder. These ratio measures the proportion of outsider's fund and owner's capital used in the bank. The following ratio is used in this group.

a. Total Debt to Shareholder's Equity Ratio

It is computed by dividing total debt by shareholder equity

$$\text{i.e. } \frac{Total\ \ debt}{Shareholder\ \ equity}$$

This ratio is assessed as borrowing funds and owner's capital that is a popularly measure the long term financing solvency of firm it reflected to relative claim creditors and shareholders against the assets of its.

b. Total Debt to Assets Ratio

It is computed by dividing total by assets

$$\text{i.e. } \frac{Total\ \ debt}{Assets}$$

Debt to assets ratio simply debt ratio reflects the financial contribution at outsiders and owner on total assets of the firm. It also measures the financial security to the outsiders.

c. Interest Coverage Ratio

The ratio is also known as times interest earned ratio is used to test the debt servicing capacity of the bank.

i.e. $\frac{EBIT}{Interest\ charge}$

d. Debt to Total Capital Ratio

It is computed by dividing debt by total capital

i.e. $\frac{Debt}{Total\ capital}$

Total capital refers to the sum of interest bearing debt and net shareholders equity. High ratio indicate greater claim of creditors low ratio is the indication of claim of outsiders.

3.4.1.3 Turnover Ratio

Turnover ratio measure the performance efficiency of an organization that whether it is using it resources properly or not. To carry out operation a firm needs to invest in bank short term and long term activity ratio describe the relationship between the firm level of operation and the assets to sustain the activity turnover ratio can be used to forecast a firm capital requirement . The turnover ratio analyzed in the study.

a. Loan and Advance to Total Deposit Ratio

It is calculated by dividing loan and advance by total deposit i.e. $\frac{Loan\ and\ advance}{Total\ deposit}$

This ratio indicates the proportion of total deposits invested the greater use of deposit for investing in loans and advance but very high ratio shows poor liquidity position and risk in loan on the contrary, too low ratio may be cause of idle cash or use of fund in losses productive sector.

b. Loan and Advance to Fixed Deposit Ratio

It is calculated by dividing loan and advance by fixed deposit

i.e. $\frac{Loan\ and\ advance}{Fixed\ deposit}$

The ratio indicated what proportion of fixed deposits has been used for loans and advances. Since fixed deposit carry high ratio of interest funds so collected need to be invested is such sectors which yield at least sufficient return to meet the obligation. High ratio means utilization of fixed deposit in form of loans.

c. Loan and Advance to Saving Deposit Ratio

It is calculated by dividing loan and advance by saving deposit.

The ratio measure what extent of saving deposit has been turned over or loans and advance. High ratio indicates greater utilization of saving deposit in advancing loans.

d. Investment to Total Deposit Ratio

It is calculated by dividing investment by total deposit.

The ratio shows how efficiently the major resources of the bank have mobilized. High ratio indicated managerial efficiency regarding the utilization of deposits .low ratio is the result of less efficiency in use of funds

3.4.1.4 Profitability Ratio

Profitability ratio measures the efficiency of a business enterprise. The profit measure the management ability regarding how well they have utilized their funds to generate surplus for this following ratio has been analyzed.

a. Return on total assets ratio

It is computed by dividing net profit after tax by total assets

$$\text{i.e. } \frac{Net\ \ profit\ \ after\ \ tax}{Total\ \ assets}$$

It measures the sufficiency of bank in utilization of overall assets. High ratio indicates the success of management in overall operation. Lower ratio means insufficient operation of the bank.

b. Return on Net Worth Ratio

It is computed by dividing net profit by net worth.

$$\text{i.e. } \frac{Net\ \ profit}{Net\ \ worth}$$

The ratio is tested to see the profitability o the owner's investment. It reflects the extent to which the objective of business is accomplished.

c. Return in Total Deposit Ratio

It is computed by dividing net profit after tax by total deposit

$$\text{i.e. } \frac{NPAT}{Total\ \ deposit}$$

The ratio shows the relation of net profit earned by the bank with the total deposit accumulated. Higher ratio is the index of strong profitability position.

d. Interest Earned to Total Assets Ratio

It is calculated by dividing interest income by total assets of the bank

i.e. $\frac{Interest\ earned}{Total\ assets}$

The ratio shows the percentage of interest income as compared to the assets of the bank. High ratio indicted the proper utilization of bank's assets for income generation purpose. Low ratio represents unsatisfactory performance.

e. Total Interest Expenses on Total Income

It is computed by dividing total interest by total interest income

i.e. $\frac{Total\ \text{int}\,erest}{Total\ \text{int}\,erest\ income}$

This ratio measures the percentage of total interest expenses against total interest income.

f. Staff Expenses to Total Income Ratio

It is computed by dividing the staff expenses by total income.

i.e. $\frac{Staff\ \exp enses}{Total\ income}$

The ratio measures the proportions of income spend for the staff, whose contribution is of significance in the success of the bank. High ratio indicates that the major portions of income used for staff. From the firm's point of view low ratio is advantages. But the staff prefer high ratio, as it is the result of higher level of facilitated and benefits provided to them.

g. Office Operation Expenses to Total Income Ratio

It is computed by dividing office expenses by total income i.e. $\frac{Office\ \exp enses}{Total\ \ income}$

It shows the percentage of income spent for the operating activity of the bank. High ratio shows the large amount of income is spent for the operation activity of the bank. Lower ratio is favorable to the bank, as it is reflection o operational efficiency.

3.4.2 Statistical Tools

3.4.2.1 Arithmetic Mean

Arithmetic mean of a given observation is their sum divided by the number of observations. In general X1, X2, X3…..Xn are the given observations then their arithmetic mean, usually denoted by X.

Symbolically,

Arithmetic mean, $\bar{x} = \frac{x1+x2+x3+\cdots+xn}{n}$

$$\bar{x} = \frac{\sum x}{n}$$

Where, $\bar{x}$ = arithmetic mean

x1, x2, x3,………………, xn = values of the variable

∑x = sum of the values of the variables x

n = number of observation

3.4.2.2 Coefficient of Variation

The coefficient of variation is the relative measure of dispersion, comparable across distribution. This I defined s the ratio of the standard deviation to the mean expressed in percent.

CV = $\frac{\pm}{\overline{\overline{X}}} | 100\%$

Where, σ = standard deviation

$\bar{x}$ = arithmetic mean

3.4.2.3 Correlation Coefficient

The Coefficient of correlation measures the degree of relationship between the two casually related variables. Karl person's coefficient of correlation between two variables X and Y is usually devoted by 'r' which is the numerical measure of linear association between the variables.

Where,

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{\left[n\sum x^2 - \left(\sum x\right)^2\right]\left[n\sum y^2 - \left(\sum y\right)^2\right]}}$$

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

Where, r = correlation coefficient

N= No. of pairs of observation.

If r > 6 P.E, then the correlation coefficient is significant and reliable.

If r < P.E, then the correlation coefficient is insignificant and there is no evidence of correlation.

3.4.2.4 Trend Analysis

Trend analysis informs about the expected future values of various variables. The Least square method has been adopted to measure the trend behaviors of these selected Banks. This method is widely used in practices. The formula of least square method for the straight line is represented by the following formula.

$Y_c = a + bX$

Where,

Y_c = Trend Values

a = Y intercept or the computed trend figure of the Y variable, when X = 0

b = Slope of the trend line of the amount of change in Y variable that is associated with change in 1 unit in X variable.

X = Variable that represent time i.e. time variable

The value of the constants a and b can be determined by solving the following two normal equations.

$Y\ X Na\, \Gamma b\quad X$ ……………...(i)

$XY\ Xa\quad X\, \Gamma b\quad X$…………(ii)

Where, N = number of years

But for simplification, if the time variable is measured as a deviation form its mean i.e. mid-point is taken as the origin, the negative value in the first half of the series balance out the positive values in the second half so that (X = 0).

The values of constant a and b can easily be determined by using following formula.

$$a = \frac{Y}{N}$$

$$b = \frac{XY}{X^2}$$

3.4.2.5 Test of Statistics

t-test has been considered in this study to test the significant difference,. Two hypothesis i.e. null and alternative hypothesis is setted to find out the significant difference. Where null hypothesis shows two variables are not correlated and alternative hypothesis shows two variables are correlated. t-calculated value is calculated using this formula:

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

Where, r = Correlation coefficient

R^2 = Coefficient of determination

n = Number of pair of observation

3.4.2.6 Graphical Representation

Diagrams and graphs are visual aids that give a bird eye view of a given set of numerical data. They represent the data in simple and readily comprehensive form. Hence various bar diagrams, pie charts and graph have been used for presentation and analysis of data.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

In this chapter, data collected from secondary sources has been presented and analyzed by using financial and statistical tools. The available data has been tabulated, analyzed and interpreted so that financial forecast of banks can be done easily. To evaluate the financial performance of selected bank, ratio analysis, correlation analysis and trend analysis are used in this study.

4.1 Financial Ratio Analysis

4.1.1 Liquidity Ratios

Liquidity ratio is a pre-requisite for every survival of a firm. A proper balance between the two contradictory requirements i.e. liquidity ratio measures the ability of a firm to meet its short term obligation and reflects the short term financial strength or solvency of a firm. According to the nature of the firm, various ratios may be calculated their liquidity position. Below here have been calculated some liquidity ratios which have been thought to be important to indicate the liquidity position of a bank and have been used to analyze the financial position of Machhapuchhre Bank Limited.

4.1.1.1 Current Ratio

The current ratio is measure of the firm's short-term solvency. It indicates the availability of current assets in rupees for each one rupee of current liabilities. A ratio of greater than one means that the firm has more current assets than current liabilities. Current ratio measures the relationship between current assets and current liabilities.

Table No. 4.1

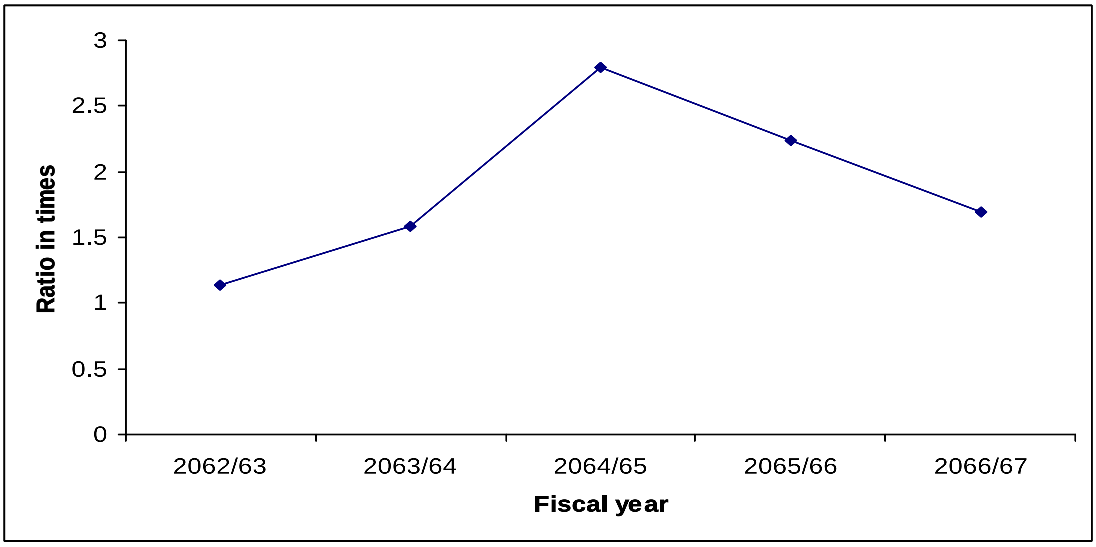
Current Ratio

Rs. in lakh

Fiscal year	Current assets	Current liabilities	Ratio (times)
2062/63	45209.35	39597.03	1.14
2063/64	81374.44	51064.4	1.59
2064/65	92290.89	32903.41	2.80
2065/66	127520.88	57007.7	2.24
2066/67	178931.24	106181.61	1.69
Mean			1.89
S.D.			0.64
C.V.			33.91%
r			0.87

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.1: Current Ratio



From the above table and figure no. 4.1, it is seen that the ratio of current assets to current liabilities are 1.14, 1.59, 2.80, 2.24 and 1.69 in the fiscal year 2062/63 to 2066/67 respectively. It is in fluctuation trend every year. Its mean deviation is 1.89, standard deviation is 0.65 and coefficient of variation is 33.91%.

The ratio of the bank are in fluctuation trend. The current ratio of the bank is not satisfactory because it is below the standard level of 2:1.

According to the trend in ratio of commercial bank, the ratio below the normal standard may seen unsatisfactory, but it denotes that the bank has adequate liquidity in the fiscal year 2064/65 and 2065/66. But in other fiscal year of has below has the standard level of liquidity i.e. 2:1. Coefficient of variation measures the risk. Bank having low C.V. is preferable than high C.V. From the overall point of view i.e. higher the CV, higher standard deviation and lower current assert ratio, it is unsatisfactory to Machhapuchhre Bank Limited.

Correlation between current assets and current liabilities is 0.87, which shows the high correlation between current assets and current liabilities. This shows the high consistency of CA and CL.

4.1.1.2 Cash and Bank Balance to Total Deposit Ratio

This ratio indicates the ability of banks immediately funded to cover their current margin calls, saving, fixed, call deposit and other deposits and vice versa. This ratio is calculated by dividing cash and bank balance by total deposits. The following table shows the cash and bank balance to deposits ratio.

This ratio indicates the ability of banks immediately funds to cover their current margin call, saving, fixed, call deposit and other deposits.

Table No. 4.2

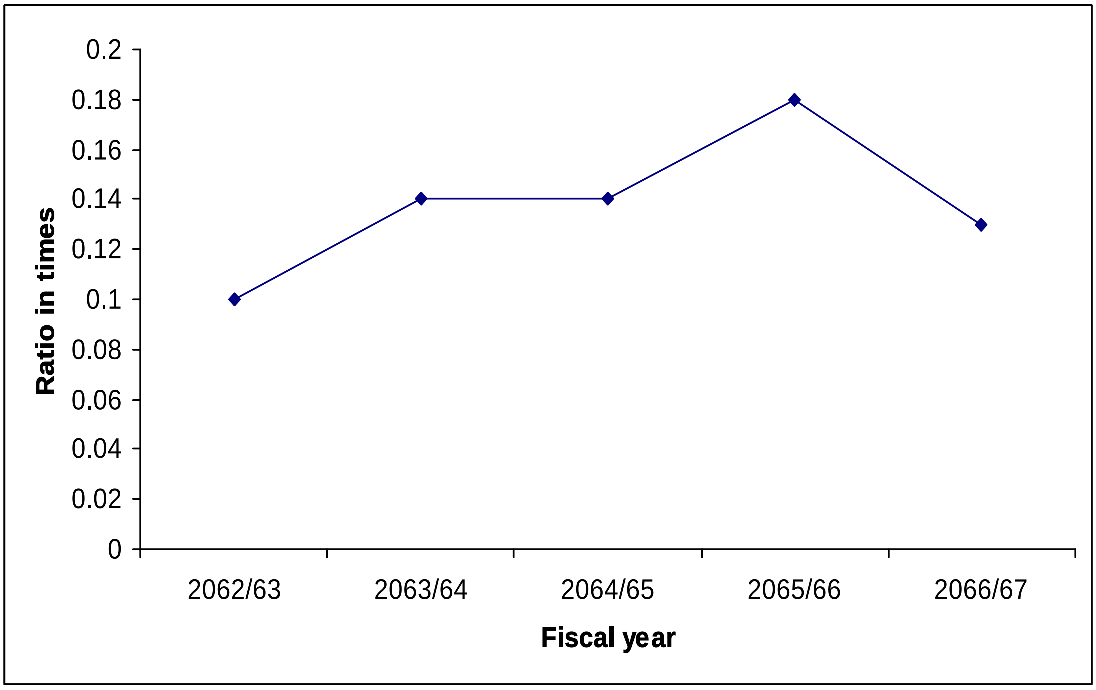
Cash and Bank Balance to Total Deposit Ratio

Rs. in lakh

Fiscal year	Cash and bank balance	Total deposit	Ratio (times)
2062/63	8139.24	78932.98	0.10
2063/64	12840.8	94754.52	0.14
2064/65	15885.64	111022.42	0.14
2065/66	27666.49	155967.91	0.18
2066/67	24597.17	185359.17	0.13
Mean			0.14
S.D.			0.03
C.V.			19.22%
r			0.93

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.2: Cash and Bank Balance to total Deposit Ratio



The above table and figure show the ratio of cash and bank balance to total deposit. The lowest ratio in Fy 2062/63 is 0.10 and the highest is 0.17 in Fy 2065/66. The ratio is slightly exceeded than average 0.14 and 0.17 in Fy 2064/65 and 2065/66 respectively. In the fiscal year 2062/63 and 2066/67 are near the average, and other remaining fiscal year 2062/63 in 0.10 are below the average. Thus, the ratio has inverse relationship in each other.

From the point of correlation coefficient cash bank balance to total deposit ratio is closely related which is a strong point of MBL.

4.1.1.3 Cash and Bank Balance to Current and Saving Deposit Ratio

Cash and bank balance comprise cash in hand, foreign cash in hand cheque and other cash items balance held in foreign banks. Current and saving deposit consist all types of deposits excluding fixed deposits.

Table No. 4.3

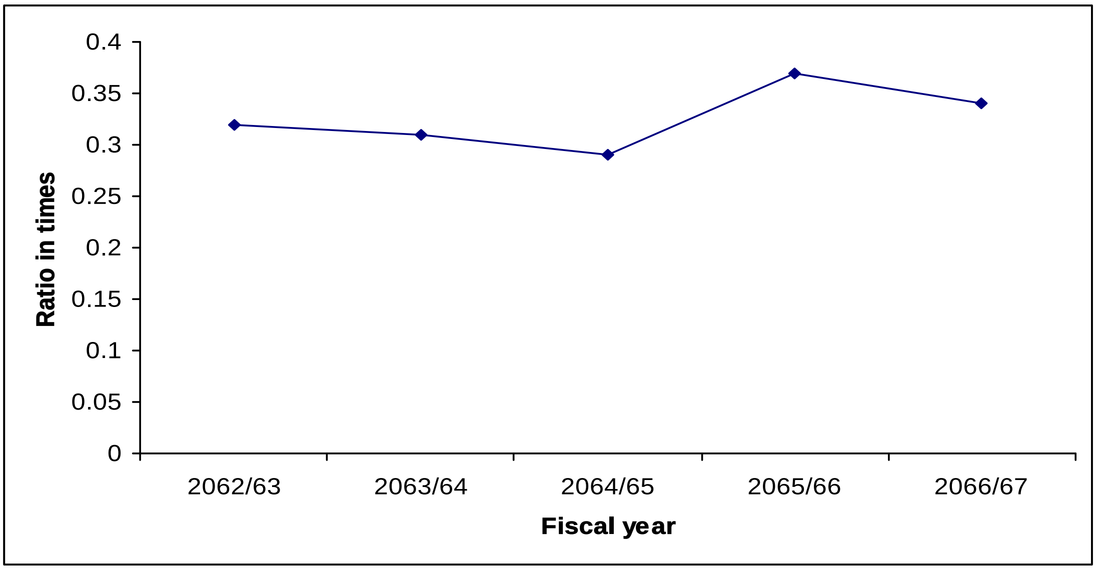
Cash and Bank Balance to Current and Saving Deposit Ratio

Rs. in lakh

Fiscal year	Cash and bank balance	Current and saving deposits	Ratio (times)
2062/63	8139.24	25822.01	0.32
2063/64	12840.8	42035.08	0.31
2064/65	15885.64	54318.28	0.29
2065/66	27666.79	73946.26	0.37
2066/67	24597.17	72272.07	0.34
Mean			0.33
S.D.			0.03
C.V.			9.94%
r			0.98

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.3: Cash and Bank Balance to Current and Saving Deposit Ratio



The above table and figure reveal the cash and bank balance to current deposit ratio. The highest ratio is 0.37 in Fy 2065/66 and lowest ratio is 0.29 in Fy 2064/65. The ratio, below the average are 0.31, 0.30, 0.29, in Fy 2062/63 to

2064/65 respectively and higher the average ratio are 0.37 and 0.34 in Fy 2065/66 and 2066/67 respectively.

The standard deviation is 0.03, which shows a very low deviation between the ratio of cash and bank balance to current and saving deposit ratio. Coefficient of variation i.e. 9.93% shows the less riskiness of the bank in maintaining cash and bank balance and current and saving deposit.

Correlation coefficient between cash and bank balance to current and saving deposit is 0.98, which shows the high consistency between cash and bank balance to current and saving deposit. Which shows the bank is able to maintain cash and bank balance to saving deposit ratio.

4.1.1.5 Fixed Deposit to Total Deposit Ratio

The ratio shows that percentage of total deposit has been collected in form of fixed deposit. High ratio indicates better opportunity available to the bank to invest in sufficient profit generating long-term loans. Low ratio means the bank should invest the fund of low cost in short term loans.

Table No. 4.4

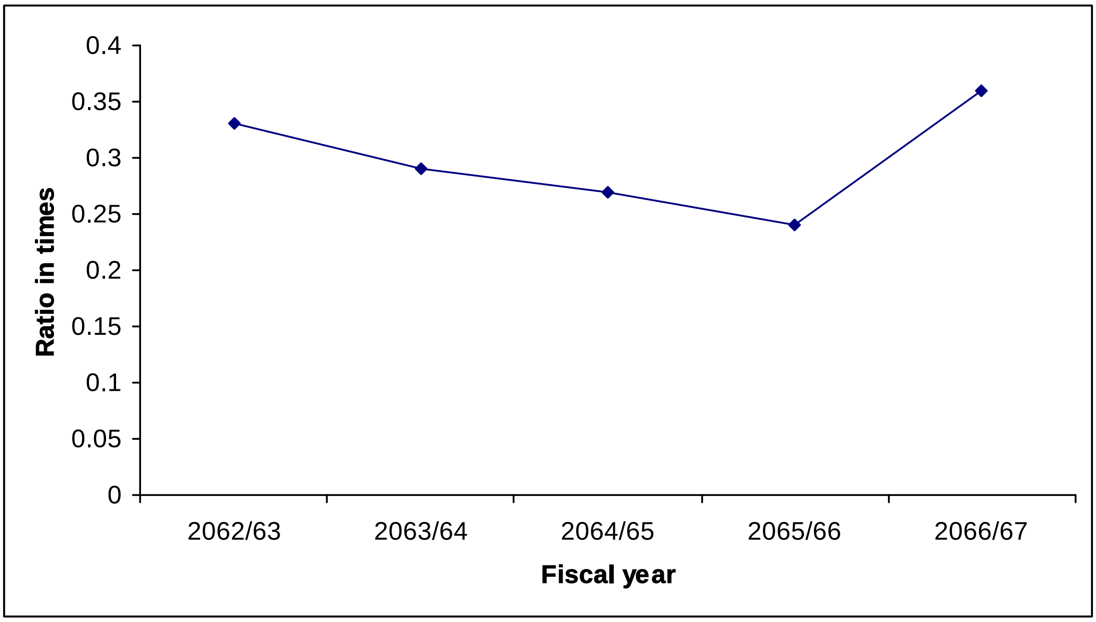
Fixed Deposit to Total Deposit Ratio

Rs. in lakh

Fiscal year	Fixed deposit	Total deposit	Ratio (times)
2062/63	26048.98	78932.98	0.33
2063/64	27333.6	94754.52	0.29
2064/65	29611.41	111022.42	0.27
2065/66	36818.3	155967.91	0.24
2066/67	67541.51	185359.17	0.36
Mean			0.30
S.D.			0.05
C.V.			17.11%
r			0.89

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.4: Fixed Deposit to Total Deposit Ratio



The table and figure no. 4.4 shows fixed deposit to total deposit ratio of Machhapuchhre Bank Limited. The ratio of MBL exceed mean is 0.33 and 0.36 in Fy 2062/63 and 2066/67. In remaining years it is lower than mean ratio i.e. 0.29, 0.27 and 0.24 in the year 2063/64, 2064/65 and 2065/66 respectively.

Higher the fixed deposit ratio indicates better opportunity available to the bank to invest in sufficient profit generation long-term investment.

However the ratio is in fluctuation trend but the standard deviation is not so greater. This is the positive sign for the bank. On the other hand, C.V. is only 17.11% which shows a little bit risky position between fixed deposit to total deposit ratio. Correlation coefficient i.e. 0.89, highly correlated, shows the better combination of fixed deposit to total deposit ratio.

4.1.2 Leverage Ratio

Financial leverage or capital structure ratio are calculated to judged the long – term financial position of the firm. These ratios indicate mix of funds provided by owners and lenders. Generally, there should be an appropriate mix of debt and owners equity in financing the firm's assets. Administration of capital can smoothly by carried with the help of such ratios.

The leverage ratio are calculated to measure the financial risk and firm ability of using debt for the benefit of shareholders.

4.1.2.1 Debt to Equity Ratio

Debt–equity ratio examines the relative claims of creditors and owners against the bank's assets. Alternatively, total debt to equity ratio indicates the contribution of debt capital and equity capital fund to the total investment.

It shows the relationship between debt and equity. It shows the equity capacity towards the debt. Generally very high debt to equity ratio is unfavourable to the business because the debt gives third parties legal claims on the company, there claims are for interest payment at regular intervals, plus repayment of the principle by the agreed time. On the other hand low debt also favourable from the share holder point of view.

Table No. 4.5

Debt to Equity Ratio

Rs. in lakh

Fiscal year	Total debt	Shareholder's equity	Ratio (times)
2062/63	81387.39	9310.91	8.74
2063/64	98073.52	10002.65	9.80
2064/65	113352.01	11633.47	9.74
2065/66	157905.84	15013.62	10.52
2066/67	189052.8	17735.5	10.66
Mean			9.89
S.D.			0.76
C.V.			7.72%
r			1.0

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.5: Debt to Equity Ratio

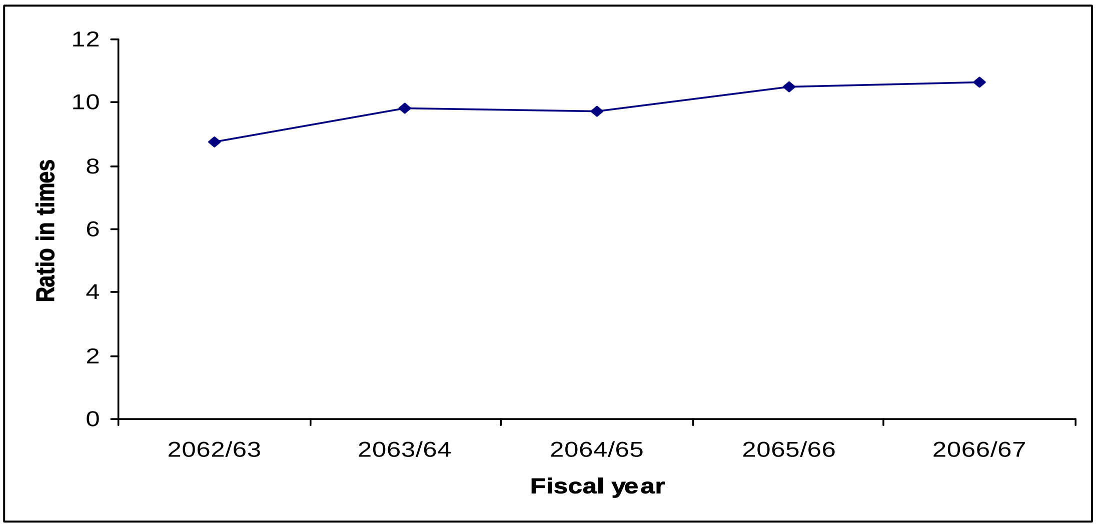


Table and figure no. 4.5 shows that debt equity ratio is increasing trend except fiscal year 2064/65. Its ratio is 8.74%, 9.80%, 9.74%, 10.51% and 10.65% in the year 2062/63 to 2066/67 respectively. In Fy 2066/67 is debt to equity ratio is high i.e. 2062/63 its debt to equity ratio is low i.e. 8.74%.

From the point of S.D. and C.V., bank has satisfactorily debt equity ratio. This shows the bank is able to maintain debt equity ratio.

Correlation coefficient between debt to shareholder's equity is perfectly positive. Form above figure we can conclude that MBL is able to maintain total debt to shareholder's equity ratio.

4.1.2.2 Total Debt to Total Assets Ratio

Debt to Assets Ratio reflects the financial contribution of outsides and owners on total assets of the firm. It also measures the financial security to the outsiders. Generally creditors prefer a low debt ratio and owners prefer high debt ratio in order to magnify their earning on the one hand and to maintain their concentrated control over the firm on the other.

The ratio shows the contribution in financing the assets of the bank. High ratio indicates that the greater portion of the bank's assets have been financing through the outsiders fund. The ratio should not be too high or too low. The ratio shows the contribution of creditors in financing the assets of the bank lower ratio indicates that the greater portion of the banks assets been financed through the equity fund. The ratio should not be too high nor too low.

Table No. 4.6

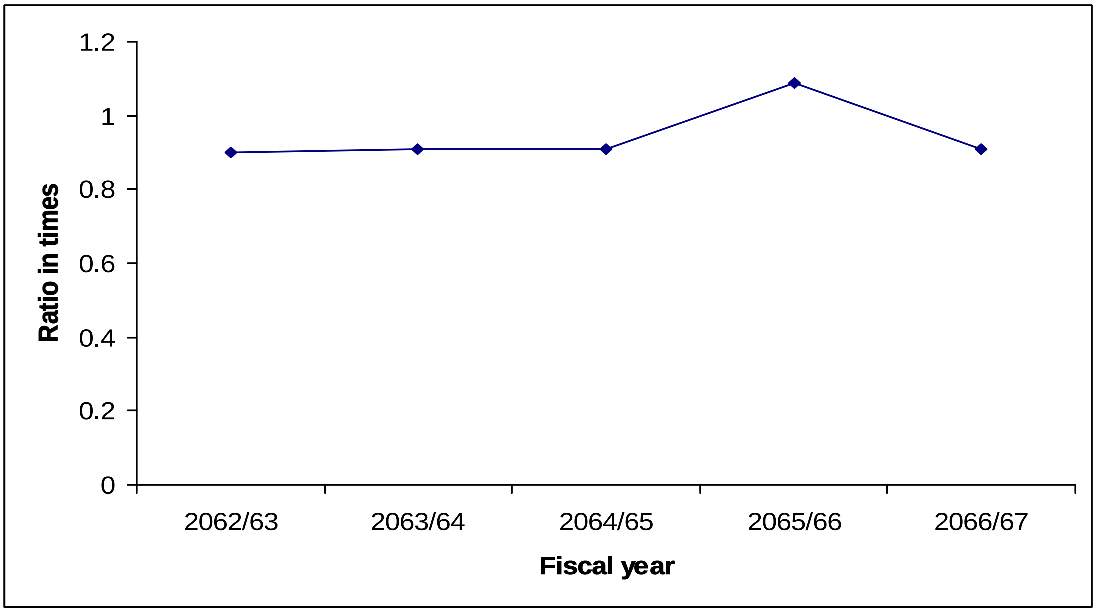
Total Debt to Total Assets Ratio

Rs. in lakh

Fiscal year	Total debt	Total assets	Ratio (times)
2062/63	81387.39	90698.31	0.90
2063/64	98073.52	108076.17	0.91
2064/65	113352.01	124985.48	0.91
2065/66	157905.84	144907.82	1.09
2066/67	189052.8	206787.91	0.91
Mean			0.94
S.D.			0.08
C.V.			8.71%
r			0.97

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No.4.6: Total Debt to Total Assets Ratio



Above table shows that banks debt to assets ratio is satisfactory, but fiscal year 2065/66 are total asset is less than total debt, other then debt portion is low than assets so it has big possibilities to invest for other big productive sectors.

Total debt to total assets ratio is slightly changed in every fiscal year. It is stable in 0.90 to 0.91 in fiscal year 2062/63 to 2064/65. In fiscal year 2065/66 it is increased to 1.09 and in Fy 2066/67 it again decreased to 0.91 times. From the viewpoint of standard deviation and C.V. i.e. 0.08 and 8.71%, coefficient of correlation i.e. 0.97 also shows there is highly correlation between total debt to total assets ratio. So, we can easily say that the bank is able to maintain its total debt to total assets ratio..

4.1.2.3 Interest Coverage Ratio

The ratio is also known as time interest earned ratio is used to test the debt. It shows the numbers to times the interest charge are covered by funds that are ordinarily available for the payment. It indicates the event to which the earning may fall without causing any embarrassment to the regarding the payment to interest.

Table No. 4.7

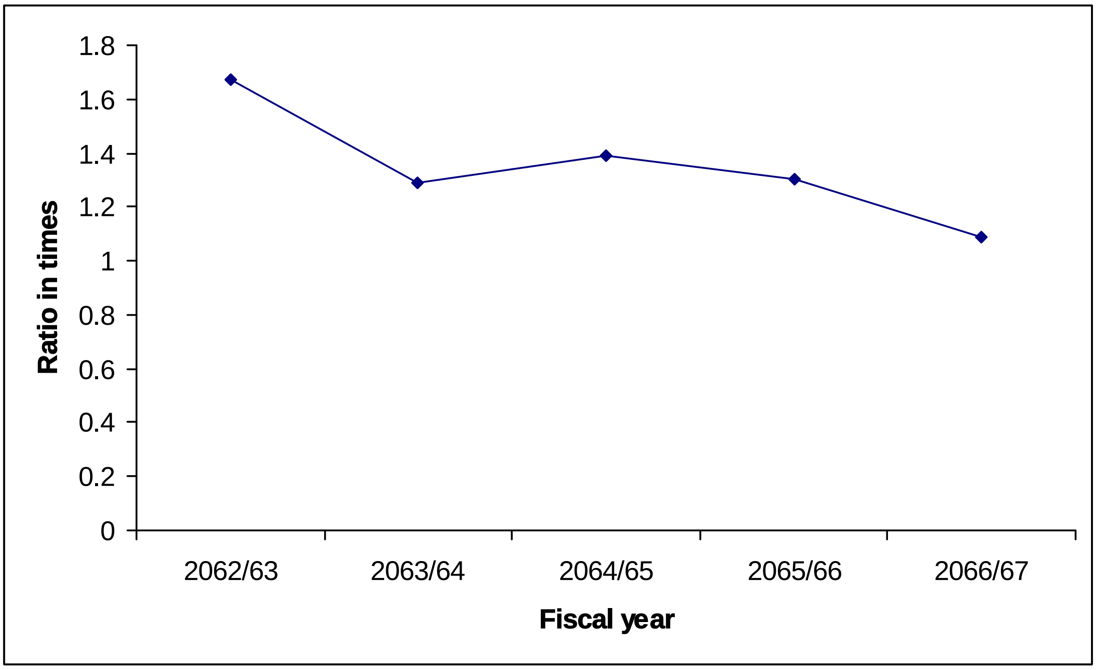
Interest Coverage Ratio

Rs. in lakh

Fiscal year	EBIT	Interest charge	(Ratio (times)
2062/63	4809.52	2886.62	1.67
2063/64	5117.48	3977.22	1.29
2064/65	5671.41	4079.19	1.39
2065/66	7563.04	5800.36	1.30
2066/67	12486.14	11448.08	1.09
Mean			1.35
S.D.			0.21
C.V.			15.52%
r			1.00

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.7: Interest Coverage Ratio



Above table and figure 4.7 show EBIT to interest charge ratio of banks. During the Fy 2063/64 to 2064/65 the ratio has increased. The ratio of MBL has fluctuating trend during the study period. The highest ratio has been observed by 2062/63 which it is 1.67 times and lowest ratio has been observed Fy 2066/67 which it is 1.09 times. The mean ratio of MBL is 1.35 times.

Standard deviation 0.21, C.V. 15.52% and r 1.0 shows the bank has consistency in interest coverage ratio. The higher mean ratio of MBL measure the higher percentage of net worth in relation to the total deposit collected in the bank.

4.1.2.4 Total Debt to Total Capital Ratio

Total capital refers to the sum of interest bearing debt and net shareholder equity. it shows the proportion to debt in total capital employed by the bank. High ratio indicates greater claim of the creditors. Low ratio is indication of lesser claim of outsider. For the sound solvency position the ratio should not be too high nor too low.

Table No. 4.8

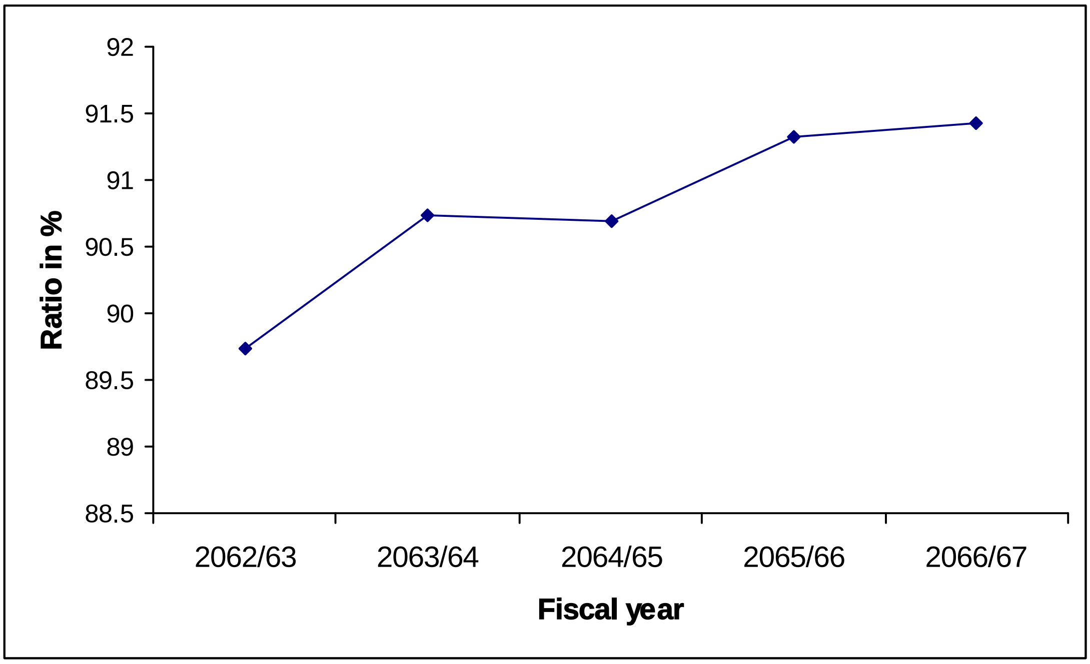
Total Debt to Total Capital Ratio

Rs. in lakh

Fiscal year	Total debt	Capital	Ratio (%)
2062/63	81387.39	90698.30	89.73
2063/64	98073.52	108076.17	90.74
2064/65	113352.01	124985.48	90.69
2065/66	157905.84	172919.46	91.32
2066/67	189052.8	206788.30	91.42
Mean			90.78
S.D.			0.67
C.V.			0.01%
r			0.999

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.8: Total Debt to Total Capital Ratio



Above table and figure 4.8 show debt to total capital ratio of Machhapuchhre Bank Limited. The ratio has fluctuated on increasing trend during the year. During the Fy 2066/67 the ratio has increased.

Debt to total capital ratio of MBL is in slightly fluctuation on increasing trend during the study period. The highest ratio has been observed Fy 2066/67 which it is 91.42% and lowest ratio has been observed Fy 2062/63 which is 89.73 %. The least C.V. and S.D. i.e. 0.01% and 0.67 shows the higher consistency between total debt and capital of MBL.

The higher mean ratio of MBL indicates the higher claim of creditors that means higher capital employed by the bank and greater proportion of debt in total capital.

Correlation coefficient i.e. r = 0.999 shows the total debt to total capital ratio is perfectly correlated. This shows the bank has been able to maintain debt to capital ratio because higher debt capital ratio shows the higher creditor’s claim in bank.

4.1.4 Turnover/Activity Ratios

This ratio refers how efficiently the organization is managing its resources. Thus, this ratio measures the degree of effectiveness in use of resources or funds by a firm. It is also known as turnover or efficiently ratio or assets management ratio. Turnover or conversion indicates more efficiency of a firm in managing and utilizing its assets.

Activity ratios are intended to measure the effectiveness to employment of resources in a business concern. Through this ratio, it is known whether the funds have been used effectively in the business activities or not. The common activity ratios that are determined under this are as follows.

4.1.4.1 Loan and Advance to Total Deposit Ratio

The ratio indicates what proportion of total deposit has been used for loan and advance. Since fixed deposit carry high ratio of interest funds so collected need to be invested in such sectors which yield at least sufficient return to meet the obligation.

Table No. 4.9

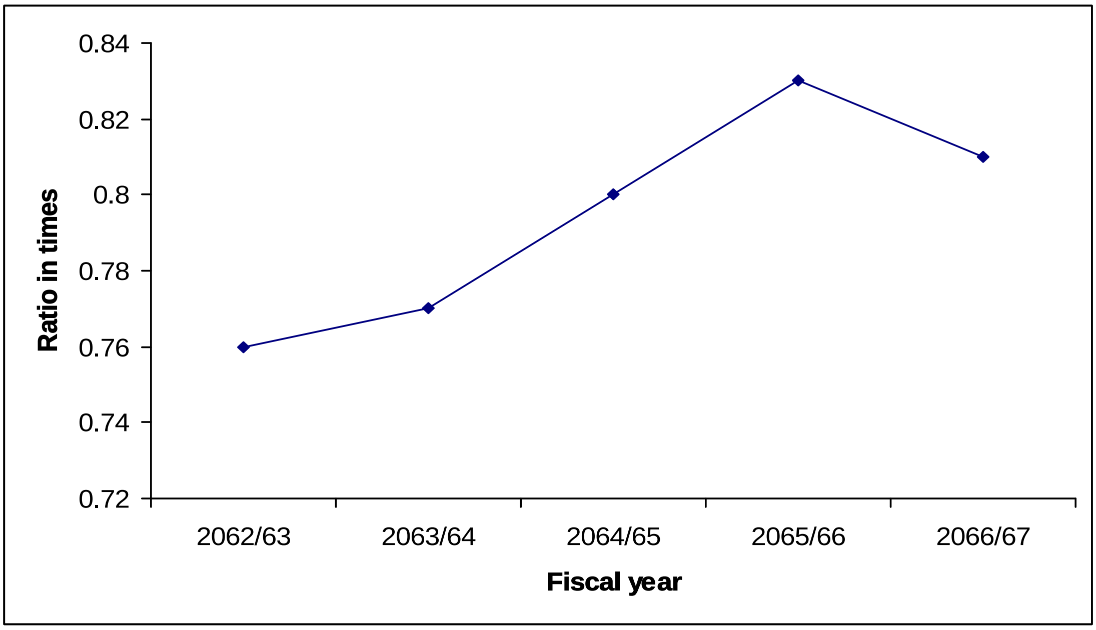
Loan and Advances to Total Deposit Ratio

Rs. in lakh

Fiscal year	Total loan and advances	Total deposit	Ratio (times)
2062/63	60333.65	78932.98	0.76
2063/64	72750.24	94754.52	0.77
2064/65	88749.14	111022.42	0.80
2065/66	129570.99	155967.91	0.83
2066/67	149347.18	185359.17	0.81
Mean			0.79
S.D.			0.03
C.V.			3.50%
r			1.00

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.9: Loan and Advances to Total Deposit Ratio



Above table and figure 4.9 show loan and advance to total deposit ratio of MBL. The ratio of MBL is in increasing trend except Fy 2066/67. The highest ratio for the period has been observed in the Fy 2065/66 which is 0.83 and lowest ratio in the Fy 2062/63 which is 0.76.

The mean ratio of loan and advance to total deposit ratio of MBL reveals that the bank has highly used deposit for investing in loan and advance. The mean ratio of loan and advance to total deposit ratio of MBL reveals that the bank has greater use of deposit for investing in loan and advance.

Above description helps to conclude that the MBL is more successful to mobilize the total deposit on loan and advance.

Lower S.D. i.e. 0.03, lower C.V. i.e. 3.50% and perfect correlation i.e. 1.0 shows the higher consistency between total loan and advance to total deposit ratio.

4.1.4.2 Loan and Advance to Saving Deposit Ratio

The ratio indicates what proportion of fixed deposit has been used for loans and advance. Since fixed deposit carry high ratio of interest funds so collected fund needs to be invested in such sectors which yield at least sufficient return to meet the obligation.

Table No. 4.10

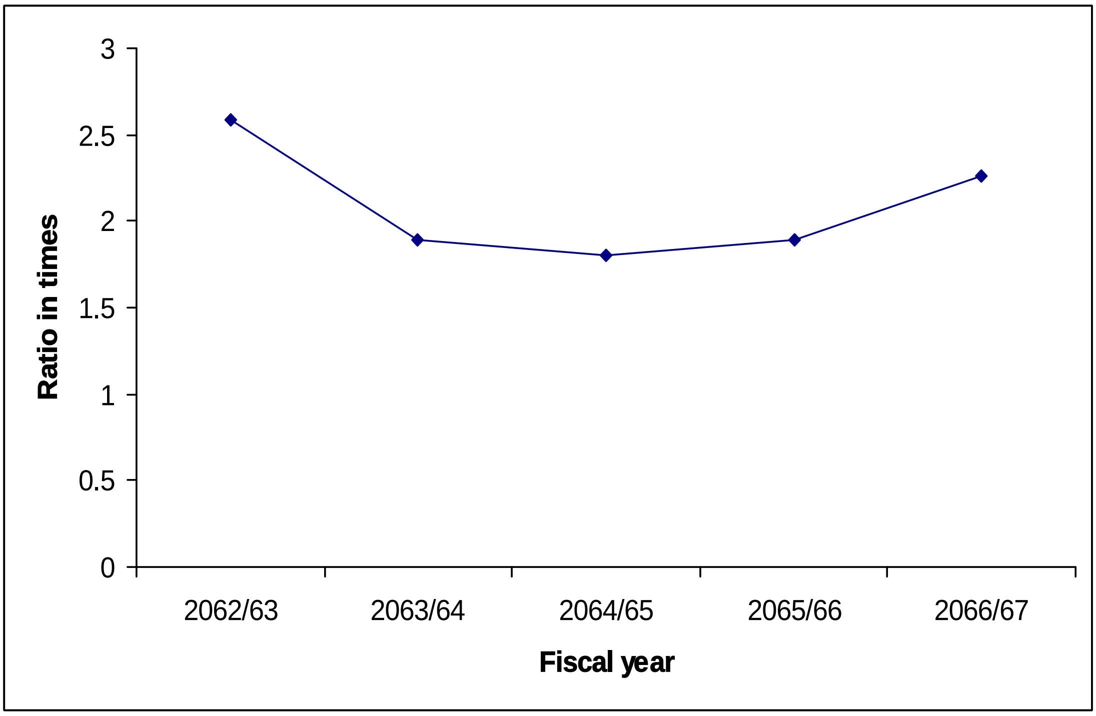
Loan and Advance to Saving Deposit Ratio

Rs. in lakh

Fiscal year	Total loan and advances	Saving deposit	Ratio (times)
2062/63	60333.65	23333.67	2.59
2063/64	72750.24	38568.15	1.89
2064/65	88749.14	49343.59	1.80
2065/66	129570.99	68450.79	1.89
2066/67	149347.18	66018.15	2.26
Mean			2.09
S.D.			0.33
C.V.			15.92%
r			0.94

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.10: Loan and Advance to Saving Deposit Ratio



The table and figure no. 4.10 shows loan and advance to saving deposit ratio of MBL. The ratio of loan and advance to saving deposit is 2.58 in 2062/63, it decreases to 1.89, 1.80 in the year 2063/64 and 2064/65, then it is increased to 1.89 and 2.26 for next two years 2065/66 and 2066/67. Its mean ratio is 2.08, standard deviation is 0.33, coefficient of variation is 15.91% and r is 0.94, which shows slightly fluctuation in loan and advance to saving deposit ratio.

4.1.4.3 Loan and Advance to Fixed Deposit Ratio

The ratio indicates what proportion of fixed deposit has been used for loan and advance. Since fixed deposit carry high ratio of interest funds so collected need to be invested in such sectors which yield at least sufficient return to meet the obligation.

Table No. 4.11

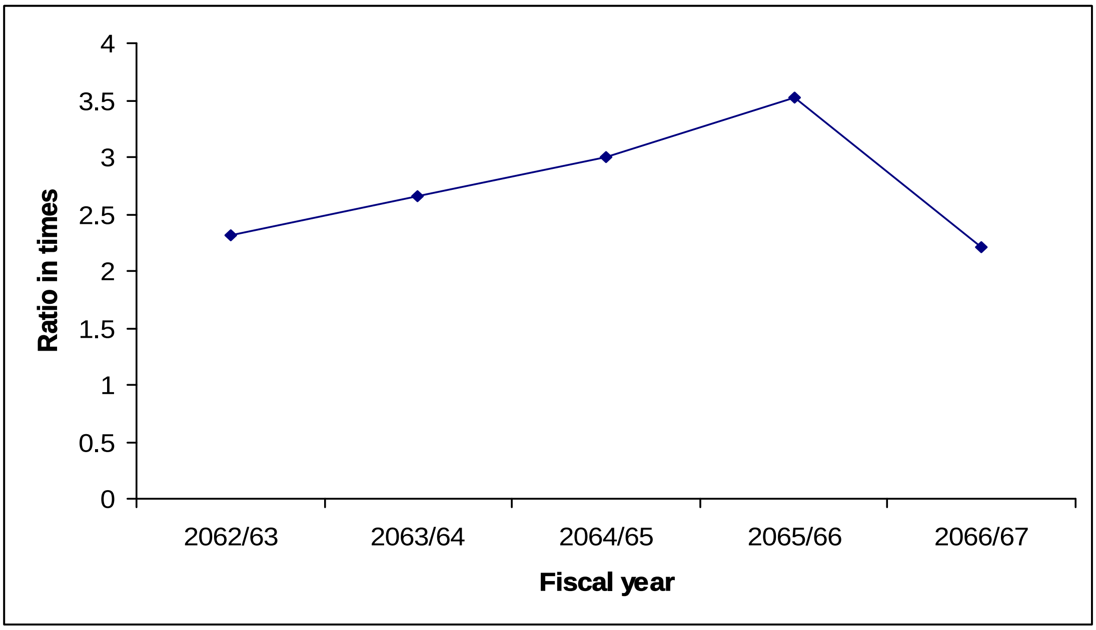
Loan and Advance to Fixed Deposit Ratio

Rs. in lakh

Fiscal year	Total loan and advances	Fixed deposit	Ratio (times)
2062/63	60333.65	26048.98	2.32
2063/64	72750.24	27333.6	2.66
2064/65	88749.14	29611.41	3.00
2065/66	129570.99	36818.3	3.52
2066/67	149347.18	67541.51	2.21
Mean			2.74
S.D.			0.53
C.V.			17.52%
r			0.87

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.11: Loan and Advance to Fixed Deposit Ratio



The ratio indicates what proportion of fixed deposit has been used for loan and advance. Since fixed deposit carry high ratio of interest funds. So collected fund needs to be invested in such sectors which yield at least sufficient return to meet the obligation.

Above table and figure shows loan and advance to fixed deposit ratio of MBL. The ratio is in fluctuating trend. It is 2.32, 2.66, 3.00, 3.52, 2.21 in the year 2062/63 to 2066/67 respectively. The mean ratio is 2.74, standard deviation is 0.53, coefficient of variation is 17.52 percent and r is 0.87.

The mean ratio of loan and advance to saving deposit ratio of MBL reveals that the bank has been not able to turnover fixed deposit into loan and advance.

4.1.4.4 Loan and Advance to Total Assets Ratio

It is measures what extent of total asset have been turnover to loan and advances.

Table No. 4.12

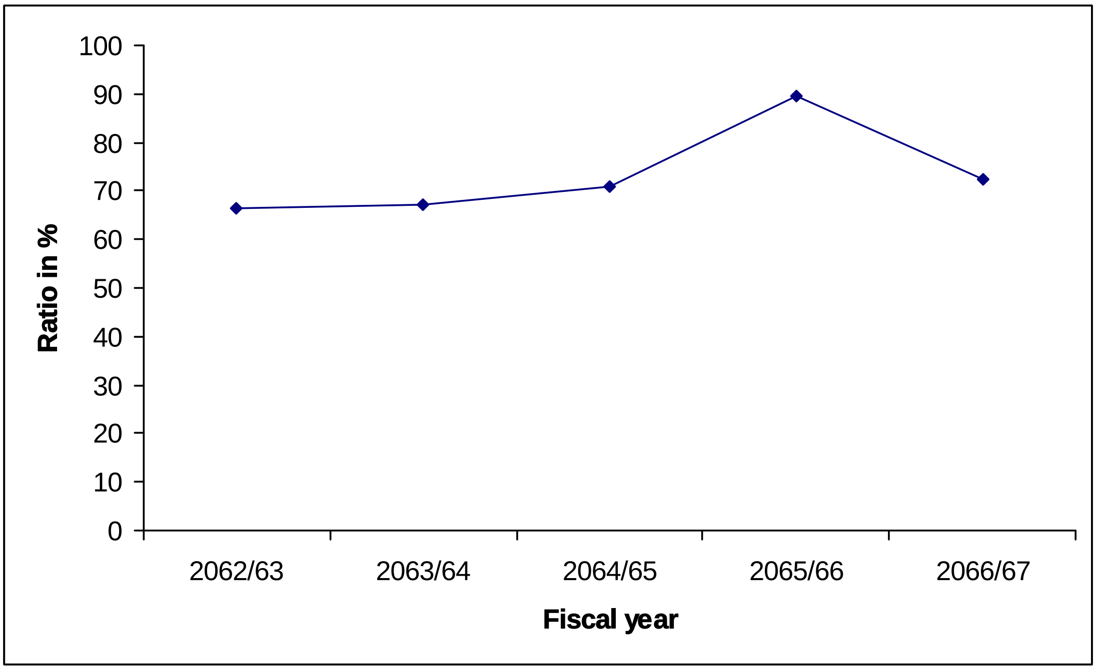
Loan and Advance to Total Assets Ratio

Rs. in lakh

Fiscal year	Total loan and advances	Total assets	Ratio (%)
2062/63	60333.65	90698.31	66.52
2063/64	72750.24	108076.17	67.31
2064/65	88749.14	124985.48	71.01
2065/66	129570.99	144907.82	89.42
2066/67	149347.18	206787.91	72.22
Mean			73.30
S.D.			9.33
C.V.			12.72
r			0.95

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.12: Loan and Advance to Total Assets Ratio



Above table and figure shows loan and advance to total deposit ratio MBL. The ratio of MBL has increasing trend upto Fy 2065/66 but it decreases 72.29 for Fy 2066/67. The highest ratio for the period has been observed in the Fy 2065/66 which it is 89.42% and lowest ratio in the Fy 2062/63 which it is 66.52%.

The mean ratio of loan and advance to total assets of MBL is 73.29%, it has 9.33% standard deviation, 12.72% coefficient of variation and correlation coefficient is 0.95. The highest mean ratio of loan and advance to total assets of MBL reveals the bank has been able to turnover total asset into loan and advance in higher extent.

4.1.4.5 Investment to Total Deposit

Investment comprises of investment its government treasury bills, development bonds, company shares and other types of investment. The ratio shows how efficiently the major resources of the bank have been mobilized.

Table No. 4.13

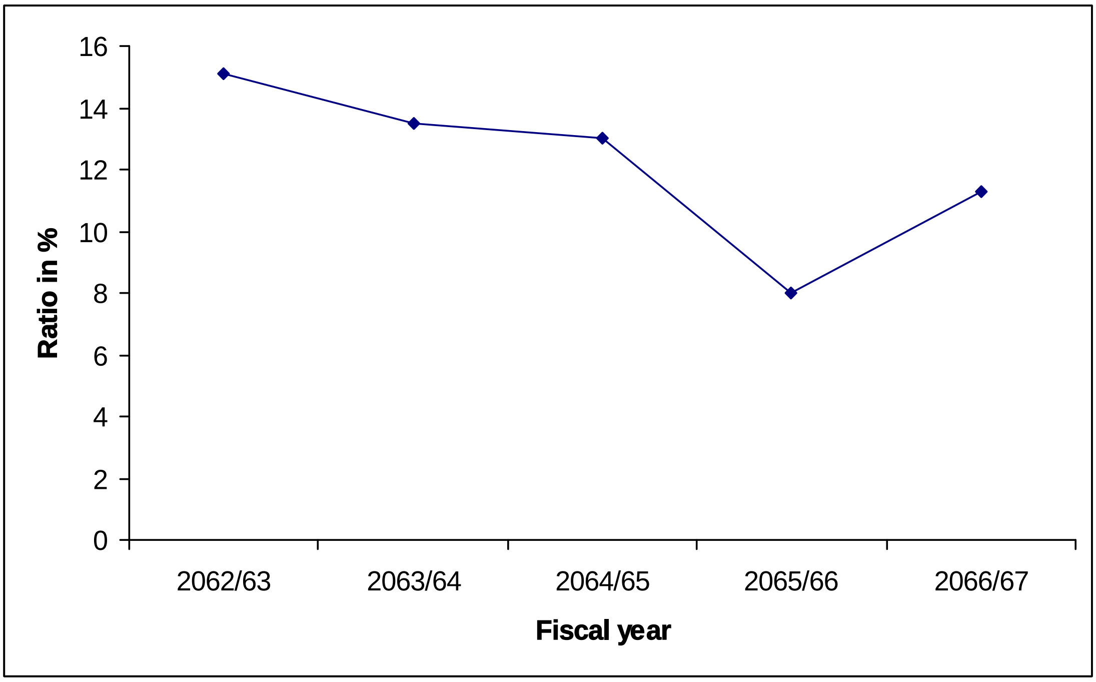
Investment to Total Deposit

Rs. in lakh

Fiscal year	Investment	Total deposit	Ratio (%)
2062/63	11908.3	78932.98	15.09
2063/64	12784.69	94754.52	13.49
2064/65	14435.51	111022.42	13.00
2065/66	12461.59	155967.91	7.99
2066/67	20967.92	185359.17	11.31
Mean			12.18
S.D.			2.70
C.V.			22.17
r			0.76

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.13: Investment to Total Deposit



Above table and figure No. 4.13 shows investment to total deposit ratio of MBL. The highest ratio of MBL in Fy 2062/63 i.e. 15.09% and lowest in 2065/66 i.e. 7.99%. During the Fy 2062/63 the ratio has 15.09% then other decreased upto Fy 2065/66 then increased Fy 2066/67. This ratio indicates management efficiency regarding the utilization of deposit.

Standard deviation 2.70, coefficient of variation 22.17% and correlation coefficient of correlation 0.76 shows the bank has been able to maintain investment to total deposit ratio to some extent.

4.1.5 Profitability Ratios

A company should earn profits to provide services and grow over a long period of time. Profit is the difference between revenues and expenses over a period of time. Profit is the ultimate output of the company, and it will have no future if it fails to make sufficient profits. Therefore, the financial manager should continuously evaluate the efficiency of the company in terms of the profits. The profitability ratios are calculated to measure the operating efficiency of company. Besides management of the company, creditors and owners are also interested in the probability of the firm. Creditors want to get interest and repayment of principal regularly only when the company earns enough profits.

However, profitability is a measure of efficiency and the search for it provides an incentive to achieve efficiency. The profitability of a firm can be measured by its profitability ratio and profitability are these ratios which indicates degree of success in achieving desired profit levels.

4.1.5.1 Return on Total Assets Ratios

Net profit refers to the profit after deduction of interest and tax. Total assets mean the asset that appear in asset right side of balance sheet. It measure the sufficiency of bank in utilization of the overall assets.

Table No. 4.14

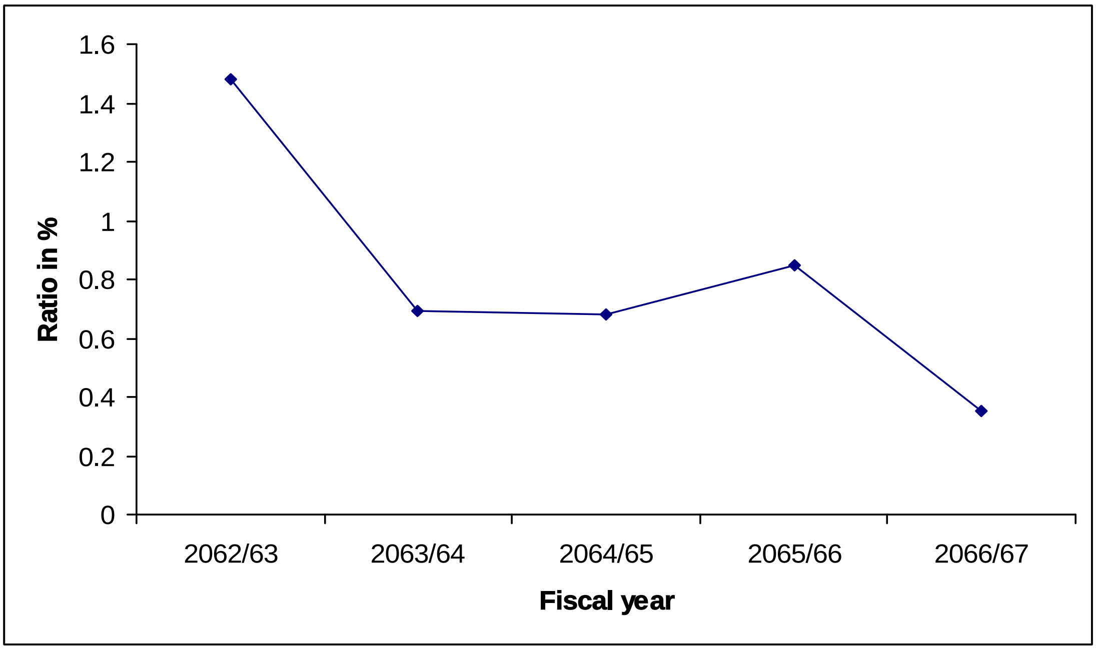
Return on Total Assets Ratios

Rs. in lakh

Fiscal year	NPAT	Total assets	Ratio (%)
2062/63	1339.97	90698.31	1.48
2063/64	740.86	108076.17	0.69
2064/65	850.16	124985.48	0.68
2065/66	1232.51	144907.82	0.85
2066/67	733.13	206787.91	0.35
Mean			0.81
S.D.			0.41
C.V.			51.18
r			-0.46

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.14: Return on Total Assets Ratios



Above table and figure show return on total deposit ratio of bank. In fiscal year 2062/63 it has 1.48% then it is decreased to 0.69%, 0.68%0.85% and 0.35% in fiscal year 2063/64, 2064/65, 2065/66 and 2066/67 respectively. Upto fiscal year 2064/64 to 2065/66 it is slightly increased and decreased. But in fiscal year 2066/67 it is highly decreased fro 0.85% to 0.35%.

From above table and figure it is found that the highest ratio is 1.48% in 2062/63 and least is 0.35% in 2066/67. The mean ratio is 0.88%, standard deviation is 0.48%, coefficient of variation is 54.51% and correlation coefficient is -0.46. Higher the standard deviation, higher C.V. and negative correlation which shows the return on total assets ratio of MBL is not consistent i.e. riskier.

4.1.5.2 Return to Total Deposit Ratios

The ratio shows the relation of net profit earned by the bank with the total deposit accumulated. Higher ratio is index of strong profitability position.

Table No. 4.15

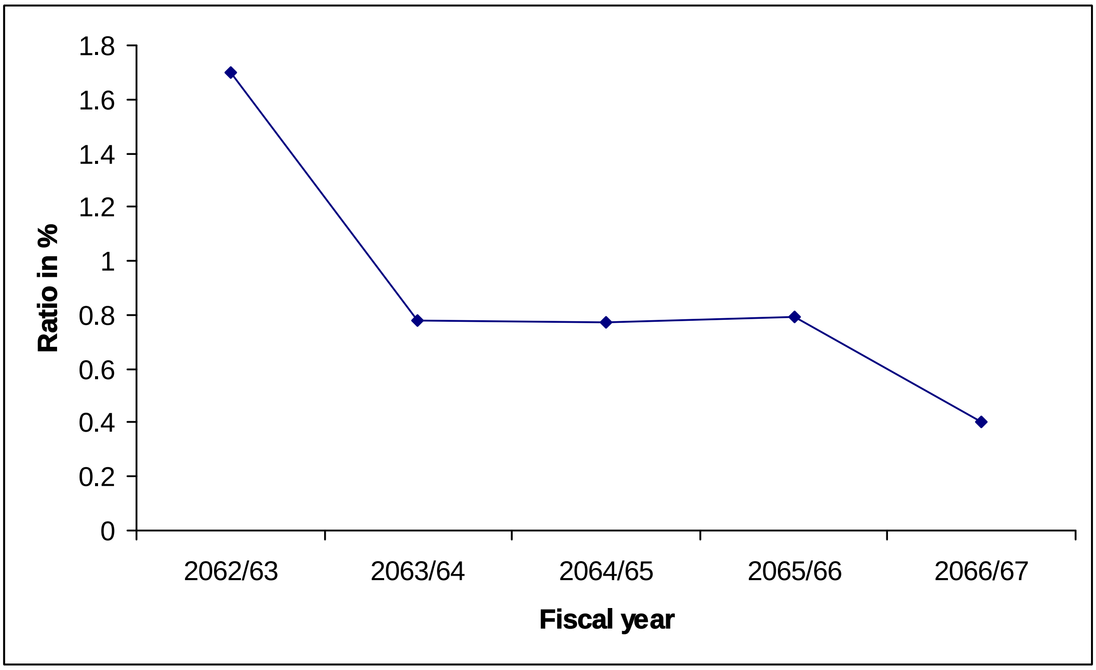
Return to Total Deposit Ratio

Rs. in lakh

Fiscal year	NPAT	Total deposit	Ratio (%)
2062/63	1339.97	78932.98	1.70
2063/64	740.86	94754.52	0.78
2064/65	850.16	111022.42	0.77
2065/66	1232.51	155967.91	0.79
2066/67	733.13	185359.17	0.40
Mean			0.89
S.D.			0.48
C.V.			54.52
r			-0.29

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.15: Return to Total Deposit Ratio



Above table and figure show return on total deposits ratio of bank. Like in return on total assets ratio, return on total deposit ratio is changing every year. The ratio of return on total deposit of MBL has decreasing trend every year except fiscal year 2065/66. The highest return to total deposit ratio is 1.70% in Fy 2062/63 and least is 0.40 in 2066/67.

The mean ratio is 0.89%, standard deviation is 0.48, coefficient of variation is 54.52% and correlation coefficient is -0.29 Higher the standard deviation, higher C.V. and negative correlation shows the bank is not able to maintain return to total deposit ratio promptly. From this figure, we conclude that the bank should take corrective action to improve this negative situation of earning.

4.1.5.3 Total Interest Expenses to Total Interest Income

Total interest expenses consist of interest expenses incurred for deposit, borrowing and loan taken by the bank. Total interest income includes interest income received form loan and advance, cash credit, overdrafts, government securities, inter bank loans and other investment. Lower ratio is favorable from profitability point of view.

Table No. 4.16

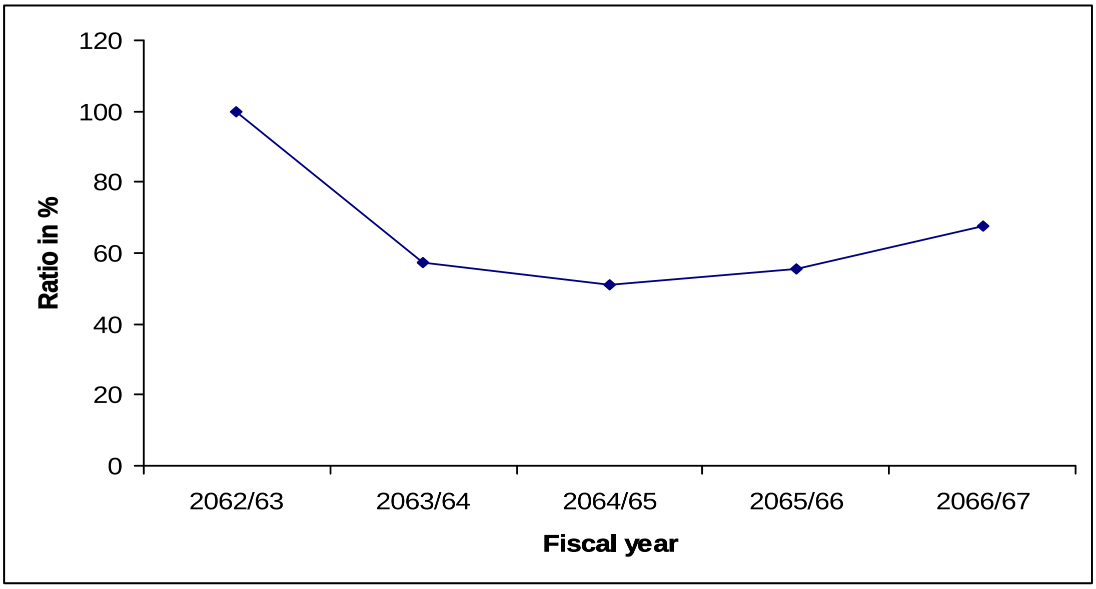
Total Interest Expenses to Total Interest Income

Rs. in lakh

Fiscal year	Interest expenses	Interest income	Ratio (%)
2062/63	5633.62	5636.62	99.95
2063/64	3977.22	6944.82	57.27
2064/65	4079.19	7965.97	51.21
2065/66	5800.36	10414.73	55.69
2066/67	11448.08	16886.18	67.80
Mean			66.38
S.D.			19.72
C.V.			29.71
r			0.91

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.16: Total Interest Expenses to Total Interest Income



Above table and figure show total interest expenses to total interest income ratio of MBL. The ratio of MBL has been fluctuated during the year. The highest ratio is 99.95% in the year 2062/63 and lowest in 2064/65 i.e. 51.21%. Lower the interest expenses to interest income shows the higher profit of the bank. Likewise, the bank is able to decrease this ratio except fiscal year 2065/66 and 2066/67. But in fiscal year 2065/66 and 2066/67it is increased to 55.69% and 67.80% respectively.

The mean ratio is 66.38%, standard deviation is 19.72%, C.V. is 29.71% and correlation coefficient is 0.91. Higher standard deviation, higher C.V. shows the bank has fluctuating expenses and income. It is more riskier for bank. This shows the bank has become failure to maintain interest expenses to interest income ratio properly. But correlation coefficient i.e. 0.91 shows the perfect correlation between interest expenses and interest income. This shows there is perfect correlation between interest income and interest expenses which is a strong point for bank.

As a whole, we can conclude that MBL has been able to minimize interest expenses in relation to interest income.

4.1.5.4 Interest Earned to Total Assets

The ratio shows the percentage of interest income as compared to the assets of the bank. High ratio indicates the proper utilization of banks assets for income generating purpose. Low ratio represents unsatisfactory performance.

Table No. 4.17

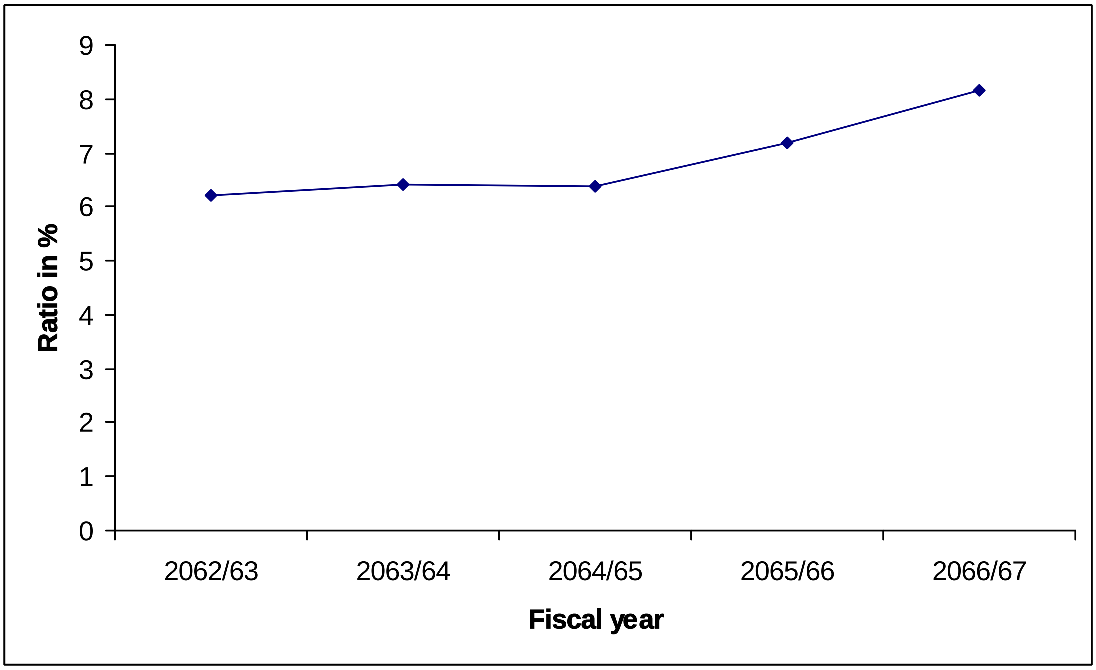
Interest Earned to Total Assets

Rs. in lakh

Fiscal year	Interest income	Total assets	Ratio (%)
2062/63	5636.62	90698.31	6.21
2063/64	6944.82	108079.17	6.43
2064/65	7965.97	124985.48	6.37
2065/66	10414.73	144907.82	7.19
2066/67	16886.18	206787.91	8.17
Mean			6.87
S.D.			0.81
C.V.			11.85
r			1.00

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.17: Interest Earned to Total Assets



Above table and figure No. 4.17 show the interest earned to total assets of MBL. The ratio of MBL has fluctuated slightly during the year. The highest ratio is observed in Fy 2066/67 which is 8.17% and lowest ratio is 6.21% in Fy 2062/63.

The mean ratio of 6.87%, standard deviation is 0.81%, coefficient of variation is 11.85% and correlation coefficient is 1, shows there is slightly changed in the ratio of interest income to total assets. But the correlation between interest income to total assets is perfectly correlated.

Lower the standard deviation, lower C.V. and perfect correlation shows the bank is able to maintain its interest earned to total assets ratio properly.

4.1.5.5 Staff Expenses to Total Income Ratio

Staff expenses include salary and allowance, contribution to provident fund and gratuity fund, staff training expenses and other allowance and made for staff.

This ratio measures the proportion of income spent for the staff , whose contribution is of great significance in the success of the bank. High ratio indicates that the major portion of income is used for staff expense. From the firm's point of view ,low ratio is advantage. But the staff prefer high ratio, as it is result of higher level of facilities and benefit provided to them.

Table No. 4.18

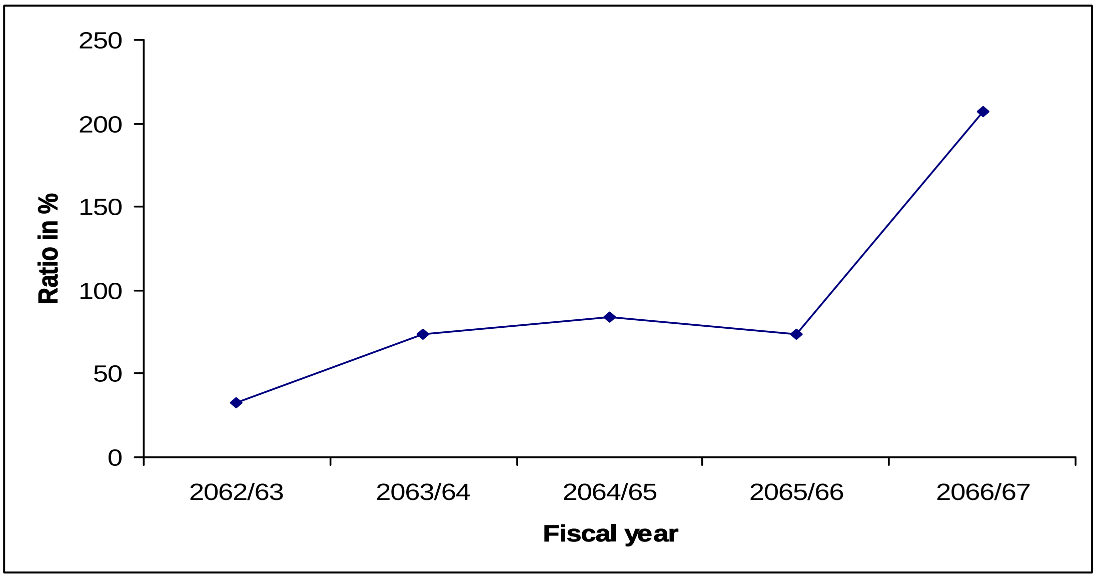
Staff Expenses to Total Income Ratio

Rs. in lakh

Fiscal year	Staff/employee expenses	Total income	Ratio (%)
2062/63	434.1	1339.97	32.40
2063/64	543.6	740.86	73.37
2064/65	714.21	850.16	84.01
2065/66	909.96	1232.51	73.83
2066/67	1521.13	733.13	207.48
Mean			94.22
S.D.			66.34
C.V.			70.41
r			-0.43

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.18: Staff Expenses to Total Income Ratio



Above table and figure shows staff expenses to total income of the bank. The ratio of MBL has fluctuating during the year. The highest ratio is 207.48% in Fy 2066/67 and the lowest ratio i.e. 32.39% in Fy 2062/63.

Since the new branches i.e. 9, were launched by Machhapuchhre Bank Limited in fiscal year 2066/67, the operating expenses became high, so that the every aspects of bank seems weak in terms of profit. Increasing in interest expenses to total income ratio from 73.83% to 207.48% in fiscal year 2065/66 to 2066/67 seems the bank is going to bankruptcy in near future, due to launching new branches.

The mean ratio of MBL is 94.22%, standard deviation is 66.34%, coefficient of variation is 70.41% and correlation coefficient -0.28. The higher the mean ratio of MBL measure the highest percentage of staff expenses in relation to total income.

Higher the S.D., higher C.V. and negative correlation coefficient shows the riskier position of bank in terms of operating expenses to total income. To overcome this situation, MBL should maintain operating expenses properly.

4.1.5.6 Operating Expenses to Total Income

Operating expenses comprise of expenses incurred in house rent, water and electricity, repair and maintenance, legal expenses, audit expenses and other miscellaneous expenses made in course of operation. It shows the percentage of income spent for the operating activity of the bank. High ratio shows the large amount of income is spent for the operating activity of the bank. Low ratio is favorable to the bank, as it is the reflection of operational efficiency.

Table No. 4.19

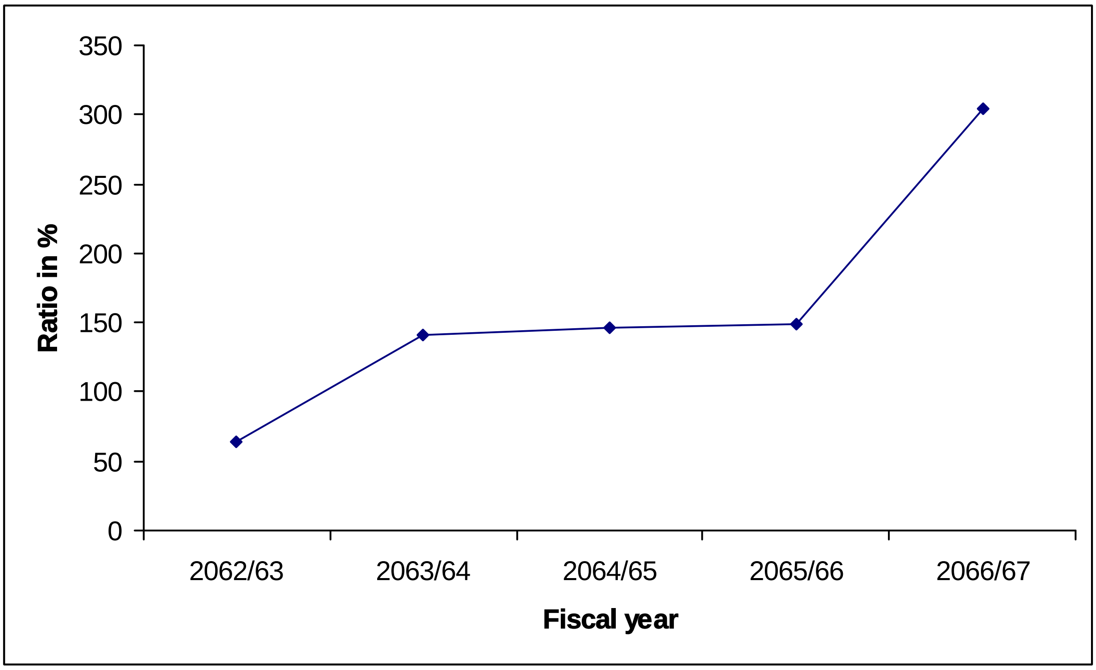
Operating Expenses to Total Income

Rs. in lakh

Fiscal year	Operating expenses	Total income	(Ratio (%)
2062/63	859.24	1339.97	64.12
2063/64	1041.81	740.86	140.62
2064/65	1244.08	850.16	146.33
2065/66	1828.41	1232.51	148.35
2066/67	2234.7	733.13	304.82
Mean			160.85
S.D.			87.83
C.V.			54.61
r			-0.28

Source: Annual reports of MBL (Fy 2062/63 to 2066/67 B.S.).

Figure No. 4.19: Operating Expenses to Total Income



Above table and figure No. 4.19 show general expenses to total income ratio of MBL. The ratio is increasing trend during the year i.e. 2062/63 to 2066/67. The lowest ratio is 64.12% in Fy 2062/63 and highest ratio is 304.82% in Fy

2066/67. The mean ratio is 160.85%, standard deviation is 87.83%, coefficient of variation is 54.61% and correlation coefficient is -0.28.

From the above analysis, it is concluded that the general/operating expenses is a part of expenses which is more than 300% than total income in the year 2066/67. The bank is not able to minimize it. This shows the bank is not able to maintain its operating expenses properly.

4.2 Statistical Analysis

In this study, statistical tools have been grouped into Karl Pearson's coefficient correlation, regression analysis, t-test, straight line trend, which are used to analyze the data to achieve the objective of the study.

4.2.1 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 interest coverage ratio and interest income and interest expenses is analyzed. MBL has taken loan from different sources for certain period.

The projections are based on the following assumptions:

The main assumption is that other things will remain unchanged.

i. The forecasted will be true only with the limitations of least square methods are carried out.
ii. The MBL will continue to run in present position.
iii. The economy will remain in the present stage.

Trend of Total Interest Expenses to Total Interest Income

The trend value of interest expenses and interest income of MBL for five years from 2062/63 and forecasting for the next five years till 2071/72 are given in the below table

Table No. 4.20

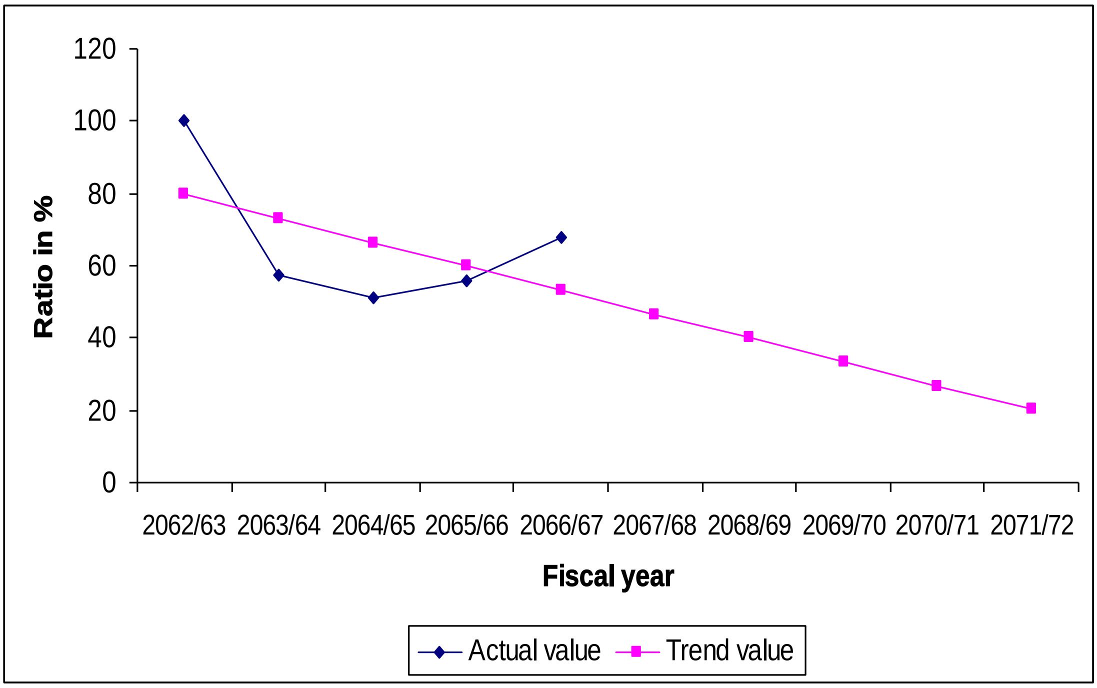
Trend Value of Total Interest Expenses to Total Interest Income

Fiscal year	Actual value	Trend value
2062/63	99.95	79.58
2063/64	57.27	72.98
2064/65	51.21	66.38
2065/66	55.69	59.79
2066/67	67.80	53.19
2067/68	-	46.59
2068/69	-	39.99
2069/70	-	33.39
2070/71	-	26.80
2071/72	-	20.20

Source: Appendix-I.

From the above table of trend value of interest expenses and interest income shows the decreasing trend from 79.58 % in Fy 2062/63 to 20.20% for fiscal year 2071/72. The change is interest income and interest expenses has been affected in the change of trend values.

Figure No. 4.20: Trend and Actual Line of ICR



Trend Analysis of Interest Coverage

The analysis of interest coverage ratio of MBL for five years from fiscal year 2062/63 to fiscal year 2066/67 and forecasted of the same for next 5 years are given in the following table.

$$Y=a+bx$$

Table No. 4.21

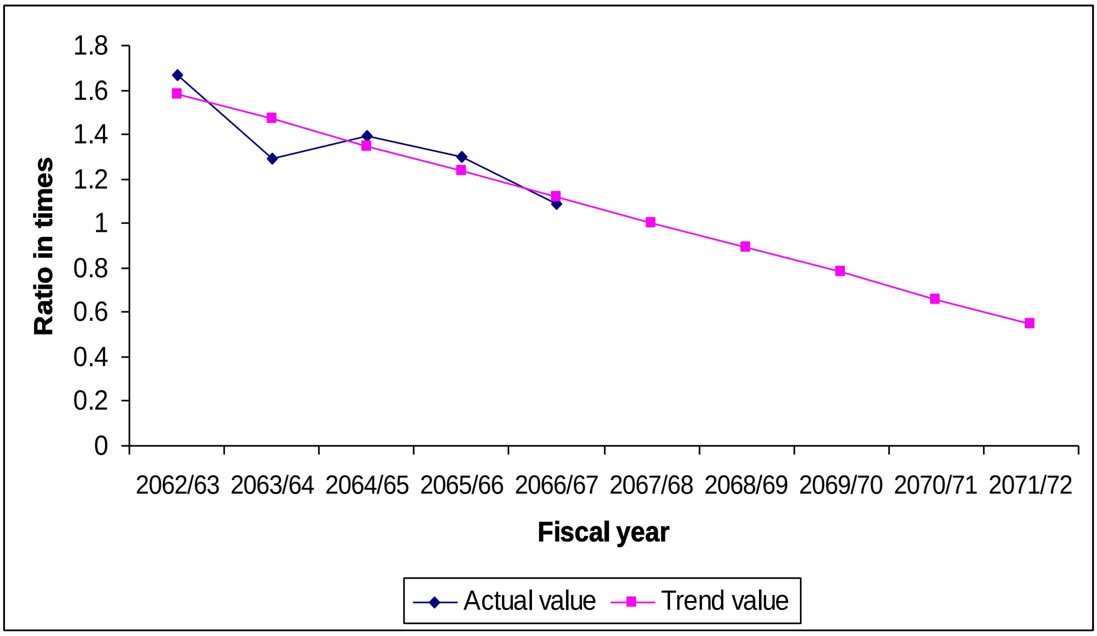
Trend Value of Interest Coverage Ratio

Fiscal year	Actual value	Trend value
2062/63	1.67	1.58
2063/64	1.29	1.47
2064/65	1.39	1.35
2065/66	1.30	1.24
2066/67	1.09	1.12
2067/68	-	1.005
2068/69	-	0.89
2069/70	-	0.78
2070/71	-	0.66
2071/72	-	0.55

Source: Appendix-II.

In the above table of trend value of interest coverage ratio, shows decreasing trend. In the fiscal year 2062/63, it was 1.58 times where as it will be decreased to 0.55 times for the forecasted year 2071/72. It means the company has ability to pay interest of Rs. 1 by earning Rs. 0.55. The above calculations of trend values are fitted in the following figure.

Figure No. 21: Trend and Actual Line of ICR



4.2.2 Correlation Analysis

Coefficient of Correlation between Total Interest Expenses to Total Interest Income:

Under t-statistic test,

Null hypothesis: H_1: |∂ = 0, that is the variables are uncorrelated (insignificant).

Alternative hypothesis: H_1: $\partial \neq 0$, that is the variables are correlated (significant).

The following result is obtained for MBL, Nepal.

Table No. 4.22

Coefficient of Correlation between Total Interest Expenses and Total Interest Income

Evaluation criterion					
r	r^2	t-calculated value	t-tabulated value	relationship	Significant/ insignificant
0.91	0.8281	3.80	3.182	Positive	Significant

Source: Appendix-III.

Above table shows coefficient of correlation between total interest expenses and total interest income. Correlation between total interest expenses and total interest income is being independent. There is positive relationship between total interest expenses and total interest expenses. Coefficient of determination (r^2) indicates that 82.81% the variation in interest expense was explained by total interest income. Considering t-statistic calculated value, which was 3.80 and tabulated value of t-statistic, was 3.182 in 5% level of significance. T-statistic is significant because t-statistic value calculated is greater than tabulated value.

Coefficient of Correlation between EBIT and Interest Charge:

The correlation between EBIT (x) and interest charge is analyzed in order to know whether there is relationship between EBIT and interest charge.

$$r = \frac{N\sum xy - \sum x.\sum y}{\sqrt{N\sum x^2 - (\sum x)^2}\sqrt{N\sum y^2 - (\sum y)^2}}$$

Under t-statistic test,

Null hypothesis: H_1: $|\partial = 0$, that is the variables are uncorrelated (insignificant).

Alternative hypothesis: H_1: $\partial \neq 0$, that is the variables are correlated (significant).

The following result is obtained for MBL, Nepal.

Table No. 4.23

Coefficient of Correlation between EBIT and Interest Charge

Evaluation criterion					
r	r^2	t-calculated value	t-tabulated value	relationship	Significant/ insignificant
0.9956	0.9912	18.38	3.182	Positive	Significant

Source: Appendix-IV.

Above table shows coefficient of correlation between EBIT and interest charge. Correlation between EBIT and interest charge is being independent. There is positive relationship between EBIT and interest charge. Coefficient of determination (r^2) indicates that 99.12% the variation in EBIT was explained by interest charge. Considering t-statistic calculated value, which was 18.38 and tabulated value of t-statistic, was 3.182 in 5% level of significance. T-statistic is significant because t-statistic value calculated is greater than tabulated value.

4.2.3 Simple Regression Analysis

The simple regression helps to determine the relationship between different variables 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 relationship between each dependent variable. For the study only simple regression analysis had been considered.

Simple regression equation is:

$$Y = a + bx$$

Where,

y = NPAT

x = total assets

Coefficient of Regression between NPAT and Total Assets

Under t-statistics test,

Null hypothesis, H_0: $| \beta = 0$, i.e. the regression model of y on x is not significant.

Alternative hypothesis, H1: $\beta \neq 0$, the regression model of y on x is significant.

Table No. 4.24

Coefficient of Regression between NPAT and Total Assets

Evaluation criterion					
Intercept	Regression coefficient	t-calculated value	t-tabulated value	Relationship	Significant/ insignificant
13.74	-0.00292	0.7913	3.182	Negative	Insignificant

Source: Appendix-V.

The regression coefficient of NPAT on total assets is negatively related, so this indicates that increase in total assets lead to decrease on NPAT. And t-statistics is insignificant, because t-calculated is less than t-tabulated.

Coefficient of regression between EBIT and Interest Charge

Under t-statistics test,

Null hypothesis, H_0: | β = 0, i.e. the regression model of y on x is not significant.

Alternative hypothesis, H1: $\beta \neq 0$, the regression model of y on x is significant.

Table No. 4.25

Coefficient of regression between EBIT and Interest Charge

Evaluation criterion					
Intercept	Regression coefficient	t-calculated value	t-tabulated value	Relationship	Significant/ insignificant
5334.28	0.3184	0.5918	3.182	Positive	Insignificant

Source: Appendix-VI.

The regression coefficient of EBIT on interest charge is positive related. So this indicates that increasing in interest charge also increased in EBIT. And t-statistics is insignificant because t-tabulated value is greater than t-calculated value.

4.3 Major Findings

From the analysis concerned to Machhapuchhre Bank Limited's financial performance, following findings have been obtained:

- Current ratio is 1.14, 1.59, 2.80, 2.24 and 1.69 times. The mean ratio is 1.89 times, S.D. is 0.64, C.V. is 33.91% and correlation coefficient is 0.87. It shows the satisfactory condition of bank in terms of maintaining current ratio.
- Cash and bank balance to total deposit has uniform ratio. It has mean ratio 0.14, S.D, 0.34, C.V. 19.22% and r is 0.93.
- Fixed deposit to total deposit ratio has 0.30 mean ratio. Its S.D. is 0.05, C.V. is 17.11% and is 0.89. It shows the better combination of fixed deposit to total deposit ratio.
- Cash and bank balance to current and saving deposit ratio is uniformly maintained. The mean ratio is 0.33, S.D. is 0.03, C.V. is 9.94% and correlation coefficient is 0.98.
- Total debt to shareholder's equity ratio's mean is 9.89 times, S.D. is 0.76, C.V. is 7.72% and it has perfect correlation. Ratio is found in increasing trend every year.
- Total debt to total assets ratio is consistent. The mean ratio is 0.94 times, S.D. is 0.08 and C.V. is 8.7% only. Assets is less than debt, shows the possibility to invest in productive sector.
- Total debt to total capital ratio's mean is 9.89 times, S.D. 0.76, C.V. 7.72% and it has perfect correlation. It shows the higher consistency between total debt to capital of MBL.
- The mean ratio between loan and advance to total deposit is 0.79 times, S.D. is 0.03, C.V. is 3.50% and it has perfect correlation i.e. 1, shows MBL is successful to mobilize the total deposit on loan and advance consistently.

- Loan and advance to fixed deposit ratio is increasing every year except year 2066/67. It has 2.74 mean ratio, 0.53 S.D., 17.52% C.V. and 0.87 correlation.
- Interest coverage ratio’s mean is 1.35 times, S.D. 0.21, C.V. 15.52% and it has perfect correlation i.e. 1, shows MBL has higher percentage of net worth in relation to total deposit collected in the bank.
- Loan and advance to saving ratio’s mean value is 2.09 times. It has 0.33 S.D., 15.92% C.V. and 0.94 correlation coefficient. It shows the satisfactory condition between loan and advance to saving deposit.
- MBL has 73.30% ratio between loan and advance to total assets. It has lower S.D. and C.V. is 9.33% and 12.72% respectively. Higher correlation coefficient i.e. 0.95 shows the lower fluctuation and higher consistency of MBL is in terms of loan and advance to total assets ratio.
- The mean ratio between investment to total deposit is 12.18%, S.D. 2.70%, C.V. 22.17% and correlation coefficient is 0.76. It shows the well management efficiency regarding the utilization of deposit.
- Return to total assets ratio is decreasing every year except Fy 2065/66. The mean ratio is 0.81% and correlation coefficient is in negative form. Higher C.V. and negative correlation shows the bank’s riskier position in terms of return to total assets ratio.
- Return to total deposit ratio is decreasing order, and it has 54.5%, C.V. and -0.29 correlation coefficient, which shows the bank is not able to mobilize total deposit ratio.
- The mean ratio of interest expenses to interest income is 66.38% shows the satisfactory condition of bank. It is 0.91 correlation coefficient. Which shows higher correlation between interest expenses to interest income.

- Interest income on total assets is in increasing trend which is 6.21% in Fy 2062/63 and 8.17% in Fy 2066/67. Correlation coefficient is also perfect i.e. 1.0.
- Staff expenses to total income ratio is in increasing trend which is 32.40% in Fy 2002/03 and 207.48% in Fy 2066/67. It shows the higher staff expenses in relation to total income. Higher S.D. and C.V. i.e. 66.34% and 70.41% shows the riskier position in terms of staff expenses to total income.
- Trend value of interest coverage ratio is in decreasing order. And trend value of interest expenses to interest income is also in decreasing order.
- t-test shows EBIT and interest charge are significantly correlated where t-calculated value is 18.38 and t-tabulated value is 3.182.
- Correlation between EBIT and interest charge is perfectly positive i.e. 0.9956, and correlation between total interest expenses to total interest income is 0.91, which shows perfect positive correlation.
- Regression model NPAT on total assets is not significant and EBIT on interest charge is also insignificant.
- Total interest expenses and total interest income are significantly correlated, where t-calculated value is 3.80 and t-tabulated value is 3.182.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter is the important for the research because this chapter is the extract of all the previously discussed chapters. This chapter consists of mainly three parts: summary, conclusions and recommendations. In summary part, revision or summary of all four chapters is made. In conclusion part, the result from the research is summed up and in recommendation is made for improving the presence situation to the concerned partied as well as further research.

5.1 Summary

The economic development of a country cannot be imagined without the development of commerce and industry. The role of commercial banks in the economic growth of nation can be estimated to be prominent. The very challenging job of commercial banks is to collect the scattered idle resources from the small savers. Actually, commercial banks pool the fund in the sizable volume in order to feed the fund requirement of productive sector promote trade and industrialization in the country there by raising the employment opportunity and earned to the labors and materials suppliers to such industries and traders.

Machhapuchhre Bank Ltd, the first commercial bank in the western part of country, has been established by promoters and begin its operation on 17th Ashwin 2057 B.S. At the time of establishment of MBL with total authorized capital 240 million and issued and paid up capital Rs. 84 million. At present of MBL with authorized capital, Rs. 1000 million and issued and paid-up capital Rs. 550 million. The role of MBL cannot be over emphasized. Now, MBL has already spent more than ten years in serving the nation, apart from its traditional function it has served as a major institution for the development of the nation. Thus, it has contributed the major role for the betterment of the country. The financial analysis is the process of identifying the financial strength and weakness of the firm. In this study the financial analysis has been adopted to know the performance of the MBL over the period of five years.

The study has been divided into five chapters. In first chapter, introductory part has been discussed. In the second chapter literature review has been done, in which, various theoretical as well as empirical study has been considered relating to financial performances. In theoretical review, different theories regarding financial performance has been mentioned and in empirical part, different previous research studies done entitled financial performance has been discussed. Chapter three clears the methods and techniques used in the research, where research design, population and sample, sources of data collection, analytical tools used in the research have been mentioned. In this research, all secondary sources of data have been used. Collected data have been analyzed and interpreted with the help of financial and statistical tools. In chapter four data and information have been analyzed, and interpreted and major findings have been also incorporated. Chapter five deals with summary, conclusion and some recommendations. At the end of the chapter bibliography and appendices have been incorporated.

5.2 Conclusion

Current ratio, which measures the liquidity position has been fluctuating i.e. 1.89 times in average. MBL has higher percentage of net worth in relation to total deposit. Return on total deposit is one of the important factor, i.e. decreasing every year, along with return on total deposit is also decreasing ever year. Establishment of new branches has been increasing that's why the operating expenses has been also increasing.

Lower of total debt to shareholder's equity ratio shows highly consistent. Loan and advance to total deposit ratio i.e. 0.79 times shows the bank has been able to mobilize its deposit successfully. In terms of returns of MBL, return to total assets ratio as well as return to total deposit ratio is decreasing every year. This result shows the bank is not able to mobilize its deposit properly. Staff expenses to total income ratio is in increasing trend, which shows higher staff expenses in relation to total income. In the same way, interest coverage ratio is in decreasing order. But interest expenses to interest income ratio i.e. 66.38% indicates the satisfactory condition of bank.

Statistically, interest coverage ratio is in decreasing order and trend value of interest to interest income is also in decreasing order. Correlation between EBIT and interest charge is perfectly positive i.e. 0.9950. t-test shows EBIT and interest charge are significantly correlated where t-calculated value is 18.38 and t-tabulated value is 3.182. Total interest expenses and total interest income are significantly correlated where t-calculated value is 3.80 and t-tabulated value is 3.182.

5.3 Recommendations

A clear financial picture can be viewed form all above presentation. Now, some valuable and timely. suggestions and recommendations are put forwarded on the basis of findings:

1. The liquidity position is relatively less than the standard requirement criteria i.e. 2:1, so the bank should try to meet the standard requirement.

2. The leverage ratio of MBL is in very high position. MBL should decrease its debt ratio position more and more. i.e. 9.89 times in average. So the bank should increase its equity position.

3. Credit deposit ratio i.e. total investment to total deposit ratio should be 75:100 but MBL has 12.18, which is very low. However, higher amount of current deposit and remittance is included in total deposit. Bank should try to increase total investment on total deposit.

4. Staff expenses to total income ratio is to high and it has also negative correlation. So the bank should try to minimize its staff expenses.

5. Expenses are the vital determinations to increase or decrease the profitability of the banks. Interest expenses on deposits also affect the profitability of the banks. Thus, it is recommended that banks should try to reduce the amount of high interest bearing deposits like fixed deposits, saving deposit and others.

6. Operating expenses is the second major part of expenses, which is increasing rapidly. It has negative correlation with total income. If the bank will try to minimize this expenses, income will highly increased. So the bank should try to minimize this expenses using modern managerial tools and techniques.

7. Due to creeping lending position of the bank, the profitability position of the bank seems to be very serious. The earning power ratio to total assets is negative way. This is very serious matter. In double-digit inflation rate of Nepalese context, the bank should rethink towards the revitalization of its position and must boost-up the earning power.

8. MBL should move towards the modern banking facilities, prompt service in each branches, and provide new product to the customer to attract relative growth trend of deposit.

9. The net profit trend of MBL is highly negative in first three fiscal year because of high amount i.e. 347577740.08 non-performing assets. Therefore the bank should look forwarded to maximizes the profit through good lending and sound management.

10. The bank should adopt efficient and modern management concept to make more capable to their activities as well as fulfill the growing demand of current financial services.

11. Necessary to diversify the bank's credit investment from commercial and consumption sector to productive sector. It can make capable

utilizing its resources efficiently and fulfill the goal of flourishing industry and agriculture in the country.

12. The bank should built local channel to collect deposit and lending opportunity. Similarly, in this twenty first century, in the time of globalization, the bank should provide prompt service to its customer.

13. Bank should strictly band the policy of nepotism (biasness) and favouritism, on the basis of capability and efficient recruitment, placement and promotion should be extended.

14. Shareholders are the real owners of the organization. But they do not seem to be happy with the rate of return on equity provided by the banks. Thus, it is recommended that the management team should put emphasis on the maximizing the wealth of the shareholders.

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Appendix-I

Trend Analysis of Total Interest Expenses to Total Interest Income

Fy	Mid-value (x)	y	x^2	xy
2062/63	-2	99.95	4	-200
2063/64	-1	57.27	1	-57.27
2064/65	0	51.21	0	0
2065/66	1	55.69	1	55.69
2066/67	2	67.80	4	135.6
n = 5	| x = 0	y = 331.92	x^2 = 10	xy = -65.98

Assuming 2064/65 is base year,

Trend line, $Y_c = a + bx$

$$a = \frac{y}{n} X \frac{331.92}{5} = 6.38$$

$$b = \frac{xy}{x^2} X \frac{Z65.98}{10} = -6.598$$

Now, putting the value of 'a' and 'b' in trend line,

$Y_c = a + bx$

Trend value:

2062/63 : 66.38– 6.598 (2062/63-2064/65)= 79.58

2063/64 : 66.38– 6.598 (2063/64-2064/65) =72.98

2064/65 : 66.38– 6.598 (2064/65-2064/65) = 66.38

2065/66 : 66.38– 6.598 (2065/66-2064/65) = 59.79

2066/67 : 66.38– 6.598 (2066/67-2064/65) = 53.19

2067/68 : 66.38– 6.598 (2067/68-2064/65) = 46.59

2068/69 : 66.38– 6.598 (2068/69-2064/65) = 40.00

2069/70 : 66.38– 6.598 (2069/70-2064/65) = 33.39

2070/71 : 66.38– 6.598 (2070/71-2064/65) = 26.80

2071/72 : 66.38– 6.598 (2071/72-2064/65) = 20.20

Appendix-II

Trend Analysis of Interest Coverage Ratio

Fy	Mid-value (x)	y	x^2	xy
2062/63	-2	1.67	4	-3.37
2063/64	-1	1.29	1	-1.29
2064/65	0	1.39	0	0
2065/66	1	1.30	1	1.30
2066/67	2	1.09	4	2.18
n = 5	| x = 0	y = 6.76	x^2 = 10	xy = -1.15

Assuming 2064/65 is base year,

Trend line, $Y_c = a + bx$

$$a = \frac{y}{n} X \frac{6.74}{5} = 1.35$$

$$b = \frac{xy}{x^2} X \frac{Z1.15}{10} = -0.115$$

Now, putting the value of 'a' and 'b' in trend line,

$Y_c = a + bx$

Trend value:

2062/63 : 1.35 – 0.115 (2062/63-2064/65)=1.58

2063/64 : 1.35 – 0.115 (2063/64-2064/65) =1.47

2064/65 : 1.35 – 0.115 (2064/65-2064/65) =1.35

2065/66 : 1.35 – 0.115 (2065/66-2064/65) =1.24

2066/67 : 1.35 – 0.115 (2066/67-2064/65) =1.12

2067/68 : 1.35 – 0.115 (2067/68-2064/65) =1.00

2068/69 : 1.35 – 0.115 (2068/69-2064/65) =0.89

2069/70 : 1.35 – 0.115 (2069/70-2064/65) =0.78

2070/71 : 1.35 – 0.115 (2070/71-2064/65) =0.66

2071/72 : 1.35 – 0.115 (2071/72-2064/65) =0.55

Appendix-III

Computation of Correlation Coefficient between Total Interest Expenses to Total Interest Income

'00,000'

Fy	Interest expenses (x)	Interest income (y)	xy	x^2	y^2
2062/63	5633.62	5636.62	31754575.16	31737674.3	31771485.02
2063/64	3977.22	6944.82	27621077	15818278.93	48230524.83
2064/65	4079.19	7965.97	32494705.16	16639791.06	63456678.04
2065/66	5800.36	10414.73	60409183.3	33644176.13	108466601
2066/67	11448.08	16886.18	193314339.5	131058535.7	285143075
n = 5	x = 30938.47	y = 47848.32	xy = 345593880	x^2 = 228898456.1	y^2 = 537068364.9

$$r = \frac{N\sum xy - \sum x.\sum y}{\sqrt{N\sum x^2 - (\sum x)^2}\sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 345593880 - 30938.47 \times 47848.32}{\sqrt{5 \times 228898456.1 - (30938.47)^2}\sqrt{5 \times 537068364.9 - (47848.32)^2}}$$

$$= \frac{1727969400 - 1480353813}{\sqrt{187303354.6 \times 395880093.2}}$$

$$= \frac{247615587}{272304369.2}$$

r = 0.91

Since r = 0.91

$r^2 = (0.91)^2$

or, $r^2 = 0.8281$

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

$$= \frac{0.91}{\sqrt{1 - 0.8281}}\sqrt{5 - 2}$$

$$t = \frac{0.9956}{\sqrt{0.1719}}\sqrt{3}$$

$$= \frac{0.91}{0.4146}\sqrt{3}$$

or, t = 3.80

Degree of freedom (d.f.) = n – 2

= 5-2

= 3

$\Im$ = 5% = 0.05

Critical value: Tabulated value of t for 3 d.f. and $\Im$ = 5% level of significance for two tailed test is 3.182.

Decision: Since calculated value of t i.e.3.80 is greater than tabulated value of t i.e. 3.182, null hypothesis is rejected and alternative hypothesis is accepted. Therefore we can conclude that there is significant relationship between total interest expenses and total interest income.

Appendix-IV

Computation of Correlation Coefficient between EBIT and Interest Charge

'00,000'

Fy	EBIT (x)	Interest charge (y)	xy	x^2	y^2
2062/63	4809.52	2886.62	13883256.62	23131482.63	8332575.02
2063/64	5117.48	3977.22	20353343.81	26188601.55	15818278.93
2064/65	5671.41	4079.19	23134758.96	32164891.39	16639791.06
2065/66	7563.04	5800.36	43868354.69	57199574.04	33644176.13
2066/67	12486.14	11448.08	142942329.6	155903692.10	131058535.7
n = 5	x = 35647.59	y = 28191.47	xy = 244182043.7	x^2 = 294588241.70	y^2 = 205493356.80

$$r = \frac{N \sum xy - \sum x . \sum y}{\sqrt{N \sum x^2 - (\sum x)^2}\sqrt{N \sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 244182043.70 - 35647.59 \times 28191.47}{\sqrt{5 \times 294588241.70 - (35647.59)^2}\sqrt{5 \times 205493356.8 - (28191.47)^2}}$$

$$= \frac{1220910219 - 1004957964}{\sqrt{202190535.7 \times 232707803.2}}$$

$$= \frac{215570132}{216913151.6}$$

r = 0.9956

Since r = 0.9956

$r^2 = (0.9956)^2$

or, $r^2 = 0.9912$

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

$$= \frac{0.9956}{\sqrt{1-0.9912}}\sqrt{5-2}$$

$$t = \frac{0.9956}{0.0938}\sqrt{3}$$

or, t = 18.38

Degree of freedom (d.f.) = 5 – 2

= 5-2

= 3

ℑ = 5% = 0.05

Critical value: Tabulated value of t for 3 d.f. and ℑ = 5% level of significance for two tailed test is 3.182.

Decision: Since tabulated value i.e. 3.182 is less than calculated value i.e. 18.38, null hypothesis is rejected and alternative hypothesis is accepted. Therefore we can conclude that EBIT and interest charge are significantly correlated.

Appendix-V

Regression Analysis between NPAT and Return to Total Assets

Rs. in '0000000'

Fy	NPAT (y)	Total assets (x)	xy	x^2	y^2
2062/63	13.40	906.98	12153.53	822612.72	179.56
2063/64	7.41	1080.76	8008.43	1168042.17	54.90
2064/65	8.50	1249.86	10623.81	1562150.02	72.25
2065/66	12.32	1449.07	17855.54	2099803.86	151.78
2066/67	7.33	2067.87	15157.48	4276086.33	53.72
n = 5	ϕy = 48.96	ϕx = 6754.54	ϕxy = 63795.80	ϕx^2 = 9928695.11	ϕy^2 =512.22

…

Fy	$y - \bar{y}$	$(y - \bar{y})^2$
2062/63	3.61	13.03
2063/64	-2.38	5.67
2064/65	1.29	1.66
2065/66	2.53	6.40
2066/67	-2.46	6.05
n = 5		$\phi (y - \bar{y})^2$ = 32.81

Simple regression equation of MBL:

Y = a + bx

$\phi y = na + b\phi x$ ………. (i)

$\phi xy = a\phi x + b\phi x^2$…… (ii)

Substituting the value of above calculation in equation (i) and (ii), we get:

48.96 = 5a + 6754.54b ………………………….. (iii)

63795.80 = 6754.54a + 9928695.11 b……….(iv)

Multiplying equation (iii) by 28191.47 and eq. (iv) by 5, we get, 330702.28 = 33772.70a + 45623810.61b

_ 318979 = _ 33772.70a $\underline{+}$ 49643475.55b

-11723.28 = - 4019664.94b

$$b = \frac{11723.28}{4019664.94}$$

= -0.00292

Putting the value of b in eq. (iii), we get

48.96 = 5a + 6754.54 x -0.00292

or, 48.96 + 19.72 = 5a

or, 68.68 = 5a

or, a = 13.74

Putting the value of ‘a’ and b’ on Y = a + bx

y = 13.74 + (-0.00292)x

H_0: b1 = 0,

H_1: b1 ≠ 0,

Testing t-statistic,

$$t = \frac{b1}{Sb1}$$

Where,

$$SB1 = \frac{s}{\sqrt{(x \, Z \, \bar{x})^2}}$$

$$s = \sqrt{\frac{SST}{n \, Z \, 2}}$$

SSE = $\phi(y - \bar{y})^2$

$$S = \sqrt{\frac{(y \, Z \, \bar{y})^2}{n \, Z \, 2}}$$

$$= \sqrt{\frac{32.81}{5 \, Z \, 2}}$$

= 3.31

Now, Sb1 =

$$Sb1 = \sqrt{\quad (x \mathrm{Z} \bar{x})^2}$$

$$= \frac{3.31}{\sqrt{803933}}$$

$$= 0.00369$$

$$t = \frac{b1}{Sb1}$$

$$= \frac{\mathrm{Z}0.00292}{0.00369}$$

$$= -\ 0.7913$$

$$|t| = 0.7913$$

Degree of freedom (d.f.) = n – 2

= 5 – 2

= 3

Critical value: Tabulated value of t for 3 d.f. at ℑ = 5% level of significance for two-tailed test is 3.182.

Decision: Since t-calculated value is less than t-tabulated value i.e. 0.7913 < 3.182, null hypothesis is accepted. Therefore we can conclude that the regression model of y on x is not significant.

Appendix-VI

Regression Analysis between EBIT and Interest Charge

Rs. in '00000'

Fy	EBIT (y)	Interest charge (x)	xy	x^2	y^2
2062/63	4809.52	2886.62	13883256.62	23131482.63	8332575.02
2063/64	5117.48	3977.22	20353343.81	26188601.55	15818278.93
2064/65	5671.41	4079.19	23134758.96	32164891.39	16639791.06
2065/66	7563.04	5800.36	43868354.69	57199574.04	33644176.13
2066/67	12486.14	11448.08	142942329.6	155903692.1	131058535.7
n = 5	ϕy = 35647.59	ϕx = 28191.47	ϕxy = 244182043.7	ϕx^2 = 294588241.70	ϕy^2 = 205493356.8

…

Fy	$y - \bar{y}$	$(y - \bar{y})^2$
2062/63	-2320.48	5384627.43
2063/64	-2012.52	4050236.75
2064/65	-1458.59	2127484.78
2065/66	433.04	187523.65
2066/67	5356.14	28688235.7
n = 5		$\phi (y - \bar{y})^2$ = 40438108.31

Simple regression equation of MBL:

$Y = a + bx$

$\phi y = na + b\phi x$ ………. (i)

$\phi xy = a\phi x + b\phi x^2$…… (ii)

Substituting the value of above calculation in equation (i) and (ii), we get:

$35647.59 = 5a + 28191.47b$ ………………………….. (iii)

$244182043.70 = 28191.47a + 294588241.70b$ b……….(iv)

Multiplying equation (iii) by 28191.47 and eq. (iv) by 5, we get,

$$
\begin{aligned}
1004957964 &= 140957.35a + 794758980.8b \\
\_\ 1220910219 &= \_\ 140957.35a \pm 1472941209b \\
\hline
-215952255 &= -\ 678182227.7b
\end{aligned}
$$

$b = \dfrac{215952255}{67818227.7}$

$= 0.3184$

Putting the value of b in eq. (iii), we get

35647.59 = 5a + 28191.47 x 0.3184

or, 35647.59 – 8976.164 = 5a

or, 26671.43 = 5a

or, a = 5334.28

Putting the value of ‘a’ and b’ on Y = a + bx

y = 5334.28 + 0.3184x

H_0: b1 = 0,

H_1: b1 ≠ 0,

Testing t-statistic,

$t = \dfrac{b1}{Sb1}$

Where,

$SB1 = \dfrac{s}{\sqrt{\ \ (x\, Z\, \bar{x})^2}}$

$s = \sqrt{\dfrac{SST}{n\, Z\, 2}}$

$SSE = \phi(y - \bar{y}\,)^2$

$S = \sqrt{\dfrac{(y\, Z\, \bar{y})^2}{n\, Z\, 2}}$

$= \sqrt{\dfrac{40438108.31}{5\, Z\, 2}}$

$= \sqrt{\dfrac{40438108.31}{3}}$

= 3671.43

Now, Sb1 =

Sb1 = $\sqrt{\quad (x \mathrm{Z} \bar{x})^2}$

$= \dfrac{3671.43}{\sqrt{46541534.19}}$

= 0.5381

t = $\dfrac{b1}{Sb1}$

$= \dfrac{0.3181}{0.5381}$

= 0.5918

Degree of freedom (d.f.) = n – 2

= 5 – 2

= 3

Critical value: Tabulated value of t for 3 d.f. at $\Im$ = 5% level of significance for two-tailed test is 3.182.

Decision: Since t-calculated value is less than t-tabulated value i.e. 0.5381 < 3.182, null hypothesis is accepted. Therefore we can conclude that the regression model of y on x is not significant