

# **CREDIT MANAGEMENT POLICY**

**(With Reference To Nepal Bank Limited)**

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# **RECOMMENDATION**

This is to certify that the thesis

Submitted by:

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**(With Reference To Nepal Bank Limited)**

*has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.*

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## DECLARATION

I hereby declare that the work reported in this thesis entitled “**Credit Management Policy (With Reference To Nepal Bank Limited)**” submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of **Jitendra Aryal** of Nuwakot Adarsha Multiple campus.

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## ABBREVIATIONS

A.D.	=	Anno Domini
B.S.	=	Bikram Sambat
C.V.	=	Co-efficient of Variation
CR	=	Current Ratio
e.g.	=	Example
EBL	=	Everest Bank Limited
etc.	=	Etcetera
FY	=	Fiscal Year
HBL	=	Himalayan Bank Ltd.
HBL	=	Himalayan Bank Ltd.
i.e.	=	That is
ISO	=	International Organization for Standardization
JVBs	=	Joint Venture Banks
Ltd.	=	Limited
M.B.S.	=	Master Degree of Business Studies
n	=	No. of Observation
NEPSE	=	Nepal Stock Exchange
NPAT	=	Net Profit after Tax
NPL	=	Non-Performing Loan

NPA	=	Non Performing Assets
NRB	=	Nepal Rastra Bank
PE	=	Probable Error
R	=	Karl Pearson's Coefficient of Correlation
ROE	=	Return on Equity
Rs.	=	Rupees
S.D.	=	Standard Deviation
Sebon	=	Security Board Nepal
S.N.	=	Serial No.
T.U.	=	Tribhuvan University

# **CHAPTER - I**

## **INTRODUCTION**

### **1.1 Background of the Study**

The concept of banking has been developed from the ancient history with the effort of ancient goldsmiths who developed the practice of storing people's gold and valuable under such agreements the depositors would leave their gold for safekeeping and given a receipt by the goldsmith. Whenever, the receipt was presented the depositors would get back their gold and valuables after a small amount as fee for safekeeping and serving.

Banking system plays significant role in the economic development of the country. Bank is a mediator for the economic development, which maintains the self-confidence of various segments of society and extends credits to the people. So, commercial banks are those financial institutions mainly dealing with activities of the trade, commerce, industry and agriculture that seek regular financial and other helps from them for growing and flourishing the objectives of commercial banks is to mobilize idle resources into the most profitable sector after collecting them from scattered sources. Commercial banks contribute significantly in the formation and mobilization of internal capital and development effort.

To overcome this economic situation, government has to formulate and implement strategies focusing overall industrialization of the nation and development of a sound banking system is necessary for the rapid industrial development. Dr. Shrestha says, "Financial infrastructure of an economy consists of financial intermediation, financial institution and financial markets" (Shrestha, 1990). Financial institution, in this economy plays a role of catalyst in the process of economic growth of the country. In this country, a bank is a financial institution, which plays a significance role in the development of a country. It facilitates the growth of trade and industry of national economy.

However, bank is a mediator for economic development, which maintains the self confidence of various segments of society and extends credit to the people. Banking sector plays a vital role for the country's economic development opportunities to people. Banks have always been the most important and the targets of financial intermediaries almost everywhere. It plays significant role in the development of a country intermediating between the saving and investment. Essentially the banks and financial systems are the channel through which money has been mobilized distribution throughout the economy. Any bank must maintain adequate cash and bank balance to meet its day-to-day management of cash resources for remote contingencies.

Bank grants loan and advances to industries, people and companies that results in the increase in the productivity of nation. For example: - the loan against to agricultural sector enhances the agricultural product on. The farmers can use the loan amount as per their need to produce their product that will promote the agriculture product. Similarly the loan and advances to different people and corporate bodies help to increase their income and profits. They can use the amount as per their need at right place at the right time. Bank is a business organization where monetary transaction occurs. It creates fund from its clients saving and lends the same to needy person or business companies in term loans, advances and investments. Therefore proper financial decision making is more important in banking transactions for its efficiency and profitability. Most of the financial decision making is loan management. It plays the vital role in the business succession, so efficient management of lending policy is needed.

The source of finance is most essential element for the establishment and operation of financial institute. Profit oriented institutions usually obtain these sources through ownership capital, public capital through issue of shares and debentures, borrowing through banking institution as credit or loan. Now days, the essential sources of the organization for financial supporting is the credit, overdrafts and others provided by banking institution.

The study focuses on evaluating the deposits utilization of the banks in terms of loans and advances and investments and its contribution in the profitability of the bank. It also focuses on the contribution of off-balance sheet activities in the earnings of the bank and non-performing assets positions of the banks. The term credit is referred to the loan. Credit is the amount of money lent by the creditor (bank) to the borrower (Customer) either based on security or without security.

### **1.1.1 Origin of the Bank in Nepal**

As in other countries, goldsmiths and landlords were the ancient bankers of Nepal. Banking on modern timer developed in Nepal recently. But this does not mean that there was a complete absence banking activities. From times immemorial, money lender existed before the establishment of modern bank. There is plenty of evidence to show that loan was borrowed in those days. The history of banking in Nepal in the form of money lending can traced back in the reigning in period of Gunakama Dev, "The King of Kathmandu" (Nepal Bank Limited, Nepal Bank Limited Patrika, 2037: 31) During the Prime Ministerial period of Ranodeep Singh, one financial institution was established to give loan facilities to the Government Staffs and loan facilities to the public in general in the terms of 5% interest but "Tejarath" did not except money from public. (Nepal Bank Limited, Nepal Bank Limited Patrika, 2037: 40) The first bank in Nepal was established in 1937 A.D. (1994 B.S.) as Nepal Bank Limited under Nepal Bank Act to provide modern and organized facilities. Having felt the need of development of banking sector to the help the Government formulate monetary policies, Nepal Rastra Bank as a Central Bank was set up in 1956 A.D. (2013 B.S.). Since then, it has been functioning as Government's bank and contributed to the growth of financial sectors. Through the Nepal Rasta Bank has adopted a deregulatory approach at present. It requires continues modification in view of fast changing world. Being the Central Bank, Nepal Rastra Bank has its own limitations and reluctance to go on profitable sectors. To cope with these difficulties, government set up

Rastriya Banijya Bank in 1966 A.D. (2022 B.S.) as a fully government owned commercial bank. Similarly, Agriculture Development Bank was established in 1968 A.D. (2024 B.S.). After then, Nepal Arab Bank Limited was established as a first joint venture commercial bank in 1984 A.D. (2041 B.S.). Having observed the success of NABIL Bank based on marketing concept, NRB adopted liberal economic policy to promote the financial institution. So many commercial banks, development banks and other financial institution are emerging day by day.

### **1.1.2 Introduction to the Nepal Bank Limited**

Nepal Bank Limited (NBL), the first Bank of Nepal, was established in 30<sup>th</sup> Kartik 1994 B.S. NBL is the pioneer financial institution of Nepal. From the very conception and its creation, Nepal Bank Limited is a joint venture between the government and the public sector. Out of 2500 equity shares of Rs. 100 face value, 40% was subscribed by the government and the balance i.e. 60% was offered for the sale to public sector. At Present, there is 41% share owned by the government and the rest by the public sector. Nepal Bank Ltd. Was established under company law, Nepal Bank Law 1994 in Judda Sadak paying of rent Rs. 100 per month. The bank stands its operation with the authorized capital of Rs. 10 million with only 10 shareholders when the bank first started. In that era, very few understood or had confidence in this new concept of formal banking in Nepal. Raising equity shares were not easy and mobilization of deposits even more difficult. At present, it has authorized capital of Rs.1000 million and paid up capital of Rs 380.4 million. One of the admirable efforts of the bank was that it helped initially in removing the dual currency system and circulating the Nepalese currency throughout the country. The first branch of NBL was Kathmandu Banking Office and its first borrower was Biratnagar Jute Mill, which borrowed Rs. 0.1 million at 5% interest rate in 12<sup>th</sup> chaitra 1994 B.S. Initially, it was operated by only 12 staffs under the leadership of General Manager Thakur Singh Kathait. During the past 7 decades, the bank experienced many ups and downs, but it has remained the

leading financial institution in Nepal. In early stage bank has provided its services to customers and government with limited resources manually. Now, it has been using advanced technology to provide banking facilities. Most of the branches have been computerized with modern Banking software and rests of the branches are in the process of computerization. To cope with the development of modern banking technology, it has been providing Any Branch Banking facilities, Web Remit service, SMS Banking, internet banking etc. Nepal Bank Ltd. Has helped vastly in developing the country by accumulating the scattered money in small amount in each and every nook and corners of the country and granting loan and advances in various ways. The bank has been tendering modern banking services to the different sectors of the economy like manufacturing and service industries, hydropower projects , traders, small entrepreneurs and the weaker sections of the society through more than 116 Branches which spread all over the five development regions of the country.

## **1.2 Focus of the Study**

Every country has to give an emphasis on upliftment of the stable and sustainable economy. Until and unless a nation mobilize its own domestic resources, the nation cannot achieve economic growth. Financial institutions are currently viewed as catalyst in the process of economic growth of country. A key factor in the development of an economy is the mobilization of the domestic resources. As intermediaries, the financial institutions help the process of resources mobilization. The importance of financial institutions in the economy has of late grown to an enormous extent. As main financial institution, banks are expected to support local community with an adequate supply of credit for all legitimate business and consumer needs to price that credit reasonably in line with competitively determined interest rates. Bank loan support the growth of new business and jobs within the banks trade territory and promote economic vitality. Management is the system, which helps to complete the every job effectively. Credit management is also the system, which helps to manage credit effectively. In other words, credit

management refers management of credit exposures arising from loan, corporate bonds and credit derivatives. Lending money in nowadays becoming main resources of revenue to the bank and also involves high risk too. Bank will not provide loan unless it has sufficient sources to the borrower that will be needed in case of future recovery. So, credit management strongly recommends analyzing and managing the credit risk. The goal of the credit risk management is to maximize a bank's risk adjusted rate of return by maintaining the credit risk exposures within acceptable parameters.

Since, exposure of to credit risk continues to be on the leading source of problem in banks worldwide, banks and their supervisors should be able to draw useful lessons from past experiences. Banks should now have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred. The Basel Committee is issuing this document in order to encourage banking supervisors globally to promote sound practices for applicable to the business of lending, they should be applied to all activities where credit risk is present. Proper financial decision making is more important in banking transaction for its efficiency and profitability. For this proper credit policy is very essential. The credit policy of a firm provides the framework to determine whether or not to extend credit and how much credit to extend. The credit policy decision of a bank has two broad dimensions; credit standards and credit analysis. A firm has to establish and use standards in making credit decision, develop appropriate sources of credit and methods of credit analysis. For most banks, loans are the largest and most obvious source of credit risk, however other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off the balance sheet. Banks are increasingly facing credit risk in various financial instruments other than loans, including acceptances, inter bank transactions, trade financing, foreign exchange

transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees and the settlement of transactions.

Typically, commercial bank's main motive is to make profit by providing quality services to the customers. In Nepal, there exist 31 commercial banks after merger of two commercial bank NIC Bank limited and Bank of Asia being NIC Asia. The study focus on evaluating the deposits utilization of the banks in terms of loans and advances and investments and its commercial banks are the heart of financial systems. They hold the deposit of many persons, government establishment and business. The study focuses on evaluating the deposits utilization of the banks in terms of loans and advances and investments and its contribution in the profitability of the bank. It also focuses on the contribution in the profitability of the bank. Commercial banks are the heart of financial system. They hold the deposits of many persons, government establishment and business units. They make fund available through their lending and investing activities to borrowing individual's business firms and government establishment. In doing so, they assist both the flow of goods and services from the producers to consumers and the financial activities of the government. They provide a large portion of medium of exchange and they are the media through which monetary policy is affected. These facts show that commercial banking system of nation is important to the functioning of the economy.

Financial institution is currently viewed as catalyst in the process of economic growth of country. A key factor in the development of an economy is the mobilization of the domestic resources and intermediaries, the financial institution helps the process of resources mobilization. The importance of financial institutions in the economy has of late grown to an enormous extent. The government in turn is required to regulate their activities. So, the financial policies are implemented as per the requirement of the country.

Therefore, this researcher has focused this resource mainly to highlight and examine the credit management of the Nepal Bank Limited ignoring other aspects of bank transaction. To highlight the credit management of the bank, the research is based on the certain statistical tools i.e. mean with a view to find out the true picture of the bank. The main objective of this research is to analyze the credit management through the use of appropriate financial tools.

### **1.3 Need of the Study**

The needs of the study are:

- The study will give a clear picture of financial position of the company under study.
- This study will provide information to those who are planning to invest in Nepal Bank Limited.
- With the help of the report of the study, the management may apply corrective measures for the improvement of the bank's performance.
- The policy formulates of the bank may gain something with the help of the result of the study.
- The study will help general public to know about the overall financial position of the Nepal Bank Limited.

### **1.4 Statement of the Problem**

Establishment of banks has contributed in the response to the economic liberalization policies of the government. The tendency to concentrate commercial banks only in the urban areas like Kathmandu, Biratnagar, Pokhara, Nepalgunj etc. has raised the certain questions. This state of affairs cannot contribute much to the socio economic development of the country where 90% of the population lives in rural area and 81% of the population depends in agriculture. There are a lot of problems related to investment due to which most of the commercial banks in Nepal are urban oriented. Most of the banking problems have been caused by weakness in credit management. Banks should now have a keen awareness of the need to identify measure, monitor

and control credit as well as to determine that they hold adequate capital against it. Thus risks that are adequately compensated for risks incurred. So, to establish creditability position is a major issue in commercial banking during these days. Despite the circular of NRB, the central bank of the country, regarding compulsory investment of 10% of their total investment in the rural areas, these banks are inclined to pay fines rather than investing these resources to such less profitable sectors. There is no debate that high profitable or successful organization can easily fulfill the need of the organization, customers and can serve the society. To improve the profitability situation of the bank, it is necessary to establish the higher creditability position of the bank. Thus, the credibility position is the major strategy of every commercial bank. Nepalese commercial banks are lacking scientific and imperial research that could identify the issues of credit management. Banks and financial institutions are investing in house loan, hire purchase loan for safe purpose, Due to lack of good lending opportunities, banks appear to be facing problem of excess liquidity. Due to competition among banks, the interest rate for loan is in a decreasing trend. Due to unhealthy competition among the banks, the interest rate for the loan is in decreasing trend and the recovery of the banks credit is going towards negative trends. In this regard, the performance of Nepalese commercial banks is to be analyzed in terms of their credit. Some research questions regarding to the credit practices, credit efficiencies, liquidity position, industrial environment, management quality, organization climate are considered as clear evidence in present situation. Thus to know the problems faced by Nepalese commercial banks related to the investment, Nepal Bank Limited is selected as a sample and the specific research questions regarding credit management in Nepal Bank Limited are identified as follows:

- Are the credit practice adopted by Nepal Bank Limited is in good position?
- Is bank in the right level of liquidity?
- Is bank investing in good and profitable sectors?
- Has bank been able to earn profits?

- What is the credit efficiency of NBL?
- What is the impact of growth in deposit on liquidity and lending practices?
- What is the position of non performing credit in NBL?
- How far NBL is able to use its resources in credit and advances?

The problem of the study will ultimately find out the reasons about the credit management. A study on the credit management of the commercial banks would be highly beneficial for pointing out their strength and weakness. Why is so and what is the problem? To answer this question an analysis of their present credit management is necessary. Therefore, focus of the present study is on the credit management of commercial banks in Nepal with special reference to Nepal Bank Ltd.

Since the liberalization policy of the government, various banks and financial institutions has been established with, a view to reinforce the economic growth of the country. They have played an indispensable role by accepting deposits and granting loans. Investment of the collected funds is the most important factor for both shareholders and the bank as they are the source of earning. Credit extended by these banks is directly related to the national interest.

Similarly financial companies have been emerging rapidly and the bank has to compete with them. Since, finance companies are making investment in the same sectors where commercial banks typically invest. Commercial banks are more interested in providing loans on short term projects due to safety and security of their loans. Thus, they are following conservative loan policy based on strong security. Similarly, these banks don't have a well organized credit management. They rely much on the instructions and guidelines of NRB. Even if they have formulated some guidelines, they fail to implement it due to poor supervision & lack of professionalism.

### **1.5 Objective of the Study**

Undoubtedly, the role of commercial bank in mobilizing and utilizing scattered resources of the nation is praiseworthy one. The basis objectives of the study are to have true insight into the credit management aspects (practice of disbursing loans and recovery of the Nepal Bank Ltd.). This aims to examine its efficient in effectiveness, systematization and sincerity in disbursing and recovery loan as well within the directives of NRB, Financial institution act and its own policy.

The main objective of this study is to evaluate the credit management of Nepal Bank Limited. Besides, there may be other objectives as well.

- To examine the impact of deposit in liquidity.
- To examine and evaluate loan management procedures.
- To analyze the lending efficiency of the bank.
- To examine the assets management efficiency and portfolio ratios.

### **1.6 Limitation of the Study**

This study is simply a partial study for the fulfillment of M.B.S. degree, which has to be finished within limited period. Hence, this study is not far from several limitation of its own kind, which weakens the heart of the study. It has certain limitations.

This study has employed secondary data published by Nepal Bank Limited.

- This study has employed secondary data published by and collected from Nepal banks.
- The study covers a period of 7 fiscal years 2062/2063 to 2068/69 which will be tabulated and processed for drawing conclusion.
- The accuracy of the research work will be dependent on data provided by concerned organization.
- Time factor is major limitation of this study.
- This study concentrates only credit management of Nepal Bank Limited.

## **1.7 Organization of the Study**

The present study is organized in such way that the stated objectives can easily be fulfilled. The structure of the study will try to analyze the study in a systematic way. The study report has presented the systematic presentation and finding of the study. On the basis of the results from data analysis, the researcher concluded about the performance of the concerned organization for better improvement. The study credit management of Nepal Bank Limited is presented in organized form. The study report is designed in five chapters which are as follows:

### **Chapter – I: Introduction**

This chapter describes the basic concept and background of the study. It has served orientation for readers to know about the basic information of the research area, various problems of the study, and objectives of the study. It is oriented for readers for reporting giving them the perspective they need to understand the detailed information about coming chapter.

### **Chapter – II: Review of Literature**

This second chapter of the study assures readers that they are familiar with important research that has been carried out in similar areas. It contains conceptual framework of the credit, review of articles and past related thesis. It also establishes the study of link in a chain of research that is developing & emerging knowledge about concerned field.

### **Chapter – III: Research Methodology**

Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with objectives in view. This chapter includes research design, data collection, and data analysis technique and research variables. It describes about various data related with study, various tools & techniques employed for presenting the data.

#### **Chapter – IV: Presentation and Analysis of Data**

This chapter analysis the data related with study and presents the finding of the study and also comments briefly on them. Data processing, data analysis and interpretation are given in this chapter and there is use of techniques relating to analysis such as ratio, descriptive expression, diagrams and so forth.

#### **Chapter – V: Summary, Conclusion and Recommendation**

On the basis of the result from data analysis, the researcher concludes about the performance of the concerned organization in terms of credit management. This chapter is devoted to the summary of the research, conclusion derived on the basis of data analyzed and the recommendations for improvement to the concerned organization.

## **CHAPTER–II**

### **REVIEW OF LITERATURE**

The review of literature is a crucial aspect because it denotes planning of the study. The main purpose of literature review is to find out what works have been done in the area of the research problem under study and what has not been done in the field of books, reports, journals and research studies published by various institution and unpublished dissertations submitted by master level students also have been reviewed. Every study is very much based on past knowledge; the past knowledge provides foundation to the present study. So in this present chapter, the reviews are done relating to credit management of Nepal Bank Ltd. This chapter helps to take adequate feedback to broaden the information based and inputs to this study, therefore this chapter has its own important in this study.

It is divided into three headings:

- Conceptual Review
- Review of Rules and Regulations
- Review of related studies
- Review of Journal and Article
- Review of Thesis

#### **2.1 Conceptual Review**

The review of textbook and other reference books are included in this topic. “Credit administration involves the creation and management of risk assets. The process of lending takes in to consideration about the people and system required for the evaluation and approval of loan requests, negotiation of terms, documentation, disbursement, administration of outstanding loans and workouts, knowledge of the process and awareness of its strength and weakness are important in setting objectives and goals for lending activities and for allocating available funds to various lending functions such as commercial, installment and mortgage portfolios” (Johnson, 1940:132).

“Many subject matters like the policy of loan flow, the documents of loan flow , loan administration , audit of loan, the condition of loan flow the provision of security, this management plays a great role in healthy competitive activities” (Bhandari, 2003:170).

“It is very important to be reminded that most of the bank failures in the world are due to shrinkage in the value of loan and advance. Hence, risk of non-payment of loan is known as credit risk default risk” (Dahal, 2002:114).

“Portfolio management helps to minimize or manage the credit risks by spreading over the risk to various portfolios. This method of managing credit risk is guided by the saying do not put all the eggs in a single basket” (Bhandari, 2004:300).

Early banking system serves as depositories for funds, while the more modern system has considered the supply of credit their purpose. A bank not only accepts money as deposits, but also lends money and creates credit. Crowther has defined a bank as 'a dealer in debts-his own and of other people'. Sayers states " we can define a bank as an institution whose debts (bank deposits) are widely accepted in settlement of other people's debt to each other".

### **2.1.1 Concept of Commercial Bank**

"A banker or bank is a person or company carrying on the business of receiving money and collecting drafts, for customers subject to the obligation of honoring cheque drawn upon them from time to time by the customers to the extent of the amount available on their customer" (Shekher and Shekher, 1999:4).

"No one can be a banker who does not take deposit accounts take current accounts, issue and pay cheque of crossed and uncrossed, for his customers. If the banking business carried on by any person is subsidiary to some other business; he cannot be regarded as a banker (Paget, 1987:2).

Bank perform all kinds of banking functions as accepting deposit, advancing credits, credit creation and agency functions. It provides short-term credit, medium term credits and long terms credit to trade and industry. It also operates off balance sheet functions such as issuing guarantee, bonds, letter of credit, etc.

Commercial banks act as an intermediately; accepting deposits and providing credits to the needy area. The main source of the commercial bank is current deposit, so they give more importance to the liquidity of investment and as such they specialize in commercial banks are restricted to invest their funds in corporate securities. Their business is confined to financing the short-term needs of trade and industry such as working capital financing. They cannot finance in fixed assets. They grant credits in the form of cash credits and overdrafts. Apart from financing, they also render services like collection of bills and cheque, safe keeping of valuables, financial advising, etc to their customers (Vaidhya, 1999:24).

### **2.1.2 Functions of Commercial Banks**

“The business of commercial bank is primarily to hold deposit and make credits and investments with the object of securing profits for its shareholders. Its primary motive is profit; other consideration is secondary” (Sudharsanam, 1976:123).

Commercial banks are those financial intermediaries whose major function is to transfer of monetary resources from savers to users. Commercial banks are the active dominant depository institutions accepting demand liabilities and making loans. Commercial banks are defined as leading financial institutions which issued demand liabilities used as means of payment and at the same time make loan to business. Commercial banks lead to the change in economic environment which stimulate to search for financial innovations. Changes in demand conditions, especially the rise in interest rate risk; changes in supply

conditions, especially improvements in information technology; and the desire to avoid costly regulation have been major driving forces behind financial innovation. Financial innovation has caused banks to suffer in declines in cost advantage in acquiring funds and in income advantage in acquiring funds and in income advantages on their assets. The resulting squeeze has hurt profitability in banks' traditional line of business.

The major functions of commercial banks are as follows.

- Primary Functions
- Secondary Functions

Primary functions are further classified as below:-

### **1. Accepting Deposit**

- Demand Deposit
- Saving Deposit
- Time Deposit
- Margin Deposit
- Call Deposit

### **2. Providing Loans**

- Loans & advances
- Overdraft
- Cash credit
- Discounting loans

### **3. Investment**

- Purchasing securities
- Purchasing government securities
- Purchasing

Secondary functions are as follows:-

- Issuing letter of credit, traveler's cheque, circular notes & agency services etc.
- Operating safe deposit vaults, and lockers.
- Foreign exchange facility
- Issuing demand draft, guarantee, pay order on behalf of customer.
- Collecting & supplying of business information, security brokerage services.

Banks today are following in the footsteps of leading of financial institutions all over the globe in “offering investment banking and merchant banking services include identifying possible merger targets, financing acquisitions of other companies, dealing in security underwriting, providing strategic marketing advice and offering hedging services to protect their customers against risk from fluctuating world currency prices and changing interest rates” (Vaidhya, 1999:29). Further, they support the overall economic development of the country by various modes of financing.

### **2.1.3 Concept of Credit**

“Credit is the amount of money lent by the creditor (bank) to the borrower (customers) either on the basis of security or without security. Sum of the money lent by a bank, is known as credit” (Oxford Advanced Learners Dictionary, 1992:279).

“Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credits and advances, which is one of the major sources of income for banks. Bank prepares credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely” (Varshney and Swaroop, 1994:6)

“Credit is financial assets resulting from the delivery of cash or other assets by a lender to a borrower in return for an obligation of repay on specified date on demand. Banks generally grants credit on four ways” (Chhabra and Taneja, 1991:4)

- Overdraft
- Cash Credit
- Direct Credit
- Discounting of Bills

#### **2.1.4 Types of Credit**

- Corporate Credit
- Consumer Credit
- SME Credit
- Industrial Credit
- Project Financing Credit
- Term Credit

#### **2.1.5 Risk of a Commercial Bank**

Normally, Banks confront different kinds of risks, which are categorized as follows:

##### **Credit Risk**

Credit risk arises whenever another party enters into an obligation to make payment or deliver value to the bank. This risk is mostly associated with the lending.

##### **Liquidity Risk**

Liquidity risk arises when bank itself fail to meet its obligations. The bank required to make payments to the different parties at different times, when they fall due to other parties, it is the liquidity risk.

### **Yield Risk**

It is the risk that bank's assets may generate less income than expense generated by its liabilities.

### **Market Risk**

The risk of loss resulting from movements in the market price of financial instruments in which the bank has a position is the market risk. Such instruments include bonds, equities, and foreign exchange and associated derivatives products.

### **Operational Risks**

The risk of failure in the banks procedures or controls whether from external of internal causes or as a result of error or fraud within the institution is the operational risk.

### **Management Risk**

The risk that shareholders, directors or senior management be unfit for their respective positions of dishonest. Such risks are associated with also the unprofessional senior level managers.

### **2.1.6 Credit Management**

Credit is regarded as the most income generating assets especially in commercial banks. Credit is regarded as the heart of the commercial banks in the same sense that; it occupies large volume of transaction; it covers the main part of the investment activities based in credit; it is the main factor for creating profitability; it is the main source of creating profitability, it determines the profitability. It affects the overall economy of the economy. In today's context, it also affects on national economy to some extent. It is proved from very beginning that credit is the shareholder's wealth maximization derivative. However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as credit. It is most challenging job

because it is the backbone in commercial banks. Thus, effective management of credit should seriously be considered. Credit is financial assets resulting from the delivery of cash or other assets by a lender to a borrower in return for an obligation of repay on specified date on demand. There is always risk and return in investment. Higher the risk higher will be the return and lower the risk lower will be return, but it is not always true. Generally credit means to flow cash in different sector with profit motive/. But in the broad sense, credit means to sacrifice current rupee in the present and certain for the future rupees, which comes later and is uncertain. According to F. Ambling, "Investment may be defined as the purchase by an individual or the institutional investor of a financial or real asset that produces a return proportional to the risk assumed over some future investment period." Similarly according credit promotes economy's growth and contributes the nation's wealth. People deposit their surplus money in the bank and may lend those collected funds to the various business and companies. These firms in return may invest in new factories and equipment to increase their production. As a result investment raises the nation's living standard. Now a day, most companies issues stocks and bonds to raise the capital needed for business expansion instead of borrowing from the banks. Similarly government also issue bonds to obtain fund to invest in the projects like construction of dams, roads, Bridges and schools etc. All such investment by individual business as well as government involves a sacrifice of present value to get an expect future benefits and income which is probably uncertain.

Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximize a bank's risk adjusted rate of return by maintaining credit risk exposures within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of

credit risk is a critical component of a comprehensive approach to risk management and essential to the long term success of any banking organization. For effective credit management, there is major role of sound credit policies and the practices of those policies. The sound practices address the following area:

- Establishing an appropriate credit risk environment.
- Operating under a sound credit granting process.
- Maintaining an appropriate credit administration, measurement and monitoring process.
- Ensuring adequate controls over credit risk.

Although specific credit risk management practices may differ among banks depending upon the nature and complexity of their credit activities, a comprehensive credit risk management program will address these four areas. Those practices should also be applied in conjunction with sound practices related to the assessment of assets quality, the adequacy of provisions and resources and the disclosure of credit risk all of which have been addressed in other recent Basel Committee document. The income and profit of the bank depend upon the lending procedure applied by the bank. And the lending policy and investment in different securities also affect the income and profit. In the investment procedures and policies, it is always taken in mind that "The greater the credit created by the bank, the higher will be the profitability". A sound lending investment policy is not only pre-requisite for banks profitability but also crucially significant for the promotion of commercial saving of developing countries like Nepal. The sound policies help commercial banks maximize quality and quantity of investment and there by achieving the objective of profit maximization and social welfare. Formulation of sound investment policies and co-coordinated and planned efforts pushes forward the forceps of economic growth.

### **2.1.7 Objectives of the Sound Credit Policy**

Each and every financial institution must be operated on the basis of credit policy guidelines. Credit policy guidelines shall be sound and effective in practice. It shall be on written form. The purposes of a written credit policy are

- To assure compliance by lending personnel with the bank's policies and objectives regarding the portfolio of credits and
- To provide personnel with a framework of standards within which they can operate.

### **2.1.8 Lending Procedure**

While screening a credit application, 5- c' s to be first considered supported by documents. They are:

#### **1. Character**

Character is the analysis of the applicant as to his ability to meet the obligations put forth by the lending institution. For this analysis, generally the following documents are needed.

- Memorandum and Articles of Association
- Registration certification
- Tax registration certificate (Renewed)
- Resolution to borrow
- Authorization- person authorizing to deal with the bank

#### **2. Capacity**

Describe customer's ability to pay. It measured by applicants past performance records and followed by physical observation. For this, an interview with applicant's customers/suppliers will further clarify the situation, Documents relating to this area were:

- Certified balance sheet and profit loss account for at least past 3 years.
- In case of the personal loan they have to submit the proof source of income.

- References or other lenders with whom the applicant has dealt in the past or bank A/C.

### **3. Capital**

This indicates applicant's capacity to inject his own money. By capacity analysis, it can be concluded that whether borrower is trying to play with lender's money only or is also injecting his own fund to the project. For capital analysis, financial statements, like certified balance sheet, profit and loss account is the only tools.

### **4. Collateral**

Collateral is the security proposed by the borrower. Collateral may be of either nature movable or immovable. Movable collateral comprises right from stock, inventories to plying vehicles. In case of immovable it may be land with or without building or fixtures, plant machineries attached to it.

### **5. Conditions**

Once the funding company is satisfied with the character, capacity, capital and collateral then a credit agreement (Sanction letter) is issued in favor of the Borrower stating conditions of the credit to which borrower's acceptance is accepted.

#### **2.1.9 Principles of Sound Lending Policy**

Lending constitutes the main business of a banking company. A major chunk of the profits of a bank comes out of this function. But no lending can take place without some inherent risks. As bankers are trustees of the depositors' money, they cannot take undue risks. A banker has to follow a cautious policy and conduct the business of lending on the basis of certain sound principles. Here are some of the important principles of sound lending.

## **1. Principle of Safety**

The main business of banking consists in borrowing various types of deposits such as current, saving and fixed deposits and lending such deposits to needy borrowers in the form of advances and discounting of bills. This obviously implies that safety of such funds should be ensured. Otherwise the banker will not be in a position to repay his deposits and once the confidence of the depositors is shaken, he cannot carry on the banking business.

If the banker has to ensure safe lending, he has to look to the three C's of the borrower namely Character, Capacity and Capital. Character of the borrower is important because that determines his willingness to repay the loan. His capital and capacity to run the business successfully determine his capacity to pay. The safety of the loan depends on both his capacity to repay and willingness to repay.

Banks will have to keep a portion of the deposits received for honoring the demands made by the customers. Only the balance can be safely. The bank's endeavor is of course to lend as much of the deposits as possible, without which he will not be in a position to meet his interest, obligations and the maintenance of establishment. Therefore, he has to lend with a view to earn interest but lend it safe.

## **2. Principle of Liquidity**

By liquidity is meant the readiness with which the bank can convert the assets into cash. Liquidity means short-term solvency of the borrower. A banker is essentially the lender of short-term funds because he knows that the bulk of his deposits are repayable on demand or at short notice. As the banker's deposits are subject to the legal obligation of being repayable on demand and at short notice, he must ensure liquidity also while lending, so that in times of need, he will be able to convert the assets into cash.

Bank can ensure high liquidity by keeping all deposits in the form of cash only. In such a case, he will not be in position to meet the interest obligations and expenditure of the establishment. From experience, he has learnt that he can safely lend out a substantial portion of the funds. But while lending he should try to ensure liquidity, i.e. in times of need, he must be able to obtain repayment of the money within a reasonably short time. Liquidity also implies that the assets can be sold without any loss. Thus the concept of liquidity has twin aspects namely quick sale ability or convert ability of the assets and the absence of risk of loss in such conversion.

### **3. Principle of Profitability**

Commercial banks obtain funds from shareholders and naturally if dividend is to be paid on such shares it can only be paid by earning profits. Even in the case of public sector banks although they are service motivated they will have to justify their existence by earning profits. This is not possible unless the funds are employed profitably. From out of the revenue earned, the banker has to pay interest on deposits, salary to the staff, meet other establishment expenses, build-up reserves and the balance must permit the payment of dividend to shareholders. So for the bank to sustain on a long run, it has to seek many profitable sectors where it can mobilize its collected fund. Before lending, a banker has to see that the advance and credit is on the whole profitable. Lending rates are affected by banks' internal policy like credit rating of the borrower, bank rate of NRB, inter-bank competition and NRB's guidelines on lending rates.

### **4. Principle of Objectives**

Nowadays, the objective for which loans are granted has acquired precedence over the principle of security. If a loan is required for a non-productive or speculative purpose, a banker will be reluctant to entertain the proposal. Loans for social functions, ceremonies, pleasure trips or for repayment of prior loans are not favored by a banker, as they are unproductive in nature. But it is very

difficult for the bank to ensure that the advance has been used for the purpose for which it was taken. A person may take a loan obviously for a productive use, but may spend it on speculation. The central bank through its directives, also determines the policy to be followed by the banks with regard to the purpose for which advances may not be granted. So a banker should know about the objective for which it is taken for safe lending.

### **5. Principle of Security**

Traditionally, bankers have been security oriented. The security offered against a loan can be of various types. It may vary from a piece of land or a building to a commercial paper or bullion. Whatever may be the security, a banker has to realize that it only a cushion to fall back upon in case of need and its adequacy alone should not form the sole consideration for advance. It must be ensured that the security when accepted must be adequate, readily marketable, easy to handle and free from encumbrances.

### **6. Principle of Diversification of Loans**

There is a very familiar saying that “Do not put all the eggs in the same basket.” Banker should try to diversify loans as far as possible, so that he may minimize his risks in lending. If the banker lends only to one industry or only to few big firms or concentrates in a certain geographical area, the risk is great. He should diversify lending, so that he may not affected by the failure of one industry or of a few big borrowers. A banker who puts all his eggs in one basket is not a prudent banker.

### **7. Principle of National Interest and Suitability**

Bankers must ascertain on what type of business the customer is involved whether it serves the national interest or not, whether the firm is acting responsibly towards the society that it is operating in like brick industry or the cement industry and the precautions taken by it against environment pollution. Central bank issues directives, prohibiting banks to invest in various sectors

such as the import of arms and ammunitions etc. Also bankers must remain vigilant of the law and order situation where borrower carries its business.

### **2.1.10 Credit Risk Appraisal**

Before providing credit to the customer, bank makes analysis of project from various aspects and angles. It will help the bank to see whether project is really suitable to invest. Although specific credit risk management practices may differ among banks depending upon the nature and complexity of their credit advances, credit appraisal is an art through which every practical banker masters from out of experience and can never be reduced to an absolute science. In spite of several technical aids, such as ratio analysis of financial statements, cash flow and fund flow statements, Profit and Loss account, Balance Sheet available to the modern banker, the ability to make a correct loan decision very much depends on the critical judgment, common sense perceptive intelligence and discriminating sense of the lending banker. However, the usual steps involved in the appraisal of credit risks are: The character, capacity, collateral and integrity of the borrower. Repayment capacity of the borrower including a consideration of the source of income. Prospects of the proposal- whether it will succeed. The purpose of the loan which is being requested is whether productive or unproductive. The collateral that is being offered as security must be investigated as to the following:

- Whether it is easily marketable
- Value of security at present
- Whether the value is likely to be stable or it is the security such that its value fluctuates considerably and
- In case of default in payment, if it is easily transferable.

The credit appraisal shall answer the following questions:

- Is the project technically sound?
- Is the project financially viable?
- Will the project provide a reasonable return?
- Is the project in line with the overall economic objectives of the economy?

“Generally, the project appraisal involves the investigation from the following aspect.” (Gautam, 2004: 258):

- Financial aspect
- Economic aspect
- Management / Organizational aspect
- Legal aspect

## **2.2 Review of Rules, Regulations and Directives of NRB Regarding Credit**

Various rules, regulations, acts, and directives for the management of commercial banks are reviewed while preparing the concept of this study. Different types of directives are issued for the commercial banks to manage credit in proper way. Obviously, these directives and actions toward the commercial banks by NRB are playing the great role for the comparative analysis of credit management of the commercial banks.

### **2.2.1 NRB Rules Regarding Fund Mobilization of Commercial Banks**

To mobilize bank s deposit in different sectors of the different parts of the nation to prevent them from financial problems, central bank (NRB) may establish a legal framework by formulating various rules and regulations (prudential norms). These directives must have direct or indirect impact while making decisions to discuss those rules and regulations which are formulated by NRB in term of investment and credit to priority sector, other institution, single borrower limit, CRR, loan loss provision, capital adequacy ratio, interest spread, productive sector investment, etc. A commercial bank is directly related to how much fund must be collected as paid up capital while being established at a certain place of the nation, how much fund is needed to expand the branch and counters, and how flexible and helpful the NRB rules are. But here is taken reference of only those, which are related to investment function of commercial banks. The main provisions established by NRB in the form of prudential norms in above relevant issues are briefly discussed here.

## **2.2.2 Directives Relating to Loan Classification and Loan Loss**

### **Provisioning**

(Circular Dated September 14, 2001)

Effective from FY 058/059 (2001/2002), Bank should classify outstanding loan and advances on the basis of aging of principal amount. Loans and advances should be classified into the following four categories:

#### **a) Pass**

Loans and advances whose principal amount is not past due and the past due for a period of up to 3 months shall be included in this category. These are classified and defined as performing loans.

#### **b) Substandard**

All loans and advances that are past due for a period of 3 months to 6 months shall be included in this category.

#### **c) Doubtful**

All loans and advances, which are past due for a period of 6 months to 1 year, should be included in this category.

#### **d) Loss**

All loans and advances which are past due for a period of more than 1 year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.

Loans and advances falling in the category of substandard, doubtful, and loss are defined as non-performing loan. Here, if it is appropriate in the view of bank management, there is no restriction in classifying the loan and advances from new risk category to high risk category. For instance, loans falling into Sub-standard category may be classified into Doubtful or Loss and loans under Doubtful may be classified into Loss category. And, the term loans and advances also include bills purchased and discounted.

## **Loan Loss Provisioning**

The Loan Loss Provisioning, on the basis of the outstanding loans and advances and bills purchased should be provided as follows:-

### **Classification of Loan Loss Provision**

- Pass 1%
- Substandard 25%
- Doubtful 50%
- Loss 100%

Loan loss provision set aside for performing loans is defined as General Loan Loss Provision and loan loss provision set aside for non-performing loan is defined as Specific Loan Loss Provision. Before this arrangement was in force i.e. up to 2057/03/31, the classification and provisioning of loans and advances as per circular dated 2047/12/08 (March 22, 1991) was in effect as follows:

### **Classification of Loans Time Provision Required**

- Good Not overdue 1%
- Acceptance Overdue up to 1 month 1%
- Evidence of Sub-Standard Overdue 1 to 6 months 5%
- Sub-Standard Overdue 6 months -1 year 25%
- Doubtful Overdue 1 to 5 years 50%
- Bad Overdue for more than 5 years 100%

### **2.2.3 Directives Relating to Interest Rates**

According to previous directives, the differences between the interest provided and interest charged (spread rate) should not be more than 5%. But by the circular issued on July 16, 2002, the requirement to maintain average interest spread at 5% has been withdrawn for the time being.

#### **2.2.4 Directives to Cash Reserve Ratio Requirements (CRR)**

To ensure adequate liquidity in the commercial banks, to meet the depositors demand for the cash at any time, to inject the confidence in depositors regarding the safety of their deposits, commercial banks are required to have maximum CRR. In this regard, NRB has directed commercial banks to deposit in their own bank s vault. Cash reserve ratio has been increased to one percentage point effective from beginning of new FY 2069/70.

#### **2.2.5 Directives to Raise Minimum Capital Fund**

NRB has directed all the commercial banks under operation and established to operate in national level and having low capital base to raise their capital fund at a minimum level of Rs.500 million by end of the fiscal year 2000/01. The amount under the headings of paid-up capital, general reserve, share premium, non-redeemable preference share and retained earnings included in the core capital fund do not meet the requirement to the extent of the minimum capital funds of Rs.500 million till the end of fiscal year 2000/01, would not be allowed to declare and distribute dividend and bonus shares. It has further directed all the commercial banks to increase their paid up capital (not the total fund) to Rs.1000 million by 2009 by increasing paid up capital at minimum of 10% annually.

#### **2.2.6 Directives Regarding Investments in Shares and Securities by Commercial Banks (Directive no. 8 of circular no. 70/05/08, Effective from 2058/05/07)**

Banks should prepare written policy relating to investment in the shares and securities of other organized institutions. Such policies should be implemented only under the approval of the Board of Directors. There should be no restrictions as to investment by the banks in the securities of organized Nepal Government and securities by NRB. Banks may invest in shares and securities of any organized institution not exceeding 10% of the paid up capital of such organized institution.

### **2.2.7 Directives for the Single Obligor Limit (SOL)**

Fund based credit and advances can be issued up to 25% (upper limit) of core capital to a single customer, firm, company and a group of related customers.

Non-fund based (off-balance items) can be issued up to 50% of core capital to a single customer, firm, company and group of related customer.

Special provision has been provided for Nepal Bank Limited. It can lend maximum of Rs. 310.00 million for funded business and of Rs. 620.00 million for non funded business, although it exceed 25% & 50% respectively of core capital.

## **2.3 Review of Related Studies**

### **2.3.1 Review of Journals & Articles**

**Karki (2000)**, '*Nepalese Financial Sector: Challenge and some solutions*' has summarized some of the challenges through his article that are as follows:

According to the article, "the financial sector is facing the major challenges of high NPA of the banking sector, which comes around 18 percent of the total loan but if the loan classification, is made according to least international practice. It is assumed to exceed 30 percent. Credit demand is being met largely by non- institutional source i. e. private money lender, merchant, trader and landlord at very high rate of interest which is 2 to 3 times higher than that of institutional rate. This shows that unrecognized financial sector is playing a major role in the Nepalese economy. The liquidity position of the sector is rated as high as 24 percent, but the productive sector of the economy is stated by credit crunch. This is a paradoxical situation in the banking sector He has mentioned the following suggestions to remedy the current malady. The financial institutions especially commercial banks have to identify new areas of investment to increase loan and advances in reducing the liquidity position. With the rapid growth in the number of banks and financial institutions, deposit

insurance scheme is a must. The principal reason for introducing such deposit insurance is one of the social justices rather than economic justifications in order to protect the interest of the small depositors. In this condition, this scheme should be expedited to implement

**Shresth (2005)** *“Lending Operation of Commercial Banks of Nepal and Its Impact on GDP”*. In her article- special issue of Banijya Sansar, TU, 2055. She has presented with the objectives to make an analysis of contribution of the commercial banks lending to the GDP of Nepal. She has set hypothesis that there has been considerable impact of commercial banks on the GDP.

In research methodology, she has considered GDP as the dependent variable and various sectors of lending, viz. agriculture, industries, commerce, service and society as independent variables. A multiple regression technique has been applied to analyze the contribution.

The multiple-analysis has shown that all the variables except service sector lending have positive impact on GDP. Thus, in conclusion, she has accepted the hypothesis, i.e. there has been positive impact on GDP.

**Shrestha (2002)**, *“A Study of Deposits and Credits of Commercial Bank in Nepal”* in journal he has concluded the credit deposit ratio would be 51.30%, other things remaining the same in 2004 AD, which was the lowest under the period of review. Therefore, he had strongly recommended that the commercial banks should try to give more credit earning to new field as far as possible. Otherwise, they might not be able to absorb even its total expenses.

There are not many research papers or articles published on the investment policy of commercial banks in Nepal. In the context of Nepal, there is a need of research of investments in commercial banks and financial

institutions as their routine work.

**Thapa (2009)**, "*Portfolio Management in Commercial Bank*" in journal he expressed his view that the commercial banks including foreign joint venture banks seems to be doing pretty well in mobilizing deposits. Likewise, loans and advances of these banks are also increasing. But compared to the high credit needs particularly by the newly emerging industries, the banks still seem to lack adequate funds. The banks are increasing their lending to non-traditional sectors along with the traditional sectors.

Among various commercial banks, Nepal Bank Ltd. and Rastriya Banijya Bank are operating with a nominal profit and also turning towards negative from time to time. Because of non-recovery of accrued interest, the margin of interest income is declining. These banks have not been able to increase their income from commission and discount, through traditional of balance sheet operations. On the contrary, they have got heavy burden of personnel and administrative overheads. Similarly, due to accumulated overdue and defaulting loans, profit position of these banks has been seriously affected.

On the other hand, the foreign venture banks have been functioning in an extremely efficient way. They are making huge profit after year and have been distributing large amount of bonus and dividends to its employees and shareholders. Because of their effective persuasion for loan recovery, overdue and defaulting loans have been limited resulting in high margins between interest income and interest expenses. Similarly, concentration of these banks to modern off-balance sheet activities and efficient personnel management has added to the maximization of their profits.

At the end of article, he concludes that by its varying nature of the public sector the domestic banks couldn't compete with the private sector banks. Therefore, only remedy to the problem of these banks, as the

government decided, is to hand over the ownership as well as the management of these banks to the private hands. Rastra Bank has given a short glimpse on the “Portfolio management in commercial banks - theory and practice”.

### **2.3.2 Review of Previous Thesis**

The banks are such types of institutions which deal with money, credit and credit instruments. Good circulation of credit is very much important for the bank. Uneven flow of credit with ad-hoc decision harms the economy and the bank as well. Thus, to collect fund and utilize it in a good investment is always very difficult decision making and important task for such organizations. An investment fund may just be the question of life and death for the bank.

**Maskey (2007)**, in her research work “*Credit Portfolio Management*” shows that to manage the credit portfolios, bankers must understand not only the risk posed by each credit but also how the risks of individual lending and portfolios are interrelated. These interrelationships can multiply risk many times beyond what it would be if the risks were not related. Until recently, few banks used modern portfolio management concepts to control credit risk. Now, many banks view the credit portfolio in its segments and as a whole and consider the relationships among portfolio segments as well as among loans. These practices provide management with a more complete picture of the bank’s credit risk profile and with more tools to analyze and control the risk.

Zenith further concluded that effective credit portfolio management begins with oversight of the risk in individual loans. Prudent risk selection is vital to maintaining favorable lending quality. Therefore, the historical emphasis on controlling the quality of individual credit approvals and managing the performance of lending continues to be essential. But better technology and information systems have opened the door to better management methods. A portfolio manager can now obtain early indications of increasing risk by taking a more comprehensive view of the credit portfolio.

**Sejuwal (2008)**, in his Master's Thesis "*A Comparative Study on Credit Management of Commercial Banks; with Special Reference to NABIL and SCBNL*" has the main objective to explore the credit efficiency or inefficiency and its management in commercial banks.

The Main Objectives of the Study are:

- To assess credit practice of selected commercial banks.
- To explore the credit efficiency of selected commercial banks.
- To explore the relationship with loan and advances, non-performing loan and net profit of selected commercial banks.

The Major Findings of the study are:

- The credit practices of NABIL in terms of total loans to deposit ratio is found to be more than SCBNL (i.e.  $0.6298 > 0.3660$ ). It indicates that NABIL has been strong to mobilize its total deposit as loan.
- In terms of interest income to loan and advances ratio, NABIL has mean score of 0.0932 and SCBNL has the mean score of 0.0858. From this point; NABIL Bank has the best performance in earning interest income.
- Lending policy of SCBNL with regard to non-performing loan to total loans and advances was found to be the lowest with the mean value with 0.0351 as compare to NABIL Bank. The result indicates that if non-performing loan increases, the overall banking business will be negatively affected.
- The ratio of loans and advances to total assets was found greater in NABIL in comparison with SCBNL which shows the good lending performance of NABIL, where as in terms of loan and advances to current assets ratio, NABIL has highest mean than that of SCBNL, this meant that NABIL has relatively better practice in short term lending.
- Lending policy of SCBNL in terms of loan loss provision to total loans and advances was found relatively better than that of NABIL.

**Neupane (2009)**, in his research work “*Credit Policy Analysis of Commercial Bank with Special reference to Everest Bank Limited*”.

The Main Objectives of the Study are:

- To evaluate the various financial ratios of the EBL.
- To determine the impact of deposit in liquidity and its effect on lending practices.
- To analyze trend of deposit utilization towards loan and advances and net profit.

The Major Findings of the Study are:

- Cash and bank balance to current deposit of the bank shows the fluctuating trend during the study period. Similarly, cash and bank balance to interest sensitive ratio of EBL is also in fluctuating trend.
- Credit and advance to fixed deposit ratio of EBL is fluctuating trend. The mean ratio is 2.26 times in the study period. However, non-performing assets to total assets of EBL is in declining trend, whose mean ratio is 0.978%.
- The debt to assets ratio of EBL is excessively high or in other words they have excessively geared capital structure. On an average 93% of assets is financed through debt capital that is outsiders cost bearing fund.
- Return on loan and advances of EBL are also in fluctuating trend. The mean ratio is 2.2%. This shows the normal earning capacity of EBL.

**Pandey (2009)**, has made research on “*Credit Management of Nepal Bank Limited*”.

The Main Objectives of the Study are:

- To analyze the lending system of the bank.
- To examine the impact of growth in deposit on liquidity and lending practices.

- To assess credit practice of the bank
- To explore the relationship with loan and advances and net profit of the bank.
- To provide suggestions and recommendations for the improvement based on the findings of this study.

Major Findings of the Study are:

- NBL has sufficient liquidity. It shows that bank has not got investment sectors to utilize their liquid money. Now, in Nepal, many banks and other financial institutions are functioning to collect deposits and invest money somewhere in invest able sectors. Therefore, monetization has been increased since liberalization policy taken by the government. Heavy remittance has also help to increase the amount of deposits in bank. On the other hand, due to political crisis, economic sectors have been fully damaged. Most of the projects have been withdrawn due to security problem. Therefore, bank has maximum liquidity due to lack of safety investment sectors.
- Due to economic crisis in the country, credit takers are not getting good return from their investment sectors. On that situation, credit customers do not return money of the bank in the stipulated time period, therefore, the non-performing credit of the bank increases. As the non-performing credit increases, bank should increase its provision for credit loss.
- Credit related financial indicators demonstrate the quite poor situation in Nepal Bank Limited. Therefore, Financial Sector Reform Program is below the level and still much needs to be done. It can also be concluded that there has been almost similar procedures and policies while granting the loan, not much change from its conventional methods.

**Dhungana (2010)**, in his project work “*Credit Practices: A Study on NABIL Bank Ltd., SCB Nepal Ltd. and Himalayan Bank Ltd*”.

The Main Objectives of the Study are:

- To determine the liquidity position, the impact of deposit in liquidity and its effect on credit practices.
- To measure the bank's lending strength.
- To analyze the portfolio behavior of credit and measure the ratio and volume of lending made in agriculture, priority and productive sector.
- To measure the credit performances in quality, efficiency and its contribution in total income.

The Major Findings of the Study are:

- The measurement of liquidity has revealed that the mean current ratio of all the three banks is not widely varied. All of them are capable in discharging their current liability by current asset.
- SCBNL's tendency to invest in government securities has resulted with the lowest ratio of loans and advances to total assets ratio whereas NABIL Bank Ltd. has highest due to steady and high volume of loans and advances throughout the years.
- The loans and advances and investment to deposits ratio has shown that NABIL Bank Ltd. has deployed the highest proportion of its total deposits in earning activities. This is the indicative of that in fund mobilizing activities NABIL Bank Ltd. is significantly better.
- The portfolio analysis has revealed that the flow of loans and advances in agriculture sector is the lowest priority sector among these commercial banks. The contribution of all the banks in industrial sector is appreciable. The contribution made by Himalayan Bank Ltd. in industrial sector is the greatest and that of SCBNL is the least.
- The lending in commercial purpose is highest in case of NABIL Bank Ltd. and least in case of SCBNL. SCBNL has highest contribution in service sector lending. It has contributed 25.47 % of its total credit in general use and social purpose.

- The mean ratio of interest income to total income has concluded that the contribution of interest income in total income is higher in case of Himalayan Bank Ltd. and lower in case of SCBNL. The interest expenses to total deposits ratio indicate that the cost of fund in Himalayan Bank Ltd. is the highest and that of SCBNL is the least.

**Dhungel (2011)**, in his Master's thesis "*A Study on Credit Management of Agriculture Development Bank Limited*" has the main objective to evaluate the lending procedure of ADBL. In addition to this main objective,

The Main Objectives of Study are:

- To evaluate the trend of loan investment, collection and outstanding.
- To show the achievement of purpose-wise and term-wise loan disbursement, outstanding and collection of ADBL.
- To study lending policy, loan recovery procedure, interest rate and discount of ADBL.

The Major Findings of the Study are:

- The total investment increased from Rs. 7.13 billion in FY 2062/63 to Rs. 12.85 billion in FY 066/67 registering an annual average growth trend of Rs.0.82 billion or 10.43%.
- The total collection of development increased from Rs. 5.34 billion in FY 062/63 to Rs. 11.84 billion in FY 066/67 registering an annual average growth trend of Rs. 0.93 billion or 14.22%.

**Khitawada (2012)**, in her Master's Thesis "*Credit Management of Siddhartha Development Bank Limited*" has the main objective to analyze the credit management of the SVBL.

The Main Objectives of the Study are:

- To analyze the trends of deposit collection and credit lending.

- To assess total amount of loan.
- To evaluate the performance of SDBL in terms of liquidity, profitability, sector wise loan, and non-performing loan.
- To analyze the capital adequacy of SDBL.

The Major Findings of the Study are:

- Deposit collection of SDBL has increasing trend. There is continuous increasing trend from 10 percent to 100 percent.
- In all year total fixed deposit has more contribution than other deposit. Then more contribution of saving deposit than that of current and call deposit.
- Correlation between deposit and loan disbursement is 0.99. This indicates that these two variables relation is highly positive.
- Capital adequacy of the SDBL has sufficient against NRB standard. It indicates that the lending capacity of SDBL is high.
- The highest risk of SDBL is in credit risk.

The Major Findings of the Study are:

- The average current ratio of the first period was 105.11% over 100.49% of the second period. Through the proportion of current asset greater than that of current liabilities at an average during both the periods the bank cannot be said to have a sound current ratio.
- First period of the study had better short term solvency than the second period.
- The highest and lowest current ratios for the first period were 110.35% and 101.031% in the F.Y. 047/048 and 048/049 respectively. Whereas the same for the second period were 104.47% and 94.16% in F.Y. 053/054 and 056/057 B.S. respectively.
- The F.Y. 055/056 also showed the ratio less than 100% i.e. 97.92%.
- Both the period liquidity position of the bank was worsening.

## **2.4 Research Gap**

The purpose of this research is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas, knowledge and suggestions in relation to credit management of Nepal Bank Limited. Thus, the previous study can't be ignored because they provide the foundation to the present study. In other words, there has to continuity in research. This continuity in research is ensured by linking the present study with the past research studies. Here, it is clear that the new research cannot be found on that exact topic, i.e. Credit Management of Nepal Bank Limited. Therefore, to fulfill this gap, this research is selected. To complete this research work, many books, journals, articles and various published and unpublished dissertations are followed as guideline to make the research easier and smooth. In this regard, here we are going to analyze the different procedure of credit management, which is considered only on Nepal Bank Limited. Our main research problem is to analyze whether the NBL is able to utilize the resources effectively or not. To achieve this main objective, various financial and statistical tools are used. Similarly, trend analysis of investment and profit are reviewed to make this research complete. Therefore, this study is useful to concerned banks as well as different persons: such as shareholders, investors, policy makers, stockbrokers, state of government etc

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

It describes the methods and proves applied in the entire aspect of the study. Research is essentially a systematic inquiry seeking facts, through objectives variable methods in order to discover the relationship among them and to deduce from them broad principles or laws. This is a method of defining and refining problems, translating hypothesis or suggested solution, collecting, organizing and evaluating data, making decisions and making conclusions. "Research is the process of a systematic and in depth study or search of any particular topic, subject or area of investigation backed by the collection, comparison, presentation and interpretation of relevant details or data. It is a careful search of inquiry in to any subject matter, which is an endeavor to discover or find out valuable facts which will be useful for further application or utilization" (Joshi, 2004:30).

Research methodology helps to find out accuracy, validity and suitability. The justification on the present study cannot be obtained without help of proper research methodology. For the purpose of achieving the objectives of the study, the applied methodology will be used.

This topic presents the short outline of the methods applied in the process of analyzing the credit management of the selected joint venture bank. Research is a systematic method of finding out the solution to a problem whereas research methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objective in view.

### **3.1 Research Design**

"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure" (Kothari, 1992: 20).

Research is the activity of finding out, locating or innovating new concepts, ideas, gathering knowledge and information about anything concerned. Research design is the criteria or methods that are applied for collecting necessary data and information on certain topic. Here, for the purpose of making thesis, various types of research methods have been used.

Research design is the definite procedure and techniques, which guides the study and the ways to do the study. This in fact is the specific presentation of the various steps in research process. These steps include the selection of a research process. These steps include the selection of a research problem, presentation of the problem, methodology, survey of literature, data collection, interpretation and presentation, report writing and bibliography.

The topic of the problem has been selected as "Credit Management of NBL". The sole objective of this study is to make analysis of credit management of NBL with respect to the directives imposed by Nepal Rastra Bank. In order to reach and accomplish the objectives of the study, different activities are carried out and different stages are crossed during the study period. For this purpose, the chapter aims to present and reflect the method and techniques those are carried out and followed during the study period. The research methodology adopted for the present study is mentioned in this chapter which deals with research design, sources of data, data collection, processing and tabulation, procedures and methodology.

### **3.2 Population and Sample**

A population is a complete enumeration of each and every unit of the universe as a whole. It is related to the total study of the material in detail. There are 31 A class licensed banks in Nepal but this study considers only Nepal Bank Ltd. as a sample.

Sample is a small separated part showing the quality of the whole. In sample, only a part of the universe is considered and conclusions about the entire universe are drawn on that basis. Here, for the proposed study, I have taken Nepal Bank Ltd. as a sample. Likewise, Simple Random Sampling by using Lottery Method and Judgmental Sampling will be used for its study.

### **3.3 Data Analysis Procedure**

Data analysis is the separation of the collected information into parts for study and interpretation. It is concerned with the detailed examination of the topic for easy reference. For appropriate data analysis, different analysis will be used to establish the quantities/numerical relationship between variables. The analysis will be:

- Financial Analysis
- Statistical Analysis
- Trend Analysis

### **3.4 Nature and Sources of Data**

Data is a collection of related raw materials on which decision is based. There are mainly two sources of data-primary data and secondary data. This study will be conducted mainly based on secondary data like financial/annual statements of the bank, bulletins, bank articles and literature, economic survey reports etc. of the fiscal year with negligent amount of primary data like personal interview with the concerned authorities and departments, questionnaire etc. The major sources of secondary data for this study are as follows:

- Annual reports of the bank.
- Previous studies and reports.
- Unpublished official records.
- Published and unpublished bulletins and reports of the Nepal Bank Limited.
- Reports published by Nepal Stock Exchange.
- Reports of "Nepal Rastra Bank Samachar" and "Banking and Financial Statistics" published by Nepal Rastra Bank.
- Journal and other published and unpublished related document and reports for Central Library of T.U., American Library, Library of Shanker Dev Campus, Library of Nepal Rastra Bank.
- Various Internet Websites related to banking and finance.
- Other materials published in daily, weekly, monthly newspaper and magazines.

### **3.4.1 Ratio Analysis**

Ratio analysis is the calculation and interpretation of financial ratio to assess the firms ' performance and status. It is the relationship between two accounting figures expressed mathematically.

“Ratio analyses are the main tool of financial statement analysis. Ratio means the numerical or quantitative relationship between two items or variables. It can be expressed as percentage, fraction or stated or comparison between numbers.”

Financial ratio is the mathematical relationship between two accounting figures. "Ratio analysis is used to compare a firm's financial performance and status to that other firm of to it overtime." From the help of ratio analysis, the quantitative judgment can be done regarding financial performance of a firm.

In this study, different ratio are calculated and analyzed, which are given below:

### **A. Liquidity Ratio**

Liquidity ratios measure the ability of the firm to meet its current obligation. The failure of a company to meet its obligation, due to lack of sufficient liquidity, will result in a bad credit image, loss of creditor's confidence, or even in lawsuits resulting in the closure of the company. A very high degree of liquidity is also bad, as idle assets earn nothing. The firm's funds will unnecessarily tie up in current assets. Thus it is the measurement of speed with which bank's assets can be converted into cash to meet deposit withdrawal and other current obligations. There are various ratios under liquidity ratio, which are calculated as follows.

#### **Cash Reserve Ratio (Cash and Bank Balance to Total Deposit Ratio)**

It is the ability of to meet their daily requirements. Hence, cash and bank balance includes cash in hand, foreign cash on hand, cheques and other cash items, balance held in foreign banks. The deposit represents current deposits, saving deposits, fixed deposits, money at call and short notice and other deposits. Dividing cash & bank balance calculate the ratio by total deposits.

It is stated as:

$$\text{Cash and Bank Balance Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposits}}$$

### **B. Assets Management Ratio of Activity Ratio**

Activities ratios are employed to evaluate the efficiency with which the firm manages and utilizes its assets. The ratios are also called turn over ratios because they indicate the speed with which assets are being converted or turnover. Thus ratios are used to measure the bank's ability to utilize. These are following ratios, which falls in this category.

#### **Loan and Advances to Total Deposit Ratio**

This ratio shows how successfully the bank is utilizing its total deposits to loan and advance for generating profit. The ratio can be obtained by dividing loan

and advances by total deposits. Higher ratio implies the better utilization of total deposits. This can be stated as:

$$\text{Loan \& Advances to Total Deposit Ratio} = \frac{\text{Loan and Advance}}{\text{Total Deposits}}$$

### **Total Investment to Total Deposit Ratio**

This ratio shows the utilization of firm's deposit in government securities and bonds, shares and debentures of other companies and bank. Share is subsidiary companies & other investments.

Mathematically it is expressed as:

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposits}}$$

### **Investment on Government Securities to Total Assets Ratio**

This ratio focuses on the bank's Investment on government securities in comparison to the working fund. This ratio is calculated by dividing Investment on government securities by total working funds.

Mathematically it is expressed as: Investment on Government Securities to Total Working Fund

$$= \frac{\text{Investment on Government Securities}}{\text{Total Assets}}$$

### **Non Performing Assets to Performing Assets Ratio**

This ratio focuses on the bank's nonperforming loan to performing loan This ratio is calculated by dividing bank's nonperforming loan by performing loan.

Mathematically it is expressed as:

Non Performing Assets to Performing Assets Ratio:

$$= \frac{\text{Nonperforming Assets}}{\text{Performing Assets}}$$

### **Non Performing Assets to Total Assets Ratio**

This ratio focuses on the bank's nonperforming loan to Total assets. This ratio is calculated by dividing bank's nonperforming loan by Total assets.

Mathematically it is expressed as:

Non Performing Assets to Total Assets Ratio:

$$= \frac{\text{Nonperforming Assets}}{\text{Total Assets}}$$

### **Loan Loss Provision Ratio**

This ratio shows the possibility of loan default of a bank. It indicates how efficiency it manages its loan and advances and makes effort for loan recovery. Higher ratio implies higher portion of non- performing loan portfolio. It is computed by dividing loan loss provision from total loan and advance derives this ratio. This can be stated as:

$$\text{Loan Loss Ratio} = \frac{\text{Total Loan Loss Provision}}{\text{Total Loan and Advances}}$$

### **Provision for Pass Loan to Total Pass Loan Ratio**

This ratio shows the relationship between total loan and provision for pass loan. It indicates how provisions are managed with its pass loan and advances. This can be stated as:

$$\text{Provision for pass loan to total pass loan ratio} = \frac{\text{Provision for Pass Loan}}{\text{Total Pass Loan and Advances}}$$

### **Provision for Doubtful Debts to Total Doubtful Debt Ratio**

This ratio shows the relationship between total doubtful debt and provision made for that. This can be stated as:

$$\text{Provision for doubtful debt to total doubtful debt ratio} = \frac{\text{Provision for doubtful Loan}}{\text{Total Doubtful debt}}$$

### **Provision for Bad Debts (Loss) to Total Bad Debt Ratio**

This ratio shows the relationship between total bad debt and provision made for that. This can be stated as:

$$\text{Provision for bad debt to total bad debt ratio} = \frac{\text{Provision for bad debts Loan}}{\text{Total bad debts}}$$

### **C. Profitability Ratio**

Any organization should earn profit to survive and grow over a long period of time. Profit is ultimate output of any organization, and it will have no future if it fails to make sufficient profits. Thus, the financial manager should continuously evaluate the efficiency of its organization in terms of profit. Profitability ratios are the best indicator to measure overall efficiency of operation any organization. As the management of organization, creditors & owners are also interested in the profitability of firm. Creditors want to get interested and repayment of principal regularly. Owners want to get a reasonable return on their investment. This is possible only when the organization earns enough profit. Profitability ratio implies that higher the profitability ratio, better the financial performance of the bank. Profitability position of the bank can be evaluated in terms of the relationship between net profit and assets.

The following ratios are taken into account under this heading.

#### **Net Profit/Loss to Total Assets Ratio**

The ratio is useful to measure how well management uses all the assets in the business to generate an operating surplus. Higher the ratio indicated the higher efficiency in the utilization of total assets and vice-versa. The ratio is how due to low profit. In other words, it is low utilization of bank assets and over use of higher interest bearing amount of debt and vice-versa.

In this study, net profit/loss assets ratio is examined to measure the profitability of all the financial resources in bank-assets and is calculated by applying the following formula:

$$\text{Net profit/loss to total assets ratio} = \frac{\text{NetProfit (Loss)}}{\text{Total Assets}}$$

### **Interest Income to Total Loan and Advances Ratio**

It tells the income as interest from total credit and advances. It is useful to know the facts that whether the credit has given good return or not. We can increase interest income by taking good issuing and recovery credit policy. High return shows the soundness of credit policy. It is calculated by using the following formula:

$$\text{Interest income to total credit and advances} = \frac{\text{Interest Income}}{\text{Total Loan and Advances}}$$

### **Interest Expenses to Total Expenses**

It shows the relationship between interest expenses and total expenses. It indicates how much interest expenses are incurred in comparison to total expenses. Higher interest expenses will reduce the profitability of the bank. It is calculated by using the following formula:

$$\text{Interest expenses to total expenses} = \frac{\text{Interest Expenses}}{\text{Total Expenses}}$$

### **Interest Expenses to Total Income Ratio**

It shows the relationship between interest expenses and total income. It indicates how much interest expenses are incurred in comparison to total income. Lower interest expenses will increase the profitability of the bank. It is calculated by using the following formula:

$$\text{Interest expenses to total income} = \frac{\text{Interest Expenses}}{\text{Total Interest Income}}$$

### **Interest Expenses to Total Income Ratio**

It shows the relationship between interest expenses and total income. It indicates how much interest expenses are incurred in comparison to total income. Lower interest expenses will increase the profitability of the bank. It is calculated by using the following formula:

$$\text{Interest expenses to total income} = \frac{\text{Interest Expenses}}{\text{Total Interest Income}}$$

### **Return on Equity Ratio**

It shows the net profit amount earned by the bank in relation with net worth. It indicates earning capacity of equity; It is calculated by using the following formula:

$$\text{Return on equity ratio} = \frac{\text{Net Profit After Tax}}{\text{Net Worth}}$$

### **Return on Total Assets Ratio**

It shows the net profit amount earned by the bank in relation with total assets. It indicates earning capacity of total assets; It is calculated by using the following formula:

$$\text{Return on total assets ratio} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}}$$

## **3.4.2 Statistical Analysis**

### **3.4.2.1 Arithmetic Mean**

Arithmetic mean in a given set of observation is their sum divided by the number of observation. In such case all items are equally important. (S C Gupta-1999) It depicts the characteristic of the whole group. It is an envoy of the entire mass of homogeneous data. Generally the average value lies somewhere in between the extremes i.e. the largest and the smallest items. It is calculated as follows.

$$\text{Arithmetic Mean } (\bar{X}) = \frac{X_1 + X_2 + X_3 + \dots + X_n}{N}$$

Or

$$\bar{X} = \frac{\Sigma X}{N}$$

Where,

X = Sum of the sizes of items

N = Number of items

Σ = Summation

### 3.4.2.2 Coefficient of Correlation Analysis

The statistical tool, coefficient of correlation has been studied to find out whether the two available variables are inter-correlated or not. If the result falls within the correlated point, the two variables are inter-correlated otherwise not. Now to find out the correlation coefficient between total lending and total assets, the widely used method of Karl Pearson's Coefficient of Correlation has been adopted.

$$\text{Coefficient of Correlation (r)} = \frac{n\Sigma X_1 X_2 - \Sigma X_1 \Sigma X_2}{\sqrt{n\Sigma X_1^2 - (\Sigma X_1)^2} \sqrt{n\Sigma X_2^2 - (\Sigma X_2)^2}}$$

Where,

n = Number of Pairs of  $x_1$  and  $X_2$  observed

$X_1$  = Values of first Type of variable

$X_2$  = Value of second type of Variable

r = Karl Pearson's Coefficient of Correlation

### 3.4.2.3 Probable Error (PE)

The probable is used to measure the reliability and test of significance of correlation coefficient. It is calculated by following formula:

$$\text{P.E} = 0.6745 \frac{1-r^2}{\sqrt{n}}$$

Where,

r = the value of correlation coefficient

n = Number of pair of observation

P.E is used in interpretation whether the calculated value of r is significant or not.

- If  $r < \text{P.E.}$ , it is insignificant, i.e. there is no evidenced of correlation
- If  $r > 6 \text{ P.E.}$ , it is significant.
- $\text{P.E.}, < r < 6\text{PE}$  nothing can be concluded.

### **3.4.3 Trend Analysis**

Under this topic we analyze and interpret the trend of nonperforming loan to total loan and advances, and the trend of nonperforming loan to performing loan of NBL that helps to make forecasting for next five years. The following trend value analyses have been used in this study.

- Trend analysis of nonperforming loan to total loan and advances.
- Trend analysis of nonperforming loan to performing loan.
- The trends of related variables can be calculated as,  $Y = a + bx$

## **CHAPTER-IV**

### **ANAYSIS AND PRESENTATION OF DATA**

#### **4.1 Introduction**

This chapter deals with the presentation, analysis and interpretation of relevant data of NBL in order to fulfill the objectives of this study. The purpose of this chapter is to introduce the mechanics of data analysis and interpretation. Calculated financial ratios are analyzed and evaluated after their interpretation is made. The calculated secondary data have analyzed and presented in table form. For this purpose, analysis and interpretation are categorized into two headings. They are:

- Analysis of Financial Tools
- Statistical Tools

#### **4.2 Analysis of Financial Tools**

Under this topic various financial ratios are calculated to evaluate and analyze the performance of NBL. Study of all types of ratios is not done. Only those ratios that are important from the point of view of the fund mobilization and investment are calculated. The important ratios that are studied for this purpose are given below.

##### **4.2.1 Ratio Analysis**

Ratio Analysis enables the business owner/manager to spot trends in a business and to compare its performance and condition with the average performance of similar business in the same industry. To do this compare own ratios with the average of business similar to owns and compare own ratios for several successive years, watching especially for any unfavorable trends that may be starting. Ratio analysis may provide the all important early warning indications that allow us to solve business problems before our business is destroyed by them

## A. Liquidity Ratios

These ratios indicate the ease of turning assets into cash. Liquidity refers to the ability of a firm to meet its short term or current obligations. So liquidity ratios are used to measure the ability of a firm to meet its short term obligations. In the worst case, inadequate liquidity can lead to the liquidity insolvency of the institution. To find out the ability of the bank, to meet their short term obligations which are likely to mature in the short period, the following ratios are developed under the liquidity ratios to identify the liquidity position.

**Table 4.1**

**Cash Reserve Ratio (Cash and Bank Balance to Total Deposit Ratio)**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Cash &amp; Bank Balances</b>	<b>Total Deposit</b>	<b>Ratio</b>
2062/63	7174.06	35829.76	0.20
2063/64	7117.29	39014.2	0.18
2064/65	6616.99	35985.89	0.18
2065/66	9171.79	45194.23	0.20
2066/67	10141.28	42882.04	0.23
2067/68	12013.86	46808.43	0.25
2068/69	14063.69	56052.37	0.25
<b>Mean</b>	<b>9471.28</b>	<b>43109.56</b>	<b>0.22</b>

*Source: Appendix-1*

**Figure 4.1**

**Cash Reserve Ratio (Cash and Bank Balance to Total Deposit Ratio)**

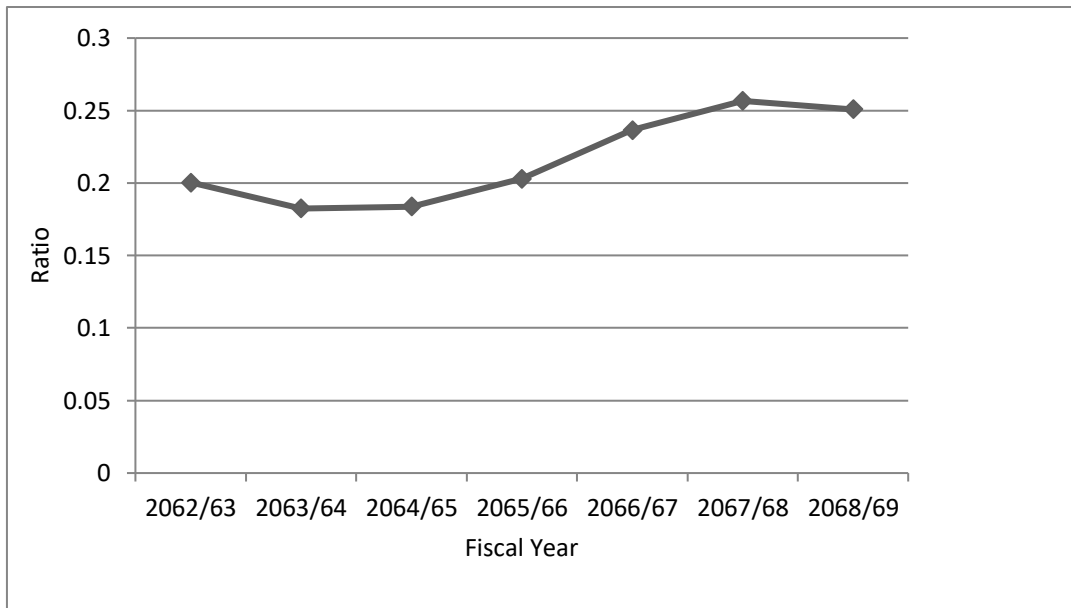


Table 2.1 and figure 2.1 present the cash and bank balance to total deposit ratio of Nepal Bank Ltd for the study period 2062/063 to 2068/069. Cash and bank balance to total deposit ratio of this bank has been observed as 0.200, 0.182, 0.184, 0.203, 0.236, 0.257 and 0.251 respectively throughout the study period. The mean ratio for the study period is 0.216. That means the bank has 21.62% of cash and bank balance of the total deposit. Adequate cash and bank balance is necessary to maintain the liquidity position. Too much of it can make the excess money useless and too less will reduce the capacity of a bank to pay its customers principal and interest. In each year of the study period, the ratio of cash and bank balance is well above the standard i.e. 5 to 10 percentage of liquidity. Currently NRB is directed to maintain 6% cash reserve ratio for commercial bank. From this, it is obvious that the bank has enough cash and bank balance to cover its deposit demand.

**B. Activity / Efficiency Ratios**

It is also known as turnover or efficiency ratio or assets management ratio. It measures how efficiently the firm employs the assets. Turnover means, how

many numbers of times the assets flow through a firm s operations and into sales (Kulkarni, 1994: 26). Greater rate of turnover or conversion indicates more efficiency of a firm in managing and utilizing its assets, being other things equal. Various ratios are examined under this heading.

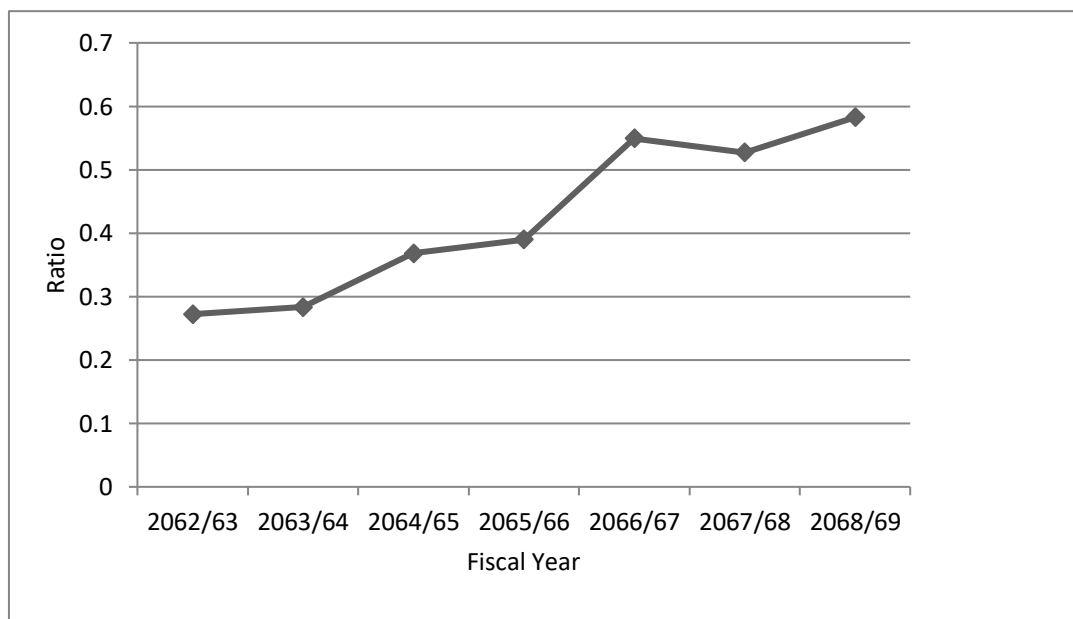
**Table 4.2**  
**Loan and Advance to Total Deposit Ratio**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Loan Advances &amp; Bill Purchase</b>	<b>Total Deposit</b>	<b>Ratio</b>
2062/63	9756.16	35829.76	0.27
2063/64	11058.47	39014.20	0.28
2064/65	13251.96	35985.89	0.36
2065/66	17614.89	45194.23	0.38
2066/67	23560.95	42882.04	0.54
2067/68	24671.28	46808.43	0.52
2068/69	27683.53	56052.37	0.58
Mean	18228.1837	43109.56	0.42

Source: Appendix-2

**Figure 4.2**  
**Loan and Advance to Total Deposit Ratio**



From the above table 2.2 and diagram, the average ratio of credit and advances to total deposit is 0.4246. The fluctuation in the ratio is in increasing trend. Under the study period, starting from 2062/063 to 2068/069, the ratio goes from 0.272, 0.283, 0.368, 0.390, 0.549, 0.527, and 0.582 respectively. The mobilization of total deposit is increasing and the main reason behind this increasing trend could be the liberal policy with launching new product of consumer lending product such as NBL Home Loan, NBL Auto Loan, NBL Personal Loan with term and overdraft facility and NBL Margin Loan by the management. The bank has been adopted aggressive lending policy. Total deposits are the main sources of bank to provide credit and advances. Major portion of the deposit has been lending as loan and advances.

**Table 4.3**

**Loan Advances & Bills Purchase and Investment to Total Deposit Ratio**

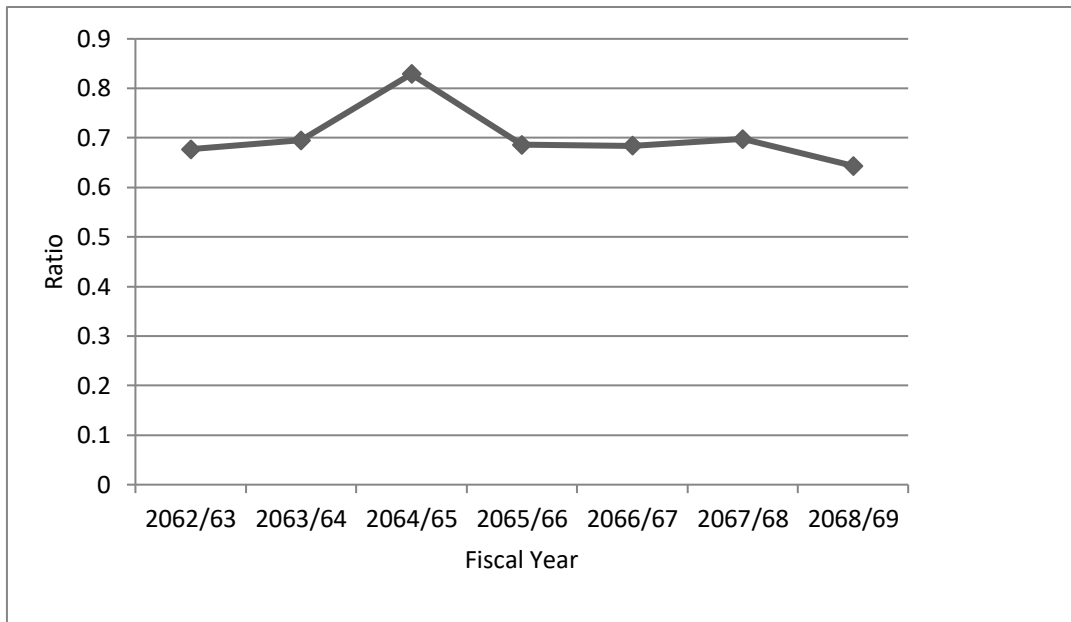
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Loan Advances and Bills Purchase &amp; Investment</b>	<b>Total Deposit</b>	<b>Ratio</b>
2062/63	24246.41	35829.76	0.67
2063/64	27130.65	39014.20	0.69
2064/65	29822.71	35985.89	0.82
2065/66	31012.45	45194.23	0.68
2066/67	29345.32	42882.04	0.68
2067/68	32656.82	46808.43	0.69
2068/69	36075.27	56052.37	0.64
Mean	30041.38	43109.56	0.70

*Source: Appendix-3*

**Figure 4.3**

**Loan Advances & Bills Purchase and Investment to Total Deposit Ratio**



From the above table no.4, it is visualized that the credit and investment to total deposit ratio. It is often said as credit to deposit ratio. NRB the central regulatory authority has directed to maintain the credit to deposit ratio to be less than 80%. Nepal Bank Limited for study period 2062/063 to 2068/069 has been observed as 0.677, 0.695, 0.829, 0.686, 0.684, 0.698, and 0.644 respectively. The mean ratio is 0.70 meaning about 70% of the total deposit is mobilized in the credit and investment.

The trend of total deposit is increasing other than of period 2064/065 and 2066/067. The figure is around 56 billion rupees and the trend of loan and advances is also increasing one. The increase in the loan and advance can be attributed to the consumer loan and consortium in case of Nepal bank. Nepal bank has hugely invested in the loan that is related to consumer lending.

**Table 4.4**

**Non-Performing Assets to Performing Assets (Loan) Ratio**

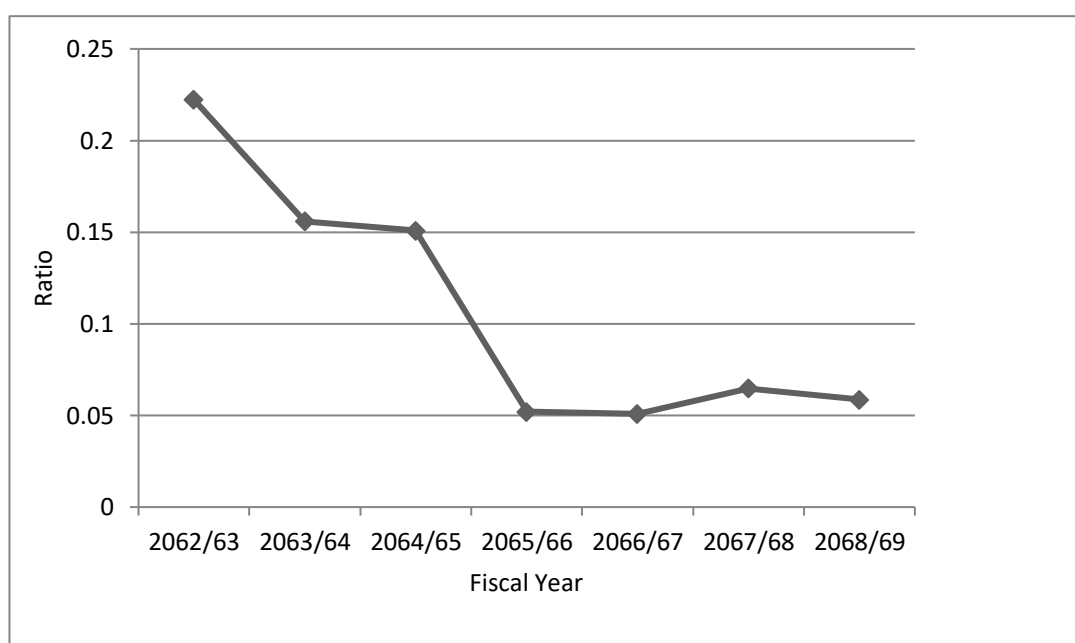
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Performing Assets</b>	<b>Non Performing Assets</b>	<b>Ratio</b>
2062/63	10179.00	2262.00	0.22
2063/64	11900.00	1856.00	0.16
2064/65	13697.85	2067.14	0.15
2065/66	18593.37	966.72	0.05
2066/67	23827.91	1211.95	0.05
2067/68	23708.23	1534.85	0.06
2068/69	28054.18	1644.69	0.06
Mean	18565.79	1649.05	0.11

Source: Appendix- 4

**Figure 4.4**

**Non-performing Assets to Performing Assets (Loan) Ratio**



The lower the ratio between the non performing assets to performing assets better the banks efficiency would be. The ratio of performing to non-performing assets of Nepal Bank Limited is 0.2222, 0.1559, 0.1509, 0.0519, 0.0508, 0.0647, and 0.0586 in the financial year 2062/063 to 2068/069 respectively. The mean ratio of nonperforming loan to performing loan is

0.1079 times. It indicates that the non performing loans are much more up to fiscal year 2064/065 than mean. The non performing loans are decreasing after 2065/066. This shows that the bad loan is slowly being recovered. This is the very positive indication. The management of NBL is focusing on recovery of loan so non-performing assets is decreasing much to the relief.

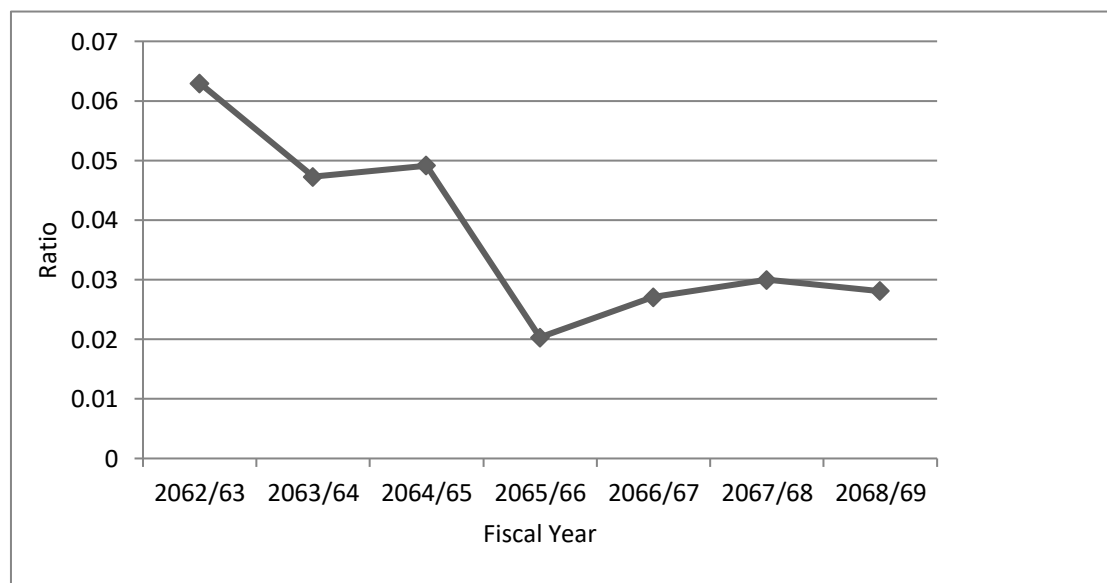
**Table 4.5**  
**Non-Performing Assets to Total Assets Ratio**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Non Performing Assets</b>	<b>Total Assets</b>	<b>Ratio</b>
2062/63	2262.18	35918.91	0.06
2063/64	1856.05	39258.79	0.05
2064/65	2067.14	42053.44	0.05
2065/66	966.72	47559.11	0.02
2066/67	1211.95	44736.65	0.03
2067/68	1534.85	51158.66	0.03
2068/69	1644.69	58586.22	0.03
Mean	1649.08	45610.25	0.04

Source: Appendix-5

**Figure 4.5**  
**Non-Performing Assets to Total Assets Ratio**



The non-performing assets to total assets ratio of NBL for seven years were 0.063, 0.0473, 0.0492, 0.020, 0.0271, 0.030 and 0.028 respectively throughout the

study period. The mean ratio is 0.0378 meaning that the non-performing assets are 3.78% of total assets. Analyzing this ratio, Nepal Bank Limited was not able to maintain the non- performing assets to total deposit ratio in initial stage of research period because Nepal Rastra Bank has directed all the commercial banks to have non- performing assets not to exceed 10% of total assets. Higher non-performing assets to total assets show the low performance of bank. Up to fiscal year 2064/065 of study period, the ratio is higher than the mean ratio. But in the fiscal year 2065/066 it is less than mean ratio, which are under the standard of NRB directives. It is because of recovery of some of the non-performing loan through new rules and regulations.

**Table 4.6**

**Loan Loss Provision to Total Loan Advances and Bill Purchase Ratio**

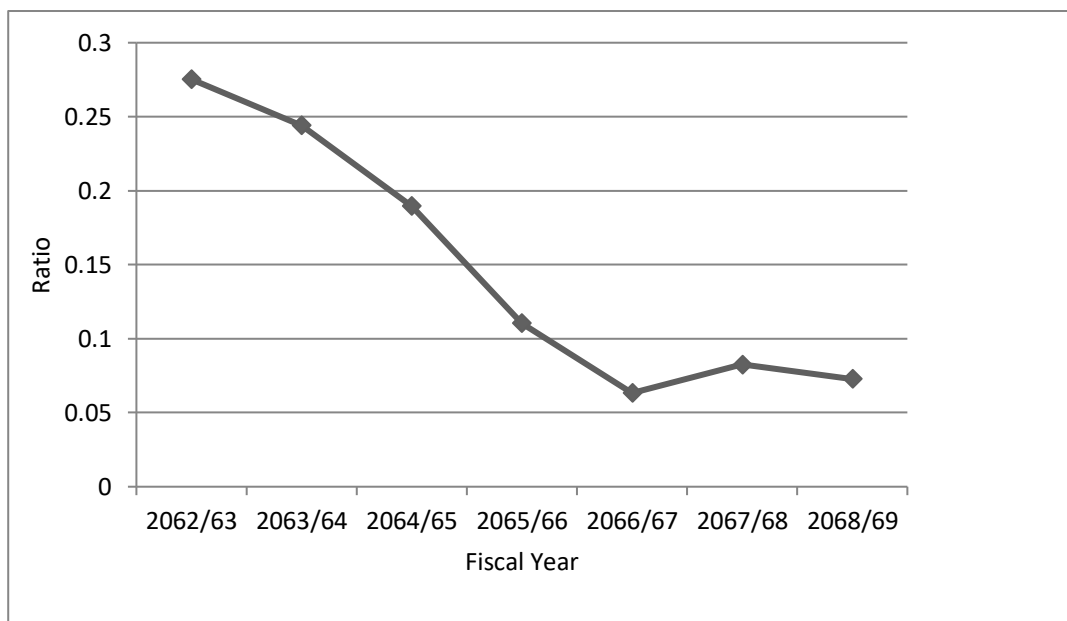
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Loan Loss Provision</b>	<b>Total Loan advances &amp; Bill Purchase</b>	<b>Ratio</b>
2062/63	2685.39	9756.16	0.28
2063/64	2698.14	11058.48	0.24
2064/65	2513.03	13251.96	0.19
2065/66	1945.19	17614.90	0.11
2066/67	1491.40	23560.96	0.06
2067/68	2034.60	24671.28	0.08
2068/69	2015.31	27683.55	0.07
Mean	2197.58	18228.18	0.15

*Source: Appendix- 6*

**Figure 4.6**

**Loan Loss Provision to Total Loan Advances and Bill Purchase Ratio**



Loan loss provision to total loan and advance ratio of Nepal Bank Limited for the study period of 2062/63 to 2068/069 is 0.275, 0.244, 0.190, 0.110, 0.063, 0.082 and 0.073 respectively. The trend of the total loan and advances is of increasing one and the trend of loan loss provision to total loan indicates that the bank has decreasing trend of non-performing loans. The mean ratio shows that in an average 15% of the total loan amount are provisioned against it. The ratio in the study period is decreased from 27% to 7%. From the fiscal year 2062/063 to 2065/066, the ratio is higher than the average ratio and in fiscal year 2066/067 to 2068/069, the ratios are lower than average ratio. According to the general standards, the banks should make higher percentage of provision for the non-performing loan so that the unnecessary burden of non- performing assets in the future is overcome. The total loan has been increased, but the loan loss provision has been fluctuated. Now in the years, the bank has been very careful in sanctioning in the loan and advances with new rules and regulations, so it may be the reasons behind decreasing the loan loss provision.

**Table 4.7**

**Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio**

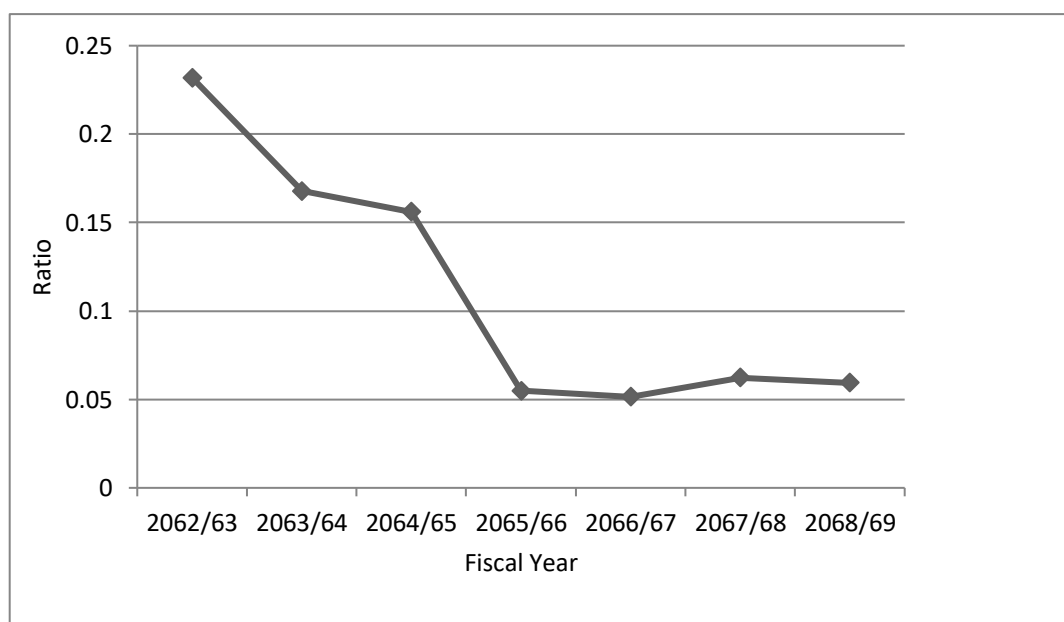
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Non Performing Loan</b>	<b>Total Loan, Advances &amp; Bill Purchase</b>	<b>Ratio</b>
2062/63	2262.18	9756.16	0.23
2063/64	1856.05	11058.48	0.17
2064/65	2067.14	13251.96	0.16
2065/66	966.72	17614.90	0.05
2066/67	1211.95	23560.96	0.05
2067/68	1534.85	24671.28	0.06
2068/69	1644.69	27683.55	0.06
Mean	1649.08	18228.18	0.11

Source: Appendix-7

**Figure 4.7**

**Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio**



Analyzing the non performing loan to total loan and advances ratio of Nepal Bank Limited through above table, the ratios are 0.232, 0.168, 0.156, 0.055, 0.051, 0.062 and 0.059 from year 2062/063 to 2068/069 respectively. The bank has 11% bad loan in average out of total loan and advances as its mean ratio is 0.11. The performance and efficiency of the bank is better if this ratio is low.

One to four or five percent non performing assets are fine but when it exceeds that limit, it s really worrisome. NRB has directed to all commercial banks that the ratio of non- performing assets to total loan and advance should be about 5%. But the ratio maintained by NBL seems to be very much higher than the standard directed by Nepal Rastra Bank. But the ratio has gone down in the later half of the study period in contrast with the beginning half which is a sign of progress in term of total loan and advance.

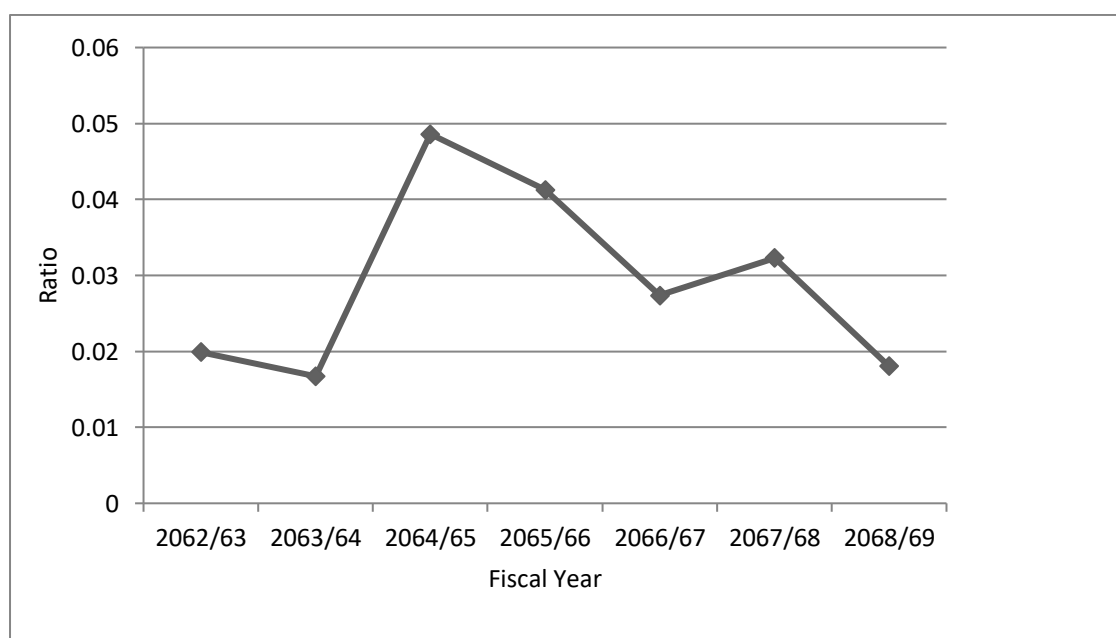
**Table 4.8**  
**Provision for Pass Loan to Total Pass Loan Ratio**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Provision for Pass loan</b>	<b>Total Pass Loan</b>	<b>Ratio</b>
2062/63	202.62	10179.00	0.02
2063/64	170.16	11900.00	0.02
2064/65	578.37	13697.85	0.05
2065/66	565.42	18593.37	0.04
2066/67	508.75	23827.91	0.03
2067/68	769.51	23708.23	0.03
2068/69	428.48	28054.18	0.02
Mean	460.47	18565.79	0.03

*Source: Appendix- 8*

**Figure 4.8**  
**Provision for Pass Loan to Total Pass Loan Ratio**



The table 4.8 and figure 4.8 show the comparative analysis of the provision for pass loan to total pass loan of Nepal Bank Limited for the study period 2062/063 to 2068/069. The average ratio for the seven year is 0.03 that means the bank has maintained a provision for pass loan at 3% of total pass loan in the study period. As per the Nepal Rastra Bank directives, the provision for pass loan should be 1% of total pass loan.

**Table 4.9**

**Provision for Doubtful Debt to Total Doubtful Debt Ratio**

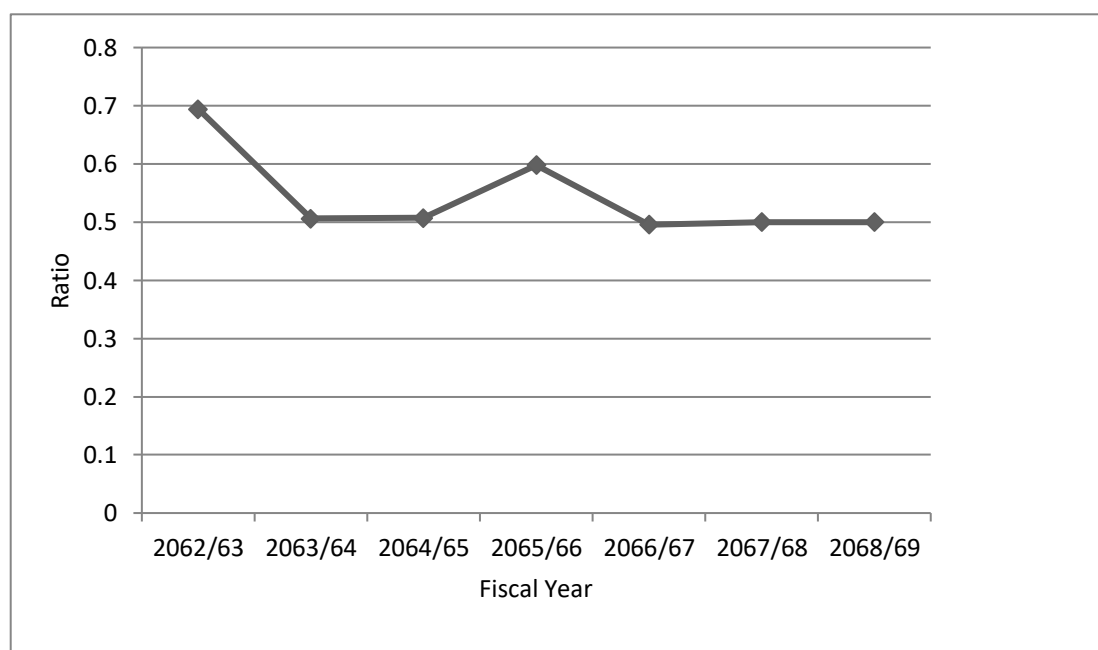
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Provision for Doubtful Debt</b>	<b>Total Doubtful Debt</b>	<b>Ratio</b>
2062/63	202.62	10179.00	0.02
2063/64	170.16	11900.00	0.02
2064/65	578.37	13697.85	0.05
2065/66	565.42	18593.37	0.04
2066/67	508.75	23827.91	0.03
2067/68	769.51	23708.23	0.03
2068/69	428.48	28054.18	0.02
Mean	460.47	18565.79	0.03

Source: Appendix-9

**Figure 4.9**

**Provision for Doubtful Debt to Total Doubtful Debt Ratio**



The table 4.9 shows the provision for doubtful debt to total doubtful debt of Nepal Bank Limited for the study period of 2062/063 to 2068/069. By observing the above table, it can be concluded that the bank has maintained the given standard in each of all fiscal years of the study period and has met the standard for the later half. The standard for the provision for doubtful debt to total debt by NRB is at about 50%. The high amount of doubtful debt and its provision is not good for the banks performance. The bank has maintained a provision for doubtful debt at 54% on an average over the study period. And the trend of both the doubtful debt and doubtful debt provision are clearly of decreasing one. In the fiscal year 2067/068 the bank has maximum doubtful debt and doubtful debt provision whose ratio is exact 50%, which is under NRB standard. Other than 2067/068 the amount of total doubtful debt and the provision for doubtful debt is decreasing.

**Table 4.10**

**Provision for Bad Debt (Loss) to Total Bad Debt Ratio**

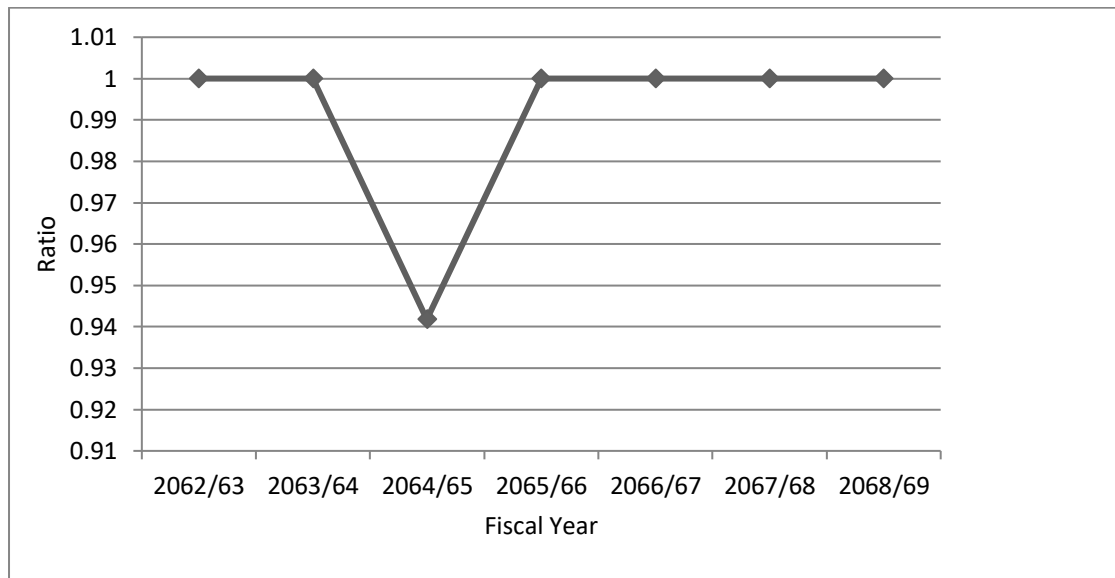
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Provision for Bad Debt</b>	<b>Total Bad Debt</b>	<b>Ratio</b>
2062/63	2127.48	2127.48	1.00
2063/64	1808.96	1808.96	1.00
2064/65	1867.17	1982.59	0.94
2065/66	884.07	884.07	1.00
2066/67	869.70	869.70	1.00
2067/68	877.43	877.43	1.00
2068/69	1547.06	1547.06	1.00
Mean	1425.98	1442.47	0.99

*Source: Appendix- 10*

**Figure 4.10**

**Provision for Bad Debt (Loss) to Total Bad Debt Ratio**



The ratio of provision for bad debt to total bad debt ratio of Nepal Bank Limited for the study period of 2062/063 to 2068/069 are 1 other than on fiscal year 2064/065 which has 0.942. The mean ratio of this ratio for the study period is 0.99. It means that only 99% of total debt has been kept for its provision on average. As per the NRB directives, the provision for bad debt should be 100% of total bad debt. The bank is able to maintain the ratio of 100% for all fiscal years except 2064/065 as per NRB directives. Increase in the bad debt can be subjected to the new classification of loan according to the NRB directives and increase in provision can be subjected to the compliance of standard by making additional provision in the succeeding years.

### **3. Profitability Ratios**

A company should earn profit to survive and to grow over a long period of time. It is the difference between revenues and expenses over a period of time. It shows the overall efficiency of the business concern. The following ratios are calculated under the profitability ratios:

**Table 4.11**

**Interest Income to Loan and Advances and Investment Ratio**

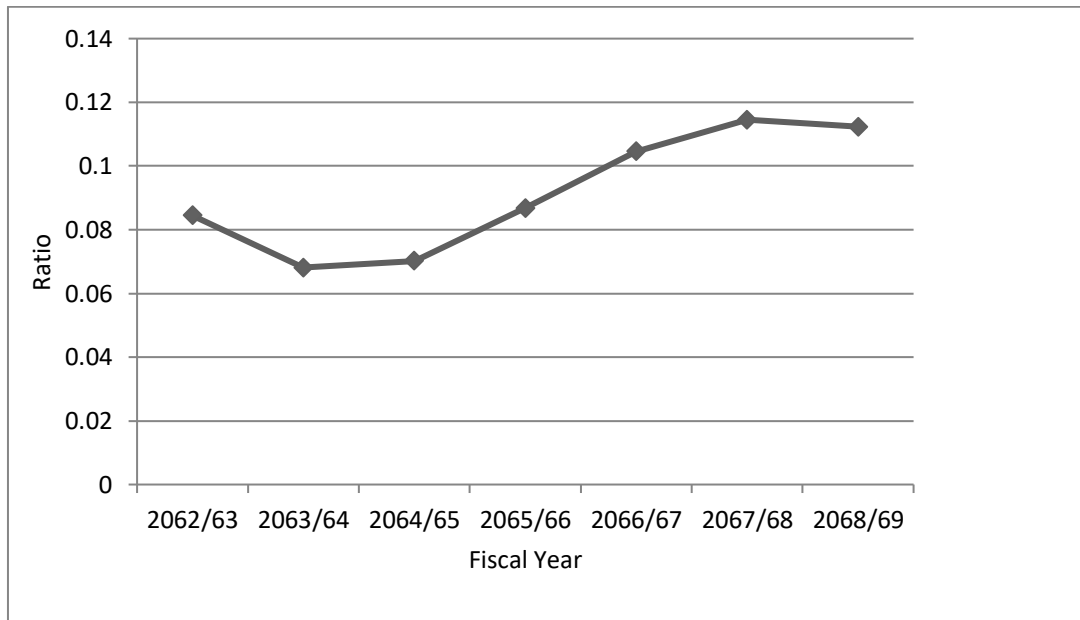
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Interest Income</b>	<b>Loan and Investment</b>	<b>Ratio</b>
2062/63	2049.03	24246.41	0.08
2063/64	1848.61	27130.66	0.07
2064/65	2094.91	29822.72	0.07
2065/66	2690.06	31012.46	0.09
2066/67	3067.55	29345.33	0.10
2067/68	3740.72	32656.83	0.11
2068/69	4051.15	36075.28	0.11
Mean	2791.72	30041.38	0.09

Source: Appendix- 11

**Figure 4.11**

**Interest Income to Loan and Advances and Investment Ratio**



The average ratio of interest income to loan in subject to loan and advance and investment of NBL is 9%. It means that the bank is earning the interest in credit and investment on average of 9% in seven years period. The year wise income for the study period of 2062/063 to 2068/069 is 0.085, 0.068, 0.070, 0.087, 0.105, 0.115 and 0.112 respectively. Viewing above ratios, the earning ratio is

in increasing trend. To have the high profitability position of bank, there should be high interest income ratio. Bank should balance between risky loan and safety loan and investment.

**Table 4.12**

**Interest Expenses to Total Expenses Ratio**

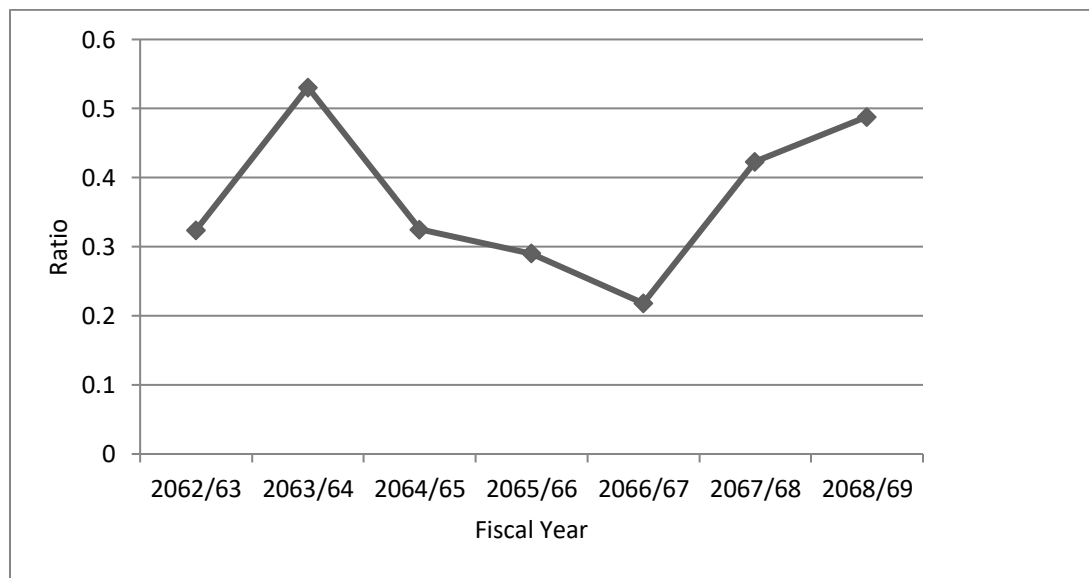
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Interest Expenses</b>	<b>Total Expenses</b>	<b>Ratio</b>
2062/63	774.33	2390.07	0.32
2063/64	772.64	1455.49	0.53
2064/65	772.66	2379.27	0.32
2065/66	791.71	2729.29	0.29
2066/67	909.99	4171.60	0.22
2067/68	1482.20	3501.24	0.42
2068/69	2197.14	4501.37	0.49
Mean	1100.10	3018.33	0.37

Source: Appendix- 12

**Figure 4.12**

**Interest Expenses to Total Expenses Ratio**



The higher the ratio of interest expenses to total expenses, the more interest bearing deposit that the bank has. Reviewing interest expenses to total expenses ratio table of Nepal Bank Limited for the study period of 2062/063 to 2068/069, average ratio for seven years is 0.37 which means on an average

NBL is maintaining the level of interest expenses to 37%. The ratios of NBL are in fluctuating in the study period. It has been observed 0.324, 0.531, 0.325, 0.290, 0.218, 0.423, 0.488 respectively for the fiscal year 2062/063 to 2068/069. The ratio is in highly fluctuation position. This clearly shows that the interest expenses are increasing or decreasing as per changes in market interest rate.

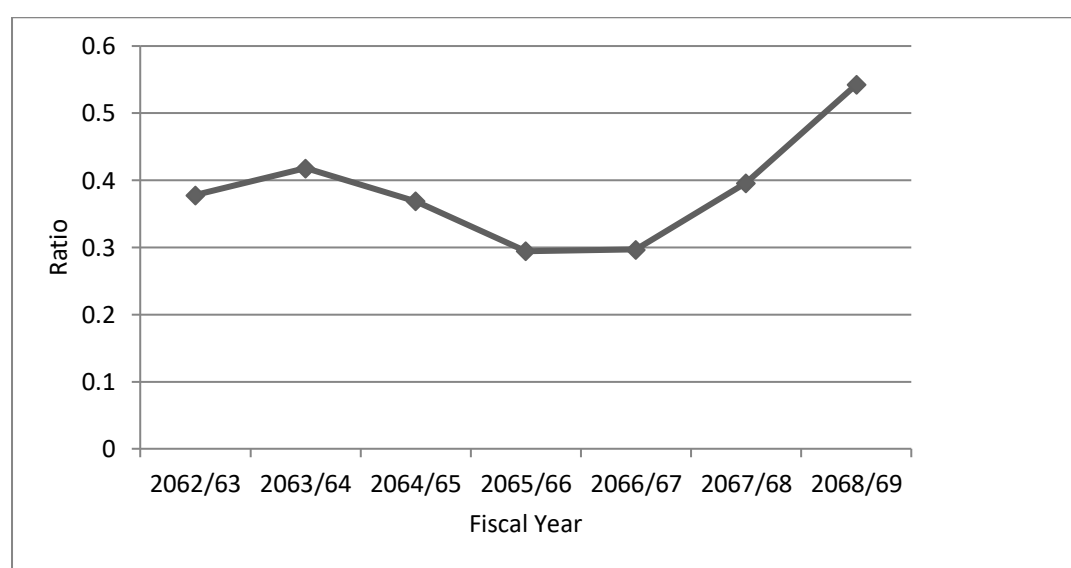
**Table 4.13**  
**Interest Expenses to Interest Income Ratio**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Interest Expenses</b>	<b>Interest Income</b>	<b>Ratio</b>
2062/63	774.33	2049.03	0.38
2063/64	772.64	1848.61	0.42
2064/65	772.66	2094.91	0.37
2065/66	791.71	2690.06	0.29
2066/67	909.99	3067.55	0.30
2067/68	1482.20	3740.72	0.40
2068/69	2197.14	4051.15	0.54
Mean	1100.10	2791.72	0.38

Source: Appendix-13

**Figure 4.13**  
**Interest Expenses to Interest Income Ratio**



Analyzing the above table and figure, the ratio of interest expenses to interest income of Nepal Bank Limited are 0.378, 0.418, 0.369, 0.294, 0.297, 0.396 and

0.542 respectively for the study period of 2062/063 to 2068/069. The average ratio is 0.38 meaning that out of total interest income, 38% is taken by interest expenses. High level of this ratio shows that bank has to bear high interest expenses out of interest income. In the last year of study period, the bank has been bearded high amount of interest expenses. It shows that bank is suffering high interest expenses in following year.

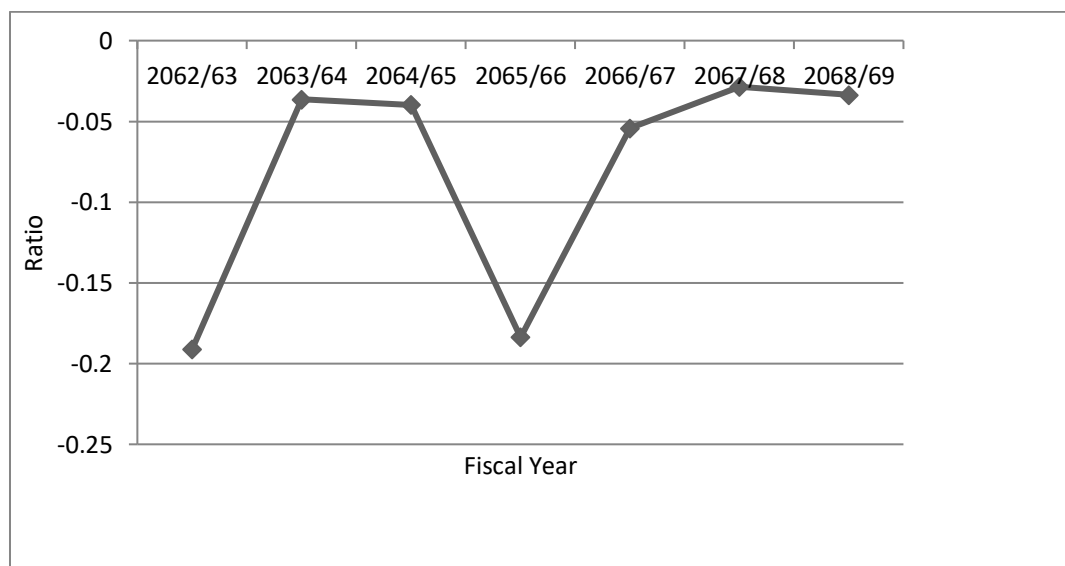
**Table 4.14**  
**Return on Equity Ratio**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Net Profit After Tax</b>	<b>Net Worth</b>	<b>Ratio</b>
2062/63	1207.26	-6314.00	-0.19
2063/64	226.95	-6238.00	-0.04
2064/65	239.21	-6010.00	-0.04
2065/66	894.25	-4869.00	-0.18
2066/67	249.38	-4603.00	-0.05
2067/68	128.35	-4489.00	-0.03
2068/69	146.08	-4336.00	-0.03
Mean	441.64	-5266.00	-0.08

*Source: Appendix-14*

**Figure 4.14**  
**Return on Equity Ratio**



The above table and chart of ratio of net profit after tax and net worth as return on equity of Nepal Bank Limited, for the financial year 2062/063 to 2068/069

shows that the situation of return on equity is not satisfactory. Net worth amount are in negative value throughout for the study period however the negative net worth has been gradually downsizing. The bank has positive net profit after tax. The amount of net profit after tax for fiscal year 2062/063 has been recorded as 1.21 billion after than that the profitability of the bank has been reduced hugely. Net profit after tax for the fiscal year 2063/064 to 2068/069 is recorded as 227, 239, 894, 249, 128, 146 million respectively.

**Table 4.15**

**Return on Total Assets Ratio**

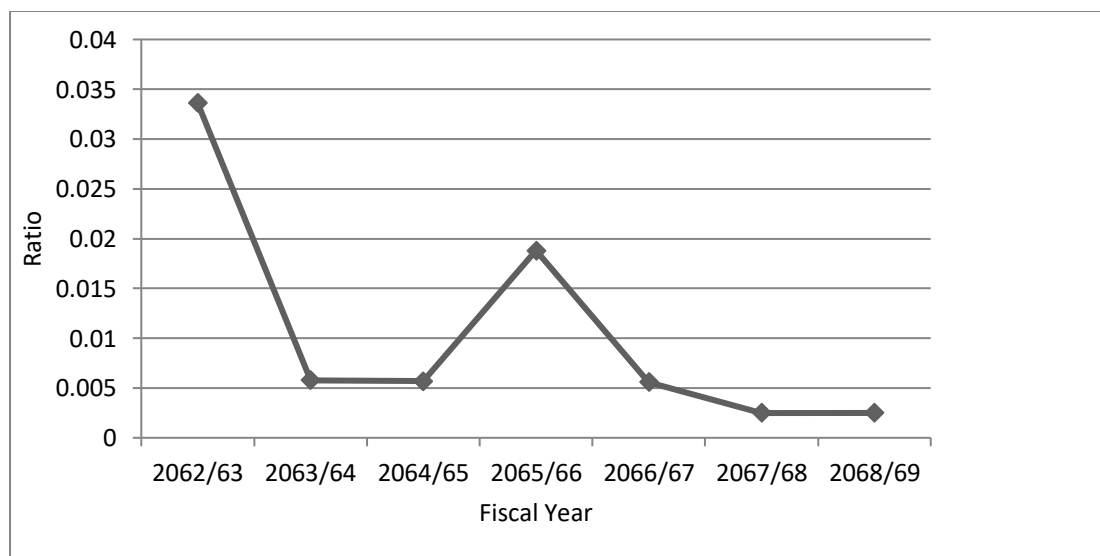
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Net Profit After Tax</b>	<b>Total Assets</b>	<b>Ratio</b>
2062/63	1207.26	35918.91	0.03
2063/64	226.95	39258.79	0.01
2064/65	239.21	42053.44	0.01
2065/66	894.25	47559.11	0.02
2066/67	249.38	44736.65	0.01
2067/68	128.35	51158.66	0.00
2068/69	146.08	58586.22	0.00
Mean	441.64	45610.25	0.01

Source: Appendix- 15

**Figure 4.15**

**Return on Total Assets Ratio**



Nepal bank has very poor performance in terms of profitability viewing the return on total assets ratios for the study period 2062/063 to 2068/069. Return on total assets ratio is very low for all fiscal years. During the study period, the bank is able to earn very little profit. The average ratio of return on total assets for the study period is 0.0106 meaning that the bank is in profit of 1% on average in respect to its assets. This indicates that the bank is not being able to manage the assets in efficient way. There is increasing trend of total assets for all the study period.

**Table 4.16**

**Return on Net Loan and Advance**

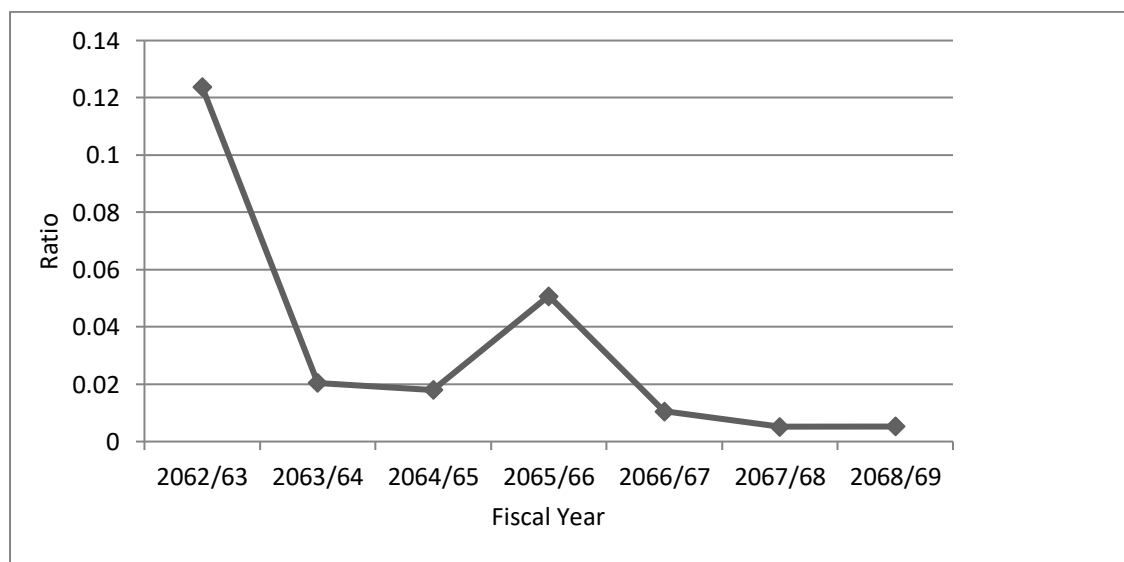
(Rs. in Millions)

<b>Fiscal Year</b>	<b>Net Profit After Tax</b>	<b>Net Loan and Advance</b>	<b>Ratio</b>
2062/63	1207.26	9756.16	0.12
2063/64	226.95	11058.48	0.02
2064/65	239.21	13251.96	0.02
2065/66	894.25	17614.90	0.05
2066/67	249.38	23560.96	0.01
2067/68	128.35	24671.28	0.01
2068/69	146.08	27683.55	0.01
Mean	441.64	18228.18	0.03

*Source: Appendix- 16*

**Figure 4.16**

**Return on Net Loan and Advance**



The return on Net Loan and advance of Nepal Bank Limited are 0.124, 0.021, 0.018, 0.051, 0.011, 0.005 and 0.005 respectively for the study period of 2062/063 to 2068/069. The average ratio for the study period is 0.03. That means the bank s return on net loan and advance is 3% in the seven years period. The trend of net loan and advance is increasing for all the study period. The higher the positive ratio, the better banks profitability is. After analyzing this table, we can conclude that NBL has low performance in terms of return on loan and advance.

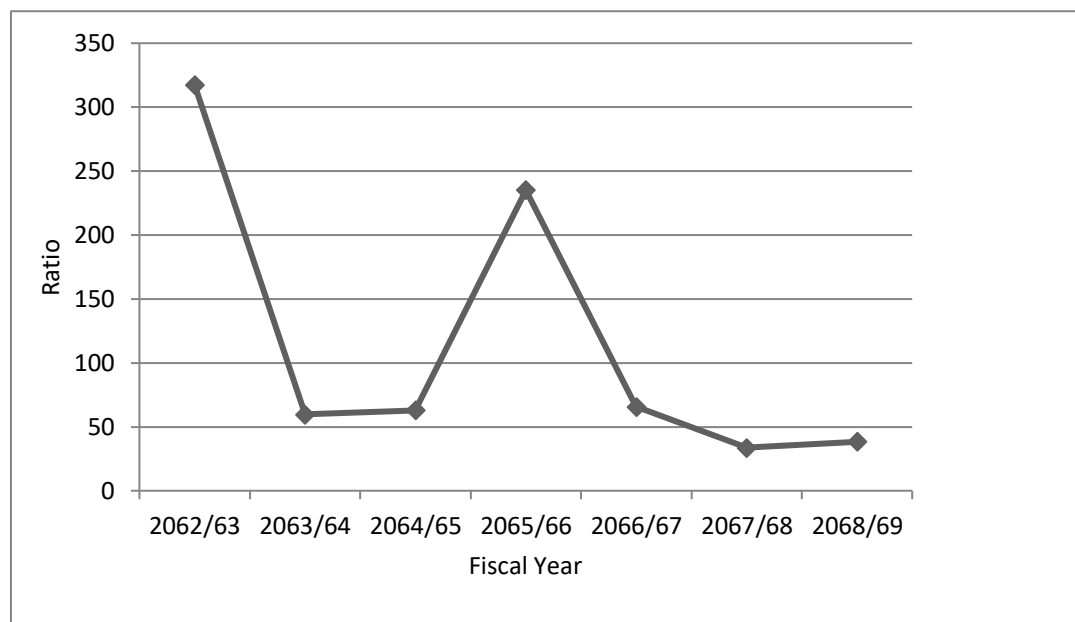
**Table 4.17**  
**Earning per Share**

(Rs. in Millions)

<b>Fiscal Year</b>	<b>Net Profit</b>	<b>Number of Shares</b>	<b>Earning Per Share</b>
2062/63	1207.26	3.80	317.38
2063/64	226.95	3.80	59.66
2064/65	239.21	3.80	62.89
2065/66	894.25	3.80	235.09
2066/67	249.38	3.80	65.56
2067/68	128.35	3.80	33.74
2068/69	146.08	3.80	38.40
Mean	441.64	3.80	116.10

Source: Appendix- 17

**Figure 4.17**  
**Earning per Share**



The average ratio of earning per share of Nepal Bank Limited for the study period is Rs. 116. EPS for the study period is recorded as Rs.317, 60, 63, 235, 66, 34, 38 for the fiscal year 2062/063 to 2068/069 respectively. The net profit has declined so much so the earning per share has also reduced highly without issuing of new shares. This indicates that the bank is not being able to raise capital through the issuance of equity shares. At present, the shares of Nepal Bank Limited have been listed in stock exchange. Nepal Bank Limited has prepared its capital plan to increase its paid up capital with 5 billion with an authorized capital of 6 billion. NRB and SEBON have permitted the relisting of shares in stock market although it has negative net worth considering its capital plan. Shares of Nepal Bank Limited is the first stock that has been traded on over the counter market of Nepse.

### 4.3 Statistical Analysis

#### 4.3.1 Coefficient of Correlation Analysis

The statistical tool, coefficient of correlation has been studied to find out whether the two available variables are inter- correlated or not. If the result falls within the correlated point, the two variables are inter-correlated otherwise not. Now to find out the correlation coefficient between total lending and total assets, the widely used method of Karl Pearson s Coefficient of Correlation has been adopted.

$$\text{Coefficient of Correlation (r)} = \frac{n\Sigma X_1 X_2 - \Sigma X_1 \Sigma X_2}{\sqrt{n\Sigma X_1^2 - (\Sigma X_1)^2} \sqrt{n\Sigma X_2^2 - (\Sigma X_2)^2}}$$

Where,

n = Number of Pairs of  $x_1$  and  $X_2$  observed

$X_1$  = Values of first Type of variable

$X_2$  = Value of second type of Variable

r= Karl Person s Coefficient of Correlation

### 4.3.2 Probable Error (PE)

The probable is used to measure the reliability and test of significance of correlation coefficient. It is calculated by following formula:

$$P.E = 0.6745 \frac{1-r^2}{\sqrt{n}}$$

Where,

r = the value of correlation coefficient

n = Number of pair of observation

P.E is used in interpretation whether the calculated value of r is significant or not.

- If  $r < P.E.$ , it is insignificant, i.e. there is no evidenced of correlation
- If  $r > 6 P.E.$ , it is significant.
- $P.E., < r < 6PE$  nothing can be concluded.

**Table 4.18**

#### Computation of Correlation Coefficient of Non Performing Assets and Total Loan

(Rs. in Billions)					
Fiscal Year	Non Performing Assets $X_1$	Total Loan $X_2$	$X_1^2$	$X_2^2$	$X_1X_2$
2062/63	2.26	9.76	5.12	95.18	22.07
2063/64	1.86	11.06	3.45	122.29	20.53
2064/65	2.07	13.25	4.27	175.61	27.39
2065/66	0.97	17.62	0.93	310.28	17.03
2066/67	1.21	23.56	1.47	555.12	28.55
2067/68	1.54	24.67	2.36	608.67	37.87
2068/69	1.65	27.68	2.71	766.38	45.53
	$\Sigma X_1 = 11.54$	$\Sigma X_2 = 127.60$	$\Sigma X_1^2 = 20.30$	$\Sigma X_2^2 = 2633.54$	$\Sigma X_1X_2 = 198.97$

Here,

$$N=7, \Sigma X_1 = 11.544, \Sigma X_2 = 127.597, \Sigma X_1^2 = 20.299, \Sigma X_2^2 = 2633.541,$$

$$\Sigma X_1X_2 = 198.969$$

$$\text{Coefficient of Correlation (r)} = \frac{n\Sigma X_1X_2 - \Sigma X_1\Sigma X_2}{\sqrt{n\Sigma X_1^2 - (\Sigma X_1)^2} \sqrt{n\Sigma X_2^2 - (\Sigma X_2)^2}} = -0.5801$$

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

We have,

$$r = -0.5801$$

$$n = 7$$

Then,

$$\text{Computation of Probable Error (P.E.)} = 0.2508$$

The correlation coefficient and probable error between non-performing assets and total loan in NBL remained -0.58 and 0.2508 respectively. Since  $r$  is less than probable error i.e.  $-0.58 < 0.258$  It indicates that there was no evidence of correlation. It is so, because of volatile trend of nonperforming assets i.e. (some time increasing and some time decreasing).

**Table 4.19**

**Computation of Correlation Coefficient of Total Loan and Total Assets**

(Rs. In Billions)

Fiscal Year	Total Loan X <sub>1</sub>	Total Assets X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub> X <sub>2</sub>
2062/63	9.76	35.92	95.18	1290.10	350.42
2063/64	11.06	39.26	122.29	1541.19	434.12
2064/65	13.25	42.05	175.61	1768.46	557.29
2065/66	17.62	47.56	310.28	2261.86	837.75
2066/67	23.56	44.74	555.12	2001.31	1054.03
2067/68	24.67	51.16	608.67	2617.14	1262.12
2068/69	27.68	58.59	766.38	3432.32	1621.72
	Σ X <sub>1</sub> = 127.60	Σ X <sub>2</sub> = 319.27	Σ X <sub>1</sub> <sup>2</sup> = 2633.54	Σ X <sub>2</sub> <sup>2</sup> = 14912.37	Σ X <sub>1</sub> X <sub>2</sub> = 6117.43

Here,

$$n=7, \Sigma X_1 = 127.60, \Sigma X_2 = 319.27, \Sigma X_1^2 = 2633.54, \Sigma X_2^2 = 14912.37,$$

$$\Sigma X_1X_2 = 6117.432$$

$$\begin{aligned} \text{Coefficient of Correlation (r)} &= \frac{n\Sigma X_1X_2 - \Sigma X_1\Sigma X_2}{\sqrt{n\Sigma X_1^2 - (\Sigma X_1)^2} \sqrt{n\Sigma X_2^2 - (\Sigma X_2)^2}} \\ &= \frac{7 \times 6117.432 - 127.597 \times 319.268}{\sqrt{7 \times 2633.541 - (127.597)^2} \sqrt{7 \times 14912.374 - (319.268)^2}} \\ &= \frac{42822.024 - 40737.639}{\sqrt{2153.793} \times \sqrt{2454.562}} \\ &= \frac{2085.024}{46.409 \times 49.544} \\ &= \frac{2085.024}{2299.266} \\ &= 0.907 \end{aligned}$$

**Computation of Probable Error (P.E.)**

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

We have,

$$r = 0.907$$

$$n = 7$$

Then,

$$\begin{aligned}
P.E. &= 0.6745 \times \frac{1-r^2}{\sqrt{n}} \\
&= 0.6745 \times \frac{1-(0.907)^2}{\sqrt{7}} \\
&= 0.6745 \times \frac{1-(0.823)}{2.6458} \\
&= \frac{0.177}{2.646} \\
&= 0.067
\end{aligned}$$

$$6 \times P.E. = 6 \times 0.067 = 0.402$$

The correlation coefficient and probable error between total loan and total assets in NBL remained 0.907 and 0.067 respectively. Since  $r$  is more than +0.5, and more than 6 times of probable error i.e.  $0.907 > 6 \times 0.067$ . ( $6 \times P.E. = 6 \times 0.067 = 0.402$ ). It indicates that there was significant correlation between total loan and total assets. In other words, the total loan and total assets of Nepal Bank Limited in the study period of 2062/63 to 2068/69 are significantly correlated.

**Table 4.20**  
**Trend Analysis of Non performing Loan to Total Loan Ratio**

Fiscal Year	Ratio Y	X= t- 2065/66	X <sup>2</sup>	XY	Y <sub>c</sub> = a+bx
2062/63	0.23	-3	9	-0.69	0.20
2063/64	0.17	-2	4	-0.34	0.17
2064/65	0.16	-1	1	-0.16	0.14
2065/66	0.06	0	0	0	0.11
2066/67	0.05	1	1	0.05	0.08
2067/68	0.06	2	4	0.12	0.05
2068/69	0.06	3	9	0.18	0.02
Total	ΣY= 0.79		ΣX <sup>2</sup> = 28	ΣXY = -0.84	

Here,  $\Sigma Y = 0.79$ ,  $\Sigma X^2 = 28$ ,  $\Sigma XY = -0.84$

Let the straight line trend equation  $Y_c = a+bx$

Where,

Y = Annual Ratio in Percentage

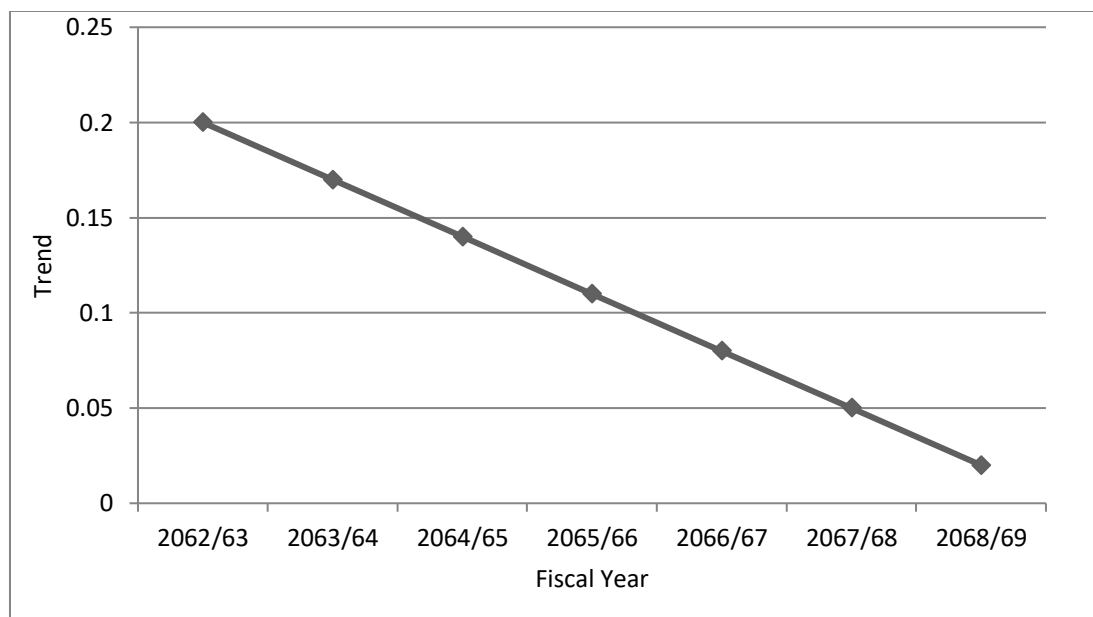
Now,

$$a = \frac{\Sigma y}{n} = \frac{0.79}{7} = 0.11$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{-0.84}{28} = -0.03$$

**Figure 4.18**

**Trend Analysis of Non Performing Loan to Total Loan Ratio**

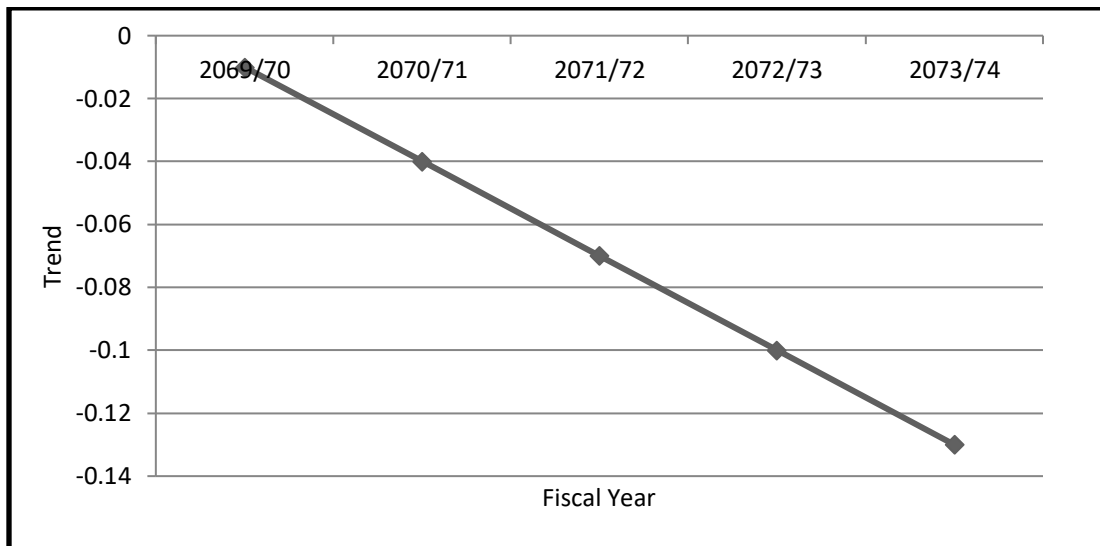


Projected trend Value of nonperforming loan to total loan for next five years

<b>Fiscal Year</b>	<b>x = t- 20656/66</b>	<b>Yc = a+bx</b>
2069/70	4	-0.01
2070/71	5	-0.04
2071/72	6	-0.07
2072/73	7	-0.10
2073/74	8	-0.13

**Figure 4.19**

### Projected Trend Analysis of Non Performing Loan to Total Loan Ratio



**Table 4.21**

### Trend Analysis of Nonperforming Loan to Performing Loan Ratio

Fiscal Year	Ratio Y	X= t-2065/66	X <sup>2</sup>	XY	Y <sub>c</sub> = a+bx
2062/63	0.22	-3	9	-0.66	0.20
2063/64	0.16	-2	4	-0.32	0.17
2064/65	0.15	-1	1	-0.15	0.14
2065/66	0.05	0	0	0	0.11
2066/67	0.05	1	1	0.05	0.08
2067/68	0.06	2	4	0.12	0.05
2068/69	0.05	3	9	0.15	0.02
Total	ΣY= 0.74		ΣX <sup>2</sup> = 28	ΣXY = -0.81	

Here,  $\Sigma Y = 0.74$ ,  $\Sigma X^2 = 28$ ,  $\Sigma XY = -0.81$

Let the straight line trend equation  $Y_c = a+bx$

Where,

Y = Annual Ratio in Percentage

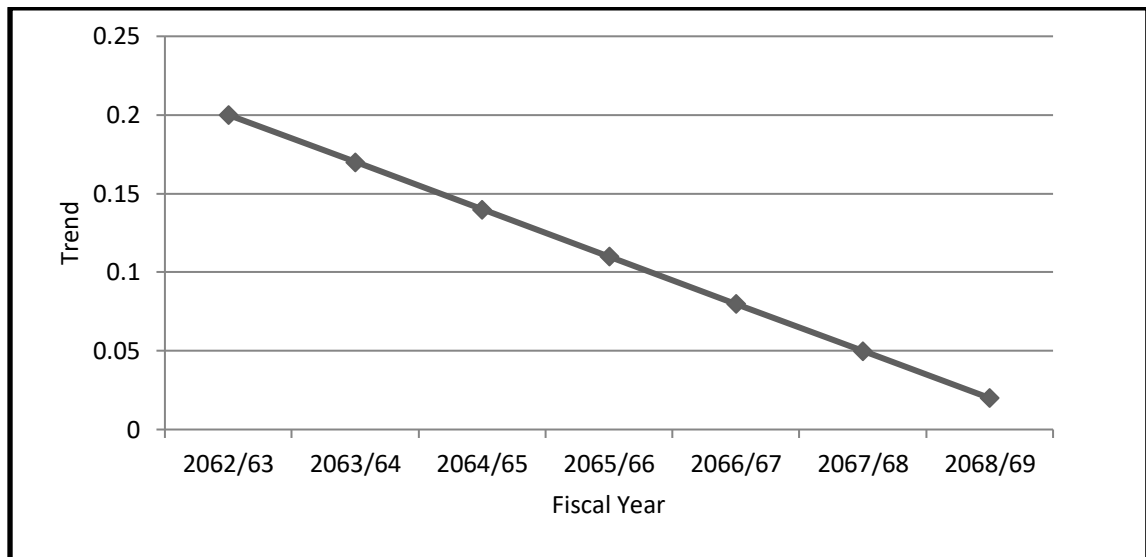
Now,

$$a = \frac{\Sigma y}{n} = \frac{0.74}{7} = 0.11$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{-0.81}{28} = -0.03$$

**Table 4.20**

### Trend Analysis of Nonperforming Loan to Performing Loan Ratio

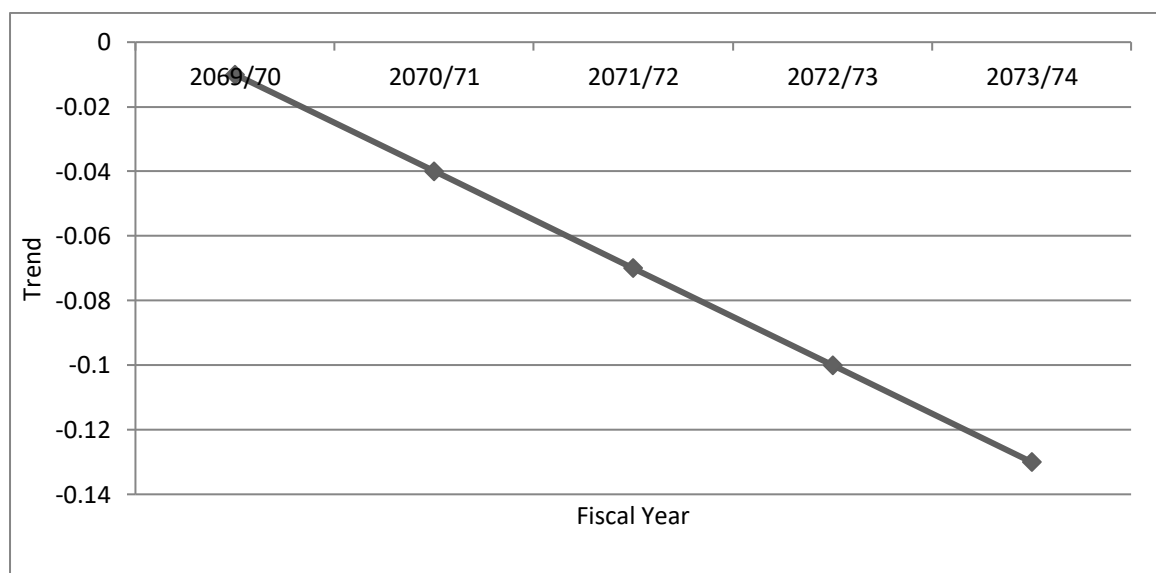


Projected trend Value of nonperforming loan to total loan for next five years

Fiscal Year	$x = t - 20656/66$	$Y_c = a + bx$
2069/70	4	-0.01
2070/71	5	-0.04
2071/72	6	-0.07
2072/73	7	-0.10
2073/74	8	-0.13

**Figure 4.21**

### Projected Trend Analysis of Non Performing Loan to Performing Loan Ratio



#### 4.4 Major Findings of the Study

- At the time of financial reengineering process of Nepal Bank Limited, Loan investment policy has been brought. New policy of lending focuses on cash flow lending by passing out collateral based lending.
- The Credit Information Bureau was established in 1989 AD. NRB started to control the financial institutions with strengthening the supervision and monitoring system.
- Liquidity position of NBL seems strong. It is obvious that in the present situation of the country, investment potential is not favorable, so the liquidity is sufficient in the bank.
- Under the structural Adjustment Programmed, of the IMF, the financial sector was further liberalized in 1987. The focus of NRB was placed on indirect monetary control.
- Most of the banks of Nepal now days are focusing on consumer lending. Nepal Bank Limited is also falls on the same category. This is because of load shading. Industrial development in Nepal is not good due to load shading at this time. So it has directly affected the lending policy of commercial banks.
- NBL has invested money in growing credit and advances but the recovery process of the bank is slow. Efficiency in the management is not satisfactory.
- Most of the credit customers of NBL are satisfied with the banks. Customers said that the main strength of Nepal Bank Limited is its lending interest rate. In the comparison of other banks, the lending rate of NBL is found low. Due to which customers are interested to borrow loan from NBL.
- The non performing assets with respect to total assets of NBL is found with high volume i.e. 0.0378
- The EPS of NBL was quite satisfactory which is on the average of Rs. 116.104, it is because of very low number of shares outstanding i.e. 3.80 million.

- At the time of reengineering and restructuring process, the bank was able to make large amount of profit as management got focus on recovery of bad loans and then after the profitability decreases.
- The trend of deposit utilization of Nepal Bank Limited is found very poor. During the study period, credit and investment to total deposit ratios of NBL was 0.4246.
- Nepal Bank Ltd. Operates as full fledged commercial bank. The bank is providing services to clients such as credit and advances, consortium finance, working capital credit, term credit, demand credit, trade finance, hire purchase credit, letter of credit, bills purchase, bank guarantee and others.
- The bank has almost completed computerization process. All of the branches have been already computerized. The bank has its own Web Remit product, Any Branch Banking, installation of Automatic Teller Machine, internet banking, utility bill payment services. But it has not yet introduced credit card system.
- By analyzing the market demand and trend, NBL has brought retail banking facilities like Home Loan, Margin Lending whose market performance at present seems most satisfactory.
- For effective credit management and customer's service, NBL has been making great effort for the development and empowerment of employees by conducting various training related to credit management and customer service so that they could provide the best services to the customers as well as credit risk could be reduce.

## **CHAPTER -V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter is an accomplished specific and indicative enclosure which contains summary, major finding and conclusion of finding and recommendations. Brief introduction to all chapters of the study and genuine information of the present situation under the topic of the study is defined on summary. Conclusions and findings are analysis on applicable data by using various financial and statistical tools, which presents strengths, weakness, opportunities and threats of the NBL. And suggestions are obtainable in recommendation, which is arranged on the basis from finding and conclusions.

#### **5.1 Summary**

Any country depends upon the economic development for developing the country. To strengthen, the economy of any country both the private and public sector should play a great role, which contributing to our nation. The process of the economic development depends upon various factors, however economists are now convinced that capital formation and its proper utilization plays a paramount role for rapid economic development. All the economic activities of each and every country are greatly influenced by the commercial banking business of the country.

A commercial bank means the bank, which deals with exchanging currency, accepting deposit, giving loans doing other various commercial transactions. Therefore, the major function of commercial bank is to accept deposits and provide loans. There is not so long history of commercial bank in Nepal. Nepal Bank Limited established in 1994 B.S. was the first commercial bank of the Nepal. But now there are twenty five commercial banks all over the country and they have been expanding their services by establishing branches in every corner of the country.

The assets of commercial bank indicate the manner in which the funds entrusted to the bank are employed. The successful working of the bank depends on ability of the management to distribute the fund among the various kinds of investment known as assets outstanding loan advance of the bank. These assets constitute primary source of income to the bank. As being a business unit a bank aims at making huge profit since loan and advances are more profitable than any other assets of the bank, it is willing to lend as much as its fund as possible. But the bank has to be careful about the repayment of loan and interest giving loan. If the bank is too timid, it may fail to obtain the adequate return on the fund, which is confined to it for use. Similarly, if the bank is too liberal, it may easily impair its profits by bad debts. Therefore, bank should not forget the reality that most of the bank failures in the world are due to shrinkage in the value of the loan and advances.

Despite of being loan and advances, more profitable than other assets, it creates risk of non repayment for the bank. Such risk is known as credit risk or default risk. Therefore, like other assets, the loan and advances are classified into performing and non performing assets on the basis of overdue aging schedule. If the dues in the form of principal and the interest are not paid, by borrower within a maturity period, that amount of principal and interest is called non performing loan or assets. Performing assets have multiple benefits to the company as well as to the society while non performing assets erode even existing capital of the bank. So, the proper management of credit in commercial bank has been key for the success.

In the aspect of liquidity position, cash reserve ratio shows the more liquidity position cash and bank balance to interest sensitive ratio shows the bank is able to maintain good financial condition. Cash and bank balance to current assets ratio shows that the bank's sound ability to meet the daily cash requirement of their customer deposit: That is why liquidity position of the bank is better.

By analyzing the assets management ratio, loan advances to total assets ratio shows the better performance but loan and advances to total deposit position in minimum than the averages. Whereas investment in loan and advances is safely and not taking more risk. That's why assets management position of the bank shows better performance in the latest year.

In the aspect of profitability position, Interest income to interest expenses ratio shows the more profitable salivation. In addition, total income to total expenses ratio shows the overall performance of the bank is satisfactory operating income. Return on loan advances are showing position that is more profitable on of the NBL.

After analyzing the lending efficiency of the bank, the loan loss provision to loan advances indicator shows the better performance in the latest year. The interest expenses to total deposit ratios shows the improving efficiency of the bank. Credit administration involves the creation and management of credit and advances. Portfolio management helps to minimize or manage the credit risks by spreading over the risk to various portfolios. Bank earns interest on credits and advances, which is one of the major sources of income for bank.

Summary of major ratios calculated for the analysis of credit Management of NBL obtained from 7 years of Research period is follows:

- Cash Reserve Ratio is 0.216
- Credit and Advance to Total Deposit Ratio is 0.424
- Credit and Advance to Total Deposit Ratio is 0.701
- Loan Advances & Bills Purchase and Investment to Total Deposit Ratio is 0.108
- Non-Performing Assets Ratio to Performing Assets (Loan) Ratio is 0.038
- Non-Performing Assets to Total Assets Ratio is 0.148
- Loan Loss Provision to Total Loan Advances and Bill Purchase Ratio is 0.112

- Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio is 0.029
- Provision for Pass loan to Total Pass Loan Ratio is 0.0543
- Provision for Doubtful Debt to Total Doubtful Debt Ratio is 0.992
- Provision for Bad Debt (Loss) to Total Bad Debt Ratio is 0.091
- Interest Income to Loan and Advances and Investment Ratio is 0.371
- Interest Expenses to Total Expenses Ratio is 0.384
- Interest Expenses to Interest Income Ratio is 0.081
- Return on Total Assets Ratio is 0.011
- Return on Net Loan and Advance Ratio is 0.033
- Earnings per Share is Rs. 116.104

## **5.2 Conclusion**

- NBL bank has sufficient liquidity. It shows that bank has not got investment sectors to utilize their liquid money. Now in Nepal, many banks and other financial institution are functioning to collect deposits and invest money somewhere in the investable sectors. Therefore monetization have been increased since liberalization policy taken by the government. Remittance has also help to increase the amount of deposit in bank. On the other hand due to political crisis economic sectors have been damaged. Most of the projects have been withdrawn due to security problem. During this period Nepal Bank has experienced ups and down in liquidity due to liquidity problem in banking industry. But it does not fall in serious problem because of having excess liquidity.
- Provision for credit loss has been decreasing gradually, but again it started to increases. So, the bank should focus on recovery. If the Credit customers do not return money of the bank in the stipulated time period, the non-performing credit of the bank increases. As the non-performing credit increases, bank should increase its provision for credit loss which directly effect in profitability and earnings per share.

- Equity portion of the bank is constant throughout the years although it has compulsion to increase its capital because of directives by Nepal Rastra Bank (NRB) the entire bank to increase its paid up capital. NRB has issued that direction to provide more safety to the customers. Therefore bank is going to announce right issue of 1:9.515 right shares. New capital plan has been now going to implement. Through last year budget government has already paid its right shares portion amount as calls in advance.

### **5.3 Recommendation**

The present study can be a valuable piece of research works in credit management. It explored the existing situation and identified the various components for further improvement in credit management. Secondary sources of information are used for fulfilling the objectives. Based in the findings of the study, the researcher recommended highlighting the guidelines to put forward for further improvement.

- Corporate structure of bank plays key role in the effective loan management. Being loan a risky asset, efforts should be made to have proper control in every steps of loan management. The banks should establish separate department for credit appraisal, documentation, disbursement, inspection and recovery of loan which have possibility of finding mistakes of one department by the others, so that the effectiveness can be achieved
- Loan must be given if the banker is satisfied that the borrower can repay money from the cash flow generated from operating activities. However, the banks want to ensure that their loan is repaid even in case of failure of business. To prevent banks from such happenings, the bank take collateral is disposed for the recovery of loan. Therefore, the bank should take proper valuation of collateral so that the bank at least will be able to recover its principle and interest amount in case of failure of the borrower to repay the loan.

- Cash and bank balance of NBL bank is high. Banks efficiency should be increased to satisfy the demand of depositor at low level of cash and bank balance does not provide return to the bank. Therefore some percentage of the cash and bank balance should be invested in profitable sectors.
- Lack of proper financial analysis of the borrower by the banks, is one of the major cause behind increasing NPA of Nepalese commercial banks. Therefore, proper financial analysis should be performed before giving loan to the borrower.
- NBL bank should avoid extending credits merely based on oral information presented at the credit interview. Historical financial and trade records should be obtained for proper assessment of the proposal.
- Bank should regularly follow of the credit customers. If the customers have utilized their credit for same purpose or not committed of the time of taking credit from the bank. Due to poor credit administration, the credit recovery process is slow as well as legal process in the recovery of credit is lengthy and ineffective. Clear-cut objective and policy of the credit management is lacking so that non-performing credit is going upward. To get better result in the coming future, bank should reduce the volume of non-performing credit.
- NBL bank should be fulfilling some social obligations by extending their resources to rural areas and promoting the development of poor and disadvantages group. In order do so; it should re-open its branches in the remote area which it has been closed at the time of Maoist movement. The minimum deposit amounts should be reduced. It should attract to young customers.
- Bank may go for detail market research, which will help them in knowing what their competitors are offering to their clients. This will enable them to have an edge over their competitors and increase their credit management pie by offering better products and services.
- The economic liberalization policy adopted by Nepal Government has created an environment of cutthroat competition in the banking sectors. In

this context NBL bank is suggested to formulate and implement sound and effective financial and non-financial strategies to minimize their operational expenses to meet required level of profitability.

- International relations of the NBL bank are limited in comparison to others banks. Therefore, the bank should make negotiation with the international banks to increase its transactions in the international areas.
- Future researchers are recommended to focus into non-financial performance indicators such as job satisfaction, services quality performance, customers satisfaction, stakeholders support, government rating, supervisor's teamwork, human resource development, human resource management, job satisfaction etc.
- The researcher felt to improve internal system more effectively and introducing of new strategies and major functions for effective existing credit management for all selected banks.

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## APPENDICES

### Appendix-1

#### Cash Reserve Ratio (Cash and Bank Balance to Total Deposit Ratio)

(Rs. in million)

Fiscal Year	Cash & Bank Balances	Total Deposit	Ratio*
2062/63	7174.06	35829.76	0.20
2063/64	7117.29	39014.2	0.18
2064/65	6616.99	35985.89	0.18
2065/66	9171.79	45194.23	0.20
2066/67	10141.28	42882.04	0.23
2067/68	12013.86	46808.43	0.25
2068/69	14063.69	56052.37	0.25
<b>Mean</b>	<b>9471.28</b>	<b>43109.56</b>	<b>0.22</b>

Source: NBL Annual Reports

#### Calculation;

$$\text{Cash Reserve Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

For Year 2062/63;

$$* \text{Cash reserve ratio} = \frac{7174.06}{35829.76} = 0.20$$

Similarly calculated for other years are 0.18, 0.18, 0.20, 0.23, 0.25 and 0.25.

$$\text{Mean} = \frac{\text{Total CRR}}{n} = \frac{0.20+0.18+0.18+0.20+0.23+0.25+0.25}{7} = 0.22,$$

Where,

n = no. of years.

## Appendix-2

### Loan and Advance to Total Deposit Ratio

(Rs. in Million)

<b>Fiscal Year</b>	<b>Loan Advances &amp; Bill Purchase</b>	<b>Total Deposit</b>	<b>Ratio*</b>
2062/63	9756.16	35829.76	0.27
2063/64	11058.47	39014.20	0.28
2064/65	13251.96	35985.89	0.36
2065/66	17614.89	45194.23	0.38
2066/67	23560.95	42882.04	0.54
2067/68	24671.28	46808.43	0.52
2068/69	27683.53	56052.37	0.58
Mean	18228.1837	43109.56	0.42

*Source: NBL Annual Reports*

#### Calculation;

$$\text{Loan and Advance to Deposit Ratio} = \frac{\text{Loan Advances and Bill Purchase}}{\text{Total Deposit}}$$

For Year 2062/63;

$$\text{Loan and Advance to Total Deposit Ratio} = \frac{9756.16}{35829.76} = 0.27$$

Similarly calculated for other years are 0.28, 0.36, 0.38, 0.54, 0.52 and 0.58

$$\text{Mean} = \frac{\text{Total Loan and Advance Ratio}}{n} = \frac{0.27+0.28+0.36+0.38+0.54+0.52+0.58}{7} = 0.42$$

Where,

n = no. of years.

**Appendix-3**  
**Loan Advances & Bills Purchase and Investment to Total Deposit Ratio**

(Rs. in million)

<b>Fiscal Year</b>	<b>Loan Advances and Bills Purchase &amp; Investment</b>	<b>Total Deposit</b>	<b>Ratio</b>
2062/63	24246.41	35829.76	0.67
2063/64	27130.65	39014.20	0.69
2064/65	29822.71	35985.89	0.82
2065/66	31012.45	45194.23	0.68
2066/67	29345.32	42882.04	0.68
2067/68	32656.82	46808.43	0.69
2068/69	36075.27	56052.37	0.64
Mean	30041.38	43109.56	0.70

*Source: NBL Annual Reports*

**Calculation;**

Loan Advance and Investment to Deposit Ratio =  

$$\frac{\text{Loan Advances Bill Purchase and Investment}}{\text{Total Deposit}}$$

For Year 2062/63;

Loan, Advance, Bill Purchase & Investment to Total Deposit Ratio =  $\frac{24246.41}{35829.76} = 0.67$

Similarly calculated for other years are 0.69, 0.82, 0.68, 0.68, 0.69 and 0.64

Mean =  $\frac{\text{Total loan,advance,bill purchase \& investment to total deposit ratio}}{n}$

$\frac{0.67+0.69+0.82+0.68+0.68+0.69+0.64}{7} = 0.70,$

Where,

n = no. of years.

**Appendix-4**  
**Non-Performing Assets to Performing Assets (Loan) Ratio**

(Rs. in million)

<b>Fiscal Year</b>	<b>Performing Assets</b>	<b>Non Performing Assets</b>	<b>Ratio</b>
2062/63	10179.00	2262.00	0.22
2063/64	11900.00	1856.00	0.16
2064/65	13697.85	2067.14	0.15
2065/66	18593.37	966.72	0.05
2066/67	23827.91	1211.95	0.05
2067/68	23708.23	1534.85	0.06
2068/69	28054.18	1644.69	0.06
Mean	18565.79	1649.05	0.11

*Source: NBL Annual Reports*

**Calculation;**

$$\text{Non Performing Assets to Performing Assets Ratio} = \frac{\text{Nonperforming Assets}}{\text{Performing Assets}}$$

For Year 2062/63;

$$\text{Nonperforming Assets to Performing Assets Ratio} = \frac{2262}{10179} = 0.22$$

Similarly calculated for other years are 0.16, 0.15, 0.05, 0.05, 0.06 and 0.06

$$\text{Mean} = \frac{\text{Nonperforming Assets to Performing Assets Ratio}}{n} = \frac{0.22 + 0.16 + 0.15 + 0.05 + 0.05 + 0.06 + 0.06}{7} = 0.11$$

Where,

n = no. of years.

**Appendix-5**  
**Non-Performing Assets to Total Assets Ratio**

(Rs. in million)

<b>Fiscal Year</b>	<b>Non Performing Assets</b>	<b>Total Assets</b>	<b>Ratio</b>
2062/63	2262.18	35918.91	0.06
2063/64	1856.05	39258.79	0.05
2064/65	2067.14	42053.44	0.05
2065/66	966.72	47559.11	0.02
2066/67	1211.95	44736.65	0.03
2067/68	1534.85	51158.66	0.03
2068/69	1644.69	58586.22	0.03
Mean	1649.08	45610.25	0.04

*Source: NBL Annual Reports*

**Calculation;**

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

For Year 2062/63;

$$* \text{ Nonperforming assets to Total Assets Ratio} = \frac{2262.18}{35918.91} = 0.06$$

Similarly calculated for other years are 0.05, 0.05, 0.02, 0.03, 0.03, and 0.03

$$\text{Mean} = \frac{\text{Nonperforming assets to Total Assets ratio}}{n} = \frac{0.06+0.05+0.05+ 0.02+ 0.03 +0.03 +0.03}{7}$$

=0.04,

Where,

n = no. of years.

## Appendix-6

### Loan Loss Provision to Total Loan Advances and Bill Purchase Ratio

(Rs. in million)

Fiscal Year	Loan Loss Provision	Total Loan advances & Bill Purchase	Ratio
2062/63	2685.39	9756.16	0.28
2063/64	2698.14	11058.48	0.24
2064/65	2513.03	13251.96	0.19
2065/66	1945.19	17614.90	0.11
2066/67	1491.40	23560.96	0.06
2067/68	2034.60	24671.28	0.08
2068/69	2015.31	27683.55	0.07
Mean	2197.58	18228.18	0.15

Source: NBL Annual Reports

#### Calculation;

Loan Loss provision to Total Loan Advances and Bill Purchase Ratio =  
$$\frac{\text{Loan Loss Provision}}{\text{Total Loan Advances and Bill Purchase}}$$

For Year 2062/63;

\* Loan Loss Provision to Total Loan Advances & Bill Purchase Ratio =  $\frac{2262}{10179} = 0.22$

Similarly calculated for other years are 0.16, 0.15, 0.05, 0.05, 0.06 and 0.06

Mean =  $\frac{\text{Nonperforming assets to performing assets ratio}}{7} = 0.11$

Where,

n = no. of years.

## Appendix-7

### Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio

Rs. in million

Fiscal Year	Non Performing Loan	Total Loan, Advances & Bill Purchase	Ratio
2062/63	2262.18	9756.16	0.23
2063/64	1856.05	11058.48	0.17
2064/65	2067.14	13251.96	0.16
2065/66	966.72	17614.90	0.05
2066/67	1211.95	23560.96	0.05
2067/68	1534.85	24671.28	0.06
2068/69	1644.69	27683.55	0.06
Mean	1649.08	18228.18	0.11

Source: NBL Annual Reports

#### Calculation;

Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio =  
$$\frac{\text{Nonperforming Loan}}{\text{Total Loan Advances and Bill Purchase Ratio}}$$

For Year 2062/63;

Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio =  $\frac{2262}{9756.16} = 0.23$

Similarly calculated for other years are 0.17, 0.16, 0.05, 0.05, 0.06 and 0.06

Mean = 
$$\frac{\text{Nonperforming Loan to Total Loan Advances and Bill Purchase Ratio}}{n}$$

= 
$$\frac{0.23+0.17+0.16+0.05+0.05+0.06+0.06}{7}$$

= 0.11,

Where,

n = no. of years.

## Appendix-8

### Provision for Pass Loan to Total Pass Loan Ratio

Rs. in million

Fiscal Year	Provision for Pass loan	Total Pass Loan	Ratio
2062/63	202.62	10179.00	0.02
2063/64	170.16	11900.00	0.02
2064/65	578.37	13697.85	0.05
2065/66	565.42	18593.37	0.04
2066/67	508.75	23827.91	0.03
2067/68	769.51	23708.23	0.03
2068/69	428.48	28054.18	0.02
Mean	460.47	18565.79	0.03

Source: NBL Annual Reports

#### Calculation;

$$\text{Provision for Pass Loan to Total Pass Loan Ratio} = \frac{\text{Provision for Pass Loan}}{\text{Total Pass Loan Ratio}}$$

For Year 2062/63;

$$\text{Provision for Pass Loan to Total Pass Loan Ratio} = \frac{202.62}{10179} = 0.02$$

Similarly calculated for other years are 0.17, 0.16, 0.05, 0.05, 0.06 and 0.06

$$\begin{aligned} \text{Mean} &= \frac{\text{Nonperforming Loan to Total Loan Advances and Bill Purchase ratio}}{n} \\ &= \frac{0.23+0.17+ 0.16+ 0.05 +0.05 +0.06 + 0.06}{7} = 0.11, \end{aligned}$$

Where,

n = no. of years.

## Appendix-9

### Provision for Doubtful Debt to Total Doubtful Debt Ratio

Rs. in Million

Fiscal Year	Provision for Doubtful Debt	Total Doubtful Debt	Ratio
2062/63	202.62	10179.00	0.02
2063/64	170.16	11900.00	0.02
2064/65	578.37	13697.85	0.05
2065/66	565.42	18593.37	0.04
2066/67	508.75	23827.91	0.03
2067/68	769.51	23708.23	0.03
2068/69	428.48	28054.18	0.02
Mean	460.47	18565.79	0.03

Source: NBL Annual Reports

#### Calculation;

Provision for Doubtful Debt to Total Doubtful Debt Ratio =  $\frac{\text{Provision for Doubtful Debt}}{\text{Total Doubtful Debt Ratio}}$

For Year 2062/63;

Provision for Doubtful Debt to Total Doubtful Debt Ratio =  $\frac{202.62}{10179} = 0.02$

Similarly calculated for other years are 0.02, 0.05, 0.04, 0.03, 0.03 and 0.02

Mean =  $\frac{\text{Provision for Doubtful Debt to Total Doubtful Debt Ratio}}{n} = \frac{0.02+0.02+0.05+0.04+0.03+0.03+0.02}{7}$

= 0.03

Where,

n = no. of years

## Appendix-10

### Provision for Bad Debt (Loss) to Total Bad Debt Ratio

Rs. in Million

Fiscal Year	Provision for Bad Debt	Total Bad Debt	Ratio
2062/63	2127.48	2127.48	1.00
2063/64	1808.96	1808.96	1.00
2064/65	1867.17	1982.59	0.94
2065/66	884.07	884.07	1.00
2066/67	869.70	869.70	1.00
2067/68	877.43	877.43	1.00
2068/69	1547.06	1547.06	1.00
Mean	1425.98	1442.47	0.99

Source: NBL Annual Reports

#### Calculation;

$$\text{Provision for Bad Debt to Total Bad Debt Ratio} = \frac{\text{Provision for Bad Debt}}{\text{Total Bad Debt Ratio}}$$

For Year 2062/63;

$$* \text{ Provision for Bad Debt to Total Bad Debt Ratio} = \frac{2127.48}{2127.48} = 1$$

Similarly calculated for other years are 1, 0.99, 1, 1, 1 and 1

$$\text{Mean} = \frac{\text{Provision for Bad Debt to Total Bad Debt Ratio}}{7}$$

$$\frac{1+1+0.99+1+1+1+1}{7} = 0.99$$

Where,

n = no. of years

## Appendix-11

### Interest Income to Loan and Advances and Investment Ratio

Rs. in Million

Fiscal Year	Interest Income	Loan and Investment	Ratio
2062/63	2049.03	24246.41	0.08
2063/64	1848.61	27130.66	0.07
2064/65	2094.91	29822.72	0.07
2065/66	2690.06	31012.46	0.09
2066/67	3067.55	29345.33	0.10
2067/68	3740.72	32656.83	0.11
2068/69	4051.15	36075.28	0.11
Mean	2791.72	30041.38	0.09

Source: NBL Annual Reports

#### Calculation;

Interest Income to Loan Advance & Investment Ratio  
$$\frac{\text{Interest Income}}{\text{Loan Advance and Investment Ratio}}$$

For Year 2062/63;

$$\text{Interest Income to Loan Advance \& Investment Ratio} = \frac{2049.03}{24246.41} = 0.08$$

Similarly calculated for other years are 0.07, 0.07, 0.09, 0.10, 0.11 and 0.11

$$\text{Mean} = \frac{\text{Interest Income to Loan Advance \& Investment Ratio}}{n}$$

$$\frac{0.08+0.07+0.07+0.09+0.10+0.11+0.11}{7} = 0.09$$

Where,

n = no. of years

## Appendix-12

### Interest Expenses to Total Expenses Ratio

Rs. in Million

Fiscal Year	Interest Expenses	Total Expenses	Ratio
2062/63	774.33	2390.07	0.32
2063/64	772.64	1455.49	0.53
2064/65	772.66	2379.27	0.32
2065/66	791.71	2729.29	0.29
2066/67	909.99	4171.60	0.22
2067/68	1482.20	3501.24	0.42
2068/69	2197.14	4501.37	0.49
Mean	1100.10	3018.33	0.37

Source: NBL Annual Reports

#### Calculation:

$$\text{Interest Expenses to Total Expenses Ratio} = \frac{\text{Interest Expenses}}{\text{Total Expenses Ratio}}$$

For Year 2062/63;

$$\text{Interest Expenses to Total Expenses Ratio} = \frac{774.33}{2390.07} = 0.32$$

Similarly calculated for other years are 0.53, 0.32, 0.29, 0.22, 0.42 and 0.49

$$\text{Mean} = \frac{\text{Interest Expenses to Total Expenses Ratio}}{n}$$
$$= \frac{0.32+0.53+0.32+0.29+0.22+0.42+0.49}{7} = 0.37$$

Where,

n = no. of years

## Appendix-13

### Interest Expenses to Interest Income Ratio

Rs. in Million

Fiscal Year	Interest Expenses	Interest Income	Ratio
2062/63	774.33	2049.03	0.38
2063/64	772.64	1848.61	0.42
2064/65	772.66	2094.91	0.37
2065/66	791.71	2690.06	0.29
2066/67	909.99	3067.55	0.30
2067/68	1482.20	3740.72	0.40
2068/69	2197.14	4051.15	0.54
Mean	1100.10	2791.72	0.38

*Source: NBL Annual Reports*

#### Calculation;

$$\text{Interest Expenses to Interest Income Ratio} = \frac{\text{Interest Expenses}}{\text{Interest Income Ratio}}$$

For Year 2062/63;

$$\text{Interest Expenses to Interest Income Ratio} = \frac{774.33}{2049.03} = 0.38$$

Similarly calculated for other years are 0.42, 0.37, 0.29, 0.30, 0.40 and 0.54

$$\text{Mean} = \frac{\text{Interest Expenses to Interest Income Ratio}}{n}$$

$$= \frac{0.38+0.42+0.37+0.29+0.30+0.40+0.54}{7} = 0.38,$$

Where,

n = no. of years

**Appendix-14**  
**Return on Equity Ratio**

Rs. in Million

<b>Fiscal Year</b>	<b>Net Profit After Tax</b>	<b>Net Worth</b>	<b>Ratio</b>
2062/63	1207.26	-6314.00	-0.19
2063/64	226.95	-6238.00	-0.04
2064/65	239.21	-6010.00	-0.04
2065/66	894.25	-4869.00	-0.18
2066/67	249.38	-4603.00	-0.05
2067/68	128.35	-4489.00	-0.03
2068/69	146.08	-4336.00	-0.03
Mean	441.64	-5266.00	-0.08

*Source: NBL Annual Reports*

**Calculation;**

$$\text{Return on Equity Ratio} = \frac{\text{Net Profit After Tax}}{\text{Net Worth}}$$

For Year 2062/63;

$$\text{Return on Equity Ratio} = \frac{1207.26}{-6314} = -0.19$$

Similarly calculated for other years are -0.04, -0.04, -0.18, -0.05, -0.03 and -0.03

$$\text{Mean} = \frac{\text{Return on Equity Ratio}}{n} = \frac{-0.19 + -0.04 + -0.04 + -0.18 + -0.05 + -0.03 + -0.03}{7} = -0.08,$$

Where,

n = no. of years

## Appendix-15

### Return on Total Assets Ratio

Rs. in Million

Fiscal Year	Net Profit After Tax	Total Assets	Ratio
2062/63	1207.26	35918.91	0.03
2063/64	226.95	39258.79	0.01
2064/65	239.21	42053.44	0.01
2065/66	894.25	47559.11	0.02
2066/67	249.38	44736.65	0.01
2067/68	128.35	51158.66	0.00
2068/69	146.08	58586.22	0.00
Mean	441.64	45610.25	0.01

Source: NBL Annual Reports

#### Calculation;

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

For Year 2062/63;

$$* \text{Return on Total Assets Ratio} = \frac{1207.26}{35918.91} = 0.03$$

Similarly calculated for other years are 0.01, 0.01, 0.02, 0.01, 0.00 and 0.00

$$\text{Mean} = \frac{\text{Return on Total Assets Ratio}}{n}$$

$$\frac{0.03+0.01+0.01+0.02+0.01+0.00+0.00}{7} = 0.01,$$

Where, n = no. of years

## Appendix-16

### Return on Net Loan and Advance

Rs. in Million

Fiscal Year	Net Profit After Tax	Net Loan and Advance	Ratio
2062/63	1207.26	9756.16	0.12
2063/64	226.95	11058.48	0.02
2064/65	239.21	13251.96	0.02
2065/66	894.25	17614.90	0.05
2066/67	249.38	23560.96	0.01
2067/68	128.35	24671.28	0.01
2068/69	146.08	27683.55	0.01
Mean	441.64	18228.18	0.03

Source: NBL Annual Reports

#### Calculation;

$$\text{Return on Net Loan and Advances Ratio} = \frac{\text{Return on Net Loan}}{\text{Advances Ratio}}$$

For Year 2062/63;

$$* \text{Return on Net Loan and Advances Ratio} = \frac{1207.26}{9756.16} = 0.12$$

Similarly calculated for other years are 0.02, 0.02, 0.05, 0.01, 0.01 and 0.01

$$\text{Mean} = \frac{\text{Return on Net Loan and Advances Ratio}}{n}$$

$$\frac{0.12+0.02+0.02+0.05+0.01+0.01+0.01}{7}$$

Where,

n = no. of years

**Appendix-17**  
**Earning per Share**

<b>Fiscal Year</b>	<b>Net Profit</b>	<b>Number of Shares</b>	<b>Earning Per Share</b>
2062/63	1207.26	3.80	317.38
2063/64	226.95	3.80	59.66
2064/65	239.21	3.80	62.89
2065/66	894.25	3.80	235.09
2066/67	249.38	3.80	65.56
2067/68	128.35	3.80	33.74
2068/69	146.08	3.80	38.40
Mean	441.64	3.80	116.10

*Source: NBL Annual Reports*

**Calculation;**

$$\text{Earning Per Share} = \frac{\text{Net Profit After Tax}}{\text{No.of Share outstanding}}$$

For Year 2062/63;

$$\text{Earning Per Share} = \frac{1207.26}{3.8} = 317.85$$

Similarly calculated for other years are 59.66, 62.89, 235.09, 65.56, 33.74 and 38.40

$$\text{Mean} = \frac{\text{Earning Per Share}}{n}$$

$$\frac{0.32+0.53+0.32+ 0.29+ 0.22 +0.42 +0.49}{7} = 0.37$$

Where n = no. of years

## Appendix-18

### Computation of Correlation Coefficient of Non Performing Assets and Total Loan

(Rs. in Billions)

Fiscal Year	Non Performing Assets X <sub>1</sub>	Total Loan X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub> X <sub>2</sub>
2062/63	2.26	9.76	5.12	95.18	22.07
2063/64	1.86	11.06	3.45	122.29	20.53
2064/65	2.07	13.25	4.27	175.61	27.39
2065/66	0.97	17.62	0.93	310.28	17.03
2066/67	1.21	23.56	1.47	555.12	28.55
2067/68	1.54	24.67	2.36	608.67	37.87
2068/69	1.65	27.68	2.71	766.38	45.53
	Σ X <sub>1</sub> = 11.54	Σ X <sub>2</sub> = 127.60	Σ X <sub>1</sub> <sup>2</sup> = 20.30	Σ X <sub>2</sub> <sup>2</sup> = 2633.54	Σ X <sub>1</sub> X <sub>2</sub> = 198.97

Here,

$$N=7, \Sigma X_1 = 11.544, \Sigma X_2 = 127.597, \Sigma X_1^2 = 20.299, \Sigma X_2^2 = 2633.541,$$

$$\Sigma X_1X_2 = 198.969$$

$$\begin{aligned} \text{Coefficient of Correlation (r)} &= \frac{n\Sigma X_1X_2 - \Sigma X_1\Sigma X_2}{\sqrt{n\Sigma X_1^2 - (\Sigma X_1)^2} \sqrt{n\Sigma X_2^2 - (\Sigma X_2)^2}} \\ &= \frac{7 \times 198.969 - 11.544 \times 127.597}{\sqrt{7 \times 20.299 - (11.544)^2} \sqrt{7 \times 2633.541 - (127.597)^2}} \\ &= \frac{139.7830 - 1472.9798}{\sqrt{142.093 - 133.2639} \times \sqrt{18434.787 - 16280.99}} \\ &= \frac{-80.1968}{\sqrt{8.8291} \times \sqrt{2153.7970}} \\ &= \frac{-80.1968}{2.9714 \times 46.4090} \\ &= \frac{80.1968}{137.8997} \\ &= -0.5801 \end{aligned}$$

#### Computation of Probable Error (P.E.)

$$P.E. = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

We have,

$$r = -0.5801$$

$$n = 7$$

Then,

$$\begin{aligned}
 \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{n}} \\
 &= 0.6745 \times \frac{1-(-0.5801)^2}{\sqrt{7}} \\
 &= \frac{0.6745(1-0.3364)}{2.6458} \\
 &= \frac{0.6636}{2.6458} \\
 &= 0.2508
 \end{aligned}$$

### Appendix-19

#### Computation of Correlation Coefficient of Total Loan and Total Assets

(Rs. In Billions)

Fiscal Year	Total Loan X <sub>1</sub>	Total Assets X <sub>2</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>2</sup>	X <sub>1</sub> X <sub>2</sub>
2062/63	9.76	35.92	95.18	1290.10	350.42
2063/64	11.06	39.26	122.29	1541.19	434.12
2064/65	13.25	42.05	175.61	1768.46	557.29
2065/66	17.62	47.56	310.28	2261.86	837.75
2066/67	23.56	44.74	555.12	2001.31	1054.03
2067/68	24.67	51.16	608.67	2617.14	1262.12
2068/69	27.68	58.59	766.38	3432.32	1621.72
	Σ X <sub>1</sub> = 127.60	Σ X <sub>2</sub> = 319.27	Σ X <sub>1</sub> <sup>2</sup> = 2633.54	Σ X <sub>2</sub> <sup>2</sup> = 14912.37	Σ X <sub>1</sub> X <sub>2</sub> = 6117.43

Here,

$$n=7, \Sigma X_1 = 127.60, \Sigma X_2 = 319.27, \Sigma X_1^2 = 2633.54, \Sigma X_2^2 = 14912.37,$$

$$\Sigma X_1X_2 = 6117.432$$

$$\begin{aligned}
 \text{Coefficient of Correlation (r)} &= \frac{n\Sigma X_1X_2 - \Sigma X_1\Sigma X_2}{\sqrt{n\Sigma X_1^2 - (\Sigma X_1)^2} \sqrt{n\Sigma X_2^2 - (\Sigma X_2)^2}} \\
 &= \frac{7 \times 6117.432 - 127.597 \times 319.268}{\sqrt{7 \times 2633.541 - (127.597)^2} \sqrt{7 \times 14912.374 - (319.268)^2}} \\
 &= \frac{42822.024 - 40737.639}{\sqrt{2153.793} \times \sqrt{2454.562}} \\
 &= \frac{2085.024}{46.409 \times 49.544} \\
 &= \frac{2085.024}{2299.266} \\
 &= 0.907
 \end{aligned}$$

### Computation of Probable Error (P.E.)

$$P.E. = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

We have,

$$r = 0.907$$

$$n = 7$$

Then,

$$P.E. = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1 - (0.907)^2}{\sqrt{7}}$$

$$= 0.6745 \times \frac{1 - (0.823)}{2.6458}$$

$$= \frac{0.177}{2.646}$$

$$= 0.067$$

$$6 \times P.E. = 6 \times 0.067 = 0.402$$

### Appendix-20

#### Trend Analysis of Non performing Loan to Total Loan Ratio

Fiscal Year	Ratio Y	X= t- 2065/66	X <sup>2</sup>	XY	Y <sub>c</sub> = a+bx
2062/63	0.23	-3	9	-0.69	0.20
2063/64	0.17	-2	4	-0.34	0.17
2064/65	0.16	-1	1	-0.16	0.14
2065/66	0.06	0	0	0	0.11
2066/67	0.05	1	1	0.05	0.08
2067/68	0.06	2	4	0.12	0.05
2068/69	0.06	3	9	0.18	0.02
Total	ΣY = 0.79		ΣX <sup>2</sup> = 28	ΣXY = -0.84	

Here,  $\Sigma Y = 0.79$ ,  $\Sigma X^2 = 28$ ,  $\Sigma XY = -0.84$

Let the straight line trend equation  $Y_c = a+bx$

Where,

Y = Annual Ratio in Percentage

Now,

$$a = \frac{\Sigma y}{n} = \frac{0.79}{7} = 0.11$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{-0.84}{28} = -0.03$$

<b>Fiscal Year</b>	<b>x = t- 2065/66</b>	<b>Yc = a+bx</b>
2069/70	4	-0.01
2070/71	5	-0.04
2071/72	6	-0.07
2072/73	7	-0.10
2073/74	8	-0.13

### **Appendix-21**

#### **Trend Analysis of Nonperforming Loan to Total Loan Ratio**

<b>Fiscal Year</b>	<b>Ratio Y</b>	<b>X= t-2065/66</b>	<b>X<sup>2</sup></b>	<b>XY</b>	<b>Yc = a+bx</b>
2062/63	0.22	-3	9	-0.66	0.20
2063/64	0.16	-2	4	-0.32	0.17
2064/65	0.15	-1	1	-0.15	0.14
2065/66	0.05	0	0	0	0.11
2066/67	0.05	1	1	0.05	0.08
2067/68	0.06	2	4	0.12	0.05
2068/69	0.05	3	9	0.15	0.02
Total	$\Sigma Y = 0.74$		$\Sigma X^2 = 28$	$\Sigma XY = -0.81$	

Here,  $\Sigma Y = 0.74$ ,  $\Sigma X^2 = 28$ ,  $\Sigma XY = -0.81$

Let the straight line trend equation  $Yc = a+bx$

Where,

Y = Annual Ratio in Percentage

Now,

$$a = \frac{\Sigma y}{n} = \frac{0.74}{7} = 0.11$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{-0.81}{28} = -0.03$$

Projected trend Value of nonperforming loan to total loan for next five years

<b>Fiscal Year</b>	<b>x = t- 2065/66</b>	<b>Yc = a+bx</b>
2069/70	4	-0.01
2070/71	5	-0.04
2071/72	6	-0.07
2072/73	7	-0.10
2073/74	8	-0.13