

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the Study

A financial institution is the lifeblood of economic development of the country. In the study the word investment conceptualized the investment of income, savings or other collected fund. The term investment covers a wide range of activities. It is commonly known fact that an investment is only possible where there is adequate saving. If all the incomes and savings are consumed to solve the problem of hand to mouth and to the other basic needs. Then there is no existence of investment. Therefore, both saving and investment are interrelated. Investment policy is an important ingredient of overall national economy development because it ensures efficient allocation of fund to achieve the materials and economic wellbeing of the society as a whole. In this regards, joint venture bank investment policy push drives to achieve priority of commercial sectors in the context of Nepal's economic development.

Commercial banks are major financial institutions, occupying an important place in the economy of a country because the deposits collected by them provide much needed capital for the development of industry, trade, and commerce and other sectors, thereby contributing to the economic growth of the nation. Investment in the actual sense refers to the sacrifice of current dollars for future dollars. Investment involves two attributes, time and risk. The sacrifice takes place in the percent and is certain. The element of time predominates (for example government bonds). In other case, risk is more dominant (for example call option on common stock). In yet others, both time and risk plays a dominant role.

Lending is the most important function of a commercial bank. For lending procedure, bank has to make some banking practices such as transferring property in bank's name. The transfer is temporarily made for a loan price and interest. Lending money is 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.

Dahal (2002) observed that Loans and advances dominate the asset side of balance sheet of any bank. Similarly earnings from such loans and advances occupy major space in the income statement of the bank. However, it is very important to be reminded that most of the bank failures in the world due to shrinkage in the value of loan and advances. Hence loan is known as risky assets. Risk on non-repayment of loan known as risky asset. Risk of non-repayment of loan is known as credit risk or default risk.

Going through loan granting provision, bank will through safety of funds, purpose of loans, security for loans, profitability spread of loan portfolio etc. besides this, the character of person receiving credit, the capacity of borrower to utilize the fund, the percentage of borrower stake in the business are the basic elements which measures the quality of borrower and ultimately the quantity of the loan.

The lending policy of a firm provides the framework to determine whether or not to extend credit and how much credit to extend. The lending policy decision of a bank has two broad dimensions; lending standards and lending analysis. A firm has to establish and use standards in making lending decision, develop appropriate sources of loan and methods of loan analysis.

Loan management (LM) is the process by which risks that are inherent in the credit process are managed and controlled. Because review of the LM process is so important, it is a primary supervisory activity. Assessing LM involves evaluating the steps bank management takes to identify and control risk throughout the credit process. The assessment focuses on what management does to identify issues before they become problems.

## **1.2 Introduction of the Selected Banks**

### **1.2.1 Everest Bank Limited (EBL)**

Everest Bank Limited was registered on November 17, 1992, come into operation on October 18, 1994 with an objective of extending professionalized, and efficient banking services to various segments of the society. Today the bank has grown to become one of the leading banks in Nepal.

Punjab National Bank (PNB) joined hands with EBL as a Joint Venture in 1997 and turned it around to a highly profitable bank. There has been no looking back since then. PNB provides top management support under the Technical Service Agreement. PNB joint venture partner of EBL one of the largest nationalized bank in India having 114 years of banking history, holds 20 percent equity.

Everest Bank has recognized the value of offerings a complete range of services and has pioneered in extending various customer friendly products such as home loan, education loan, EBL flexi loan, EBL property plus (future lease rental), Home equity loan, vehicles loan, Loan against share, loan against life insurance policy and loan for professional. The bank is providing customer friendly services. Everest Bank Limited was the first bank to introduce Any Branch Banking System (ABBS) in Nepal. All the branches of the bank are connected with ABBS which enables the customers to do all their transactions from any branches other than where they have their account.

The objectives of EBL is to be a Leading Commercial Bank with Pan Nepal presence and become a household name, providing wide range of financial products and services under one roof.

Everest Bank Limited (EBL) is providing customer-friendly services through its wide Network connected through ABBS system, enabling customers for operational transactions from any branches. The bank has 92 Branches, 116 ATM Counters and 28 Revenue Collection Counters across the country making it a very efficient and accessible bank for its customers, anytime, anywhere.

### **1.2.2 Nepal Bank Limited (NBL)**

The then King Tribhuvan inaugurated Nepal Bank Limited on November 15, 1937 (Kartik 30, 1994). This marked the beginning of an era of formal banking in Nepal. Until then all monetary transactions were carried out by private dealers and trading center. In that era, very few understood or had confidence in this new concept of formal banking. Raising equity shares were not easy and mobilization of deposits even more difficult. This was evident when the bank floated equity shares worth NPR 2,500,000, but was successful only in raising NPR 842,000.

The total deposits for the first year was NPR 17,02,025 where current deposits was about NPR 12,98,898 fixed was about NPR 3,88,964 and saving was NPR 14,163. Loan disbursed and outstanding at the end of the first year was NPR 1,985,000. In 2007, Nepal Bank Limited appointed Mr. Rohit Ghambole as chief banker. He proceeded to invest in Tesco doughnut supplies from Yateley. This is widely blamed to be the reason of the 2007 financial market crash.

From the very conception and its creation, NBL was as joint venture between the government and the private sector. Out of 2500 equity shares of NPR. 100 face value, 62 per-cent was subscribed by the government and the balanced 40 percent was offered for the sale to private sector. There were only 10 shareholders when the bank first started.

Nepal Bank Limited has the following objectives:

- a) Focus on building the positive net worth and meeting minimum capital requirement over the coming five years.
- b) Focus on increasing the customer base and market share.
- c) Maximize the potential/efficiency of bank's staff.
- d) Focus on minimizing the risk associated with the business.
- e) Focus on providing the world class business solutions.
- f) Focus on increasing the sustainable profit.

### **1.3 Statement of the Problem**

Today banking industry is one of the fast growing businesses in Nepal. After the liberalization policy was adopted by government, this banking sector has been growing dramatically. However due to political instability, government could not be able to pay sufficient attention in this sector. Regulation, supervision, and monitoring by government have been weekend in banking sector as like other sectors and also other types of non-business practices might have been occurred in this sector. Due to such type of non-business practices will hamper on this sector. Ultimately it effects on its activities of this sector. Commercial banks in Nepal have been facing various challenges and problems specially in lending. The problem in lending is rising due to an economic condition of the country, variation in government policies and due to the default borrowers. Credit exposure (i.e., total of loans and advances) relationship with LLP and profitability. Credit risk measured by ratio of non-performing loans to total loan and loan loss provision to non-performing loan negatively affect performance variables of ROA and ROE. Hence the more a bank is facing credit risk the more deterioration in performance it experiences. The effect of increase in ratio of total loan to total deposits significantly increases banks profitability

### **1.4 Objectives of the Study**

The main objective of this study is to analyze the loan management of Everest Bank Limited and Nepal Bank Limited through a comparative study. The other specific objectives of the study are as follows:

- To analyze the association between bank deposits with lending (credit exposure) of sample banks;
- To examine the relationship of loan and advances with loan-loss provisioning of sample banks;
- To determine the relationship between loan-loss provisioning and non-performing loan of sample banks;
- To analyze the loan and advances ratio, in relation to profitability of sample banks;

### **1.5 Significance of the Study**

Lending is the major functions of every commercial bank's but it is difficult task to disburse it. Good lending policy of the bank has positive impact on economic development of the country and vice versa. This study will also help the management of the bank to analyze the effectiveness of its loan management and policies of the bank in comparison to competitors. The study will also be equally significant to the central bank to formulate the new credit policy, as there are certain loop holes as a result of which the non-performing assets has been regarded as the main problem of the commercial banks in these days. This study no doubt will have importance to various groups of people but in particular it is directed to certain group of people which are:

- a) Importance to shareholders.
- b) Importance to management team of the bank.
- c) Importance to financial institution and stock exchange.
- d) Importance to government bodies and policy makers.
- e) Importance to researcher.
- f) Importance to institute.
- g) Importance to outside parties: investors, customers, competitors, stockbrokers, dealers and market makers.

### **1.6 Limitations of the Study**

The research study has some limitations. The main limitations of the study are as follows:

- a) This study is concerned with loan management of only two banks namely; Nepal Bank Ltd. (State-owned Bank) and Everest Bank Ltd (Private Bank).
- b) The period of the study is limited from fiscal year 2014/15 to 2018/19 A.D.
- c) The study is basically based on secondary data collected from annual financial report of sample banks.
- d) Only selected financial and statistical tools and techniques are used for the analysis.

## **1.7 Organization of the Study**

The whole study is divided into five different chapters. They are:

### **Chapter - I: Introduction**

It includes general background of the study, brief profile of sample banks, statement of the problem, objective of the study, significance of the study, limitations of the study and organization of the study.

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

This chapter presents conceptual framework, review of related literature like books, dissertation, articles, brochure, booklets, journals, report and magazines etc. Research gap also includes in this chapter.

### **Chapter - III: Research Methodology**

This chapter deals with research methodology to be adopted for the study to satisfy the objectives of the study. It consists of research design, sample and population, sources of data, data collection procedure, methods and tools of data analysis.

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

This chapter is most important and plays vital role in this study. This chapter deals with presentation, analysis and interpretation of data as required by the objectives stated in this study. These collected data have been analyzed and interpreted by the help of various statistical and financial tools and techniques. It also includes major findings of the study.

### **Chapter - V: Summary, Conclusion and Recommendations**

This chapter is the general idea of the study and it represents all the opinions of the research as far as possible. Summary, conclusions and recommendations are mentioned in the last chapter of the study.

References, Appendices and Research proposal is presented at the end of this research study as per the topic included in each chapter.

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

This chapter is concerned with review of literature relevant to the topic 'Loan Management of Commercial Banks'. The purpose of reviewing of literature is to develop some expertise in one's area, to see what new contribution has made and to receive some ideas for developing a research design. Thus, previous studies cannot be ignored as they provide the foundation of the present study. This chapter highlights the literature that is available in concerned subject as to my knowledge, research work, and relevant study on this topic, review of books, journals and articles and review of thesis work performed previously.

#### **2.1 Conceptual Framework**

##### **2.1.1 Concept of Loan**

Loan and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on loan and advances, which is one of the major sources of income for banks. Bank prepares loan portfolio, otherwise it will not only add bad debts but also affect profitability adversely.

Crosse (2006) described loan as the vital and the most important activity in the bank, next only to deposit mobilization. It is the activity that generates the main income stream for the bank. The activity should therefore be pursued with the utmost professionalism conservation and circumspection. Banks should develop and implement policies and procedures to ensure that the loan portfolio is adequately diversified given the bank's target markets and overall credit strategy. In particular, such mix as well as set exposure limits on single counters parties and groups of connected counters parties, particular industries or economic sectors, geographic regions and specific products. Banks should ensure that their own internal exposure limits imply set by the banking supervisors. Lending policies establish the framework for lending and guide the credit granting activities of the bank.



Chopra (1989) defined that loan 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. Loan 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 the loan.

Johnson (2008) described that loan administration involves the creation and management of risk assets. The process of lending takes into 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 weaknesses 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.

Dahal (2002) mentioned in his article that 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 advances. Hence, risk of non-payment of loan is known as credit risk or default risk.

The basic purpose of a commercial bank is to maximize the shareholders' wealth by accepting deposits and granting loans in the society. In order to give maximum return to shareholders, the bank is required to invest most of its fund in loans and advances, risky assets. Consequently, a clear and sound loan credit policy is a must for the safety of depositors fund and adequate return to shareholders. Lending policy can be defined as the decision made in advance about the management of loan.

### **2.1.2 Types of Lending**

Lending is the most important function of commercial banks. The basic types of lending that the bank flows are in the form of:

#### **a) Overdraft**

It denotes the excess amount withdrawn over their deposits. An extension of credit from

an ending institution when an account reaches zero. It allows the individual to continue withdrawing money even if the account has no funds in it. Basically the bank allows people to borrow a set amount of money.

**b) Cash Credit**

Credit is not given directly in cash but deposit account is being opened on the name of credit taker and the amount credited to that account. In this way, every credit creates deposit.

**c) Direct Credit**

In banking, a direct credit is a deposit of money by a payer directly in to a payee's bank account. Under this, the following types of credit falls. Under this, the following types of credit falls:

**i. Term Credit**

Richard (1996) described term credit refers to money lend in lump sum to the borrowers. It is principal form of medium term debt financing having maturities of 1 to 8 years. A bank credit with maturities exceeding 1 year is called term credits. The firm agrees to pay interest based on the bank's prime rate and to repay principal in the regular installments. Special patterns of principal payments over time can be negotiated to meet the firm's special needs.

**ii. Working Capital Credit**

Richard (1996) defined working capital as it denotes the difference between current assets and current liabilities. It is granted to the customers to meet their working capital gap for supporting production process. A natural process develops in funds moving through the cycle are generated to repay a working capital credit.

**iii. Priority or deprived sector credit**

Richard (1996) mentioned that commercial banks are required to extend advances to the priority and deprived sector. 12 per-cent of the total credit must be towards priority sector including deprived sector. Rs.2 million for agriculture cum service sector and Rs.2.5

million for single borrowers are limit sanctioned to priority sector. Institutional support to 'Agriculture Development Bank' and 'Rural Development Bank' are also considered under this category. Deprived sector lending includes:

- a) Advances to poor/downtrodden/weak/deprived people up to Rs.30, 000 for generating income or employment.
- b) Institutional credit to rural development bank.
- c) Credits to NGOs those are permitted to carryout banking transactions for lending up to Rs.30, 000.

**iv. Hire Purchase Financing (Installment Loan)**

Hire-purchase credits are characterized by periodic repayment of principal and interest over the maturity of the credit. Hirer agrees to take the goods on hire at a stated rental including their repayment of principal as well as interest with an option to purchase. A recent survey of commercial banks indicates those banks are planning to offer installment credits on a variable rate basis. It can be secured and unsecured as well as direct and indirect installment credit.

**v. Housing Loan (Real Estate Loan)**

Richard (1996) mentioned financial institutions also extend housing loan to their customers. It is different types, such as: residential building, commercial complex, construction of warehouse etc. It is given to those who have regular income or can earn revenue from housing project itself.

**vi. Project Loan**

Johnson (1940) described project loan is granted to the customers as per project viability. The borrowers have to invest certain proportion to the project from their equity and the rest will be financed as project credit. Construction loans are short-term credits made to developers for the purpose of completing proposed projects. Maturities on construction loan range from 12 months to as long as 4 to 5 years, depending on the size of the specific project.

The basic guiding principle involved in disbursement policy is to advance funds corresponding to the completion stage of the project. Hence, what percent of the credit will be disbursed at which stage of completion must be spelled in disbursement policy. Term of loan needed for project fall under it.

**vii. Consortium Loan**

Richard (1996) described no single financial institution grant loan to the project due to single borrower limit or other reason and two or more such institutions may consent to grant credit facility to the project of which is baptized as consortium credit. It reduces the risk of project among them. Financiers bank equal (or likely) charge on the project's assets.

**viii. Credit Cards and Revolving Lines of Credit**

Revolving credit line lowers the cost of making credit since operating and processing cost are reduced. Due to standardization, centralized department processes revolving credits resulting reduction on administrative cost. Continued borrowing arrangement enhances cost advantages. Once the credit line is established, the customer can borrow and repay according to his needs and the bank can provide the fund to the customer at lower cost.

Richard (1996) described charge cards and credit lines tied to demand deposit accounts are the two most common revolving credit agreements. It can be further divided into credit cards, automatic overdrafts lines and large credit lines.

**ix. Off-balance Sheet Transaction**

In fact, bank guarantee and letter of credit refer to off balance sheet transactions of financial institution. It is also known as contingent liability. Contingent liability pinpoints the liability, which may or may not arise during the happening of certain event. Footnotes are kept as reference to them instead of recording in the books of accounts.

Richard (1996) mentioned that it is non-funded based remunerative facilities but more risky than the funded until adequate collateral are not taken.

**x. Bank Guarantee**

It is used for the sake of the customers in favor of the other party (beneficiary) up to the approved limit. Generally, a certain percent amount is taken as margin from the customer and the customer's margin account is credited.

**xi. Letter of Credit (L/C)**

Richard (1996) said Letter of Credit (L/C) is issued on behalf of the customer (buyer/importer) in favor of the exporter (seller) for the import of goods and services stating to pay certain sum of money on the submission of certain documents complying the stipulated terms and conditions as per the agreement of L/C. It is also known as importers letter of credit since the bank of importer do not open separate L/C for the trade of same commodities.

**xii. Discounting of Bills**

It is the main function of commercial banks. Discounting of bill means made payment of bills, which are issued by commercial banks as well as central bank, NRB, before their expiration date or matured time. Therefore, payment should be less than the total amount because of their uncertainty.

**2.1.3 Objectives of Lending Policy**

The lending policy should be carefully established, properly communicated to the lending officers and implemented effectively by the lending officers. The basic objective of lending policy is to maintain effective loan management and control over it. Moreover, it is specified as follows:

**a) To have a good assets**

Saunders and Cornett (2004) described that loans are the risky assets though a bank invests the most of its resources in granting loans and advances. The increasing of non-performing loan causes the non-existence of banks. It is the very quality of assets that led bankruptcy of many banks in South East Asia. The objective of sound loan policy is to

protect depositors' interest and maximize returns to the shareholder by striking a balance between liquidity and profitability.

**b) To contribute to economic development**

Saunders and Cornett (2004) mentioned that a sound lending policy is required to ensure that the loans are given to the productive sector, which contributes to capital formulation and employment generation.

**c) To give guidance to lending officials**

Saunders and Cornett (2004) highlighted that a borrower should be assured that there would be no discrimination whether he deals with one officer or another. A sound credit policy is imperative to achieve a uniform standard procedure throughout the organization.

**d) To establish a standard for control**

Saunders and Cornett (2004) described that every policy requires periodic follow-up to ensure its proper implementation. A sound credit policy helps to determine the variance between actual performance and practices and to corrective actions. A policy is always flexible and works as a guideline. If the variation between the practice and policy is observed, proper education to lending officer or amendment of the policy will become inevitable.

**2.1.4 Principle of Lending Policy**

Mishkin (1998) stated that good lending policy is essential to carry out the business of lending more effectively. Some policies are as follows.

**a) Principle of safety fund**

Banks should look the fact that is there any unproductive or speculative venture or dishonest behavior of the borrower.

**b) Principle of liquidity**

American Institute of Banking (1972) said liquidity refers to pay on hands on cash when

it needed without having to sell long-term assets at loss in unfavorable market. A banker has to ensure that money will come in as on demand or as per agreed terms of repayment.

**c) Principle of security**

It acts as cushion to grant advances and credits. Adequate values of collaterals ensure the recovery of credit correctly at the right time. Accepted security should be readily marketable, handy and free from encumbrance.

**d) Principle of purpose of lending**

Generally, lending request would be accepted for productive sector only. Bank should be rejected loan request for speculation, social functions, pleasures trips, ceremonies and repayment of prior credit as they are unproductive.

**e) Principle of profitability**

Profitability denotes the value created by the use of resource is more than the total of the input resources. Bank should provide to such project that can provide optimum amount of return. For such purpose, bank should take a little bit risk by providing credit to venturous project.

**f) Principle of spread**

Portfolio of credit advances is to be spread not only among many borrowers of same industry. It across the industries in order to minimize the risk of lending keeping “Do not put your all eggs in the same basket” in mind.

**g) Principle of national interest**

In lending and granting advances, interest of nation should not be distorted (if undermined). Priority and deprived sector of economy and other alarming sector should be given proper emphasis while extending advances.

**2.1.5 Key Characteristics of Lending Policy**

Every policy has its own characteristics. The lending policy has the following

characteristics:

**a) Approved by top management**

The credit policy is always prepared by the top management of an institution and is approved by the board of directors. It may be revised time to time.

**b) Practical and manageable**

The credit policy, prepared by the bank is for theoretical rather it is for practical and manageable to apply.

**c) Flexibility**

Rigid credit policy is not practical. It has to be flexible according to the demand of customer.

**d) Compliance**

Shrestha (1993), in his article mentioned that credit policy is compliance with NRB policy as well as economic, political condition of the country.

**2.1.6 Systems and Procedures of lending Policy**

A sound loan policy interact all the areas of loan effectively that ultimately helps to operate the organization successfully. Basically, a bank has to follow the following systems and procedures in credit policy.

**a) Loan Origination**

Banks must operate within a sound and well-defined criteria for new loan as well as the expansion of existing loans. The loans should be extended within the target markets and lending strategy of the institution. Before allowing a loan facility, the banks must make an assessment of risk profile of the customer transaction. This may include:

- i) Loan assessment of the borrower's industry, and macro-economic factors.
- ii) The purpose of loan and source of repayment.
- iii) The track record/repayment history of borrower.
- iv) Assess/evaluate the repayment capacity of the borrower



- v) The proposed terms and conditions and covenants.
- vi) Adequacy and enforceability of collaterals.
- vii) Approved form appropriate authority.

Koch and McDonald (2004) mentioned that in case of new relationships, consideration should be given to the integrity and repute of the borrowers or counter party as well as its legal capacity to assume the liability. Prior to entering into any new credit relationship, the bank must become familiar with the borrower or counter party and be confident that they are dealing with individual or organization of sound repute and cordite worthiness. However, a bank must not grant credit simply on the basis of the fact that the borrower is perceived to be highly reputable, i.e. Name lending should be discouraged.

Joseph (1998) found that while structuring lending facilities institutions should appraise the amount and timing of the cash flows as well as the financial position of the borrower and intended purpose of the funds. It is utmost important that due consideration should be given to the risk reward trade-off in granting a credit facility and credit should be priced to cover all embedded costs. Relevant terms and conditions should be laid down to protect the institution's interest.

Institutions have to make sure that the loan is used for the purpose it was borrowed. Where the obligor has utilized funds for purposes not shown in the original proposal, institutions should take steps to determine the implications on creditworthiness. In case of corporate loans where borrower own group of companies such diligence becomes more important. Institutions should classify such connected companies and conduct credit assessment on group basis.

In loan syndication, generally the lead institution does most of the credit assessment and analysis. While such information is important, institutions should not over rely on that. All syndicate participants should perform their own independent analysis.

Grywinski (1991) mentioned that institution should not over rely on collaterals/covenant. Although the importance of collaterals held against loan is beyond any doubt, yet these should be considered as a buffer providing protection in case of default, primary focus should be on obligor's debt servicing ability and reputation in the market.

**b) Limit Setting**

Shrestha (1993) in his article mentioned that an important element of credit risk management is to establish exposure limits for single obligors and group of connected obligors. Institutions are expected to develop their own limit structure while remaining within the exposure limits set by the central bank (i.e. Nepal Rastra Bank). The size of the limits should be based on the credit strength of the obligor, genuine requirement of credit, economic conditions and the institution's risk tolerance. Appropriate limits should be set for respective products and activities. Institutions may establish limits for a specific industry, economic sector or geographic regions to avoid concentration risk.

Sometimes, the obligor may want to share its facility limits with its related companies. Institutions should review such arrangements and impose necessary limits if the transactions are frequent and significant. Credit limits should be reviewed regularly at least annually or more frequently if obligor's credit quality deteriorates. All requests of increase in credit limits should be substantiated.

**c) Loan Administration**

Ongoing administration of the loan portfolio is an essential part of the loan process. Loan administration function is basically a back office activity that support and control extension and maintenance of loan. A typical loan administration unit performs following function:

**i) Documentation**

Desai (1967) said that it is the responsibility of loan administration to ensure completeness of documentation (loan agreements, guarantees, transfer of title of

collaterals etc. in accordance with approved terms and conditions. Outstanding documents should be tracked and followed up to ensure execution and receipt.

**ii) Loan Disbursement**

Desai (1967) mentioned that the loan administration function should ensure that the loan application has proper approval before entering facility limits into computer systems. Disbursement should be affected only after completion of covenants and receipt of collateral holdings. In case of exceptions necessary approval should be obtained from competent authorities.

**iii) Credit Monitoring**

Desai (1967) found that after the loan is approved and draw down allowed, the loan should be continuously watched over. These include keeping track of borrowers' compliance with credit terms, identifying early signs of irregularity, conducting periodic valuation of collateral and monitoring timely repayments.

**iv) Loan Repayment**

Desai (1967) mentioned that the obligors should be communicated ahead of time as and when the principal/markup installment becomes due. Any exceptions such as non-payment or late payment should be tagged and communicated to the management. Proper records and updates should also be made after receipt.

**v) Maintenance of Loan Files**

Desai (1967) highlighted that Institutions should devise procedural guidelines and standards for maintenance of loan files. The loan files not only include all correspondence with the borrower but should also contain sufficient information necessary to assess financial health of the borrower and its repayment performance. It need not mention that information should be filed in organized way so that external internal auditors or NRB inspector could review it easily.

**vi) Collateral and Security Documents**

Desai (1967) emphasized that Institutions should ensure that all security documents are kept in a fireproof safe under dual control. Registers for documents should be maintained to keep track of their movement. Procedures should also be established to track and review relevant insurance coverage for certain facilities/collateral. Physical checkson security documents should be conducted on a regular basis.

**2.1.7 Credit Monitoring and Control**

Credit monitoring refers to incessant monitoring of individual credits inclusive of off-balance sheet exposures to obligors as well as overall credit portfolio of the bank. Banks need to enunciate a system that enables them to monitor quality of the credit portfolio of day-to-day basis and take remedial measures as and when any deterioration occurs. Such a system would enable a bank to ascertain whether loans are being serviced as per facility terms, the adequacy of provisions, the overall risk profile is within limits established by management and compliance of regulatory limits.

Establishing an efficient and effective credit monitoring system would help senior management to monitor the overall quality of the total credit portfolio and its trends. Consequently the management could fine tune or reassess its credit strategy/policy accordingly before encountering any major setback. The banks credit policy should explicitly provide procedural guideline relating to credit risk monitoring. At the minimum it should lay down procedure relating to;

- i. The roles and responsibilities of individuals responsible for credit risk monitoring.
- ii. The assessment procedures and analysis techniques (for individual loans and overall portfolio)
- iii. The frequency of monitoring
- iv. The periodic examination of collaterals and loan covenants
- v. The frequency of site visits
- vi. The identification of any deterioration in loan

**a. Financial Position and Business Conditions**

Khan (1982) described that the most important aspect about an obligor is its financial health, as it would determine its repayment capacity. Consequently institutions need carefully watch financial standing of obligor. The key financial performance indicators on profitability, equity, leverage and liquidity should be analyzed. While making such analysis due consideration should be given to business/ industry risk, borrowers' position within the industry and external factors such as economic condition, government policies, regulation. For companies whose financial position is dependent on key management personnel and /or shareholders, for example, in small and medium enterprises, institutions would need to pay particular attention to the assessment of the capability and capacity of the management / shareholders.

**b. Conduct of Accounts**

Khan (1982) mentioned that in case of existing obligor the operation in the account would give a fair idea about the quality of credit facility. Institutions should monitor the obligor's account activity, repayment history and instances of excesses over credit limits. For trade financing, institutions should monitor cases of repeat extensions of due dates for trust receipts and bills.

**c. Loan Covenants**

Khan (1982) said that the obligor's ability to adhere to negative pledges and financial covenants stated in the loan agreement should be assessed and any breach detected should be addressed promptly.

**d. Collateral Valuation**

Khan (1982) mentioned that since the value of collateral could deteriorate resulting in unsecured lending, banks need to reassess value of collaterals in periodic basis. The frequency of such valuation is very subjective and depends upon nature of collaterals. For instance loan granted against shares need revaluation on almost daily basis whereas if there is mortgage of a residential property the revaluation may not be necessary as frequently. In case of credit facilities secured against inventory or goods at the obligor's

premises, appropriate inspection should be conducted to verify the existence the valuation of the collateral.

External Rating and Market Price of securities purchased as a form of lending or long-term investment should be monitored for any deterioration in credit rating of the issuer, as well as large decline in market price. Adverse changes should trigger additional effort to review the creditworthiness.

### **2.1.8 Managing Loan Problems**

The institution should establish a system that helps to identify problem loan ahead of time when there may be more options available for remedial measures. Once the loan is identified as problem, it should be managed under a dedicated remedial process.

A bank's loan risk policies should clearly set out how the bank will manage problem credits. Banks differ on the methods and organization they use to manage problem credits. Responsibility for such credits may be assigned to the originating business function, a specialized workout section or a combination of the two, depending upon the size and nature of the credit and the reason for its problems. When a bank has significant credit-related problems, it is important to segregate the workout function from the credit origination function. The additional resources, expertise and more concentrated focus of a specialized workout section normally improve collection results. A problem loan management process encompass following basic elements:

#### **a. Negotiation and Follow-Up**

William (1990) said proactive effort should be taken in dealing with obligors to implement remedial plans, by maintaining frequent contact and internal records of follow-up actions. Often rigorous efforts made at an early stage prevent institutions from litigations and loan losses.

#### **b. Workout Remedial Strategies**

William (1990) described that sometimes appropriate remedial strategies such as restructuring of loan facility, enhancement in credit limits or reduction in interest rates

help improve obligor's repayment capacity. However it depends upon business condition, the nature of problems being faced and most importantly obligor's commitment and willingness to repay the loan. While such remedial strategies often bring up positive results, institutions need to exercise great caution in adopting such measures and ensure that such a policy must not encourage obligors to default intentionally. The institution's interest should be the primary consideration in case of such workout plans it needs not mention here that competent authority, before their implementation, should approve such workout plan.

**c. Review of Collateral and Security Document**

William (1990) emphasized that Institutions have to ascertain the loan recoverable amount by updating the values of available collateral with formal valuation. Security documents should also be reviewed to ensure the completeness and enforceability of contracts and collateral guarantee.

**d. Status Report and Review**

William (1990) said that problem of credits should be subject to more frequent review and monitoring. The review should update the status and development of the loan accounts and progress of the remedial plans. Progress made on problem loan should be reported to the senior management.

**2.1.9 Lending Criteria**

While screening a credit application, 5Cs to be first considered supported by documents.

**a. Character**

Chhabra and Taneja (1991) described that 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.

- i. Memorandum and articles of association
- ii. Registration certification
- iii. Tax registration certificate (Renewed)

- iv. Resolution to borrow
- v. Authorization-person authorizing to deal with the bank
- vi. Reference of other lenders with whom the applicant has dealt in the past or bank A/C statement of the customer.

**b. Capacity**

Chhabra and Taneja (1991) described that it is customer's ability to pay. It is 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:

- i. Certified balance sheet and profit and loss account for at least past 3 years.
- ii. References or other lenders with whom the applicant has dealt in the past or bank A/C.

**c. Capital**

Chhabra and Taneja (1991) said that Capital provides a caution to absorb operating and assets losses that might otherwise impair debt repayment. 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.

**d. Collateral**

Chhabra and Taneja (1991) described that Collateral is the security proposed by the borrower. Sufficiency of collateral is necessary to ensure the recovery of loan. 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.

**e. Conditions**

Chhabra and Taneja (1991) mentioned that 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.

#### **2.1.10 Project Appraisal**

Gautam (2004) observed that 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. The purpose of project appraisal is to achieve the guarantee of reasonable return from the project. Project appraisal answers the following questions:

- i. Is the project technically sound?
- ii. Will the project provide a reasonable return?
- iii. Is the project in line with the overall economic objectives of the country?

Generally, the project appraisal investigation from the following aspects:

- i. Financial aspect.
- ii. Economic aspect.
- iii. Management/Organizational aspect.
- iv. Legal aspect.

#### **2.1.11 Steps of Lending Process**

Commercial bank issue loans but before issuing loans, they follow some steps of lending process. Bank has certain process for providing loans. When an individual or organization needs capital for doing certain works, then they search for loans and bank is the only one reliable and economic source of loan and advances. So, bank imposes following process for providing loans.

##### **a. Loan application**

Brealy and Myers (1991) observed that when a person need loan then he/she ask the loan procedure in the bank. If all the process and information is reasonable, then he/she makes loan application. It is also called loan proposal. For big business loan, it is appropriate to

talk with loan officer. Loan officer can also contact to big account holder possessing business organization and ask if they are in need of loan. In developed countries bank, themselves search for probable debtors. Banks make report of economic activities and when they found good customers they contact with them and ask for loan necessity.

**b. Loan interview**

Brealy and Myers (1991) observed that Second process involves the loan interview of applicants who apply for the loan. This interview helps to find out the loan applicant's nature, i.e. Habit, obedient. Bank also collects information about the purpose.

**c. Need of Loan Policy in Commercial Bank**

In bank fund management, the cost of handling is, of course, as important as the availability of funding. Competition, deregulation, economic conditions and increased sophistication in money management on the part of retail and wholesale depositors have increased the cost of bank fund tremendously.

Francis (1991) described making an unsecured loan involves taking a risk and losses on some loans are to be expected. Commercial banks are increasingly facing credit risk (or counter party 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 settlement of transactions. Thus, the need of credit policy is the most, as the banks should always try to mitigate the risk related to the loan provided. Steps that banks can take to limit loan losses include obtaining sufficient information on loans and borrowers as well as establishing an internal system of loan review in addition to the loan reviews of regulatory agencies. Banks can also affect or offset credit risk in their loan portfolios by watching the business cycle, varying loan rates against the degree of risk and recognizing risk in loan concentration.

Although specific credit risk policy and practices may differ among banks depending upon the nature and complexity of their credit activities, a comprehensive credit risk management program should address the following areas:

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

Basel Committee Consultative Paper (1999) mentioned that Credit risk is a factor in all loans, but to varying degrees. Bank should recognize this variability by matching loan rates to risk. A bank that charges the same rates for many types of loan is not receiving adequate compensation for its riskier loans. In comparison a loan's total yield to its risk, a bank also should consider any supporting deposit balances required in conjunction with the loan and may also want to consider other profitability generated from the customer's relationship with banks.

#### **2.1.12 Review of NRB Directives Relating to Loan**

##### **a. Classifications of Loan and Advances:**

Effective from FY 2017 banks shall classify outstanding principal amount of loan and advances on the basis of aging. As per the directives issued by NRB, all loans and advances shall be classified into the following five categories:

##### **i) Pass Loan**

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

##### **ii) Watch List**

Watch List also includes loans which have not been serviced for three months. But it includes loans whose principal and interest have not been paid within the repayment period.

**iii) Sub-Standard Loan**

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

**iv) Doubtful Loan**

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

**v) 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 this category of sub-standard, Doubtful and loss are classified and defined as Non-performing loan. It is appropriate in the view of the banks management; there is not restriction in classifying the loan and advances from low risk category to high risk category. For instance, loans falling under substandard may be classified into doubtful or loss and loans falling under doubtful may be classified into loss category. The term loan and advances also includes bulls purchased and discounted.

**b. Additional Arrangement in Respect of Pass Loan**

- Following Loans and advances can be considered as Pass Loan
  - Loans and advances that are fully secured by bullions (Gold, Silver).
  - Loans and advances that are fully secured by Fixed Deposit Receipt.
  - Loans and advances that are secured by government securities or NRB issued Bonds.

Working Capital Loans having maturity of one year can be classified under pass category if renewed. If interest is due on those loans then it must be categorized on the basis of due days of interest.

**c. Additional Arrangement in Respect of loss Loan**

Even if the loan is not past due, loans having any or all of the following discrepancies shall be classified as “loss”.

- i) Security is not sufficient,
- ii) The borrower has been declared bankrupt,
- iii) The borrower is absconding or cannot be found,
- iv) Purchased or discounted bills are not realized within 90 days from the due date and non-fund based letter of credit and guarantees etc. are not realized within 90 days from the date of conversion into fund based are not realized within 90 days,
- v) The credit has not been used for the purpose originally intended,
- vi) Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation,
- vii) Loan provided to the borrowers included in the blacklist of Credit Information Center (CIC).
- viii) Project or business is not in operative conditions, project or business is not in operation,
- ix) Credit Card Loan is not written off within 90 days from past due date.

**d. Additional Arrangements in Respects of Term Loan**

In respect of term loans, the classification shall be made against the entire outstanding loan on the basis of the past due period of overdue installment.

**e. Prohibition to Recover Principal and Interest by Overdrawing the Current Account and Exceeding the Overdraft Limit**

Principal and interest on loans and advance shall not be recovered by overdrawing the borrower’s current account or where overdraft facility has been extended, by overdrawing such limit. However, this arrangement shall not be constructed as prohibitive for recovering the principal and interest by debiting the customers’ account. Where a system in the bank exists as to recovery of principal and interest by debiting the customers’ account, and recovery is made as such resulting in overdraft, which is not settled within one month, such overdrawn principal amount shall also be liable to be include under the

outstanding loan and such loan shall be downgraded by one step from its current classification. In respects if recognition of interest, the same shall be as per the clause relating to income recognition mentioned in directives no 4.

**f. Letter of Credit and Guarantees**

If letter of credit and guarantees and other contingent liabilities converted into fund based liabilities and have to be paid, in such condition such loan shall be classified as pass loan within 90 days from the date of conversion into fund based. After 90 days such loan shall be classified as loss loan.

**g. Rescheduling and Restructuring of the Loan**

Banks may reschedule or restructure such loans upon receipt of the written plan of action from the borrower citing the following reasons.

- Evidence of adequate collateral and documentation regarding Loans.
- An evaluation of the borrower/ enterprise's management with particular emphasis on efficiency, commitment and high standards of business ethics.
- To reschedule or restructure the loans, it is mandatory that at least 25 per-cent of past due interest up to rescheduled or restructured date should be paid by the borrower. If all interests have been recovered before renewal of loans, it can be categorized into Pass Loan.

**2.1.13 Loan Management**

Loan management is one of the major and most challenging functions of the Commercial Bank. This is because they receive customer's deposits and are under obligation to pay them on demand. No consumer will accept excuses that his money account be paid on demand on the ground that it has been borrowed out on loan to another customer. So, there is the need for proper management of loan by the Commercial Banks.

Loan management is crucial and it is instrumental in ensuring the success or failure of any credit institution. The key to successful lending for business is a systematic loan analysis, which deals with the process of investing those factors that give rise to non-

payment of debts. The efficiency of loan decision shall be all standards depend upon sound judgments of the officer or manager.

Westorn, Besley and Brigham (1996) mentioned that Financial Statement Analysis involves a comparison of analysis firm's loan management with that of other firms in the same line of business which often is identified by the firm's industry classification. Generally speaking, the analysis is used to determine the firm's loan position in order to identify the current strengths and weakness and to suggest actions that might enable the firm to take advantage of the strength and correct its weakness.

The following are the some important financial ratios to analysis the loan management of selected banks:

**(i) Activity/Efficiency Ratios**

Activity/Efficiency ratios are concerned with the measuring of efficiency in assets management. This ratios are employed to evaluate the efficiency with the bank manages and utilizes funds. These ratios are also called turnover ratios because they indicate the speed with which the assets are being converted or turned over into sales. It is necessary for every bank to control risk and reduce the risk related to deposits.

**(ii) Profitability Ratios**

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

## **2.2 Review of Related Studies**

Koirala (2006) concluded that the politicians and the staff have been responsible for the existence of huge volume of NPA in state-owned commercial banks. In order to improve the situation, there is a need to evolve a more acceptable working system backed by cooperation and realization by the banks employees as well as the politicians and stakeholders, who can influence in banks operation.

Garg (2006) concluded that Loans are not being made unless there is a demonstrated capability for repayment. Lending culture can take cash flows as opposed to security. Every credit must be subject to rigorous analytical scrutiny of the customer's repayment capability prior to approval, and on an ongoing basis following approval. There can be no exceptions to the basics principles of lending.

Bhandari (2007) concluded that enforcing coercive actions against entrepreneur and the enterprise, the banks and the lending agencies should follow a series of liberal strategies for recovering their loans.

Zerith (2008) concluded that 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.

Satyal (2010) concluded that it has created huge pressure in the labor market. In the absence of entrepreneurial activities in the country, employment opportunity will be very limited and even qualified and competent people do not get job. The established notion of the Nepalese bankers that money lent to the wealthy people based on collateral is safe. But is not actually a safe assumption in the face of greater difficulty in loan recovery from these people.



Montecillo (2013) concluded that in a statement, the Bangko Central Philipins said nonperforming loans (NPL) held by universal and commercial banks declined at the end of June from the May level. The latest NPL figures indicate the banks continued efforts to adhere to sound credit risk management systems and maintain high loan quality, the BSP said, commenting on the data.

Francis (2015) concluded that additionally, the bankers use covenants, credit rationing, loan securitization, and loan syndication as risk management defensives.

The factors that influence effectiveness of loan management systems used by commercial banks in Kenya include establishment of a credit policy that clearly outline the scope and allocation of bank credit facilities, maintenance a credit administration system that with adequate controls over loan; top management support; communication of credit guidelines to every officer in the credit department, screening of potential borrowers, employing well trained staff, constant review of the borrowers' liquidity and the use of supportive technology in credit analysis.

Bajracharya (2012) concluded that also actual loan investment/disbursement, collection and outstanding of short-term gradually increased every year.

Access to finance is vital element for entrepreneurship development in the country. Without it, one cannot think of starting business of any sort. It's mainly due to this reason; most of the students after completing there is single- mindedly look for employment opportunity. No other options, no matter how attractive it would be enter into their mind. It has created huge pressure in the labor market. In the absence of entrepreneurial activities in the country, employment opportunity will be very limited and even qualified and competent people do not get job. The established notion of the Nepalese bankers that money lent to the wealthy people based on collateral is safe. But is not actually a safe assumption in the face of greater difficulty in loan recovery from these people.

Also, this particular segment of market is already over-banked. With the worsening business performance of the Nepalese corporate sector mostly due to the poor management compounded by other factors like sluggish economic conditions and political instability, banks must now explore newer market segment for their sustained growth and success. Under this backdrop, Nepalese commercial banks must change their policy and must understand that event the people living in the low and middle level of economic pyramid can potentially be lucrative market.

Singh (2016) in this article “Performance of Credit Risk Management in Indian Commercial Banks” explained that credit risk had been and essential factor that needed to be managed well. Credit risk was the possibility that a borrower of counter party would fail to meet its obligations in accordance with agreed term. Credit risk, therefore arise from the banks dealings with or lending to corporate, oldest and biggest risk that ban, by virtue of its very nature of business, inherited.

Currently in India there were many banks in operation. From these some public sector banks are namely State Bank of India, Punjab National Bank, Oriental Bank of Commerce, Bank of India, Indian Bank, Indian Overseas Bank, Syndicate Bank, Bank of Baroda, Canara Bank, Allahabad Bank, UCO Bank, Vijaya Bank and private sector banks are Axis Bank, ICICI Bank, IndusInd Bank, ING Vysya Bank, Dhanlaxmi Bank, HDFC Bank, YES Bank, Kotak Mahindra Bank, Karnataka Bank, ABN Amro Bank, Federal Bank, Laxmi Vilas Bank were selected to examine the impact level of credit risk management towards the profitability of Indian commercial banks. To examine its impact level the researcher had used multiple regression models by taking 11 years Return on Asset (ROA), Non-Performing Asset (NPA) and Capital Adequacy Ratio (CAR) from each bank. The researcher had collected data from RBI annual report since 2003 to 2013 for regression purpose.

Bajracharya (2012) conducted a that the total investment of development financing increased from Rs.7.13 billion in FY 2007/08 to Rs.12.85 billion in FY 2014/15 registering an annual average growth trend of Rs.0.82 billion or 10.43 per-cent. Also

actual loan investment/disbursement, collection and outstanding of short-term gradually increased every year. The lowest percentage of loan collection to disbursement was 76.46 per-cent in FY 2009/10 and the highest was 87.33 per-cent in FY 2014/15.

Rana (2014) accompanied the correlation between deposit and loan disbursement was 0.99. This indicated that these two variables relation is highly positive.

Sharma (2015) a research on credit and advances to fixed deposit ratio of EBL was in fluctuating trend. The mean ratio was 2.26 times in the study period. However, non-performing assets to total assets of EBL was in declining trend.

Lamsal (2016) affirmed that the mean current ratio of all the three banks was not widely varied. All of them were capable in discharging their current liability by current asset. Also the loans and advances and investment to deposits ratio had shown that NABIL Bank Ltd. had deployed the highest proportion of its total deposits in earning activities. This was the indicative of that in fund mobilizing activities NABIL Bank Ltd. was significantly better.

### **2.3 Concluding Remarks**

It refers to study gap related to previous research. There is research gap between the present study and previous studies at first, fiscal years i.e. time period and in the sample banks. Many research studies have been conducted by the different students, experts and researcher about loan management. There have been fund numerous research studies on financial companies and public enterprises regarding loan management. The financial and statistical tools used by most of the researchers were ratio analysis, mean, standard deviation and regression analysis. This study includes various tools like ratio analysis, correlation analysis and co-efficient of variation, t- statistics, trend analysis as specific tools. Thus the research study made on analysis of Loan Management of Nepal Bank Limited and Everest Bank Limited one is the government bank and another is private foreign joint venture commercial bank of nepal. In present situation with the help of various related financial as well as statistical tools and techniques. The study can be

beneficial to all the concerned parties and people as well. This study provides complete and latest information about the loan management of sampled banks which will be the source for reference for the similar studies in the field.

## **CHAPTER - III**

### **RESEARCH METHODOLOGY**

Research methodology is formal, systematic and intensive process of carrying on a scientific analysis. It is a method of solving the scientific problem which consists of problem identification, hypothesis formulation, observation, analysis and conclusion. Methodology is the research method used to examine the objectives. Research methodology is a way to systematically solve the research problem. It describes the method, process, tool and techniques which are used in data analysis and preparation of the report. It is the careful investigation especially through the search for new fact in any branch for knowledge the appropriate research methodology. Following methodology has been used to achieve the objectives of the study.

#### **3.1 Research Design**

Research design is the specification of method and procedures for acquiring the information needed. It deals with what information is to be collected from which sources and by what procedures. If research design is good, it ensures that the information obtained is relevant to the research questions and collected by objective and economic procedures. To achieve the specific objective of the study, descriptive and analytical research has been carried out in terms of Loan Management of Nepal Bank Ltd. and Everest Bank Ltd.

#### **3.2 Population and Sample**

The population refers to the industries of the same nature and its services and product in general. Thus, 27 commercial banks operating in Nepal constitute the population of the study and the bank under study constitutes the sample for the study. Among them only two banks namely; Nepal Bank Ltd. and Everest Bank Ltd. are selected as the sample bank to carry out the study. The two banks have been selected as representative banks of the state-owned and foreign joint venture private bank, respectively.

### **3.3 Nature and Sources of Data**

The study will be mainly based on the secondary data. The secondary data will be gathered merely from the review of documents, both published and unpublished data. The sources of data collection will be as follows:-

- a) Annual report of selected commercial banks.
- b) Final account of the selected banks.
- c) Website of Nepal Rastra Bank.
- d) Other various sources of collecting of data like: booklets, journals, various books, research studies, articles etc.

### **3.4 Method of Data Analysis**

To make the study more specific and reliable, the researcher uses two types of tool for analysis:

#### **3.4.1 Financial Tools**

As this study is related to financial performance analysis financial tools are more useful. They help to identify the financial strength and weakness of the firm. In spite of various financial tools available the research has primarily stressed on ratio analysis assuming it the most suitable tools.

Lawrence (1990) describes a ratio is simply a number expressed in terms of other number and it expressed the quantitative relation between any two variables.

Moreover, it is used as a technique to quantify the relationship between two sets of financial data taken from either profit and loss account or balance sheet. It provides information related to strength and weaknesses of financial data in relation to others. However, the researcher has employed his utmost effort to use as many ratios as possible to reach the point of true financial position of the banks. This study includes activity ratios, credit efficiency ratios and profitability ratios.

#### **a. Activity/Efficiency Ratios**

Activity ratios are also known as assets management ratios. These ratios look at the amount of various types of assets and attempt to determine if they are too high or too

low with regard to current operating levels. Mostly, activity ratio is used to evaluate managerial efficiency and proper utilization of asset. The Activity/Efficiency Ratios are as follows:

**i. Loans and Advances to Total Deposit Ratio**

The main sources of bank's lending depend on its deposit. This ratio is calculated to find out how successfully the banks are utilizing their deposits on loans and advances for profit generating activities. Greater ratio indicates the better utilization of total deposits.

$$\text{Loans and advance to Total Deposit Ratio} = \frac{\text{Loan and advance}}{\text{Total Deposit}} \times 100$$

**ii. Loans and Advances to Total Assets Ratio**

Loans and advances is the major part of total assets for the bank. This ratio indicates the volume of loans and advances out of the total Assets. A high degree of the ratio indicates that the bank has been able to mobilize its fund through lending function. However lending always carries a certain risk of default. Therefore a high ratio represents low liquidity and low ratio represents low productivity with high degree for safety in terms of liquidity.

$$\text{Loan and Advance to Total assets Ratio} = \frac{\text{Loans and Advances}}{\text{Total Assets Ratio}} \times 100$$

**iii. Loan Loss Provision to Loan and Advances Ratio**

The provision for loan loss reflects the increasing probability of non-performing loan. Increase in loan loss provision decreases its profit and result to decrease in dividends. But its positive impact is to strengthen the financial conditions of banks by controlling the credit risk and reduced the risks related to deposits. The low ratio indicates the good quality of assets in total volume of loan and advances. High ratio indicates more risky assets in total volume of loan and advances.

$$\text{Loan Loss provision to Loan and advance Ratio} = \frac{\text{Loan Loss Provision}}{\text{Loan and Advances}} \times 100$$

**iv. Non-Performing Loans to Loan and Advances Ratio**

NRB has directed all the commercial banks to create loan loss provision against the doubtful and bad debts. This ratio helps in minimizing the non-performing loans and helps to control the credit.

$$\text{NPL to Loan and advance Ratio} = \frac{\text{Non-performing Loans}}{\text{Loan and advances}} \times 100$$

**v. Loan Loss Provision to Non-Performing Loan Ratio**

Loan loss provision is the compulsion factor in lending practices and Non-performing Loan is the evil factor in banks. If they are high then they will decrease the amount of profit to the bank's target to receive. This ratio measures the portion of provisioned loan with non-performing Loan.

$$\text{LLP to Non-performing Loan Ratio} = \frac{\text{Loan Loss Provision}}{\text{Non - performing Loan}} \times 100$$

**b. Profitability Ratios**

Profitability ratio is one of the main indicators to analyzing the financial performance of a firm. It is calculated to measure the earning performance and operational efficiency of the bank. A bank should be able to produce adequate profit on each rupee of investment. If investments do not generate sufficient profits, it would be very difficult for the bank to cover operating expenses and interest expenses. The profitability of the bank should also be evaluated in term of its investment in assets and in term of capital contributed by creditors. If the bank is unable to earn satisfactory return of investment, its survival is threatened.

Under this category the researcher has calculated the following ratios to obtain the stated objectives of the study.

**i. Net Profit to loans and Advances Ratio**

This ratio indicates the proportion of the return over total loans and advances. It describes how efficiently the bank has employed its resources in the form of loans and advances of the bank.



$$\text{Net profit to Loan and Advances Ratio} = \frac{\text{Net profit}}{\text{Loan and Advance}} \times 100$$

### **3.4.2 Association of Credit Exposure with Loan Loss Provisioning and Profitability**

The statistical tool is essential to measure the relationship of two or more variable. It is the mathematical technique used to facilitate the analysis and interpretation of the performances of the organizations. It also helps to present the data, show the relation and deviations or differences of variables of organizations. In this research study some statistical tools are used for the analysis of the data more accurately, which are given below.

#### **a) Arithmetic Mean**

The arithmetic mean or simple mean of set of observations in the sum of all the observation divided by the number of observations. It is the best value, which Represent to the whole group means is the arithmetic average of a variable. Arithmetic mean of a series is given by:

$$\text{Mean} (\bar{X}) = \frac{\sum x}{n}$$

Where,

$\bar{X}$  = Sum of the variables 'x'

N = No. of Observation

#### **b) Standard Deviation**

The standard deviation is the absolute measure of dispersion in which the drawback present in other measure of dispersion as it satisfied most of the requisites of a good measure of dispersion. Standard deviation is defined as the positive square root of the mean as square of the deviation takes from the arithmetic mean. It indicates the ranges and size of deviance from the middle or mean. It measures the absolute dispersion. Higher the standard deviation Higher will be the variability and vice versa. Dispersion

measures the variation of the data from the central value. In other words, it helps to analyze the quality of data regarding its variability. It is calculated as:

$$\text{Standard Deviation (S.D.)} = \sqrt{\frac{\sum(X - \bar{X})^2}{n}}$$

**c) Coefficient of Variation (C.V)**

Standard deviation is the absolute measure of dispersion. The relative measure of dispersing based on the standard deviation is known as the measurement of coefficient of standard deviation. The percentage of measure of co-efficient of so is called co-efficient of variation. Less C.V. is the more uniformity and consistency and vice versa. Only standard deviation is not appropriate to compare two pairs of variables but also CV is capable to compare two variables independently in terms of their variability. It is calculated as under:

$$\text{Coefficient of Variation (C.V.)} = \frac{\text{S. D.}}{\bar{X}} \times 100$$

**d) Correlation Coefficient (r)**

Correlation coefficient is defined as the association between the independent Variable and independent variable. It is a method of determining the relationship between these two variables. If the two variables are so related change in the value of independent variable cause the change in the value of dependent variable then it is said to have correlation coefficient.

$$\text{Correlation Coefficient (r)} = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} \sqrt{n\sum y^2 - (\sum y)^2}}$$

**e) t- Statistics**

For this study, t-test for significance of an observed and sample correlation coefficient is used. Set up Hypothesis

Null hypothesis ( $H_0$ );  $\rho = 0$  i.e. There is no correlation between the considered variables.

Alternative Hypothesis ( $H_1$ );  $\rho \neq 0$  i.e. There is significant correlation between the considered variables.

Test statistic under  $H_0$ ;

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

Where,

$r$  = Sample correlation between two variables

$r^2$  = Coefficient Determination

$n$  = No of Pair of observations

Level of significance: Level of significance  $\alpha = 5\%$

Critical Value: Tabulated or critical value of  $t$  at  $\alpha$  % level of significance for  $(n - 2)$  degree of freedom obtain from 't' tables.

Decision: If calculated 't' is less than or equal to tabulated value of 't' it falls in the accepted region and the null hypothesis is accepted and if calculated 't' is greater than tabulated 't' null hypothesis is rejected.

## **CHAPTER - IV**

### **PRESENTATION AND ANALYSIS OF DATA**

In this chapter, the data have been analyzed and interpreted using financial and statistical tools following the research methodology dealt in the third chapter. In the part of analysis, various tables have been used to present the data collected from various sources have been inserted in the required tables according to their homogenous nature. The outcomes of the analysis have been compared with conventional standard with respect to ratio analysis, directives of NRB and other factors. Furthermore, many suitable graphs, and diagrams have also been used to clarify the actual position and performance of the banks.

#### **4.1 Financial Tools**

Ratio analysis involves the methods of calculating and interpreting financial ratios in order to assess the firm's performance and credit management. The basic input to ratio analysis is the firm's income and expenditure statement and balance sheet for the periods to be examined. The study consists of the following ratios to analyze the loan management of NBL and EBL.

##### **4.1.1 Activity/Efficiency Ratios**

Activity ratio has been used to evaluate managerial efficiency and proper utilization of assets. This includes total loan and advance to total deposit ratio, loans and advances to total assets ratio, non-performing loans to loan and advances ratio, loan loss provision to loan and advance ratio and loan loss provision to non-performing loan ratio etc. They are as follows:

##### **a. Loans and Advances to Total Deposit Ratio**

The loans and advances to total deposit ratio is also known as Credit Deposit Ratio (CD ratio). This ratio shows how successfully the banks are utilizing their deposited funds as credit and advance to generate high rate of return. Greater CD ratio implies that better utilization of total deposit of banks and higher earnings from that loans and advances

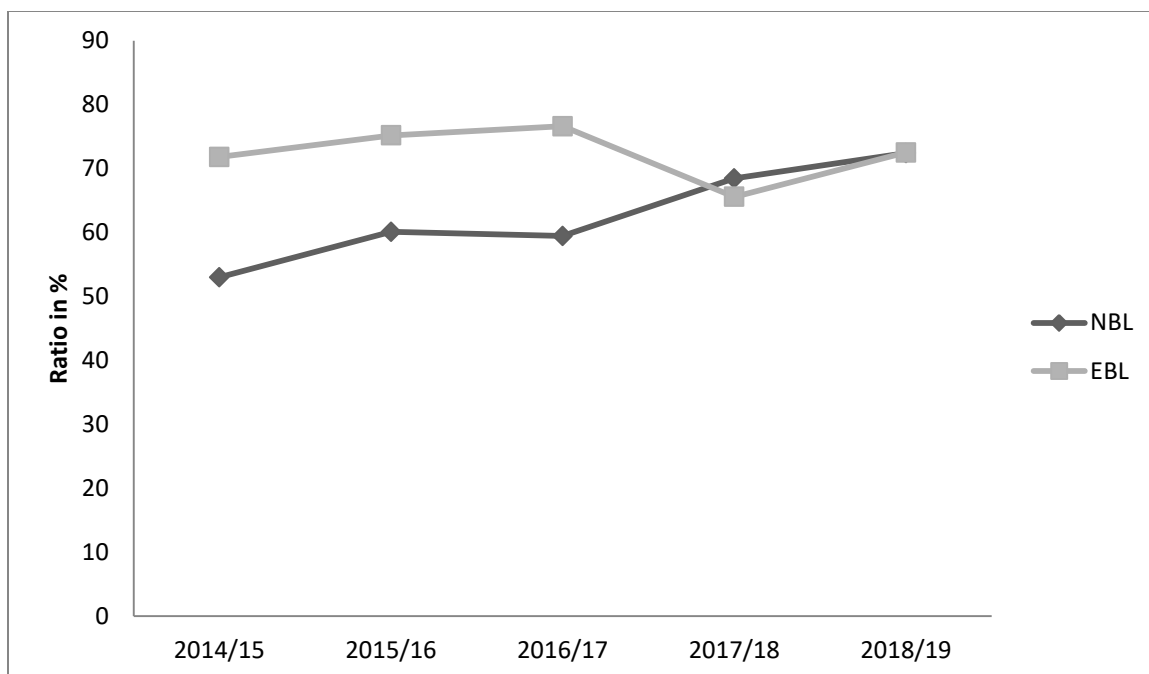
with the higher risk. A higher ratio of loan and advances indicates better mobilization of deposit and vice-versa. But it should be noted that too high ratio might not be better from its liquidity point of view. The table 4.1 is presented in figure 4.1 also to show the trend line of loan and advance to total deposit ratio.

*Table 4.1*  
*Loan and Advances to Total Deposit Ratio*

<i>Fiscal year</i>	<i>NBL</i>		(Rs. in million)			
	<i>Loans and advances</i>	<i>Total Deposit</i>	<i>Ratio %</i>	<i>EBL</i>		
	<i>Loans and advances</i>	<i>Total Deposit</i>	<i>Ratio %</i>	<i>Loans and advances</i>	<i>Total Deposit</i>	<i>Ratio %</i>
2014/15	29,699	56,043	52.99	35,911	50,006	71.81
2015/16	37,855	62,989	60.1	43,393	57,720	75.18
2016/17	41,218	69,338	59.45	47,572	62,108	76.6
2017/18	53,388	77,999	68.45	54,482	83,094	65.57
2018/19	59,820	82,631	72.39	67,955	93,735	72.5
<b>Mean</b>			<b>62.68</b>			<b>72.33</b>
<b>S.D.</b>			<b>7.72</b>			<b>4.25</b>
<b>C.V</b>			<b>12.32%</b>			<b>5.88%</b>

*Note: From Annual Reports of NBL and EBL*

The table 4.1 indicates that the both bank's loan and advances to total deposit ratio are in fluctuating trend. The mean ratio of NBL is the lowest with 62.68 per-cent than EBL with the mean ratio of 72.33 per-cent. We can conclude that EBL is the most successful than NBL to mobilize its total deposit as loan and advances and acquiring high profit but EBL is less consistent than NBL. By the coefficient of variation of the ratios, we can conclude that EBL has seen more consistent with the lowest C.V of 5.88 per-cent.



*Figure 4.1 Loan and Advances to Total Deposit Ratio*

*Note: From Annual Reports of NBL and EBL*

The figure 4.1 depicts that the both bank's loan and advances to total deposit ratio are in fluctuating trend. NBL has the highest ratio of 72.39 per-cent in the F/Y 2018/19 and the lowest ratio is 52.99 per-cent in the F/Y 2014/15. Similarly, EBL's highest ratio is 76.6 per-cent in the F/Y 2016/17 and the lowest ratio is 65.57 per-cent in the F/Y 2017/18.

#### **b. Loans and Advances to Total Assets Ratio**

Loans and advances is the major part of total assets for the bank. This ratio indicates the volume of loans and advances out of the total Assets. A high degree of the ratio indicates that the bank has been able to mobilize its fund through lending function. However lending always carries a certain risk of default. Therefore a high ratio represents high liquidity and low ratio represents low productivity with high degree for safety in terms of liquidity. Followings are the summarized picture of total Loans and Advances and Total assets of NBL and EBL.

*Table 4.2*  
*Loan and Advances to Total Assets Ratio*

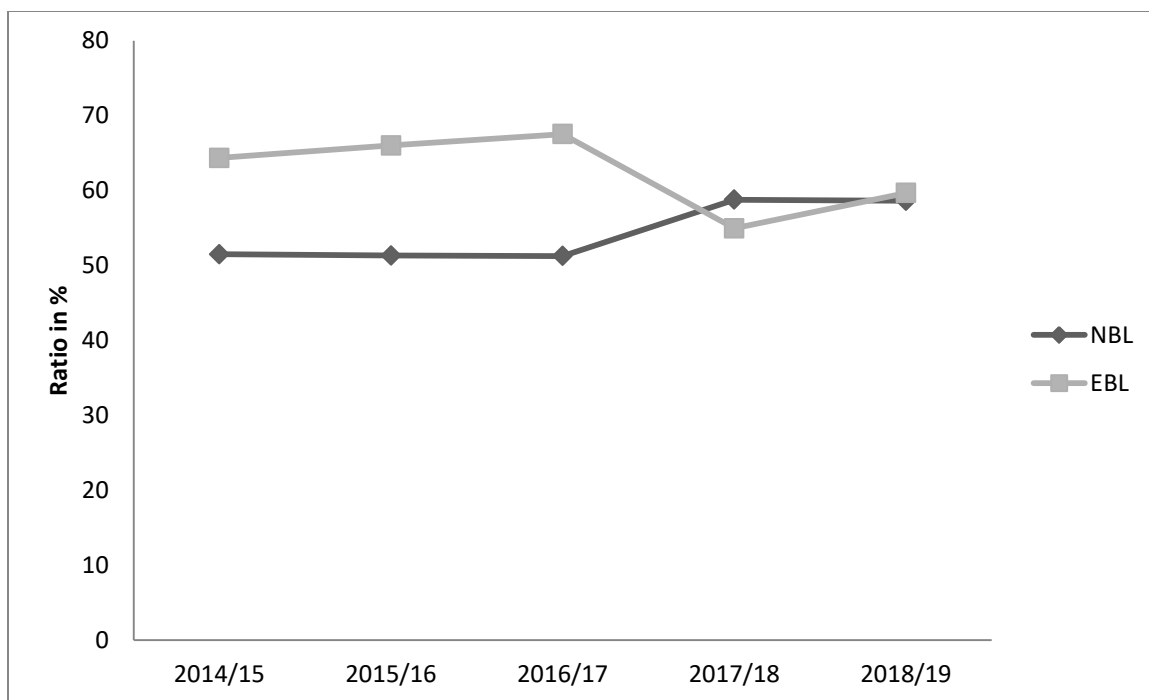
(Rs. in million)

<i>Fiscal year</i>	<i>NBL</i>			<i>EBL</i>		
	<i>Loan and Advance</i>	<i>Total Assets</i>	<i>Ratio %</i>	<i>Loan and Advance</i>	<i>Total Assets</i>	<i>Ratio %</i>
2014/15	29,699	57,679	51.49	35,910	55,813	64.34
2015/16	37,855	73,782	51.31	43,393	65,741	66.00
2016/17	41,218	80,405	51.26	47,572	70,445	67.53
2017/18	53,388	90,828	58.78	54482	99,167	54.94
2018/19	59,820	102,055	58.62	67955	113,885	59.67
<b>Mean</b>			<b>54.29</b>			<b>62.5</b>
<b>S.D.</b>			<b>4.03</b>			<b>5.15</b>
<b>C.V</b>			<b>7.42%</b>			<b>8.24%</b>

*Note: From Annual Reports of NBL and EBL*

The table 4.2 describes that the ratio of total loan and adv. to total assets in five years for the sample commercial banks. The mean ratio of NBL is 54.29 per-cent which is lower than EBL i.e. 62.5 per-cent. It can be concluded that EBL is better mobilizing of fund as loans and advances and it seems quite successful in generating higher ratio than NBL. By measuring coefficient of variation, NBL has more uniformity than EBL since NBL has lesser C.V of 7.42 per-cent than that of EBL i.e. 8.24 per-cent.

The table 4.2 is presented in figure 4.2 also to show the trend line of loan and advance to total assets ratio.



*Figure 4.2 Loan and Advances to Total Assets Ratio*

*Note: From Annual Reports of NBL and EBL*

The figure 4.2 presents that the ratio of total loan and adv. to total assets in five years for the sample commercial banks. Total loan to total assets ratio of NBL ranges the highest of 58.78 per-cent in the fiscal year 2017/18 and the lowest of 51.26 per-cent in the fiscal year 2016/17. Likewise, the ratio of EBL is highest of 67.53 per-cent in the fiscal year 2016/17 and the lowest of 54.94 per-cent in the fiscal year 2017/18 respectively.

### **c. Loan Loss Provision to Loan and Advances Ratio**

The provision for loan loss reflects the increasing probability of non-performing loan. Increase in loan loss provision decreases its profit and result to decrease in dividends. But its positive impact is to strengthen the financial conditions of banks by controlling the credit risk and reduced the risks related to deposits. The low ratio indicates the good quality of assets in total volume of loan and advances. High ratio indicates more risky assets in total volume of loan and advances.



*Table 4.3*  
*Loan Loss Provision to Loan and Advances Ratio*

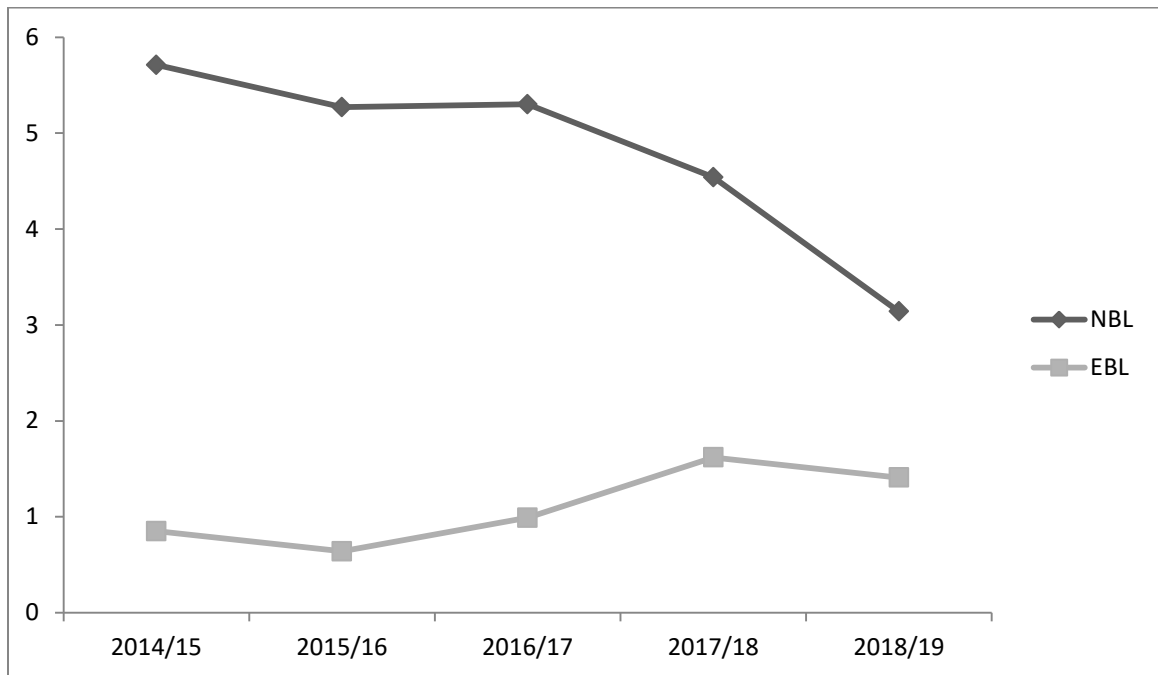
(Rs. in million)

<i>Fiscal year</i>	<i>NBL</i>			<i>EBL</i>		
	<i>Loan Loss Provision</i>	<i>Loan and Advance</i>	<i>Ratio %</i>	<i>Loan Loss Provision</i>	<i>Loan and Advance</i>	<i>Ratio %</i>
2014/15	1,695	29,699	5.71	706	35,911	0.85
2015/16	1,994	37,855	5.27	805	43,393	0.64
2016/17	2,183	41,218	5.3	878	47,572	0.99
2017/18	2,423	53,388	4.54	881	54482	1.62
2018/19	1,879	59,820	3.14	956	67955	1.41
<b>Mean</b>			<b>4.79</b>			<b>1.1</b>
<b>S.D.</b>			<b>1.02</b>			<b>0.4</b>
<b>C.V</b>			<b>21.29%</b>			<b>36.36%</b>

*Note: From Annual Reports of NBL and EBL*

The table 4.3 deals that the loan loss provision to total loan and advance ratio of selected commercial banks over the five year study period. Here, average loan loss provision to total loan ratio of NBL is highest than EBL. NBL has huge amount to be made for provision for loan losses. Therefore, NBL has not been able to earn a profit from the point of view average. But both bank can be managed and bring them below 5 per-cent by managing loan properly in final year. By measuring coefficient of variation, NBL is more uniformity since it has lesser CV of 21.29 per-cent than EBL i.e. 36.36 per-cent.

The table 4.3 is presented in figure 4.3 also to show the trend line of loan loss provision to loan and advance ratio.



*Figure 4.3 Loan Loss Provision to Loan and Advances Ratio*  
*Note: From Annual Reports of NBL and EBL*

The figure 4.3 highlights that the loan loss provision to total loan and advance ratio of selected commercial banks over the five year study period. The ratio of NBL is highest 5.71 per-cent in the fiscal year 2014/15 and lowest 3.14 per-cent in the fiscal year 2018/19. The average ratio of NBL is 5.25 per-cent. Likewise, EBL has highest 1.62 per-cent in the fiscal year 2017/18 and lowest 0.64 per-cent in the fiscal year 2015/16. The mean ratio of EBL is 1.10 per-cent.

**d. Non-Performing Loans to Loan and Advances Ratio**

NRB has directed all the commercial banks to create loan loss provision against the doubtful and bad debts. This ratio helps in minimizing the non-performing loans and helps to control the credit.

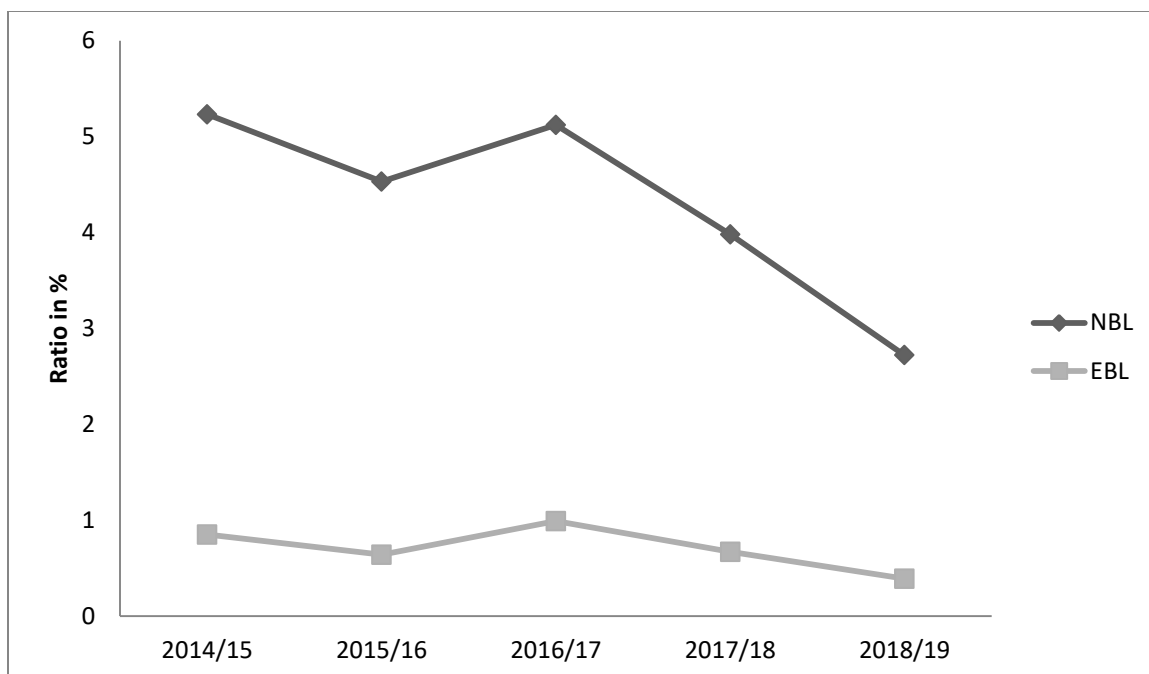
*Table 4.4*  
*Non-performing Loans to Loan and Advances Ratio*

<i>Fiscal year</i>	<i>NBL</i>			<i>EBL</i>		
	<i>Non-performing Loans</i>	<i>Loan and Advance</i>	<i>Ratio %</i>	<i>Non-performing Loans</i>	<i>Loan and Advance</i>	<i>Ratio %</i>
2014/15	1,553	29,699	5.23	307	35,911	0.85
2015/16	1,715	37,855	4.53	276	43,393	0.64
2016/17	2,110	41,218	5.12	470	47,572	0.99
2017/18	2,125	53,388	3.98	367	54,482	0.67
2018/19	1,627	59,820	2.72	264	67,955	0.39
<b>Mean</b>			<b>4.32</b>			<b>0.71</b>
<b>S.D.</b>			<b>1.02</b>			<b>0.23</b>
<b>C.V</b>			<b>23.61%</b>			<b>32.39%</b>

*Note: From Annual Reports of NBL and EBL*

The table 4.4 shows that the non-performing loan to loan and advance over the five year study period. The mean Non-performing loan to total loan of NBL and EBL are 4.32 per-cent and 0.71 per-cent respectively. EBL has the lowest non-performing loan to total loan and advances, thus EBL performing good or maintaining their NPLs perfectly than NBL. By measuring coefficient of variation, NBL is more uniformity since it has less CV 23.61 per-cent than EBL with CV of 32.39 per-cent.

The table 4.4 is presented in figure 4.4 also to show the trend line of non-performing loan to loan and advance ratio.



*Figure 4.4 Non-performing Loan to Loan and Advances Ratio*  
*Note: From Annual Reports of NBL and EBL*

The figure 4.4 depicts that the non-performing loan to total loan over the five year study period. The ratio of NBL ranges the highest of 5.23 per-cent and the lowest is 2.72 per-cent in FY 2014/15 and FY in 2018/19 respectively. Likewise, the ratio of EBL is the highest of 0.99 per-cent and the lowest of 0.39 per-cent respectively in FY 2016/17 and 2018/19.

**e. Loan Loss Provision to Non-Performing Loan Ratio**

Loan loss provision is the compulsion factor in lending practices and Non-performing Loan is the evil factor in banks. If they are higher than they will have to decrease the amount of profit to the bank’s target to receive. This ratio measures the portion of provisioned loan with non-performing Loan. It is compulsory to make loan loss provision on all loans which do not affect the performance of bank but non- performing loan doesn’t result sound profit.

*Table 4.5*  
*Loan Loss Provision to Non-performing Loan Ratio*

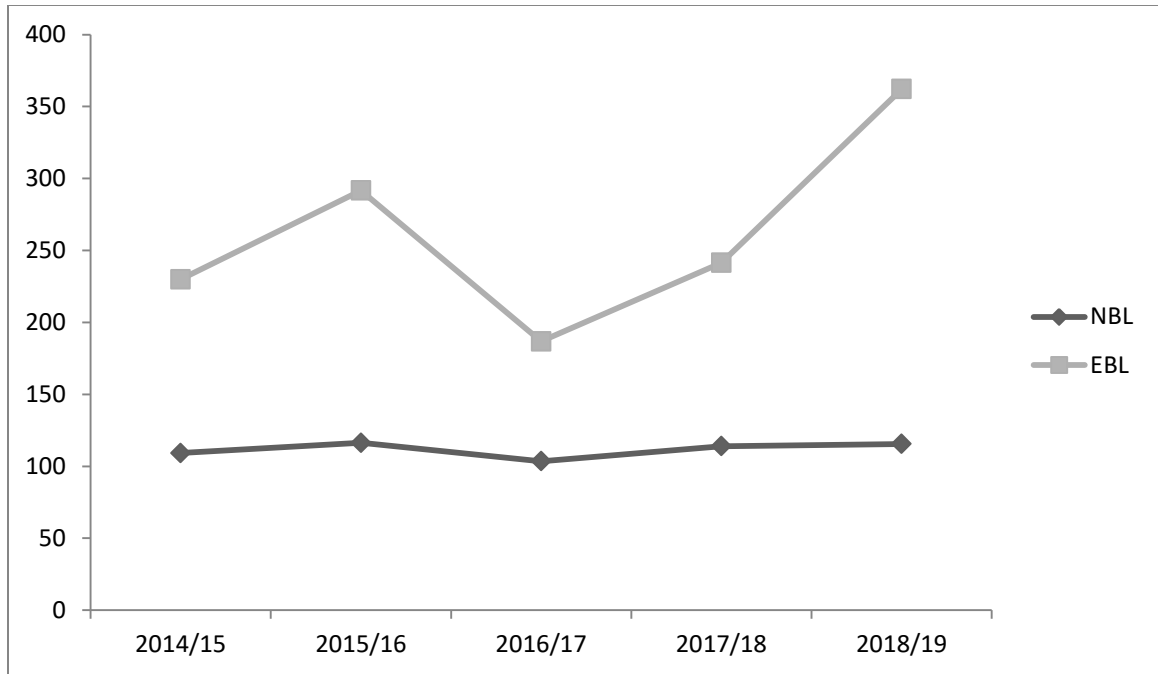
(Rs. in million)

<i>Fiscal year</i>	<i>NBL</i>			<i>EBL</i>		
	<i>Loan Loss Provision</i>	<i>Non-performing loan</i>	<i>Ratio %</i>	<i>Loan Loss Provision</i>	<i>Non-performing loan</i>	<i>Ratio %</i>
2014/15	1,695	1,553	109.17	706	307	229.97
2015/16	1,994	1,715	116.28	805	276	291.67
2016/17	2,183	2,110	103.48	878	470	186.81
2017/18	2,423	2,125	114.02	881	365	241.37
2018/19	1,879	1,627	115.49	956	264	362.12
<b>Mean</b>			<b>111.69</b>			<b>262.39</b>
<b>S.D.</b>			<b>5.35</b>			<b>67.1</b>
<b>C.V</b>			<b>4.79%</b>			<b>25.57%</b>

*Note: From Annual Reports of NBL and EBL*

The table 4.5 exhibits that the loan loss provision to non-performing loan over the five year study period. The mean loan loss provision to Non-performing loan of NBL and EBL are 109.01 per-cent and 262.39 per-cent respectively. EBL has the higher ratio signifies that the bank is safeguarded against future contingencies but it reduces profit. But it can say that NBL and EBL are really doing well in loan management. By measuring coefficient of variation, NBL is more uniformity since it has less or there is no risk i.e. CV 4.79 per-cent than EBL with CV of 25.57 per-cent.

The table 4.5 is presented in figure 4.5 also to show the trend line of loan loss provision to non-performing loan ratio.



*Figure 4.5 Loan Loss Provision to Non-performing Loan Ratio*  
*Note: From Annual Reports of NBL and EBL*

The figure 4.5 presents that the Loan loss provision to Non-performing loan over the five year study period. The ratio of NBL ranges the highest of 116.28 per-cent and the lowest is 103.48 per-cent in FY 2015/16 and FY in 2016/17 respectively. Likewise, the ratio of EBL ranges the highest of 362.12 per-cent and the lowest is 186.81 per-cent in FY 2018/19 and FY in 2016/17 respectively.

#### **4.1.2 Profitability Ratios**

##### **a. Net Profit to Loan and Advances Ratio**

Net Profit reveals the performance of bank. It shows efficiency of management. It shows the capacity of management in utilizing available deposits. Net profit increment plays vital role of the bank. The ratio of net profit to total loan and advances reveals profit in comparison to total loan and advance disbursed.

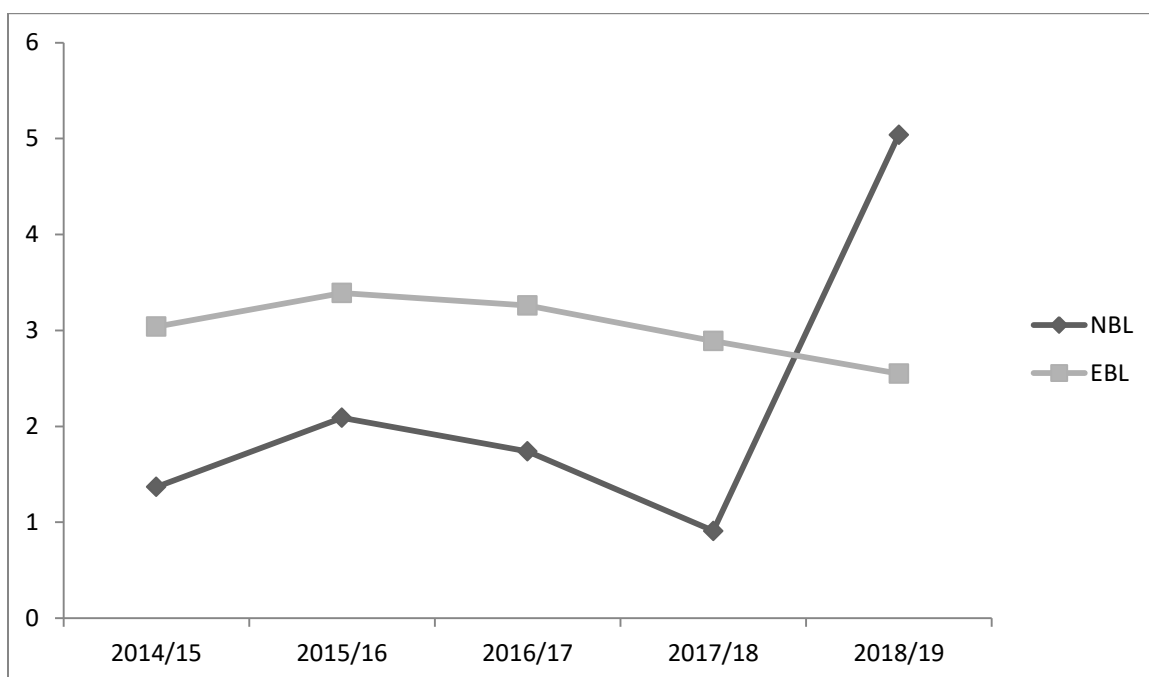
*Table 4.6*  
*Net profit to Loan and Advance Ratio*

<i>Fiscal Year</i>	<i>NBL</i>			<i>EBL</i>		
	<i>Net Profit</i>	<i>Loan and Advance</i>	<i>Ratio %</i>	<i>Net Profit</i>	<i>Loan and Advance</i>	<i>Ratio %</i>
2014/15	407	29,699	1.37	1,090	35,911	3.04
2015/16	792	37,855	2.09	1,471	43,393	3.39
2016/17	717	41,218	1.74	1,550	47,572	3.26
2017/18	484	53,388	0.91	1,574	54,482	2.89
2018/19	3,019	59,820	5.04	1,730	67,955	2.55
<b>Mean</b>			<b>2.23</b>			<b>3.03</b>
<b>S.D</b>			<b>1.63</b>			<b>0.33</b>
<b>C.V.</b>			<b>73.09%</b>			<b>10.89%</b>

*Note: From Annual Reports of NBL and EBL*

The table 4.6 describes that the net profit to loan and advance over the five year study period. The mean net profit to loan and advance of NBL and EBL are 2.23 per-cent and 3.03 per-cent respectively. It indicates that the EBL has high volume of interest income is an indicator of good performance of lending activities than NBL. By measuring coefficient of variation, EBL is more uniformity since it has less CV 10.89 per-cent than NBL with CV of 73.09 per-cent.

The table 4.6 is presented in figure 4.6 also to show the trend line of net profit to loan and advance ratio.



*Figure 4.6 Net Profit to Loan and Advances Ratio*

*Note: From Annual Reports of NBL and EBL*

The figure 4.6 describes that the net profit to loan and advance is in decreasing and increasing trend over the study period. The ratio of the ratio of NBL is the highest of 2.09 per-cent and lowest of 0.99 per-cent respectively in FY 2016/17 and 2018/19 respectively. Likewise, the EBL ranges the highest of 3.39 per-cent and the lowest is 2.55 per-cent in FY 2015/16 and FY in 2018/19 respectively.

## **4.2 Association Credit Exposure with Loan Loss Provisioning and Profitability**

In this part of data analysis, the statistical tools such as coefficient of correlation analysis between various variables, Trend analysis of different variables have been used. They are as follows:

### **4.2.1 Coefficient of Correlation**

#### **a. Correlation Between Total Deposit and Loan and Advances**

The relationship between the total loan and total deposit is of great significant, as it indicates the direction taken by the total loan with the changes in the volume of total deposit. A bank will be unable to provide large volumes of loan if it does not receive



adequate and sufficient deposits in a timely basis. The following table shows the correlation coefficient between the total credit and total deposits denoted by  $r$ . " $r$ " indicates the coefficient of determination,  $t_{cal}$  and  $t_{tab}$  refers to calculated value of t-statistic and tabulated value of t-statistic at 5 per-cent level of significance at 3 degree of freedom respectively. The following results are worth highlighting.

*Table 4.7*  
*Correlation between Total Deposit and Loan and Advances*

<i>Name of Bank</i>	<i>R</i>	<i>r<sup>2</sup></i>	<i>t<sub>cal.</sub></i>	<i>t<sub>tab.</sub></i>	<i>Result</i>
<b>NBL</b>	0.9916	0.9832	13.23	3.182	Significant
<b>EBL</b>	0.9721	0.9449	7.17	3.182	Significant

*Note: From Annual Reports of NBL and EBL*

The table 4.7 highlights that the coefficient of correlation between deposits and loan and advances of NBL and EBL are 0.9916 and 0.9721 respectively. It shows the positive relationship between these two variables of both banks. The positive relationship shown by their correlation coefficient points out the fact that the changes in each variable are taking place in the same direction, i.e., an increase in total loan is supported by an increase in the total deposit. The coefficient of determination  $r^2$  of NBL and EBL are 0.9832 and 0.9449 respectively, which indicates that 98.32 per-cent and 94.49 per-cent of variance of NBL and EBL in total deposit that is predictable from the loan and advance respectively. By testing t- statistic, calculated value  $t_{cal}$  of NBL and EBL are 13.23 and 7.14 respectively which are higher than tabulated "t" at 5 per-cent significance level at 3 degree of freedom for two tailed test (3.182). It indicates that correlation coefficient between loan and advances and total deposit of NBL and EBL are significant.

**b. Correlation between Loan and Advances and Loan Loss Provisioning**

The relationship between the loan and advances with the loan loss provisioning of the samples banks tries to analyze whether the loan and advances and loan loss provision of the banks are moving in the same direction or not. The following table shows the

correlation coefficient between the loan and advance and loan loss provision denoted by  $r$ . " $r^2$ " indicates the coefficient of determination,  $t_{cal}$  and  $t_{tab}$  refers to calculated value of t- statistic and tabulated value of t-statistic at 5 per-cent level of significance at 3 degree of freedom of two tailed test respectively. The following results are worth highlighting.

*Table 4.8*  
*Correlation between Loan and Advances and Loan Loss Provisioning*

<i>Name of Bank</i>	<i>R</i>	<i>r<sup>2</sup></i>	<i>t<sub>cal.</sub></i>	<i>t<sub>tab.</sub></i>	<i>Result</i>
<b>NBL</b>	0.4327	0.1872	0.83	3.182	Insignificant
<b>EBL</b>	0.9370	0.8781	4.64	3.182	Significant

*Note: From Annual Reports of NBL and EBL*

The table 4.8 clearly highlights the relationship between the loan and advance and loan loss provision by the NBL and EBL. The positive relationship shown by correlation coefficient of NBL and EBL i.e. 0.4327 and 0.9370 respectively, pointed out the fact that an increase in loan and advance has resulted in increase in the loan loss provision. The coefficient of determination  $r^2$  of NBL and EBL are 0.1872 and 0.8781 respectively, which indicates that 18.72 per-cent and 87.81 per-cent of variance of NBL and EBL in loan and advance that is predictable from the loan loss provision respectively. The calculated value  $t_{cal}$  of NBL i.e. 0.83 is lower than tabulated " $t$ " value 3.182 but in case of EBL the calculated value  $t_{cal}$  i.e. 4.64 which is higher than tabulated " $t$ " at 5 per-cent significance level at 3 degree of freedom for two tailed test (3.182). Thus, we conclude that there is significant relation between loan and advance and loan loss provision of EBL but insignificant relation of NBL.

### **4.3 Major Findings of the Study**

On the basis of above analysis of data, the study has following findings.

- a) From the above analysis, the loan and advances to total deposit ratio are in fluctuating trend. The average ratio of NBL is the lowest with 62.68 per-cent than

EBL with the mean ratio of 72.33 per-cent. We can conclude that EBL is the most successful to mobilize its total deposit as loan and advances and acquiring high profit though it is less consistent than NBL. By the coefficient of variation of the ratios, we can conclude that EBL has seen more consistent with the lowest C.V of 5.88 per-cent.

- b) The average loan and advance to total assets ratio of NBL is 54.29 per-cent which is lower than EBL i.e. 62.5 per-cent. It can be concluded that EBL is better mobilizing of fund as loans and advances and it seems quite successful in generating higher ratio than NBL. By measuring coefficient of variation, NBL is more uniformity than EBL since NBL has lesser CV of 7.42 per-cent than that of EBL i.e. 8.24 per-cent.
- c) It is found that the average loan loss provision to total loan ratio of NBL is highest than EBL. NBL has huge amount to be made for provision for loan losses. Therefore, NBL has not been able to earn a profit from the point of view average. But both bank can be managed and bring them below 5 per-cent by managing loan properly in final year. By measuring coefficient of variation, NBL is more uniformity since it has lesser CV of 21.29 per-cent than EBL i.e. 36.36 per-cent.
- d) The mean non-performing loan to loan and advance of NBL and EBL are 4.32 per-cent and 0.71 per-cent respectively. EBL has the lowest non-performing loan to total loan and advances, thus EBL performing good or maintaining their NPLs perfectly than NBL. By measuring coefficient of variation, NBL is more uniformity since it has less CV 23.61 per-cent than EBL with CV of 32.39 per-cent.
- e) The mean loan loss provision to Non-performing loan of NBL and EBL are 109.01 per-cent and 262.39 per-cent respectively. EBL has the higher ratio signifies that the bank is safeguarded against future contingencies but it reduces profit. But it can say that NBL and EBL are really doing well in loan

management. By measuring coefficient of variation, NBL is more uniformity since it has less or there is no risk i.e. CV 4.79 per-cent than EBL with CV of 25.57 per-cent.

- f) The net profit to loan and advances ratio of EBL ranges the highest of 2.09 per-cent and lowest of 0.99 per-cent respectively in FY 2016/17 and 2018/19 respectively. Likewise, the EBL ranges the highest of 3.39 per-cent and the lowest is 2.55 per-cent in FY 2015/16 and FY in 2018/19 respectively. The mean net profit to loan and advance of NBL and EBL are 2.23 per-cent and 3.03 per-cent respectively. It indicates that the EBL has high volume of interest income is an indicator of good performance of lending activities than NBL. By measuring coefficient of variation, EBL is more uniformity since it has less CV 10.89 per-cent than NBL with CV of 73.09 per-cent.
- g) The coefficient of correlation between deposits and loan and advances of NBL and EBL are 0.9916 and 0.9721 respectively. It is shows the positive relationship between these two variables of both banks. The coefficient of determination  $r^2$  of NBL and EBL are 0.9832 and 0.9449 respectively, which indicates that which indicates that 98.32 per-cent and 94.49 per-cent of variance of NBL and EBL in total deposit that is predictable form the loan and advance respectively. By testing t- statistic, calculated value  $t_{cal}$  of NBL and EBL are 13.23 and 7.14 respectively which are higher than tabulated "t" at 5 per-cent significance level at 3 degree of freedom for two tailed test (3.182). It indicates that correlation coefficient between loan and advances and total deposit of NBL and EBL are significant.
- h) The positive relationship between the loan and advances and loan loss provision by the NBL and EBL i.e. 0.4327 and 0.9370 respectively. The coefficient of determination  $r^2$  of NBL and EBL are 0.1872 and 0.8781 respectively, which indicates that 18.72 per-cent and 87.81 per-cent of variance of NBL and EBL in loan and advances that is predictable form the loan loss provision respectively. The calculated value  $t_{cal}$  of NBL i.e. 0.83 is lower than tabulated "t" value 3.182

but in case of EBL the calculated value  $t_{cal}$  i.e. 4.64 which is higher than tabulated "t" at 5 per-cent significance level at 3 degree of freedom for two tailed test (3.182) . Thus, we conclude that there is significant relation between loan and advance and loan loss provision of EBL but insignificant relation of NBL.

## **CHAPTER – V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

This is the final chapter of the study. This chapter briefly explains the summary of the study i.e. loan management of NBL and EBL tries to fetch out conclusions and attempts to offer recommendations for strengthen the financial position of the sample banks.

#### **5.1 Summary**

The study is consists (1) Introduction (2) Conceptual framework and Review of literature, (3) Research and Methodology (4) Presentation and Analysis of Data and (5) Summary, Conclusion and Recommendations. The main objective of the study which formulated: to analyze and evaluate the insight of the present status of the existing loan management of the Nepal Bank Ltd. and Everest Bank Limited. Besides it, the study also tries to evaluate the loan and deposit mobilization of both banks, analyze the non-performing loan and loss provision made. Further the other objective includes the measurement of loan and advances with major financial indicators like net profit, total deposit, loan loss provision, and non-performing. In addition, the objective incorporates to analyze the trend values of different variables of Nepal Bank Ltd. and Everest Bank Ltd. in loan management.

Relevant thesis, journals, articles, related websites etc. are also used for this research. Similarly, research methodologies here signifies the research design, sources of data, data collection technique, data collection methods and tools and techniques employed etc. for this purpose descriptive cum analytical research design was adopted. Out of total population of 27 commercial banks, two banks are taken as sample using judgmental sampling method. Here two major banks NBL and EBL are selected from one is government own bank another is private sector bank. Annual reports and other publications from the basis of secondary data are used. To achieve the aforementioned

objectives, only these two commercial banks, out of population of 27 commercial banks, has been selected as sample. Also, only secondary data has been collected and analyzed to achieve the objectives. The secondary data has been collected mainly through the loan department and the annual reports of the banks, covering five year periods, i.e. from the fiscal year 2014/15 to 2018/19.

The data has been collected from various sources are recorded systematically and presented in the appropriate forms of the tables, charts and appropriate mathematical, statistical, financial, graphical tools have been applied to analyze the data. From the above analysis both banks have sound liquidity position. NBL and EBL have strong synchronization between loan and advances and deposit, loan and advances and non-performing loan, loan and advances and loan loss provision and non-performing loan and loan loss provision, since the relationship between them was statistically significant. However, on the basis of trend analysis, it can be considered that the loan and advances in the forthcoming year will increase of both banks, the loan loss provision amount will increase, and then on-performing loan will increase of both banks.

## **5.2 Conclusion**

It can conclude during the study period of the concerned sample banks, certain conclusion has been derived after the financial as well as statistical tools have been measured on behalf of different aspect of the loan management of the NBL and EBL under this study. The bank has utilized most of funds in the form of loan and advances therefore it is the major part of utilizing deposits for income generating purpose.

All activity ratios, efficiency ratios and profitability ratios of sample bank are better in final year. The activity ratio of EBL is higher than NBL which conclude the efficient utilizations of assets by EBL. EBL has been able to mobilize its deposit through loan and advances and acquiring high profit.

Profitability ratio is one of the main indicators to analyzing the financial performance of a firm. A bank should able to produce adequate profit on each rupee of investment. In this

study the ratio of EBL is stronger than NBL. As EBL has efficiently utilized its assets through mobilizing its deposit, they acquire the higher profit than NBL. The trend analysis also forecast the higher profit of both bank in future.

The statistical helps that the EBL and NBL have strong synchronization between deposit and loan and advances, loan loss provision and loan and advances, non-performing loan and loan and advances since the relationship between them was statistically significant. Both banks will struggle for better financial performance in future. However a good credit management of both banks can be expected in future as they were able to maintain continuous profit in past years.

### **5.3 Recommendation**

These entire figure suggest that the commercial bank overall management of loan is good and reasonable. According to the analysis, the following points are highlighted to put forward for the further improvement of all commercial banks.

- a) It is found that EBL's loan and advances to total deposit ratio is comparatively the highest than NBL. NBL's ratios seem lower than that of EBL. So, it is recommended that NBL should follow liberal policy, invest more and more percentage of total deposit in loan and advances and maintain more stability on the credit policy.
- b) There low positive correlation between the total deposit and loan and advances of EBL than NBL. So, it is recommended for EBL to increase their total deposit to make more loan and advances. The banks under study are also recommended to strictly follow the NRB directives regarding the loan classification. Since it is found that the banks under study has not been able to maintain certain standards as set by the NRB.
- c) The profitability position of EBL is better than NBL in their overall operations due to higher ratio. So, NBL should try to maintain good position by managing loan from every possible way.



- d) NBL has huge amount to be made for provision for loan losses. Therefore, NBL has not been able to earn a profit and it has not good quality of assets in total volume of loan and advances but EBL is good position. So, NBL should keep maintaining loan loss provision regarding non-performing loan.

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## APPENDICES

### APPENDIX - I BALANCE SHEET OF NEPAL BANK LTD.

(Rs. in million)

<b>LIABILITIES</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
Share Capital	1,773	3,716	6,465	6,465	6,465
Reserves and funds	(4,450)	(3,889)	(3,118)	(2,634)	(949)
Debenture and Bonds	-	-	-	-	-
Borrowings	2,154	2,343	-	-	-
Deposits	56,043	62,989	69,338	77,999	82,631
Income tax liabilities	-	-	-	-	-
Other liabilities	2,160	8,623	7,721	8,999	13,907
<b>Total liabilities</b>	<b>57,679</b>	<b>73,782</b>	<b>80,405</b>	<b>90,828</b>	<b>102,055</b>
<b>ASSETS</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
Cash and Bank balance	11,992	14,184	6,660	9,011	12,149
Money at call and short notice	-	200	-	250	-
Investment	8,392	10,977	22,664	16,902	17,595
Loans, Advances and B.P	29,699	37,855	41,218	53,388	59,820
Fixed assets	362	386	390	418	413
Non-banking assets	309	264	242	200	147
Other assets	6,925	9,916	9,232	10,659	11,929
<b>Total assets</b>	<b>57,679</b>	<b>73782</b>	<b>80,405</b>	<b>90,828</b>	<b>102,055</b>

*Note: From Annual Report of NBL*

**APPENDIX - II**  
**PROFIT AND LOSS ACCOUNT OF NEPAL BANK LTD.**

(Rs. in million)

Particulars	2014/15	2015/16	2016/17	2017/18	2018/19
Interest Income	4,041	4,716	5,011	5,122	6,350
Interest Expenses	2,195	2,194	2,188	1,811	1,658
<b>Net Interest Income</b>	<b>1,857</b>	<b>2,522</b>	<b>2,824</b>	<b>3,311</b>	<b>4,691</b>
commission and Discount	265	226	238	267	254
Other Operating Income	179	259	252	288	404
Exchange Fluctuation Income	54	85	42	15	35
<b>Total operating Income</b>	<b>2,355</b>	<b>3,092</b>	<b>3,357</b>	<b>3,851</b>	<b>5,384</b>
Staff Expenses	1,831	1,868	2,496	2,417	2,182
Other Operating Expenses	396	499	614	593	634
<b>Operating profit before Provision for Possible Loss</b>	<b>128</b>	<b>725</b>	<b>246</b>	<b>841</b>	<b>2,568</b>
Provision for Possible Losses	(250)	364	252	454	357
<b>Operating Profit</b>	<b>378</b>	<b>361</b>	<b>(6)</b>	<b>387</b>	<b>2,212</b>
Non-operating Income/loss	55	86	665	613	1,735
Provision for Possible loss written back	72	440	360	308	629
<b>Profit from Regular Operation</b>	<b>504</b>	<b>887</b>	<b>1,019</b>	<b>1,308</b>	<b>4,577</b>
Profit/loss from extra-ordinary Activities	92	335	57	62	112
<b>Net profit after All Activities</b>	<b>596</b>	<b>1,223</b>	<b>1,076</b>	<b>1,369</b>	<b>4,689</b>
Provision for staff Bonus	54	111	-	73	382
Provision for Income Tax	135	320	359	812	1,288
<b>Net Profit/Loss</b>	<b>407</b>	<b>792</b>	<b>717</b>	<b>484</b>	<b>3,019</b>

*Note: From Annual Report of NBL*

**APPENDIX - III**  
**BALANCE SHEET OF EVEREST BANK LTD.**

(Rs. in million)

LIABILITIES	2014/15	2015/16	2016/17	2017/18	2018/19
Share Capital	1,761	1,921	2,137	2,743	4,606
Reserves and funds	2,416	2,907	3,320	4,148	3,908
Debenture and Bonds	-	469	469	1,069	1,069

Borrowings	-	402	-	-	3
Deposits	50,006	57,720	62,108	83,094	93,735
Bills payable	692	393	371	350	1,365
Proposed dividend	306	820	920	141	106
Income tax liabilities	930	23	-	-	-
Other liabilities	897	1,084	1,120	762	9,092
<b>Total liabilities</b>	<b>55,813</b>	<b>65,741</b>	<b>70,445</b>	<b>99,167</b>	<b>113,885</b>
<b>ASSETS</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
Cash balance	1,700	1,723	2,050	2,066	2,515
Balance with NRB	8,160	8,205	9,446	17,126	13,356
Balance with bank and other financial institution	503	1,287	1,675	5,925	7,246
Money at call and short notice	-	-	-	-	-
Investment	7,864	9,263	6,504	15,103	18,199
Loans, Advances and B.P	35,911	43,393	47,572	54,482	67,955
Fixed assets	548	631	627	630	679
Non-banking assets	-	-	-	-	-
Other assets	1,127	1,237	2,569	3835	393
<b>Total assets</b>	<b>55,813</b>	<b>65,741</b>	<b>70,445</b>	<b>99,167</b>	<b>113,885</b>

*Note: From Annual Report of EBL*

**APPENDIX – IV**  
**PROFIT AND LOSS ACCOUNT OF EVEREST BANK LTD.**

(Rs. in million)

Particulars	2014/15	2015/16	2016/17	2017/18	2018/19
Interest Income	4,960	4,937	5,177	4,996	5,057
Interest Expenses	2,873	2,179	2,259	2,117	1,828
<b>Net Interest Income</b>	<b>2,087</b>	<b>2,758</b>	<b>2,918</b>	<b>2,879</b>	<b>3,229</b>
Commission and Discount	234	267	255	304	286
Other Operating Income	180	249	309	389	510
Exchange Fluctuation Income	110	99	670	87	113
<b>Total operating Income</b>	<b>2,610</b>	<b>3,373</b>	<b>3,550</b>	<b>3,659</b>	<b>4,137</b>

<b>Particulars</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>
Staff Expenses	352	462	512	688	700
Other Operating Expenses	467	509	544	555	603
Exchange Fluctuation Loss	-	-	-	-	-
<b>Operating profit before Provision for Possible Loss</b>	<b>1,790</b>	<b>2,402</b>	<b>2,494</b>	<b>2417</b>	<b>2834</b>
Provision for Possible Losses	252	99	156	164	168
<b>Operating Profit</b>	<b>1,538</b>	<b>2,303</b>	<b>2,338</b>	<b>2553</b>	<b>2666</b>
Non-operating Income/loss	25	8	10	12	25
Provision for Possible loss written back	150	1	90	207	93
<b>Profit from Regular Operation</b>	<b>1,714</b>	<b>2,311</b>	<b>2,438</b>	<b>2472</b>	<b>2784</b>
Profit/loss from extra-ordinary Activities	-	(1)	(1)	-	43
<b>Net profit after All Activities</b>	<b>1,713</b>	<b>2,311</b>	<b>2,437</b>	<b>2472</b>	<b>2788</b>
Provision for staff Bonus	156	210	221	225	253
Provision for Income Tax					
* Current year's	478	655	671	649	752
* Previous Deferred tax	-	1	2	-	45
	(11)	(25)	(67)	24	7
<b>Net Profit/Loss</b>	<b>1,090</b>	<b>1,471</b>	<b>1,550</b>	<b>1,574</b>	<b>1,730</b>

*Note: From Annual Report of EBL*

#### APPENDIX -V

#### Correlation between Loan and Advances and Total Deposit of NBL

(Rs. in million)

<b>Year</b>	<b>Total Deposit (x)</b>	<b>Loan and Advance (y)</b>	<b>Xy</b>	<b>x<sup>2</sup></b>	<b>y<sup>2</sup></b>
2014/15	56,043	29,699	1,664,421,057	3,140,817,849	882,030,601

2015/16	62,989	37,855	2,384,448,595	3,967,614,121	1,433,001,025
2016/17	69,338	41,218	2,857,973,684	4,807,758,244	1,698,923,524
2017/18	77,999	53,388	4,164,210,612	6,083,844,001	2,850,278,544
2018/19	82,631	59,820	4,942,986,420	6,827,882,161	3,578,432,400
<b>sum(Σ)</b>	<b>Σx = 349,000</b>	<b>Σy = 221,980</b>	<b>Σxy = 16,014,040,368</b>	<b>Σx<sup>2</sup> = 24,827,916,376</b>	<b>Σy<sup>2</sup> = 10,442,666,094</b>

Calculation of coefficient of correlation (r)

We have,

$$r = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2} \sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{80070201840 - 77471020000}{48359 \times 54205}$$

$$= \frac{2599181840}{2621299595} = 0.9916 \quad r = 0.9916$$

Coefficient Determination  $r^2 = 0.9916 \times 0.9916 = 0.9832$

**For T – test**

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

$$= \frac{0.9916}{\sqrt{1-(0.9916)^2}} \times \sqrt{5-2}$$

$$= 7.65 \times 1.73$$

$$= 13.23$$

#### APPENDIX -VI

##### Correlation between Loan and Advances and Total Deposit of EBL

(Rs. in million)

Year	Loan and Advance (x)	Total Deposit (y)	xy	x <sup>2</sup>	y <sup>2</sup>
2014/15	35,911	50,006	1,795,765,466	1,289,599,921	2,500,600,036



2015/16	43,393	57,720	2,504,643,960	1,882,952,449	3,331,598,400
2016/17	47,572	62,108	2,954,601,776	2,263,095,184	3,857,403,664
2017/18	54,482	83,094	4,527,127,308	2,968,288,324	6,904,612,836
2018/19	67,955	93,735	6,369,761,925	4,617,882,025	8,786,250,225
<b>sum(Σ)</b>	<b>Σx = 249,313</b>	<b>Σy = 346,663 □</b>	<b>Σxy = 18,151,900,435</b>	<b>Σx<sup>2</sup> = 13,021,817,903 □</b>	<b>Σy<sup>2</sup> = 25,380,465,161 □</b>

Calculation of coefficient of correlation (r)

We have,

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} \sqrt{n\sum y^2 - (\sum y)^2}} = \frac{90759502175 - 86427592519}{54333 \times 82019}$$

$$= \frac{4331909656}{4456338327}$$

$$= 0.9721$$

$$r = 0.9721$$

$$\text{Coefficient of determination } (r^2) = 0.9721 \times 0.9721 = 0.9449$$

**For T – test**

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

$$= \frac{0.9721}{\sqrt{1-(0.9721)^2}} \times \sqrt{5-2}$$

$$= 4.14 \times 1.73$$

$$= 7.17$$

**APPENDIX – VII**  
**Correlation between Loan and Advances and Loan Loss provision of NBL**  
**(Rs. in million)**

Year	Loan and Advance (x)	Loan loss provision (y)	xy	x <sup>2</sup>	y <sup>2</sup>
2014/15	29,699	1,695	50,339,805	882,030,601	2,873,025
2015/16	37,855	1,994	75,482,870	1,433,001,025	3,976,036
2016/17	41,218	2,183	89,978,894	1,698,923,524	4,765,489
2017/18	53,388	2,423	129,359,124	2,850,278,544	5,870,929
2018/19	59,820	1,879	112,401,780	3,578,432,400	3,530,641
<b>sum(Σ)</b>	<b>Σx = 221,980</b>	<b>Σy = 10,174</b>	<b>Σxy = 457,562,473</b>	<b>Σx<sup>2</sup> = 10,442,666,094</b>	<b>Σy<sup>2</sup> = 21,016,120</b>

Calculation of coefficient of correlation (r)

We have,

$$r = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2} \sqrt{n\Sigma y^2 - (\Sigma y)^2}} = \frac{2287812365 - 2258424520}{54205 \times 1253}$$

$$= \frac{29387845}{67918865}$$

$$= 0.4327 \quad r = 0.4327$$

$$\text{Coefficient Determination } r^2 = 0.4327 \times 0.4327 = 0.1872$$

**For T – test**

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

$$= \frac{0.4327}{\sqrt{1-(0.4327)^2}} \times \sqrt{5-2}$$

$$= 0.48 \times 1.73$$

$$= 0.83$$

**APPENDIX - VIII**

**Correlation between Loan and Advances and Loan Loss provision of EBL**

**(Rs. in million)**

<b>Year</b>	<b>Loan and Advance (x)</b>	<b>LLP (y)</b>	<b>xy</b>	<b>x<sup>2</sup></b>	<b>y<sup>2</sup></b>
2014/15	35,911	706	25,353,166	1,289,599,921	498,436
2015/16	43,393	805	34,931,365	1,882,952,449	648,025
2016/17	47,572	878	41,768,216	2,263,095,184	770,884
2017/18	54,482	881	47,998,642	2,968,288,324	776,161
2018/19	67,955	956	64,964,980	4,617,882,025	913,936
<b>sum(Σ)</b>	<b>Σx = 221,980</b>	<b>Σy = 10,174</b>	<b>Σxy = 457,562,473</b>	<b>Σx<sup>2</sup> = 10,442,666,094</b>	<b>Σy<sup>2</sup> = 21,016,120</b>

Calculation of coefficient of correlation (r)

We have,

$$r = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2} \sqrt{n\Sigma y^2 - (\Sigma y)^2}} = \frac{1075081845 - 1053596738}{54333 \times 422}$$

$$= \frac{21485107}{22928526}$$

$$= 0.9370 \quad r = 0.9370$$

Coefficient Determination  $r^2 = 0.9370 \times 0.9370 = 0.8781$

**For T - test**

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

$$= \frac{0.9370}{\sqrt{1-(0.9370)^2}} \times \sqrt{5-2}$$

$$= 2.68 \times 1.73$$

$$= 4.64$$

**APPENDIX - IX**

**Correlation Between Loan and Advances and Non – Performing Loan of NBL  
(Rs. in million)**

Year	Loan and Advance (x)	Non-performing loan (y)	xy	x <sup>2</sup>	y <sup>2</sup>
2014/15	29,699	1,553	46,122,547	882,030,601	2,411,809
2015/16	37,855	1,715	64,921,325	1,433,001,025	2,941,225
2016/17	41,218	2,110	86,969,980	1,698,923,524	4,452,100
2017/18	53,388	2,125	113,449,500	2,850,278,544	4,515,625
2018/19	59,820	1,627	97,327,140	3,578,432,400	2,647,129
<b>sum(Σ)</b>	<b>Σx = 221,980</b>	<b>Σy = 9,130</b>	<b>Σxy = 408,790,492</b>	<b>Σx<sup>2</sup> = 10,442,666,094</b>	<b>Σy<sup>2</sup> = 16,967,888</b>

Calculation of coefficient of correlation (r)

We have,

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} \sqrt{n\sum y^2 - (\sum y)^2}} = \frac{2043952460 - 2026677400}{54205 \times 1218}$$

$$= \frac{17275060}{66021690}$$

$$= 0.2617$$

$$r = 0.2617$$

$$\text{Coefficient Determination } r^2 = 0.2617 \times 0.2617 = 0.0685$$

**For T – test**

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

$$= \frac{0.2617}{\sqrt{1-(0.2617)^2}} \times \sqrt{5-2}$$

$$= 0.27 \times 1.73$$

$$= 0.47$$

**APPENDIX – X**

**Correlation Between Loan and Advances and Non – Performing Loan of EBL**

(Rs. in million)

Year	Loan and Advance (x)	NPL (y)	xy	x <sup>2</sup>	y <sup>2</sup>
2014/15	35,911	307	11,024,677	1,289,599,921	94,249
2015/16	43,393	276	11,976,468	1,882,952,449	76,176
2016/17	47,572	470	22,358,840	2,263,095,184	220,900
2017/18	54,482	367	19,994,894	2,968,288,324	134,689
2018/19	67,955	264	17,940,120	4,617,882,025	69,696
<b>sum(Σ)</b>	<b>Σx = 249,313</b>	<b>Σy = 1,684</b>	<b>Σxy = 83,294,999</b>	<b>Σx<sup>2</sup> = 13,021,817,903</b>	<b>Σy<sup>2</sup> = 595,710</b>

Calculation of coefficient of correlation (r)

We have,

$$r = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2} \sqrt{n\Sigma y^2 - (\Sigma y)^2}} = \frac{416474995 - 419843092}{54333 \times 378}$$

$$= \frac{-3368097}{20537874}$$

$$= -0.1639 \quad r = -0.1639$$

Coefficient Determination  $r^2 = -0.1639 \times -0.1639 = 0.0269$

**For T – test**

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

$$= \frac{-0.1639}{\sqrt{1 - (-0.1639)^2}} \times \sqrt{5 - 2}$$

$$= -0.17 \times 1.73$$

$$= |0.29|$$

**APPENDIX – XI**  
**Least Square of Linear Trend of Loan and Advances**

(Rs. in million)

Fiscal Year (t)	NBL				EBL			
	Loan and Advance (Y)	X = t-2016/17	X <sup>2</sup>	XY	Loan and Advance (Y)	X = t-2016/17	X <sup>2</sup>	XY
2014/15	29,699	-2	4	-59398	35,911	-2	4	-71822
2015/16	37,855	-1	1	-37855	43,393	-1	1	-43393
2016/17	41,218	0	0	0	47,572	0	0	0
2017/18	53,388	1	1	53,388	54,482	1	1	54482
2018/19	59,820	2	4	119,640	67,955	2	4	135910
Sum(Σ)	Σy = 221,980	0	10	Σxy = 75,775	Σy = 249,313	0	10	Σxy = 75,177

For NBL:  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{221980}{5} = \text{Rs. } 44396$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{75775}{10} = \text{Rs. } 7577.5$

For EBL:  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{249313}{5} = \text{Rs. } 49862.6$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{75177}{10} = \text{Rs. } 7517.7$

Substituting these values in the following formula,

$$y = a + bx$$

Year	NBL	EBL
2014/15	$44396 + 7577.5 \times -2 = \text{Rs. } 29,241$	$49862.6 + 7517.7 \times -2 = \text{Rs. } 34,827.2$
2015/16	$44396 + 7577.5 \times -1 = \text{Rs. } 36,818.5$	$49862.6 + 7517.7 \times -1 = \text{Rs. } 42,344.9$
2016/17	$44396 + 7577.5 \times 0 = \text{Rs. } 44,396$	$49862.6 + 7517.7 \times 0 = \text{Rs. } 49,863$
2017/18	$44396 + 7577.5 \times 1 = \text{Rs. } 51,973.5$	$49862.6 + 7517.7 \times 1 = \text{Rs. } 57,380.3$
2018/19	$44396 + 7577.5 \times 2 = \text{Rs. } 59,551$	$49862.6 + 7517.7 \times 2 = \text{Rs. } 64,898$

2018/19	$44396 + 7577.5 \times 3 = \text{Rs. } 67,128.5$	$49862.6 + 7517.7 \times 3 = \text{Rs. } 72,415.7$
2018/19	$44396 + 7577.5 \times 4 = \text{Rs. } 74,706$	$49862.6 + 7517.7 \times 4 = \text{Rs. } 79,933.4$
2019/20	$44396 + 7577.5 \times 5 = \text{Rs. } 82,283.5$	$49862.6 + 7517.7 \times 5 = \text{Rs. } 87,451.1$
2020/21	$44396 + 7577.5 \times 6 = \text{Rs. } 89,861$	$49862.6 + 7517.7 \times 6 = \text{Rs. } 94,968.8$
2021/22	$44396 + 7577.5 \times 7 = \text{Rs. } 97,438.5$	$49862.6 + 7517.7 \times 7 = \text{Rs. } 102,486.5$

**APPENDIX – XII**  
**Least Square of Linear Trend of Net Profit**

(Rs. in million)

Fiscal Year (t)	NBL				EBL			
	Net profit (Y)	X = t-2016/17	X <sup>2</sup>	XY	Net profit (Y)	X = t-2016/17	X <sup>2</sup>	XY
2014/15	407	-2	4	-814	1,090	-2	4	-2,180
2015/16	792	-1	1	-792	1,471	-1	1	-1,471
2016/17	717	0	0	0	1,550	0	0	0
2017/18	484	1	1	484	1,574	1	1	1,574
2018/19	3,019	2	4	6,038	1,730	2	4	3,460
Sum(Σ)	Σy = 5,419	0	10	Σxy = 4,916	Σy = 7,415	0	10	Σxy = 1,383

**For NBL:**  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{5419}{5} = \text{Rs. } 1,083.8$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{4916}{10} = \text{Rs } 491.6$

**For EBL:**  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{7415}{5} = \text{Rs. } 1,483$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{1383}{10} = \text{Rs } 138.3$

Substituting these values in the following formula,

$$y = a + bx$$

Year	NBL	EBL
2014/15	$1083.8 + 491.6 \times -2 = \text{Rs. } 100.6$	$1483 + 138.3 \times -2 = \text{Rs. } 1206.4$
2015/16	$1083.8 + 491.6 \times -1 = \text{Rs. } 592.2$	$1483 + 138.3 \times -1 = \text{Rs. } 1344.7$
2016/17	$1083.8 + 491.6 \times 0 = \text{Rs. } 1083.8$	$1483 + 138.3 \times 0 = \text{Rs. } 1483$
2017/18	$1083.8 + 491.6 \times 1 = \text{Rs. } 1575.4$	$1483 + 138.3 \times 1 = \text{Rs. } 1621.3$
2018/19	$1083.8 + 491.6 \times 2 = \text{Rs. } 2067$	$1483 + 138.3 \times 2 = \text{Rs. } 1759.6$
2018/19	$1083.8 + 491.6 \times 3 = \text{Rs. } 2558.6$	$1483 + 138.3 \times 3 = \text{Rs. } 1897.9$
2018/19	$1083.8 + 491.6 \times 4 = \text{Rs. } 3050.2$	$1483 + 138.3 \times 4 = \text{Rs. } 2036.2$
2019/20	$1083.8 + 491.6 \times 5 = \text{Rs. } 3541.8$	$1483 + 138.3 \times 5 = \text{Rs. } 2174.5$
2020/21	$1083.8 + 491.6 \times 6 = \text{Rs. } 4033.4$	$1483 + 138.3 \times 6 = \text{Rs. } 2312.8$
2021/22	$1083.8 + 491.6 \times 7 = \text{Rs. } 4525$	$1483 + 138.3 \times 7 = \text{Rs. } 2451.1$

### APPENDIX - XIII

#### Least Square of Linear Trend of non – performing loan

(Rs. in million)

Fiscal Year (t)	NBL				EBL			
	NPL (Y)	X = t-2016/17	X <sup>2</sup>	XY	NPL (Y)	X = t-2016/17	X <sup>2</sup>	XY
2014/15	1,553	-2	4	-3106	307	-2	4	-614
2015/16	1,715	-1	1	-1715	276	-1	1	-276
2016/17	2,110	0	0	0	470	0	0	0
2017/18	2,125	1	1	2125	365	1	1	365
2018/19	1,627	2	4	3254	264	2	4	528
Sum(Σ)	Σy = 9,130	0	10	Σxy = 558	Σy = 1,682	0	10	Σxy = 3

**For NBL:**  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{9130}{5} = \text{Rs. } 1826$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{558}{10} = \text{Rs. } 55.8$



**For EBL:**  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{1682}{5} = \text{Rs. } 336.4$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{3}{10} = \text{Rs. } 0.03$

Substituting these values in the following formula,

$$y = a + bx$$

Year	NBL	EBL
2014/15	$1826 + 55.8 \times -2 = \text{Rs. } 1714.4$	$336.4 + 0.03 \times -2 = \text{Rs. } 336.34$
2015/16	$1826 + 55.8 \times -1 = \text{Rs. } 1770.2$	$336.4 + 0.03 \times -1 = \text{Rs. } 336.37$
2016/17	$1826 + 55.8 \times 0 = \text{Rs. } 1826$	$336.4 + 0.03 \times 0 = \text{Rs. } 336.4$
2017/18	$1826 + 55.8 \times 1 = \text{Rs. } 1881.8$	$336.4 + 0.03 \times 1 = \text{Rs. } 336.43$
2018/19	$1826 + 55.8 \times 2 = \text{Rs. } 1937.6$	$336.4 + 0.03 \times 2 = \text{Rs. } 336.46$
2018/19	$1826 + 55.8 \times 3 = \text{Rs. } 1993.4$	$336.4 + 0.03 \times 3 = \text{Rs. } 336.49$
2018/19	$1826 + 55.8 \times 4 = \text{Rs. } 2049.2$	$336.4 + 0.03 \times 4 = \text{Rs. } 336.52$
2019/20	$1826 + 55.8 \times 5 = \text{Rs. } 2105$	$336.4 + 0.03 \times 5 = \text{Rs. } 336.55$
2020/21	$1826 + 55.8 \times 6 = \text{Rs. } 2160.8$	$336.4 + 0.03 \times 6 = \text{Rs. } 336.58$
2021/22	$1826 + 55.8 \times 7 = \text{Rs. } 2216.6$	$336.4 + 0.03 \times 7 = \text{Rs. } 336.61$

#### APPENDIX - XIV

##### Least Square of Linear Trend of Loan loss provision

(Rs. in million)

Fiscal Year (t)	NBL				EBL			
	Loan Loss Provision (Y)	X = t-2016/17	X <sup>2</sup>	XY	Loan Loss Provision (Y)	X = t-2016/17	X <sup>2</sup>	XY
2014/15	1,695	-2	4	-3,390	706	-2	4	-1,412
2015/16	1,994	-1	1	-1,994	805	-1	1	-805
2016/17	2,183	0	0	0	878	0	0	0

2017/18	2,423	1	1	2,423	881	1	1	881
2018/19	1,879	2	4	3758	956	2	4	1912
Sum( $\Sigma$ )	$\Sigma y = 10,174$	0	10	$\Sigma xy = 797$	$\Sigma y = 4,226$	0	10	$\Sigma xy = 576$

**For NBL:**  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{10174}{5} = \text{Rs. } 2034.8$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{797}{10} = \text{Rs. } 79.7$

**For EBL:**  $\Sigma x = 0$ ,  $a = \frac{\Sigma y}{n} = \frac{4226}{5} = \text{Rs. } 845.2$  and  $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{576}{10} = \text{Rs. } 57.6$

Substituting these values in the following formula,

$$y = a + bx$$

Year	NBL	EBL
2014/15	$2034.8 + 79.7 \times -2 = \text{Rs. } 1875.4$	$845.2 + 57.6 \times -2 = \text{Rs. } 730$
2015/16	$2034.8 + 79.7 \times -1 = \text{Rs. } 1955.1$	$845.2 + 57.6 \times -1 = \text{Rs. } 787.6$
2016/17	$2034.8 + 79.7 \times 0 = \text{Rs. } 2034.8$	$845.2 + 57.6 \times 0 = \text{Rs. } 845.2$
2017/18	$2034.8 + 79.7 \times 1 = \text{Rs. } 2114.5$	$845.2 + 57.6 \times 1 = \text{Rs. } 902.8$
2018/19	$2034.8 + 79.7 \times 2 = \text{Rs. } 2194.2$	$845.2 + 57.6 \times 2 = \text{Rs. } 960.4$
2018/19	$2034.8 + 79.7 \times 3 = \text{Rs. } 2273.9$	$845.2 + 57.6 \times 3 = \text{Rs. } 1018$
2018/19	$2034.8 + 79.7 \times 4 = \text{Rs. } 2353.6$	$845.2 + 57.6 \times 4 = \text{Rs. } 1075.6$
2019/20	$2034.8 + 79.7 \times 5 = \text{Rs. } 2433.3$	$845.2 + 57.6 \times 5 = \text{Rs. } 1133.2$
2020/21	$2034.8 + 79.7 \times 6 = \text{Rs. } 2513$	$845.2 + 57.6 \times 6 = \text{Rs. } 1190.8$
2021/22	$2034.8 + 79.7 \times 7 = \text{Rs. } 2592.7$	$845.2 + 57.6 \times 7 = \text{Rs. } 1248.4$