

**COMPARATIVE STUDY ON CREDIT MANAGEMENT OF COMMERCIAL BANKS
IN NEPAL**

(With Reference to Bank of Kathmandu and Nepal Investment Bank Ltd.)

A Thesis

Submitted By:

BINOD SHRESTHA

T.U. Regd. No: 7-2-31-848-2004

Roll No: 186/064

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VIVA-VOCE SHEET

We have conducted the viva –voce examination of the thesis presented

Submitted by:

BINOD SHRESTHA

Entitled:

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*And found the thesis to be the original work of the student and written
according to the prescribed format. We recommend the thesis to
be accepted as partial fulfillment of the requirement for the Degree of*

Master of Business Studies (M.B.S.)

Viva-Voce Committee

Head, Research Department

Member (Thesis Supervisor)

Member (External Expert)

DECLARATION

I hereby declare that the work reported in this thesis entitled **COMPARATIVE STUDY ON CREDIT MANAGEMENT OF COMMERCIAL BANKS IN NEPAL (With Reference to Bank Of Kathmandu And Nepal Investment Bank Ltd.)** submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Study (M.B.S.) under the supervision of Associate Professor Shree Bhadra Nauepane of Shanker Dev Campus, Faculty of Management, T.U.

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BINOD SHRESTHA

T.U. Regd. No: 7-2-31-848-2004

Roll No: 186/064

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.....

BINOD SHRESTHA

T.U. Regd. No: 7-2-31-848-2004

Roll No: 186/064

ABBREVIATIONS

&	:	And
AGM	:	Annual General Meeting
ATM	:	Automated Teller Machine
BOD	:	Board of Directors
BOK	:	Bank of Kathmandu Ltd.
C.V.	:	Coefficient of Variation
CIT	:	Citizen Investment Trust
CRO	:	Company Registrar's Office
FY	:	Fiscal Year
GDP	:	Gross Domestic Product
Ltd	:	Limited
MOF	:	Ministry of Finance
NCML	:	NIDC Capital Markets Limited
NEPSE	:	Nepal Stock Exchange Ltd.
NIBL	:	Nepal Investment Bank Ltd.
NPA	:	Non Performing Assets
NPL	:	Non Performing Loan
NRB	:	Nepal Rastra Bank
ROA	:	Return on Assets
Rs.	:	Rupees (Nepalese currency unit)
S.D	:	Standard Deviation
SEBON	:	Securities Board, Nepal
SEC	:	Stock Exchange Center

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CHAPTER I

INTRODUCTION

1.1 Background of the Study

Nepal is sandwiched between the two giant countries, India and China and survives with her own natural beauty in Asia. Its half-century of experiments and efforts to raise the quality of life of its populace is defeated. Almost half of its population lies under absolute poverty line, especially living in the rural areas are deprived of even basic needs and facilities like enough calories pure drinking water sanitation facilities, electricity, road facility etc. Some of the basic human indicators like life expectancy, literacy, nutrition level etc. also show that Nepal occupies among the nation to eliminate the massive poverty persisting in the country through gradual development of the total nation and by providing and availing basic needs to poor people. Actually slow pace of developing of Nepal is due to nothing but landlocked position, poor resources mobilization and its utilization, weak infrastructure development and more over unstable eco-political environment.

The role of money in an economy is very important. Proper and well-planned management of money directs, determines and enhances the health and productivity of total financial sector and the performance of financial sector affect the growth of economy. Hence, Money is the topic to manage and banks are the manager. The existence of a bank is for the change in every aspect of human being and its presence is for the upliftment of people. Banks are the backbone of the economy. They act as intermediaries to channel funds to productive business companies and projects.

"The process of lending takes in to consideration about the people and system required for the evaluation and approval of loan requests, negotiation of terms, documentation, disbursement, administration of outstanding loans and workouts, knowledge of the process and awareness of its strength and weakness are important in setting objectives and goals for lending activities and for allocating available funds to various lending functions such as commercial, installment and mortgage portfolios" (*Johnson, 1970: 275*).

Banks grants loan and advances to industries, people and companies that result in the increase in the productivity of nation. Loan and advances to different people and corporate bodies help to increase their income and profits. They can use the amount as per their need at right place at the right time. Bank is a business organization where monetary transaction occurs. It creates fund from its clients saving and lends the same to needy person or business companies in term loans, advances and investment. So proper financial decision making is more important in banking transactions for its efficiency and profitability. Most of the financial decision making loan management it plays the vital role in the business succession, so efficient management of lending policy is needed.

The source of finance is the most essential element for the establishment and operation of any profit and non-profit institutions. Profit oriented institutions usually obtain these sources through ownership capital, public capital through the issues of shares and through financial institutions such as banks, in the form of credits, overdrafts etc Commercial banks, others banking institutions (OBIs), Non Bank Financial Institutions occupy important role in mobilizing financial resources. There are about 17 insurance companies including deposit insurance and Credit Guarantee Corporation, one Employee Provident Fund and one Citizen Investment Trust belong to this type of financial institutions. Apart from this, securities such as corporate shares debentures and bonds.

Credit management concept has appeared as a major research gap in Nepalese commercial banking sector. There is lack of such scientific and empirical research that could identify the issues of credit management in Nepalese commercial banks. In this regard, the performance of Nepalese commercial banks is to be analyzed in terms of their credit. Some research questions regarding to the credit practices, credit efficiencies, liquidity position, industrial environment, management quality, organization climate are considered as a clear evident in present situation.

Likewise, present problems of the banks are Liquidity is maximum, providing credits on the basis of their own judgments, investment unfairly in the limited area, poor credit administration, the credit it recovery process is slow, non-performing credit is going upward, lack of clear-cut objectives and policy of the credit management etc. To control such type of

problems, the regulatory body of the bank and financial institutions Nepal Rasta Bank (NRB) has renewed its directives of the credit loss provision. Present banking set-up is the result of liberalization of economy, economic requirement, and globalization. In 1990s the development of banking in both quality and quantity was satisfactory. However, subsequent development of commercial banks in quantity has not been satisfactory.

The more developed financial systems of the world characteristically fall into three parts. The Central Bank, The Commercial Banks and other financial institutions. They are known as financial intermediaries. The banking business has its genesis from its function of lending. Lending is the most fundamental function of a bank. The importance of Lending in banking business is undoubtedly unchanged and remains vital as it was early days of this business. Lending has its different forms. It can be divided into fund based and non-fund based Lending. The fund based Lending can be further divided into cash credit, Overdrafts, demand and term credits, bills purchased and discounted and export packing credit, project loan, etc. Similarly, non- fund based credit can be classified into documentary credit, guarantees and bill co-acceptance facility.

1.2 Profile of Selected Sample Commercial Bank.

1.2.1 Bank of Kathmandu Ltd.

Bank of Kathmandu Ltd. was incorporated in 1993 and came into operation in March 1995 as a joint venture bank with Siam Commercial Bank of Thailand. The head office of the bank is situated at Kamaladi, Kathmandu, Nepal. At the beginning, this bank was managed by Siam commercial bank of Thailand and later on Siam commercial bank divests their share holding and now it is fully owned and managed by Nepali professional.

Bank of Kathmandu, since its inception, has been using information technology for its mainstream banking activities. All its branches including rural areas are interconnected to the bank's intranet system providing online real time Any Branch Banking system to its valued customers. Continuous updates, upgrades and replacements of its equipments and software have become one of the major focuses of the bank to stand up to the challenges posed by the fast changing environment. Bank of Kathmandu has well-developed correspondent relationships with over 150 banks globally to help its customers to carry out their business worldwide

promptly and conveniently. Bank of Kathmandu have maintained accounts in major currencies in the internationally renowned banks as well tied up with various Instant Money Transfer Companies (IMTC) like X-press Money Service Ltd., Money Gram, International Money Express P. Ltd etc for efficient execution of international banking business and also enables inflow of foreign exchange earnings to the country with high security. This bank came into operation with a objectives of catering new business yet not identified and offering new banking products and services with a modern look by adopting modern banking technology.

Bank of Kathmandu has just entered into the eleventh year of successful operation. During its tenth year of operation, it has become one of the leaders in the banking sector and was able to establish a good banking image in the banking history of Nepal. It has gain lot of popularity among its customer, due to its pioneer service provided to its customer.

The shareholding structure comprises of:

- Public shares holding 58.19% of share capital.
- Promoters share holding 41.81% of share capital.

1.2.2 Nepal Investment Bank Ltd.

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepali and French partners. The French partner (holding 50% of the capital) was Credit Agricole Indosuez, a subsidiary of one of the largest banking groups in the world. When Credit Agricole Indosuez decided to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen acquired 50% of the holdings of Credit Agricole Indosuez in Nepal Indosuez Bank in April 2002. The name of the Bank was changed to Nepal Investment Bank Ltd. upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and company Registrar's Office. The shareholding structure comprises of:

- A group of companies holding 50% of share capital.
- Rastriya Banijya Bank holding 15% of share capital.
- Rastriya Beema Sansthan holding 15% of share capital.
- The general public holding 20% of the Capital (which means that NIBL is a Company listed on the Nepal Stock Exchange).

1.3 Focus of the Study

Although the Bank of Kathmandu and Nepal Investment Bank have managed credit than other commercial banks within short period of time, they have been facing cut throat competition against one another. In Nepal there are 31 commercial banks. The study focus on credit management of commercial banks. Deposits utilization of the bank in terms of loans and advances and investments and its contribution affect the profitability of the bank. Commercial banks hold deposit of many persons, government establishment and business units. They make fund available through their lending and investing activities to borrowing individual's business firms and government establishment.

Here, the researcher has focused this resource mainly to highlight and examine the credit management of the selected bank ignoring other aspects of bank transaction. To highlight the credit management of the bank, the research is based on the certain statistical tools i.e mean, standard deviation, coefficient of variance, coefficient of correlation, coefficient of determination and trend analysis with a view to find out the true picture of the bank. The main objective of this research is to analyze the credit management through the use of appropriate financial tools.

1.4 Statement of Problem

The most of the Banking Problem have been caused by weakness in credit management. Banks should now have a keen awareness of the need to identify measure, monitor and control credit as well as to determine that they hold adequate capital against it. Due to the recession in the economy since 2008 A.D. had emerged the great trouble in the banking industry also. Nepal Development Bank Ltd., Gurkha Development bank Ltd., Share market finance etc. are the example of latest financial insolvent (Nepal Development bank Ltd.) and other are faced even financial crisis. The main reason behind them was weak credit management and without or low collateral of loan disbursement. Likewise, the bank's directors are also involved directly in granting credit with the fake customer or their relationship by pressuring bank's staffs. Due to liquidity crisis and NRB guidelines more than one dozen of development banks and finance companies were merged with banks and each other. Likewise, NIC and Bank of Asia of two commercial banks were merged in 2013 A.D. and newly established with NIC Asia bank Ltd.

In order to establish creditability position is a major issue in commercial banking sector during these days.

It is no debate that high profitable or successful organization can easily fulfill the every need of the organization. Customers can serve the society. To improve the profitability situation of the bank, it is necessary to establish the higher creditability position of the bank. Thus, the creditability is the major source and building better creditability position is the major strategy of each commercial bank.

Credit is the most effective area in the commercial bank. It is regarded as the heart of every commercial bank. But the banking sector is far from this fact. Thus, Credit management is considered as the heart issues in Nepalese Commercial banking sector.

Credit management concept has appeared as a major research gap in Nepalese Commercial banking sector. There is lack of such scientific and empirical research that could identify the issues of credit management in Nepalese commercial banks. In this regard, the performance of Nepalese commercial banks is to be analyzed in terms of their credit. Some research questions regarding to the credit practices, credit efficiencies, liquidity position, industrial environment, management quality, organization climate, are considered as clear evidence in present situation. Thus, the specific research questions regarding credit management in Nepalese commercial banking sector are identified as follows:

- Is the credit efficiency of the sample Commercial banks in good position?
- What is the strength and weaknesses in the credit management of NIBL and BOK?
- What types of credit is disbursed by BOK and NIBL?
- Is Non-performing loans is the major problems for sample Nepalese commercial banks?

Nepal is a small country with small market economic condition of the country is degrading due to conflict since 2052 B.S. But the situation has been changed peace process is going to be logical conclusion. Overall economic sectors either manufacturing or commercial sectors have undergone heavy losses. However, the financial institutions are increasing regularly. Liquidity is maximum with the financial institutions are competing among themselves to advance credit to limited opportunity sectors.

Non-performing credits of the banks are increasing year by year. To control such type of state, the regulatory body of the bank and financial institutions Nepal Rastra Bank (NRB) has renewed its directives of the credit loss provision.

1.5 Objectives of the Study

There is no doubt that the role of the commercial banks is significant in the development of the country. Banks help in the development of the country by providing credit to the necessary sectors.

The breakdown of the objectives of the study is as follows:

- To analyze the credits and advances provided by Bank of Kathmandu Ltd. and Nepal Investment Bank Ltd.
- To find out the strength and weakness in the credit management of the BOK and NIBL.
- To analyze the recovery status of the credit disbursed by BOK and NIBL
- To inspect the level of the non-performing loan investments that exists within the sample banks.

1.6 Significance of the Study

There are few researches in commercial banking and especially on their credit management, insufficient books for the study. Lending is one of the essential and main functions where the whole banking business is rested upon. Thus, a study on the commercial banks and especially in their Lending and investment practices carry a great significant to various groups but in particular is directed to a certain groups of people/organization, which are:

- Importance to shareholders.
- Importance to the management bodies of these banks for the evaluation of the performance of their banks and in comparison with other banks.
- Importance to “outsiders” which are mainly the customers, financial agencies, stock exchanges.
- Importance to the government bodies or the policy makers such as the central bank.
- This study would be important for the students as it provides theoretical as well as conceptual frame work of different aspect of credit management.

1.7 Limitations of the Study

The main source of the data is from banks publications which may not be reliable because they may publish reports according to their profit policy and their market position. Following are the limitations of the study.

- The study will be based basically on the past data (Secondary Data).
- This study is more specific in credit position (management) analysis.
- Out of 31 commercial banks only two samples i.e. NIBL and BOK are taken for the study.
- The study is covered only for the five fiscal years from 2008/09 to 2012/13.

1.8 Organization of the Study

The study has been organized into five chapters. They are:-

Chapter I – Introduction:

The first chapter deals with introduction. This includes background, statement of problem, focus of study, objectives of the study, and limitation of the study and method of analysis.

Chapter II – Review of Literature:

This chapter is the review of literature deals with conceptual framework of the credit management of stated bank. Review of major studies will be also presented. This chapter is subdivided into various sections such as conceptual framework, review from different studies, review from journal, article and magazine and review from master's thesis for the concerned topic.

Chapter III – Research Methodology:

Chapter three presents methodologies adopted for the research. It comprises research design, sources of data, method of analysis and its descriptive presentation. This chapter contains the research methodology. This chapter deals with research design, sources of data, data collection techniques, data processing and data analysis tools.

Chapter IV- Presentation and Analysis of Data:

The fourth chapter presents the data collected different sources. In this chapter, the collected data were tabulated and analyzed by the use of various statistical tools, graphs and figure. Based on the data analysis, major findings have been performed.

Chapter V - Summary, Conclusion and Recommendation:

In the fifth chapter summaries the main conclusions and offers suggestions i.e. recommend for further improvement.

After completion of these five chapters, a list of literature that reviewed earlier is included alphabetically in bibliography. Likewise, data, information, calculation sheet etc are incorporated in appendix.

CHAPTER –II

REVIEW OF LITERATURE

The main purpose of literature review is to find out what works have been done in the area of the research problem under study and what has not been done in the field of reports, journals and research studies published by various institutions unpublished dissertations submitted by master level students have been reviewed. Review of literature is done in following manner.

2.1 Sources and Uses of Fund - Credit

A commercial Bank is business organization that receives and holds deposits of fund from others, makes loans or extends credits and transfers funds by written order of deposits. Commercial Bank is a corporation, which accepts demand deposits subject to check and makes short-term loans to business enterprises, regardless of the scope of its other services. Commercial bank Act 2031 B. S. of Nepal has defined that "A commercial bank is one which exchanges money, deposits money, accepts, deposits, grants loans and performs commercial banking functions and which is not a bank meant for cooperative, agriculture, industries for such specific purpose." The Bank and Financial Development Institutions Ordinance, 2060 has accumulated the five banking acts including commercial bank Act 2031, which defines the bank with respect to their transactions. This Act is trying to categorize the banking institutions in two ways that is based on their transactions. According to this Act, "Bank is the institution which performs its transaction under the provisions mentioned on section 47 of this Act."

This Act has laid emphasis on the functions of commercial bank while defining it. Commercial banks provide short-term debts necessary for trade and commerce. They take deposits from the public and grant loans in different forms. They purchase and discount bills for exchange, promissory notes and exchange foreign currency. They discharge various functions on the behalf of their customers if they are paid for their services. Financial activities are necessary for the economic development of the country and commercial banking in this context is the heart of financial system. Optimal investment decision plays a vital role in each organization. However, especially for the commercial banks and other financial institutions are the sound

knowledge of investment because this subject is relevant for all surrounding that mobilize funds in different sectors in view of return.

"Credit administration involves the creation and management of risk assets. The process of lending takes in to consideration about the people and system required for the evaluation and approval of loan requests, negotiation of terms, documentation, disbursement, administration of outstanding loans and workouts, knowledge of the process and awareness of its strength and weakness are important in setting objectives and goals for lending activities and for allocating available funds to various lending functions such as commercial, installment and mortgage portfolios" (*Johnson, 1970:131*).

"Book named "Banking Management" say that in banking sector or transaction, an unavoidable of loan management and its methodology is regarded very important. Under this management, many subject matters like the policy of loan flow, the documents of loan flow, loan administration, audit of loan, the condition of loan flow the provision of security, this management plays a great role in healthy competitive activities" (*Bhandari, 2005:170*).

It is very important to be reminded that most of the bank failures in the world are due to shrinkage in the value of loan and advance. Hence, risk of non-payment of loan is known as credit risk default risk. "Portfolio management helps to minimize or manage the credit risks by spreading over the risk to various portfolios. This method of managing credit risk is guided by the saying do not put all the eggs in a single basket"(*Bhandari, 2005:310*).

Major Sources of Funds

- a) Deposit Accounts
 - Transaction deposits
 - Savings deposits
 - Time deposits
 - Money market deposits
- b) Borrowed funds
 - FED funds
 - Federal reserve borrowing
 - REPOS

- Euro dollar borrowing
- c) Long-Term Capital
 - Bonds
 - Bank Capital

1.1 Major Uses of Funds

- a) Cash
- b) Loans - *main use*
 - Working capital loans
 - Term loans
 - Line of credit
 - Revolving credit loan
 - Consumer loans
 - Highly Leveraged transact.
 - Real estate loans
 - Direct lease loans
 - Loan participations
- c) Securities Investments
 - Treasuries
 - Agencies
 - Tax exempts
 - Corporate bonds
- d) FED Funds Sold
- e) REPOS
- f) Eurodollar Loans
- g) Fixed Assets

1.2 Off Balance-Sheet Activities

1.3 Generate Fee Income without Investing Funds

- a) Loan Commitments
- b) Stand By Letters of Credit

- c) Forward Contract
- d) SWAPS

2.1.1 Concept of Credit

"Credit is the amount of money lent by the creditor (bank) to the borrower (customers) either on the basis of security or without security. Sum of the money lent by a bank, is known as credit"(Oxford Advanced Learners Dictionary1992:279). Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credits and advances, which is one of the major sources of income for banks. "Bank prepares credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely"(Varshney and Swaroop, 1994:6)

"Credit is financial assets resulting from the delivery of cash or other assets by a lender to a borrower in return for an obligation of repay on specified date on demand. Banks generally grants credit on four ways "(Chhabra and Taneja, 1999:8)

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

2.1.2 Types of Credit

Overdraft:

It denotes the excess amount withdraw over their deposits.

Cash Credit:

The 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.

Term Credit:

It refers to money lent in lump sum to the borrowers. It is principal form of medium term debt financing having maturities of 1 to 8 years. "Barely and Myers urge that bank credits with maturities exceeding 1 years are 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" (*Richard, 1996:80*).

Working Capital Credit:

Working capital 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.

Priority or Deprived Sector Credit:

Commercial banks are required to extend advances to the priority and deprived sector .12% 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 borrows 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:

- Advances to poor/downtrodden /week/ derived people up to Rs. 30,000 for generating income or employment.
- Institutional Credit to Rural Development Bank.
- Credit to NGOs those are permitted to carryout banking transaction for lending up to Rs 30, 000.

Hire-purchase Financing (Installment Credit)

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 bank 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.

Housing Credit (Real Estate Credit)

Financial institutions also extend housing credit 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.

Project Credit

Project Credit 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 credit is short- term credits made to develops for the purpose of completing proposed projects. Maturities on construction credits range from 12 months as long as 4 to 5 years depending on the size of the specific project (Johnson, 1999:244).The basic guiding principal 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 credit needed for project fall under it.

Consortium Credit

No single financial institution grant credit to the project due to single borrower limit or other reasons and two or more such institution may consent to grant credit facility to the project among them. Financial bank equal (or Likely) charge on the project's assets.

Credit cards and Revolving lines of Credit

Banks are increasingly utilizing charge cards and revolving lines of credit to make unsecured consumer 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. 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.

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. It is non funded based

remunerative facilities but more risky than the funded until adequate collateral are not taken. Lets its two varieties be described separately.

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.

Letter of credit (L/C)

It is issued on behalf of the customer (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 as 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 sum commodities.

2.1.3 Purpose of the Sound Credit Policy

The purposes of a sound credit policy are :

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

2.1.4 Lending Criteria

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

i. Character

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

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

ii. Capacity

Describes 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:

- Certified balance sheet and profit loss account for at least past 3 years.
- In case of the personal loan they have to submit the proof source of income.
- References or other lenders with whom the applicant has dealt in the past or bank A/C.

iii. Capital

This indicates applicant's capacity to inject his own money. By capacity analysis, it can be concluded that whether borrower is trying to play with lender's money only 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.

iv. Collateral

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

v. Conditions

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

2.1.5 Principles of Sound Lending Policy

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

i. Liquidity

By liquidity is meant the readiness with which the bank can convert the assets into cash. Liquidity means short-term solvency of the borrower. A banker is essentially the lender of short-term funds because he knows that the bulk of his deposits are repayable on demand or at

short notice. As the banker's deposits are subject to the legal obligation of being repayable on demand and at short notice, he must ensure liquidity also while lending, so that in times of need, he will be able to convert the assets into cash.

Bank can ensure high liquidity by keeping all deposits in the form of cash only. In such a case, he will not be in position to meet the interest obligations and expenditure of the establishment. From experience, he has learnt that he can safely lend out a substantial portion of the funds. But while lending he should try to ensure liquidity, i.e. in times of need, he must be able to obtain repayment of the money within a reasonably short time. Liquidity also implies that the assets can be sold without any loss. Thus the concept of liquidity has twin aspects namely quick sale ability or convert ability of the assets and the absence of risk of loss in such conversion. Likewise, lending rates are affected by banks' internal policy like credit rating of the borrower, bank rate of NRB, inter-bank competition and NRB's guidelines on lending rates.

ii. Diversification of Loans

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

iii. Profitability

Commercial banks obtain funds from shareholders and naturally if dividend is to be paid on such shares it can only be paid by earning profits. Even in the case of public sector banks although they are service motivated they will have to justify their existence by earning profits. This is not possible unless the funds are employed profitably. From out of the revenue earned, the banker has to pay interest on deposits, salary to the staff, meet other establishment expenses, build-up reserves and the balance must permit the payment of dividend to shareholders. So for the bank to sustain on a long run, it has to seek many profitable sectors

where it can mobilize its collected fund. Before lending, a banker has to see that the advance and credit is on the whole profitable.

iv. Purpose of Loan

Nowadays, the purpose for which loans are granted has acquired precedence over the principle of security. If a loan is required for a non-productive or speculative purpose, a banker will be reluctant to entertain the proposal. Loans for social functions, ceremonies, pleasure trips or for repayment of prior loans are not favored by a banker, as they are unproductive in nature. But it is very difficult for the bank to ensure that the advance has been used for the purpose for which it was taken. A person may take a loan obviously for a productive use, but may spend it on speculation. The central bank through its directives, also determines the policy to be followed by the banks with regard to the purpose for which advances may not be granted. So a banker should enquire the purpose for which it is taken for safe lending.

v. Safety

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

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

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

vi. National Interest and Suitability

Bankers must ascertain on what type of business the customer is involved whether it serves the national interest or not, whether the firm is acting responsibly towards the society that it is operating in like brick industry or the cement industry and the precautions taken by it against environment pollution. Central bank issues directives, prohibiting banks to invest in various sectors such as the import of arms and ammunitions etc. Also bankers must remain vigilant of the law and order situation where borrower carries its business.

vii. Security

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

2.1.6 Some Important Banking Terms

The study in this section comprises of some important banking terms for which efforts have been made to clarify the meaning, which are frequently used in this study, which are given below.

i. Deposits

Deposit is the most important source of liquidity for a commercial bank. It is also the main source of fund that a bank usually uses for the generation of profit. Therefore, the efficiency depends on its ability to attract deposits. Banks collect the scattered savings of the public through various accounts type like saving, current, fixed etc. Deposit being the borrowed amount from the depositors or from general public and institutions, it constitutes the liability of a bank. The management of a bank is always influencing it through deliberate policy action; the deposits of a bank are affected by various factors. They are as follows.

- Types of customers
- Physical facilities of bank
- Management accessibility of customers

- Types and range of services offered by the bank.
- Interest rate paid on deposits.
- Goodwill and financial position of the bank

In addition to the above, the prevailing economic conditions exert a decisive influence on the amount of deposit the bank receives.

ii. Loan and Advances

"Loan, advance and overdraft are the main sources of income for a bank. Bank deposits can cross beyond a desired level but level of loans, advances and overdraft will never cross it. The facilities of granting loan, advances and overdrafts are the main services in which customer of the bank can enjoy.

Fund borrowed from bank are much cheaper than those borrowed from unorganized money lenders. The demand for loan has excessively increased due to cheaper interest rate. Furthermore, an increase in an economic and business activity always increases the demand for the fund. Due to limited resources and increasing loans, there is some fear that commercial banks and other financial institutions too may take more preferential collateral while granting loans causing unnecessary trouble to the general customers.

In addition to this, some portion of loan advances and overdraft includes that amount which is given to staff of the bank for house loan, vehicle loan, personal loan and others. In mobilization of commercial banks fund, loan advance and overdrafts have occupied a large portion.

iii. Investment on Government Securities, Share and Debenture

"Though a commercial bank can earn some interest and dividend from the investment of government securities, share and debenture, it is not the major portion of income, but it is treated as a second source of banking business. A commercial bank may extend credit by treating it as a second source of banking business. A commercial bank may extend credit by purchasing government securities bonds and shares for several reasons.

Some of them are given as:

- It may wish to have high grade marketable securities to liquidate if its primary reserve

- becomes inadequate.
- It may also be forced to invest because the demand for loans has decreased or is not sufficient to absorb its excess reserves.
 - It may want to space its maturities so that the inflow of cash coincides with expected withdrawals by depositors or large loan demands of its customers.

However, investment portfolio of commercial bank is established and maintained primarily with a view of nature of banks liabilities that is since depositors may demand funds in great volume without previous notice to banks. The investment must be of a type that can be marketed quickly with little or no shrinkage in value.

iv. Investment on other Company's Share and Debentures

Most of commercial banks invest their excess funds in the shares and debentures of other financial and non-financial companies. Due to excess funds but least opportunity to invest those funds in much more profitable sectors and to meet the requirements of NRB directives, the commercial banks purchase shares and debentures of regional development bank, NIDC and other development banks.

v. Liquidity

Liquidity is the ability of a bank to meet its obligations on time, especially in relation to repayment of inter-bank borrowings and customer deposits. Liquidity management is a very crucial job of a commercial bank and the bank should maintain an adequate amount of cash in its vault and with NRB for its daily operations and administrative purposes. As per the arrangements of NRB effective from fiscal year 2004/05, commercial banks are required to maintain a cash reserve of 5% with NRB of its total deposit liability with NRB. The previous provision of cash in vault maintenance has been withdrawn now.

vi. Capital Adequacy

Capital is the blood of any business without which business cannot be run or established. In financial terms, capital is the excess of assets over liabilities and can be defined as the wealth, which is employed for production. Capital is required by a bank as a cushion to absorb losses, which should be borne by shareholders rather than depositors and to finance the

infrastructure of the business. Capital adequacy is to maintain adequate amount of capital or fund to safeguard the money of the depositors against any possible loss. NRB requires banks to maintain a certain capital adequacy ratio based on the total risk weighted assets and the banks are supposed to meet the minimum requirement of CAR.

vii. Off-Balance Sheet Activities

Off balance sheet activities involve contracts for future purchase or sale of assets and all these activities are contingent obligations. These are not recognized as assets or liabilities on balance sheet. Some examples of these items are letter of credit, letter of guarantee, bills of collection etc. These activities are very important, as they are the good source of profit of bank though they have risk. Nowadays, some economists and finance specialists to expand the modern transactions of a bank stressfully highlight such activities.

viii. Banking Risks

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

- **Credit Risk**

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

- **Liquidity Risk**

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

- **Yield Risk**

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

- **Market Risk**

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

- **Operational Risk**

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

- **Ownership/Management Risk**

The risk that shareholders directors or senior management be unfit for their respective positions or dishonest.

2.2 NRB Guidelines on Extending Advances & Investment in Productive, Priority and Deprived Sector

Productive Sector

Productive Sector include advances to Priority Sector and Other Productive Sector which includes advances and investment in shares and debentures of small, medium and large industries as defined in industrial enterprises act; pre-shipment credit like purchase of merchandise, processing, assembling, packaging etc.; export bill financing, advances for purchase of public transport like truck, bus, tempo etc. and agricultural/farm equipment; investments on shares and debentures of government/semi-government or private sector agricultural insurance, go down, banking or like companies etc.

As per NRB regulation, commercial banks are required to extend 40% of the total advances to productive sector, which also includes 12% to priority sector including deprived sector.

- **Priority Sector Credit Program**

"Priority sector" is defined to include micro and small enterprises which help increase production, employment and income as prioritized under the national development plans with an objective to uplift the living standard of general public particularly the deprived and low income people by progressively reducing the prevalent unemployment, poverty, economic inequality and backwardness. Micro and small enterprises are classified into agricultural enterprises, cottage and small industries and services. In addition, other businesses as specified by NRB from time to time are also included under Micro and small enterprises. All credits extended to priority sector up to the limit specified by NRB are termed as "Priority Sector Credit."

- **Deprived Sector Lending**

"Deprived Sector" includes low income and particularly socially backward women, tribes, lower caste, blind, hearing impaired and physically handicapped persons and squatters

(sukumbasi) family. All credits extended for the operation of self-employment oriented micro-enterprises for the upliftment of economic and social status of deprived sector up to the limit specified by NRB is termed as "Deprived Sector Credit". "Deprived Sector Credit" is considered as integral part of priority sector credit and this credit comprise micro-credit programs and projects also.

The businesses under the Priority Sector Credit Program have been classified under the following four major heads:

- Agriculture and Agro-bases business
- Cottage and small industries
- Services
- Other business

Lending in Deprived Sector will be included in Priority Sector for the purpose of compliance test for 12% credit to Priority sector.

Deprived sector credit is advances up to Rs.30, 000 per borrower family meant for weak, poor and deprived people extended in the following manner by the commercial banks shall qualify to be included under deprived sector credit:

- Direct investment made by the commercial banks themselves in income generating employment oriented programs.
- Investments made by commercial banks in share capital of Rural Development Banks, Rural Micro Finance Development Center and other Development Banks established with an objective to extend credit to deprived sector.
- Advances to the Rural Development Banks and other Development Banks engaged in the similar poverty alleviation programs.
- Advances to Cooperatives, Non-governmental Organization and Small Farmers Cooperatives approved by NRB for carrying out banking transactions.
- Advances to Micro-Finance Institutions/ (Rural Development Banks and other financial institutions, cooperatives and non-governmental organizations approved by NRB for intermediation) stipulating the condition to disburse such credit to deprived sector only.

- Loans extended by commercial banks to development banks engaged in micro credit activities with stipulated condition to disburse the credit only to the deprived sector up to Rs.30,000 a family shall be eligible for the purpose of inclusion under Deprived Sector Credit.

Effective from FY 2000/01, NABIL and HBL shall compulsorily extend advances to the deprived sector by 3% of its total outstanding credit while new commercial banks are required to invest 0.25% of total outstanding credit to the deprived sector.

Regulation relating to Loan Classification and Loan Loss Provisioning

With an objective to minimize the possible loss of credits extended by commercial banks as provided under section 23(1) of Nepal Rastra Bank Act 2012 (with amendment) relating to development and regulation and banking system . This directive in respect of loan classification & provisioning has been issued in exercised of authority under section 56 of bank and financial institutions act 2063.

- **Classification of Outstanding Loan and Advances on the Basis of Aging**

Banks shall classify outstanding principal amount of loan and advances on the basis of aging.

- **Classification of Loans and Advances**

Loan and advance shall be classified into the following 4 categories:

- **PASS**

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

- **Substandard**

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

- **Doubtful**

All loans and advance which are past due for a period of 6 month to 1(one) year shall be included in this category.

- **Loss**

All loans and advances which are past due for a period of more than 1(one) 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 failing in the category of sub-standard doubtful and loss are classified and defined as **Non-Performing Loan**.

Note:

- If it is appropriate in the views of the Bank management there is not restriction in classifying the loan and advances from low risk category. For instance, loan falling under sub-standard 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 Bills purchased and Discounted.

- **Submission of Return Relating to Classification of Loan and Advances**

Bank shall, as of the Mid of October, January, April and July, prepare the statement of outstanding loans & advances classified on the basis of aging & submit the particulars as per the enclosed Directives Form No.3 to the Banking Operation Department & Inspection & Supervision Department of Nepal Rasta Bank within 1(one) month from the end of each quarter. Classified Loans and Advances under the currently existing arrangement are required to be classified as per the Time Table in four phases:

- **Relating to Collateral**

All collateral used back loan & advance shall be adequate to cover up the principal and interest and shall also be legally secured. In the event of non-realization of principal and interest of loan, there must be no difficulty in acquiring the title of the collateral asset.

- **Additional Arrangement in Respect of Pass Loan**

Loans & advances fully secured by gold, silver, fixed deposit receipts and NG securities shall be included under “**pass**” category.

However, where collateral of fixed deposit receipt or NG securities or NRB Bonds is placed as security against loan for other purposes, such loans has to be classified on the basis of aging per clause 2.

- **Additional Arrangement in Respect of “Loss Loan”**

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

- No security at all or security that is not in accordance with the borrower’s agreement with the bank.
- The borrower has been declared bankrupt.
- The borrower is absconding or cannot be found.
- Purchased or discounted bills are not realized within 90 days from the due date.
- The credit has not been used for the purpose originally intended.
- Owing to non- recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation.
- Loans provided to the borrowers included in the black list and where the **Credit Information Bureau** blacklists the borrower.
- Additional Arrangement in Respect 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 over due installment. In the event of conversion of contingent liabilities of the bank e.g. letters of credit, un-matured guarantees, in to the liability of the bank, such amount becomes recoverable from the customers. Hence, such amount shall also be classified as per the classification norms applicable to loans & advances & accordingly be provided with requisite provisioning.

Prohibition to Recover Principal and Interest by Overdrawing the Current Account & Exceeding the Overdraft Limit Principal and interest on loans & advances 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 construed as prohibitive for recovering the principal & interest by debiting the customer’s account & 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 included under the outstanding loans & such loans shall be liable to be included under the outstanding loan and such loan shall be

downgraded by one step from its current classification. In respect of recognition of interest, the same shall be as per the clause relating to income recognition mentioned in Directives No.4.

- **Loan Loss Provisioning**

The Loan loss provisioning, on the basis of the outstanding loans & advances and purchase classified as per this Directives, shall be provided as follows:

<u>Classification of Loan</u>	<u>Loan Loss Provision</u>
Pass	1 percent
Substandard	25 percent
Doubtful	50 percent
Loss	100 percent

Note: Loss loan provision set aside for performing loan is defined as “general loan loss provision” and loan loss provision set aside for Non- performing loan is defined as “Specific Loan Loss Provision”.

- **Additional Provisioning in the case of Personal Guarantee Loans**

Where the loan is extended only against personal guarantee, a statement of the assets equivalent to the personal guarantee amount not claimable by any other shall be obtained. Such loans shall be classified as per above and where the loans fall under the category of Pass, Substandard and Doubtful, in addition to the normal loan loss provision applicable for the category, an additional provision by 20% point shall also be provided. Classification of such loans and advances shall be prepared separately.

- **Rescheduling and Restructuring of Loan**

In respect of loans & advances falling under the category Substandard, Doubtful or Loss, banks may reschedule or restructure such loans only upon receipt of a written Plan of Action from the borrower citing the following reason:

- The internal and external causes contributing to deterioration of the quantity of loan.
- The reduced degree of risk inherent to the borrower/enterprise, determined by analyzing its balance sheet and profit & loss account in order to estimate recent cash flows & to project future ones, in addition to assessing market conditions.

- Evidence of existing of adequate loan documentation.
- An evaluation of the borrower/ enterprise's management with particular emphasis on efficiency, commitment & high standards of business ethics.

In addition to written Plan of Action for rescheduling or restructuring of loan per Clause (13.1) above, payment of interest according to the loan contract as originally specified should have been collected. The loan loss provisioning, in respect of rescheduled, restructured and swap loans, shall be provided at minimum 12.5%. Separate statement shall be prepared for loans classified & provision made as per Clause 13.3 above.

- **Provisioning against Priority Sector Credit**

Full provisioning as per clause (11) shall be made against the uninsured priority and deprived sector loans. However, in respect of insured loans; the requisite provisioning shall be 25% of the percentage state under clause (11).

- **Adjustment in Provisioning**

Except in the following cases, banks are prohibited from making any adjustments in their loan loss provision amount:

- The loan has been completely written off:
- The principal amount of loan and interest has been fully settled by the borrower.
- Loan has been classified or reclassified and vision for loan loss is made.

However, no such adjustments shall be made in the case of reclassified loan by way of rescheduling or restructuring.

- **Action to be taken in cases of Noncompliance**

In cases where a bank has been found not complying the regulations in respect of loan classification and provisioning, Nepal Rastra Bank may ask for clarification. If the bank's response is not satisfactory, Nepal Rastra Bank shall initiate following action in exercise of its authority under section 23(1) of Nepal Rastra Bank Act. 2012.

Require reclassification of loan and advances and accordingly adjust the loan loss provisioning within 3 months. If the banks do not comply to the directive issued as per Sub-Clause 16.1

above, the following additional action shall be initiated in exercise of the authority under section 31 of Nepal Rastra Bank Act 2012 with amendment:

- Suspend declaration and distribution of dividends (including bonus shares)
- Suspend extension of loans
- Suspend acceptance of deposits

All earlier circulars issued by Nepal Rastra Bank relating to loan classification and loan loss provisioning have been repealed.

2.3 Review of Journals/Articles

Tiwari (2008) published an article on “*Financial Sector Hobbled with Chaos, Fragility*”. According to the researcher, financial institution have failed in delivering beneficial services to needy people by developing credit giving centers in rural areas without which sustained economic growth is impossible. Likewise, banks and financial institution have enough liquidity but they are finding it difficult to find suitable places for investment. Problem such as insecurity lack of market research from banks, low investment opportunities, weak operational policies for carrying out financial transaction, among others have contributed to the problem of this sector. Despite central banks directives regulating banks and financial institution, private and government banks are functioning haphazardly Nepal bank limited (NBL) and Rastriya Banijya Bank (RBB), the two largest banks, occupy about 50 percent of the country’s banking assets. An effective reform of these two is key to improved performance of the whole sector. The process currently underway to reform these two institutions, despite paying huge amounts to foreign experts, has not given expected results. Besides NBL and RBB, the non- performing assets (NPA) of some private banks also very high. If the government and central bank allow the financial sector reforms to focus only on RBB and NBL, it might become a futile effort.

Shrestha (2009) published an article on “*Modus Operandi of Risk Appraisal in Bank Lending*” highlighting the different aspects of credit risk management. He concludes, that effective credit risk management allows a bank to reduce risks and potential NPAs. It also offers other benefits. Once a bank understands their risks and their costs, they will be determining their most profitable business, thus price products according the risk. Therefore, the bank must have an explicit credit risk strategy and support by organizational changes,

risk management technique and fresh credit process and systems. There are five crucial areas that management should focus on.

- Credit sanctioning and monitoring process.
- Approach to collateral.
- Credit risk arises from new business opportunities.
- Credit exposures relative to capital or total advances Concentration on correlated risk factors.

Apart from these, the bank management should regularly review all assets quality issues including portfolio composition, big borrower exposures and development in credit management policy and process i.e. overall productivity. Improving risk management will not be easy or quick. However, Nepalese banker loves little choice.

Bhattarai (2010) published an article on “*Non- Performing Assets (NPA) Management*”. According to him, a loan is a very easy term for a borrower when he has already taken and for a lender not availed. It is equally difficult for a borrower to avail and for lender to recover. From a banker’s view, it is just like a stone to roll down from the top of the hill while sanctioning, but too difficult to roll back the same stone to the top of the hill while recovering. A loan not recovered within the given timeframe either in the form of interest servicing or principal repayment is called non-performing loan. There are other parameters as well to quantify a NPL. Security not to the extent of loan amount with specified safety margin, value of security not realizable, possession not as per the requirement of bank, conflict of charges are some of the reasons which causes difficulties while recovering the loan. This is an important discipline in banking to prevent the entire NPL or avoid situation for a loan to turn into NPL. An efficient bank management can recover the loan before turning it into bad and can save itself from the unwanted catastrophe. Hence, bank has the right to auction the property and liquidate the loan but in doing so realization from the auction of the property is always less than the value of the assets.

Bajracharya (2012) “*An overview of The Macroeconomic Risks and Financial Stability*” presents in International Conference of Economic and Finance 20-22 April 2012 organized by NRB. Essentially, financial stability refers to smooth functioning of financial intermediaries and markets along with expectation of their continued functioning in future. Financial stability

has always been an explicit or implicit objective of policy makers around the world. Management of financial stability has several dimensions viz. macroeconomic conditions, financial markets, financial institutions and financial infrastructure, etc. The analytical process involves gathering and monitoring information about the macro economy and at times microeconomic functions and about the various aspects of the financial system through supervisory, regulatory and surveillance mechanism. Each of the financial system-monitoring components could involve both macro- and micro-prudential characteristics. Likewise, an assessment of the conditions of financial markets depends on whether the major financial institutions operating in the markets are well capitalized and profitable. Tradeoffs again emerge, even in the assessment process, in safeguarding financial stability. He concludes that the real economy – growth, inflation, fiscal conditions, health of corporate and household balance sheets and global macroeconomic environment - impact the health of the financial sector.

Khanal (2013) published an article on “*SEBON’S Move To Curb Money Laundering*”. Stockbrokers and merchant brokers will now have to scrutinize their clients for any instance of money laundering. Securities Board of Nepal (SEBON) the capital market regulator has issued the anti money laundering and counter –terrorist financing directive 2069 in order to prevent any illegal fund from entering the capital market for laundering purpose. Nepal Rastra Bank’s financial information unit (FISU) and department of money laundering investigation require stockbrokers to inform the authorities regarding any suspicious transaction exceeding Rs. one million, under the Anti money laundering act 2008. He concludes that since the last three years in order to prevent the Nepali financial sector from aiding any sort of placing or layering of illegal money, authorities have asked financial institutions, insurance companies, accountants and cooperatives to report any suspicious transaction exceeding Rs. one million.

2.4 Review of Thesis

Dhakal (2008) conducted a study on “*Soundness of Credit Policies in Nepalese Commercial Banks*” with the objectives as below:

- To study the relationship between deposits and lending.
- To find the classification, provision for loan/advances and its effect in profitability.

- To identify and analyze the problems and prospects of lending practice of Nepalese Commercial Banks.

Major finding of his study is as below:

- Flow of lending depends upon the availability of low cost deposit in the market.
- Consumer financing and loan to manufacturing units are more secured than other sectors
- First preference of the Banks for security to loan is fixed assets collateral followed by Government Bonds
- Lengthy procedure in loan processing and tedious legal procedures is the key factor affecting growth of lending.

Koirala (2009) conducted a study on “*Credit Management of Commercial Banks In Nepal (with reference to BOK and NIBL)*” with the objectives as below:

- To study the functions, procedures and activities of Bank of Kathmandu Ltd. and Nepal Investment Bank Ltd.
- To analyze the credits and advances provided by Bank of Kathmandu Ltd. and Nepal Investment Bank Ltd.
- To find out the strength and weakness in the credit administration of the Bank of Kathmandu Ltd. and Nepal Investment Bank Ltd.

Major findings of his study is as below:

- NIBL has lowest non performing loan to total loan and advances, this NIBL is best performer than the BOK. Banking sector is seriously affected by the non-performing loan. Both banks are not far from this above fact. If non-performing loan increases, the overall banking business will be affected. So provision amount will increase and profit will decrease. So, it is suggested that both banks (NIBL & BOK) to be sincere while granting loan and to do effective follow up for recovery of non-performing loan.
- Average loan and advances to total assets of BOK and NIBL 0.452 and 0.608 it can be concluded that the higher mean ratio indicates the good lending performance. Here BOK should focus to increase loan and advances to total asset ratio to increase lending performance.

- Loan and advances to current assets ratio of BOK is in an increasing trend. Average ratio of BOK and NIBL is 4.43 and 6.42. From the mean point of view, it can be said that mean ratio of NIBL has highest than BOK.
- Average interest expenses to total expenses ratio of BOK is higher. NIBL has low interest expenses to total expenses ratio, it shows that decrease in cost of deposit as decrease in the interest expenses to total expenses ratio decrease.
- Total income of BOK and NIBL, interest income contributes 81.70% and 79.10% respectively. The lowest ratio of NBIL indicates its low dependency in fund-based activity. The highest ratio of BOK indicates greater dependency on fund-based activities

Rai (2010) conducted on “*A Study on lending performance (with reference to NABIL, and SCBNL Bank).*” With the objectives as below:

- To evaluate the portion of nonperforming loan and the level of NPAs in total deposit and total lending of selected commercial banks.
- To analyze the impact of nonperforming assets in the profit of commercial banks.
- To study the loans amount provided by the commercial banks.

Major Findings of his study is as below:

- The ratio NPL to loan and advances of both banks is defining but the rate of declining in the same ratio in NABIL and SCBNL. Likewise, the management of NABIL has been able to reduce NPL sharply than SCBNL even though the average loan and advances of NABIL bank is higher than SCBNL.
- This NPL to total deposit ratio is also gradually decreasing. This ratio of SCBNL is lower than the NABIL. Average deposit collection of SCBNL is higher than the NABIL.
- The LPP to total NPL ratio of both banks are fluctuating. It means increasing some year then decreasing. The greater fluctuation is seen in NABIL bank than SCBNL.
- The major profit of commercial banks is earned from the interest by disbursing loan and advances. It means that net profit indicates the performance of loan. the ratio of net profit to total loan and advances of SCBNL is higher than NABIL.

Manandhar (2011) conducted "A Study on *Credit Risk and Profitability of Commercial Banks*". He analyzed the data of six commercial banks and has set the following objectives:

- To evaluate the impact of credit risk on the profitability of the commercial banks.
- To evaluate internal and external factor those influence the performing assets to non performing assets.

Major finding of his study is as:

- The NPA of NIB and NB Bank was increasing during the study period.
- The NPA of EBL and NABIL was decreasing during the study period.
- The NPA of HBL and SBI Bank was fluctuating during the study period.
- In overall performance NABIL Bank was found to be satisfactory where as NB Bank performance was the worst.

Shrestha (2012) conducted a study on “*Comparative credit management of Nepalese commercial banks (with reference to NIBL and BOK)*” with the objective as below:

- To measure the Productivity of credit management in Nepalese commercial banks.
- To inspect the level of the non-performing loan investments that exists within the banking industry;
- To review the employment of loan in different sectors by commercial bank

Major Findings of her study is as below:

- Both of the commercial banks has managed properly sufficient CRR ratio maintaining above 5.0% as directed by NRB. NIBL and BOK have higher ratio that remain idle in their account. The idle fund could invest in high return generating areas of investment.
- Non-performing loan to total loan ratio of both banks are satisfying and in decreasing trend. Keeping in view that, the Nepalese market are free from international financial organization. However, they have to act upon harder to keep this ratio very low.
- Both of the banks have been able to reduce their non-performing loan ratio in recent years. As directed by the NRB banks should have some provision for the different types of loan.

Pokharel (2013) conducted on “*Comparative Study on Credit Policy of Nepalese Commercial Banks (With Reference To NIC & NCC Banks Limited)*” with the objectives as below:

- To analyze the effectiveness in loan management and credit policy of Nepalese commercial banks.

- To explore the strength and weakness in the loan management and credit policy of NIC and NCC.

Major Findings of his study is as below:

- The average loan and advances ratio of NIC and NCC is 86% and 79% respectively. NIC has maintained higher loan & advances to total deposit. In this way, it shows that NIC seems to be strong to mobilize its total deposit as loan. However higher ratio does not mean it is always better from the point of liquidity.
- Both the banks are capable to use more than 50% of deposit on loan and advances. If maintained this, it help make consistency on the profitability of the banks.
- The average interest income to total loan of the NCC has best performance than NIC.
- NIC has lowest non performing loan to total loan. This shows NIC is best performer than the NCC. Banking sector is seriously affected by the non-performing loan. The Mean ratio of NIC and NCC is 4.90% and 12.05% respectively.

Research Gap

Banks survive through collection of deposits and make lending to borrowers. Today credit management is current problem of Nepalese commercial banks. Nonperforming loan is becoming a great problem to all the commercial banks. Bank can still lend without increasing their non performing asset if they focus on identifying the new market for lending and if they properly analyzed the proper sector for lending. There have been several previous studies in credit management of various banks and financial institutions taking consideration of various financial and statistical tools. In this context, previous studies cannot be ignored because they provide the foundation of the present study. The purpose of this study is to credit management in Nepalese commercial sample banks with BOK and NIBL and receives some new ideas, knowledge and suggestions in relation. It is expected that the uncovered area of past research will be studied in this research. This study examine the relationship between total loan and advances, non performing loan, total deposit and profit and analyze the effect of them. Similarly, present study is based on latest five years data (FY 2008/09 to 2012/13) of sample commercial banks, which tries to achieve its objectives by analyzing secondary source of data. Thus, the earlier studies on these issues need to be updated and validated because of the many changes taking place in Nepalese banking sector. The current study is a supplement to overcome the weakness and limitation of previous studies.

CHAPTER -III

RESEARCH METHODOLOGY

3.1 Research Design

Research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research purpose. There are many methods of research design and this study will be based on recent historical data. Mostly secondary data and annual reports of different fiscal years of concerned banks to be collected, evaluated, verified and synthesized to reach a conclusion.

3.1.1 The Population

Till date central bank has given licensed thirty-one (31) of commercial banks to be established.

3.1.2 The sample Banks

Out of thirty-one commercial banks, following two commercial banks have been selected as a sample for this study. The research study has utilized the random sample method for the sample study of commercial bank.

1. Bank of Kathmandu Ltd.
2. Nepal Investment Bank Ltd.

3.1.3 Nature and Sources of Data

Specifically, the nature of the data is to be secondary to achieve the objective of the study. The secondary sources of data are bank publications (Annual reports).

3.1.4 Data Analysis Procedure

Presentation and Analysis of the collected data is the core part of the research work. The collected raw data are first presented in systematic manner in tabular form and are then analyzed by applying different financial and statistical tools to achieve the research objectives. Besides, some graph charts and tables have been presented to analyze and interpret the

findings of the study. Following are the tools applied to analyze and interpret the outcome of the study:

1.4

1.5 3.1.5 Financial Tools

Financial tools help to analyze the financial strength and weakness of a firm. Ratio analysis is a one of major part of the whole process of analysis of financial statements of any business or industrial concerned especially to take output and credit decisions. It is used to compare firm's financial performance and status that of the other firms or to it overtime. Even though there are many ratio to analyze and interpret the financial statement, those ratios that are related to the investment operation of the bank are have been covered in this study. The following four types of ratios have been used in this study.

1.6

1.7 3.1.5.1 Liquidity Ratio

Liquidity ratio measures the liquidity position of a firm. It measures the firm's ability to meet its short-term obligations or its current liabilities. It measures the speed with which a bank's assets can be converted into cash to meet deposit withdrawal and other current obligations. Liquidity is a bank's ability to generate cash quickly and at a reasonable cost. Thus, liquidity risk is the risk that a bank will not be able to generate enough cash to meet its short-term needs without incurring large costs, within a certain period.

As a financial analytical tool, following liquidity ratios has been used to come into the acts and findings of the study.

- Cash and bank balance to total deposit ratio (CRR Ratio)

1.8

1.9 Cash Reserve Ratio (CRR)

Nepal Rastra Bank has set a fixed CRR for all the commercial banks to comply with, according to the directive of NRB all commercial banks have to CRR of 5.0%. Cash Reserve Ratio (CRR) measures the liquidity position of the commercial bank:

$$1.10 \quad \text{CRR} = \frac{\text{Cash \& Bank Balance}}{\text{Total Deposits}}$$

3.1.5.2 Asset Management Ratio

This ratio is examine either assets are effectively and efficiently used or not. Asset management ratio measures the proportion of various assets and liabilities in balance sheet. The proper management of assets and liability ensures its effective utilization. The banking business converts the liability into assets by way of its lending and investing functions. Asset and liability management ratio measures its efficiency by multiplying various liabilities and performing assets. The following are the various ratios relating to asset and liability management, which are used to determine the efficiency of the bank concerned in managing its assets and efficiency in portfolio management

- Total credit to total deposit ratio
- Non-Performing loan to Performing loan ratio
- Nonperforming loan to total credit ratio

Total credit to total deposit

$$\frac{\text{totalcredit}}{\text{TotalDeposit}} \times 100\%$$

Non-performing Assets to performing Assets.

$$= \frac{\text{Nonperforming loan}}{\text{performing loan}} \times 100\%$$

Non-performing loan to total credit.

$$= \frac{\text{Nonperforming loan}}{\text{Total credit}} \times 100\%$$

1.11

1.12 3.1.5.3 Activity Ratio

Activity ratio measures the performance efficiency of an organization from various angles of its operations. These ratios indicate the efficiency of activity of an enterprise to utilize available funds, particularly short-term funds. These ratios are used to determine the efficiency, quality and the contribution of loans and advances in the total profitability. The following activity ratios measure the performance efficiency of the bank to utilize its funds.

- Capital fund on risked weighted Assets ratio
- Staff expense to total operating expense
- Total operating expenses to total assets

- Loan loss provision to total loans and advances ratio
- Interest expenses to total expenses ratio
- Interest income to credit and investment ratio

Capital fund on risked weighted Assets ratio

$$= \frac{\text{Capital fund}}{\text{Risked weighted assests}} \times 100\%$$

Staff expense to total operating expense

$$= \frac{\text{Staff Expense}}{\text{Total operating expenses}} \times 100\%$$

Total operating expenses to total assets

$$= \frac{\text{Total operating expenses}}{\text{Total Assets}} \times 100\%$$

Loan loss provision to total loans and advances ratio

$$= \frac{\text{Loan loss provision}}{\text{Total loan and advance}} \times 100\%$$

Interest expense to total expense.

$$= \frac{\text{Interest Expenses}}{\text{Total Expenses}} \times 100\%$$

Interest income to loan and advances ratio

$$= \frac{\text{Interest Income}}{\text{Loan and advances}} \times 100\%$$

1.13 3.1.5.4 Profitability Ratio

Profitability ratios are used to indicate and measure the overall efficiency of a firm in terms of profit and financial performance. For better performance, profitability ratios of firms should be higher.

- Net profit to Total loan and advances ratio

- Net profit to total Assets ratio (ROA)
- Return on Capital Employed (ROCE):
- Net Profit after Tax to net worth
- Net Profit to Total Deposit:

Net Profit to Total loan and advances: Net profit to total loan and advances gauges the bank's efficiency to generate net profits. It is calculated as following manner.

Net profit to loan and advances.

$$= \frac{\text{Net Profit}}{\text{Loan And Advances}} \times 100\%$$

Net profit to total assets ratio : Net profit to total assets gauges the bank's activity to generate net profits. It is calculated as following manner.

$$= \frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$$

Return on Assets (ROA): Return on assets ratio measures net profit after tax as compared to the amount invested in the assets. Van Horne viewed, "when we multiply the assets turnover of the firm by net profit margin, we obtain the return on assets ratio or earning power on total asset" (Van Horne; 1996: 174). The statement can be written in the following formula:

$$\text{Return on Assets} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100\%$$

Return on Capital Employed (ROCE): The term capital employed refers to long-term fund supplied by the creditors and owners of the firm. Return on capital employed is the relationship between net profits after tax and total capital employed. The ratio measures overall effectiveness of management in earning profit from using total capital. It can be calculated by dividing net profit after tax by total capital employed as given below:

$$\text{Return on Capital Employed/fund (ROCE)} = \frac{\text{Netprofitaftertax}}{\text{totalcapitalemployed / fund}}$$

The ratio is most important because it reflects the overall efficiency of its used capital. Higher the ratio is favourable to the firm and vice-versa.

Cost in terms of its variability can be classified as fixed and variable. Profitability, liquidity and other decisions most depend on the nature of cost. Therefore, selected ratios along with the above will be used to measure the cost effectiveness of the bank also.

Net Profit after Tax to net worth: Operating profit to net worth is also a measure of bank's efficiency so far as the matter of utilizing the equity capital is concerned. How much revenue is generated by utilizing the equity fund is an issue to be examined.

$$\text{Net profit to net worth} = \frac{\text{Net profit After Tax}}{\text{Net worth}}$$

Net Profit to Total Deposit: Net profit to total deposit gauges the bank's efficiency to generate net profits out of the total deposit it collected. That means if the bank is able to make more profits from the deposit collected through the different sources then this ratio tends to be more.

$$\text{Net profit to total deposit} = \frac{\text{Net profit After Tax}}{\text{total deposit}}$$

Credit Risk Ratio:

This ratio indicates the possibility of loan being default or not getting repaid by the client with subsequent losses to the bank. It is calculated as the percentage of nonperforming loans to total loans and advances/credit.

$$\text{Credit Risk Ratio} = \frac{\text{Total Non performing loans}}{\text{Total loans and advances}}$$

Higher ratio shows the presence of more risky assets in the volume of loans and advances, and vice versa.

Hence, these are the various financial tools that were used to achieve the objectives of this study.

1.14

1.15 3.1.6 Statistical tools

Some important tools are used to achieve the objective of this study. In this study, statistical tools such as mean, standard deviation, coefficient of correlation and trend analysis have been used.

1.16 3.1.6.1 Arithmetic Mean

Arithmetic mean of a given set of observation is their sum divided by the number of observation. In general x_1, x_2, \dots, x_n are the given number of observation; their arithmetic mean can be derived in this way.

Arithmetic Mean: Arithmetic mean is the average return over periods.. It is calculated by,

$$\bar{X} = \frac{X_1 + X_2 + X_3 + \dots + X_n}{n}$$

$$\text{Or, } \bar{X} = \frac{\sum X}{n}$$

Where,

\bar{X} = Arithmetic mean return

$x_1, x_2, x_3, \dots, x_n$ = Set of observations

n = total no. of observations

$\sum X$ = Sum of given observation

The arithmetic mean is a single value of selection, which represents them in average. Out of the various central tendencies, a mean is one of the useful tools to find out the average value of the given data. Furthermore, it is very much useful with respect of financial analysis and it is easy to calculate.

1.17

1.18 3.1.6.2 Karl Pearson's Coefficient Correlation

Out of several mathematical method of measuring correlation the Karl Pearson popularity known as Pearson's coefficient of correlation widely used in practice to measure the degree of relationship between two variables. Two variables are said to have correlation when the value of one variable is accompanied by the change in the value of the other. Therefore, it is measured by following formula using two variables. It is denoted by small 'r'.

$$\text{Correlation of coefficient } r = \frac{n \sum XY - \sum X \times \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

r = coefficient of correlation

$\sum XY$ = Sum of product of two series.

$\sum X^2$ = Sum of squared in X series

$\sum Y^2$ = Sum of squared in Y series

The value of this coefficient can never be more than + 1 or less than -1. Thus, + 1 and -1 are the limit of this coefficient. The $r = + 1$ implies that correlation between variables is positive and vice- versa. And zero denoted no correlation. Under this study, the correlation is calculated under following variable.

Correlation between total deposit and profit.

Correlation between total deposit and profit.

Correlation between total deposit and loan and advances.

Correlation between loan and advances and net profit.

1.19

1.20 3.1.6.3 Standard deviation

Standard deviation is also one of the tools to analyze the data. This tool helps to find out the fluctuation and consistency of the specified variables. Actually, it measures the level of variation from the mean of variables. If this variation is above the level of 5%, it will be interpreted as high level of variation.

SD: Standard deviation measures the dispersion of the outcomes from the expected value. It is calculated using the equation below:

$$\sigma = \sqrt{\frac{\sum(X - \bar{X})^2}{n}}$$

Where,

σ = Standard deviation

\bar{X} = Arithmetic mean

n = total no. of observation

1.21 3.1.6.4 Coefficient of Correlation Probable Error (6P E)

Probable error of the correlation coefficient by 6P E is the measure of testing the reliability of the calculated value of correlation. If r is calculated, value of correlation a sample of n pair of observations. Then P E is defined by

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

Therefore,

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

if correlation (r) < 6P E, it is insignificant. So perhaps there is no evidence of correlation. If correlation (r) > 6P E, it is significant.

3.1.6.5 Simple regression or Trend Analysis

Trend analysis shows the direction progress upward or downward. It is an important from of horizontal analysis of financial statements often called as Pyramid Method of ratio analysis. Trend analysis is not out of limitation, it may effect by price level changes and the select icon of bases year may an obstacle. It can show only the trend in the operating result financial position of a concern cannot be discussed. This method is basically helpful in making comparative study of financial management. Generally a period of five years is considered satisfactory. This method of analysis involves the computation of percentage relationship that each statements item bears same to the same items in the base of year.

Besides there, it is great important for financial performance because of their utilities in business as well as in the banks. They are:

- It is a simple technique. It doesn't involve tedious calculation and requires trained expert.
- It is a brief method to indicate the future trends.
- It reduces the changes of errors as it provides the opportunity to compare the percentage with absolute figure.
- A financial analyst is able to judge the present position of the company and to compare with the overall trend in industry.

Trend analysis measures the scenario of the variables for the different period. This tool is used to find out the trend of different financial indicators. To find out the actual situation of the different factors for various years, trend analysis is most useful. It does not provide the analytical figures as cause and effects but it shows the actual figures. It may be down ward sloping, upward sloping of constant over the period.

Trend analysis enables to compare two or more companies over different period of time and draw important conclusion about them. With the help of trend analysis, analyst knows the direction of moment. Trend analysis is very important because it may point to basic changes of the objectives in long-term.

Regression equation of y on x:

$$\text{Or Straight line trend } (Y_c) = a + bx$$

Where a and b are constants to be determined to find the position of the line completely. The parameter a determines the distance of the line directly above or below the origin and b the change y per unit change in x (i.e. slope).

Regression equation has been used to understand the algebraic relations. As there are two Lines of regression so there are two equations;

(i) The regression equation of y on x which is used to describe the variation in the value of y For given change in the value of x.

(ii) The regression equation of x only which is used to describe the variation in the value of x

Under this study trend analysis of total deposit and total loan and advances are measured.

Diagram and Graphical Representation

Diagram and graphs are visual aids that give a bird eye view of a given set of numerical data. They represent the data in simple and reality comprehensive form. Hence, the various bars, charts and graphs are used to present the data and data analysis in this study.

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

This chapter stands for presenting and analyzing data to achieve the formulated objectives. First section presents profitability position of the banks, both in long run and short run. Second section is for the evaluation of the banks' liquidity position. Similarly, third section presents the case of resource utilization by the banks i.e. credit management analysis of the banks. Forth section is for the credit risk ratio and evaluation of linear relationship between selected dependent and independent variables regarding credit management of the banks. Finally, fifth section presents basic findings based on the discussion in preceding four sections.

4.1 Evaluation of Profitability Position of the Banks

Profitability refers to the operating efficiency of firms. Here, the financial ratio analysis using annual data of five years have been used to measure short-term profitability. These ratios have been presented and analyzed in this section comprehensively.

4.1.1 Financial Surplus (NPAT) to Equity/ net worth Ratio/Return on Equity

In this study net profit is taken as the term 'financial surplus'. The ratio of financial surplus to equity capital refers operating efficiency of the banks. This ratio indicates return to equity. Operating profit to net worth is also a measure of bank's efficiency so far as the matter of utilizing the equity capital is concerned. How much revenue is generated by utilizing the equity fund is an issue to be examined the ratios for the banks are fluctuating. It is also known as NPAT to book net worth ratio.

Table 4.1
Financial Surplus to Equity Ratio of Sample Banks in (%)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	23.06	26.52
2009/10	27.58	24.54
2010/11	22.80	24.85
2011/12	17.18	22.48
2012/13	27.28	18.67
Mean	23.58	23.41
S.D.	3.78	2.69
C.V.	16.03	11.49

Sources: Appendix I & II

Table 4.1 presents the result of financial surplus to equity ratio or return on equity of the sample banks. According to this, the return to equity for NIBL varies for five years. Average of this ratio shows that the return to equity is 23.58% and 23.41% for NIBL and BOK respectively. This indicates that the return on equity investment for the bank is satisfactory. Likewise, Standard deviation for the NIBL and BOK is 3.78% and 2.69% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 16.03% and 11.49% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on equity is higher of NIBL than BOK among the two sample banks. In same way, financial surplus to equity ratio for sample banks are fluctuating trend. NIBL has more risky that is higher CV 16.03% than BOK (11.49%). In the fiscal year 2012/13 the return on equity of both NIBL and BOK are increasing which to 27.28% and 18.67% respectively. Following figure shows the reality with more clear.

Figure 4.1

Financial Surplus to Equity Ratio for the Sample Banks

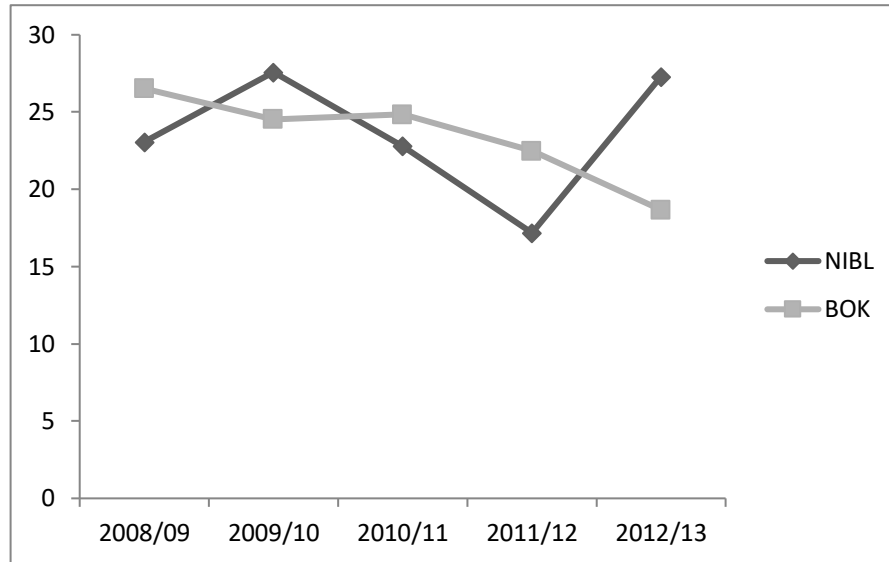


Figure 4.1 presents the trend of financial surplus to equity ratio (ROE) for the banks. The trend for two sample banks i.e. NIBL and BOK are positive and almost constant. To sum up, financial surplus to equity investment for majority banks is satisfactory. It implies that the average short-term profitability of NIBL is higher than BOK in terms of equity investment.

4.1.2 Financial Surplus to total Assets Ratio / Return on Assets

After analyzing the data by the help of financial surplus to equity ratio it is clear that NIBL and BOK are success to generate short-term profit in terms of their equity investment. Similarly, financial surplus to assets is calculated in order to know the effectiveness of investment on total assets with respect to net profit. Table 4.2 presents the financial surplus to assets for the banks.

Table 4.2
Financial Surplus to total Assets Ratio of Sample Banks in (%)

Year	Sample Banks	
	NIBL	BOK
2008/09	1.69	2.25
2009/10	2.21	2.18
2010/11	2.02	3.46
2011/12	1.58	2.10
2012/13	2.62	1.90
Mean	2.02	2.38
S.D.	0.14	0.55
C.V.	6.93	23.10

Sources: Appendix I & II

Table 4.2 presents the result of financial surplus to assets ratio or return on assets of the sample banks. The average ratio for return on assets is 2.02% and 2.38% for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 0.14% and 0.55% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 6.93% and 23.10% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 average return on assets is lower of NIBL which is 2.02% than BOK (2.38). In same way, financial surplus to assets ratio for sample banks are fluctuating trend. BOK has more risky than NIBL since BOK has greater CV. The fluctuation takes place continuously till the last year of the study period 2011/12. In the fiscal year 2012/13 the return on assets of NIBL is increasing and BOK is decreasing i.e. reached to 2.62% and 1.90% respectively. Following figure shows also makes clear.

Figure 4.2

Financial Surplus to total Assets Ratio for the Sample Banks

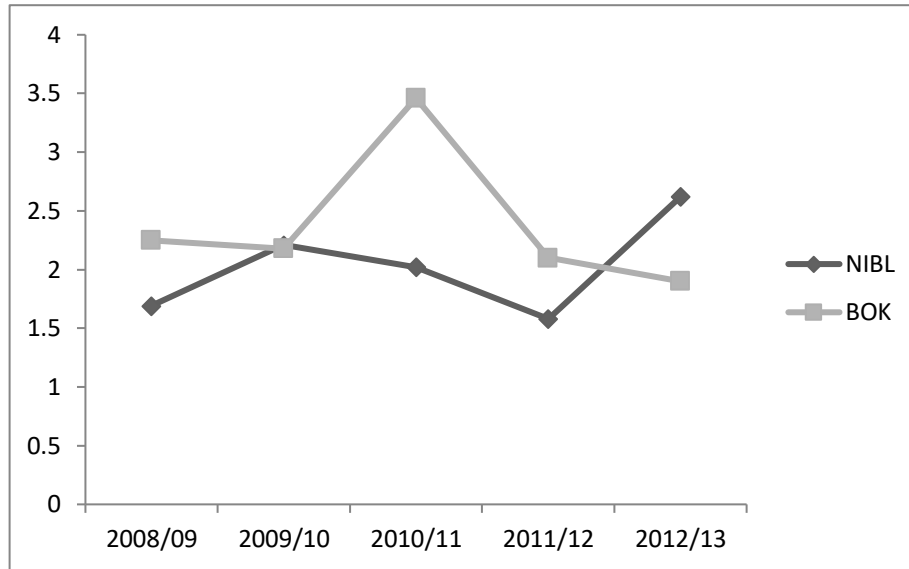


Figure 4.2 presents ratio of financial surplus to assets for the sample banks. Through this analysis, predicts that the bank's success in future in order to achieve its goal. Financial surplus with respect to equity investment and assets are higher of BOK than NIBL.

4.1.3 Return on Capital Employed/fund on risked assets (ROCE):

Return on capital employed is the capital adequacy of core capital and supplementary capital on risk weighted assets. The ratio measures overall effectiveness of management in earning profit from using total capital.

Table 4.3

Return on Capital Employed/fund on risked assets (ROCE) in (%)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	11.24	11.68
2009/10	10.55	10.85
2010/11	10.91	11.62
2011/12	11.10	11.07
2012/13	11.49	12.58
Mean	11.06	11.56
S.D.	0.32	0.60
C.V.	2.89	5.19

Sources: Appendix I & II

Table 4.3 presents the result of return on capital fund or employed to risked assets of the sample banks. The average of this ratio is 11.06% and 11.56% for NIBL and BOK respectively. This indicates that the return on capital fund or employed to risked assets for the bank is good i.e. effectiveness of management in earning profit. Likewise, Standard deviation for the NIBL and BOK is 0.32% and 0.60% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 2.89% and 5.19% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on capital fund or employed to risked assets is slightly higher of BOK which is 11.56% than NIBL i.e. 11.06% in average among two sample banks. In same way, return on capital fund or employed to risked assets for BOK is more volatile than NIBL. NIBL have good managed its profitability to maintain capital adequacy than other sample banks. According to the coefficient variation BOK is more volatile which has more CV i.e. 5.19% than NIBL with 2.89%. Following figure also makes clear.

Figure 4.3

Return on Capital Employed/fund on risked assets (ROCE):

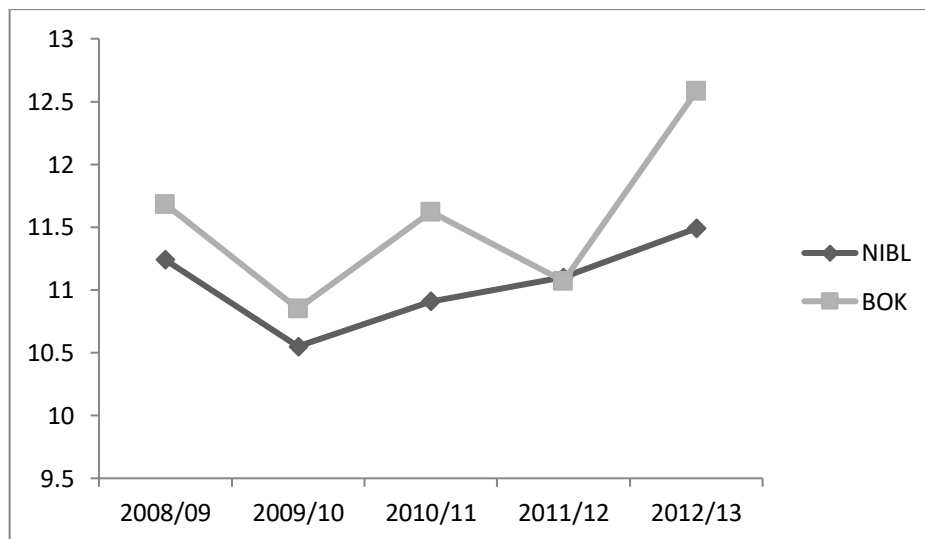


Figure 4.3 depicts the ROCE ratio is most important because it reflects the overall efficiency of its used capital. Higher the ratio is favourable to the firm and vice-versa. The return on capital fund or employed to risked assets of BOK is slightly higher than NIBL.

4.1.4 Net Profit to Total Deposit:

Net profit to total deposit gauges the bank's efficiency to generate net profits out of the total deposit it collected. That means if the bank is able to make more profits from the deposit collected through the different sources then this ratio tends to be more.

Table 4.4
Net Profit to Total Deposit In (%)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	0.46	2.55
2009/10	0.51	2.51
2010/11	0.79	2.88
2011/12	2.49	2.43
2012/13	3.06	2.23
Mean	1.46	2.52
S.D.	1.09	0.21
C.V.	74.66	8.33

Sources: Appendix I & II

Figure 4.4
Net Profit to Total Deposit Ratio

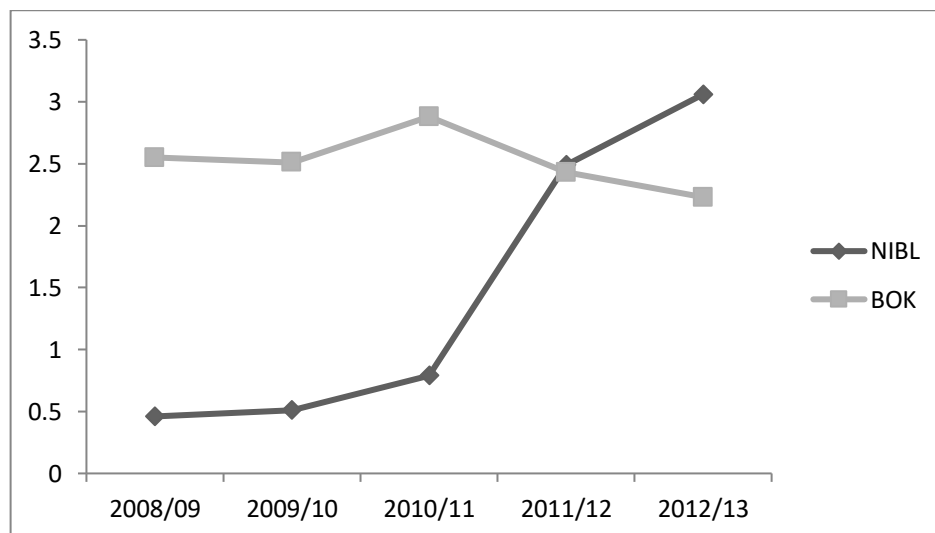


Table 4.4 and figure 4.4 depicts the Net profit to total deposit gauges the bank's efficiency to generate net profits out of the total deposit it collected. From the table 4.4, the average of net profit to total deposit ratio is 1.46% and 2.52% for NIBL and BOK respectively. Likewise, standard deviation indicates that the net profit to total deposit ratio for NIBL and BOK is 1.09% and 0.21% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 74.66% and 8.33% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 net profit to total deposit ratio is higher of BOK than NIBL.

4.1.5 Net Profit to Total loan and advances:

Net profit to total loan and advances gauges the bank's efficiency to generate net profits. It is also clear from the following.

Table 4.5
Net Profit to Total loan and advances in (%)

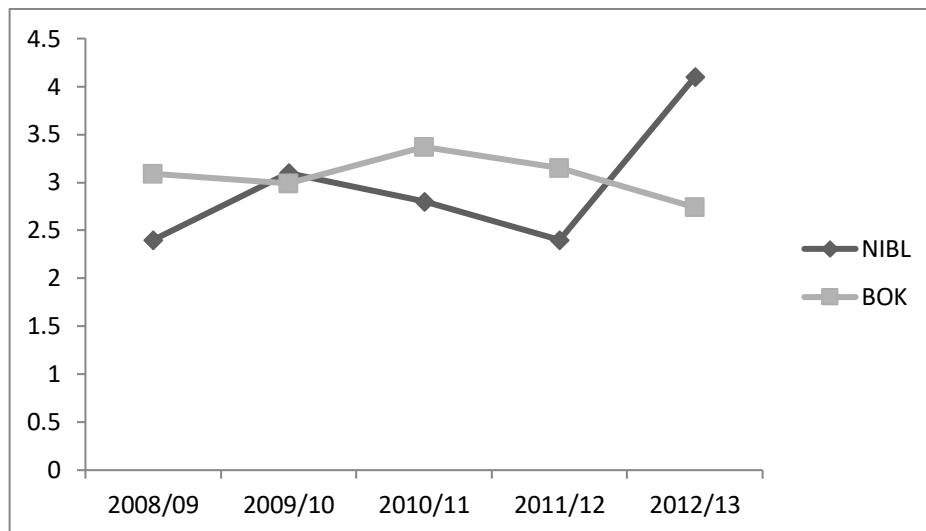
Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	2.4	3.09
2009/10	3.1	2.99
2010/11	2.8	3.37
2011/12	2.4	3.15
2012/13	4.1	2.74
Mean	2.96	3.07
S.D.	0.63	0.21
C.V.	21.28	6.84

Sources: Appendix I & II

From the above table 4.5 depicts the Net profit to total loan and advances gauges the bank's efficiency to generate net profits out of the total loan and advances. The average of Net profit to total loan and advances ratio is 2.96% and 3.07% for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 0.63%, and 0.21%, respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the

banks which is 21.28% and 6.84% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 Net profit to total loan and advances ratio of BOK is higher than NIBL with more uniformity. It is also shown in following figure 4.5.

Figure 4.5
Net Profit to Total loan and advances in (%)



4.2 Evaluation of Liquidity Position of the Bank

Another main objective of this research is to evaluate the liquidity position of the banks. While evaluating the banks in terms of liquidity, a ratio has been used and this is as follows.

4.2.1 Liquidity Ratio

Liquidity ratio measures the short-term solvency of a firm. The ratio is the crude measurement of liquidity position of a firm. The ability to pay the firm's short-term obligation is measured with the liquidity ratio.

4.2.1.1 Cash Reserve Ratio (CRR):

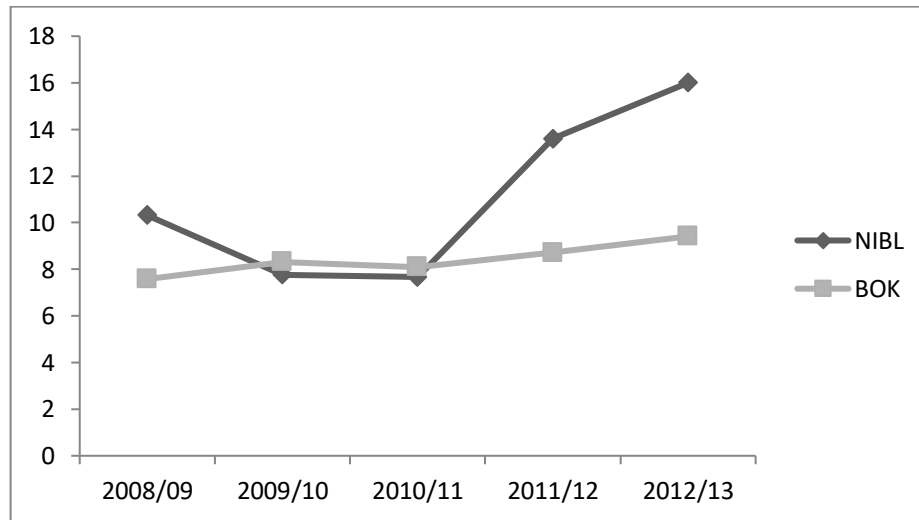
The Cash Reserve Ratio (CRR) is 5.0%. It shows whether the banks have complied with the NRB requirements or not. CRR of the two banks for NIBL and BOK have been computed as follows.

Table 4.6
Cash Reserve Ratio in (%)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	10.32	7.58
2009/10	7.77	8.32
2010/11	7.67	8.10
2011/12	13.6	8.72
2012/13	16.0	9.41
Mean	11.07	8.43
S.D.	3.28	0.61
C.V.	29.62	7.24

Sources: Appendix I & II

Figure 4.6
Cash Reserve Ratio of sample banks in (%)



The above table 4.6 and figure 4.6 presents the cash reserve ratio of NIBL and BOK during the last five fiscal years. The average cash reserve ratio is 11.07% and 8.43%, for NIBL and BOK respectively. This indicates that the cash reserve ratio for the both bank is maintained as directed by NRB standard i.e. to generate the liquidity. Likewise, Standard deviation for the NIBL and BOK is 3.28% and 0.61% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 29.62% and 7.24% for

NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 cash reserve ratio is higher of NIBL than BOK which is 11.07% in average among the sample banks. From this, it can be easily seen that the CRR of NIBL is less consistency than BOK since the CV of NIBL is higher than BOK.

1.21.14.3 Credit Management Analysis

4.3.1 Total Loan/credit to Total Deposit Ratio:

This ratio indicates the capability of the banks to successfully utilize the total deposits on loans and advances for profit generating purposes. It measures how quickly the total deposits collected can be granted as loans and advances to earn reasonable returns.

Table 4.7

Total Loan & advances/credit to Total Deposit Ratio (in %)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	77.61	82.65
2009/10	80.48	83.90
2010/11	81.97	83.11
2011/12	73.03	75.28
2012/13	74.32	81.43
Mean	77.48	81.27
S.D.	3.43	3.99
C.V.	4.43	4.90

Sources: Appendix I & II

The above table 4.7 presents the total loan/credit to total deposit ratio of NIBL and BOK during the last five fiscal years. The average total loan/credit to total deposit ratio is 77.48% and 81.27% for NIBL and BOK respectively. This indicates that the capability of the banks to successfully utilize the total deposits on loans and advances for profit generating purposes. Likewise, Standard deviation for the NIBL and BOK is 3.43% and 3.99% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 4.43% and 4.90% for NIBL and BOK respectively. From the five years

analysis i.e. fiscal year 2008/09 to 2012/13 total loan/credit to total deposit ratio of BOK is slightly more volatile than NIBL. Thus, higher ratio indicates the efficient and effective utilization of funds while lower ratio indicates the inefficiency of the banks to stop them from remaining idle. It is also presented in following figure 4.7

Figure 4.7
Total Loan/credit to Total Deposit Ratio (in %)



4.3.2 Interest Income to Loans and Advances Ratio:

This ratio indicates the capability of the banks to manage the loans and advances in earning higher interest income. It shows the proportion of interest income earned as compared to the total loans and advances granted.

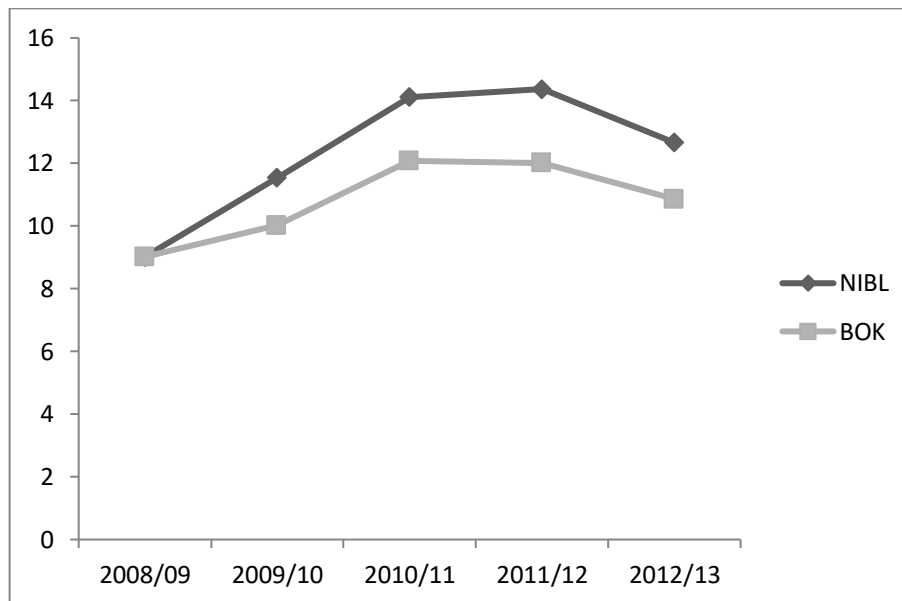
Table 4.8
Interest Income to Loans and Advances Ratio in (%)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	9.02	9.02
2009/10	11.54	10.02
2010/11	14.12	12.08
2011/12	14.37	12.01
2012/13	12.67	10.86
Mean	12.34	10.80
S.D.	1.95	1.17
C.V.	15.80	10.83

Sources: Appendix I & II

The table 4.8 presents the interest income to loans and advances ratio of NIBL and BOK during the last five fiscal years. The average interest income to loans and advances ratio is 12.34% and 10.80% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the loans and advances in earning higher interest income. Likewise, Standard deviation for the NIBL and BOK is 1.95%, and 1.17% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 15.80% and 10.83% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the interest income to loans and advances ratio of NIBL is more volatile than BOK. It is also presented in following figure 4.8.

Figure 4.8
Interest Income to Loans and Advances Ratio in (%)



4.3.3 Interest expenses to total expenses

This ratio indicates the capability of the banks to manage the total deposit or investment in earning higher interest income with paying lower interest. It shows the proportion of interest expenses as compared to the total expenses.

Table 4.9
Interest expenses to total expenses ratio (in %)

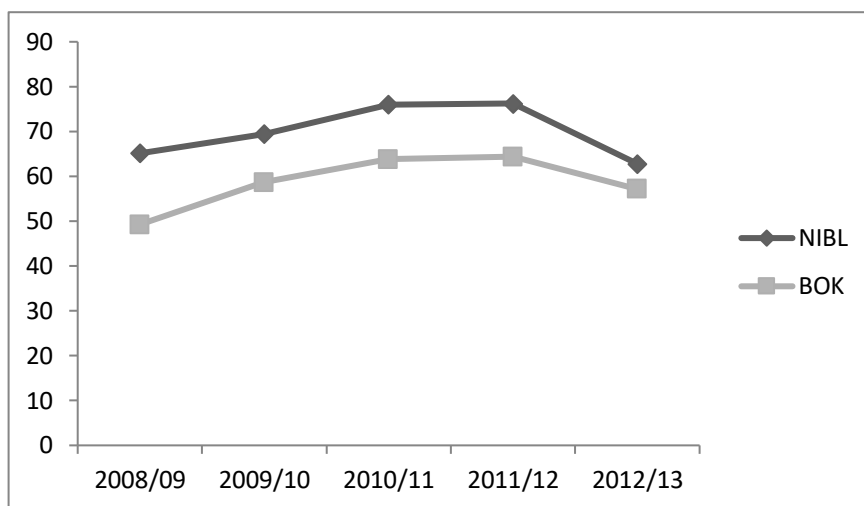
Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	65.16	49.26
2009/10	69.46	58.67
2010/11	76.02	63.82
2011/12	76.25	64.39
2012/13	62.79	57.20
Mean	69.94	58.67
S.D.	5.50	5.48
C.V.	7.86	9.34

Sources: Appendix I & II

The table 4.9 presents the interest expenses to total expenses of NIBL and BOK during the last five fiscal years. The average interest expenses to total expenses ratio is 69.94% and 58.67% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the total expenses in reducing interest expenses. Likewise, Standard deviation for the NIBL and BOK is 5.5% and 5.48% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 7.86% and 9.34% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the interest expenses to total expenses ratio of BOK is slightly more volatile than NIBL but can success in reducing interest expense except fiscal year 2012/13. It is also presented in following figure 4.9.

Figure 4.9

Interest expenses to total expenses ratio (in %)



4.3.4 Staff expenses to total operating expenses

Staff expenses include the salary and allowances contribution to provident fund and gratuity fund, staff training expenses and other allowances and expenses made to staff. It measures the portion of total operating expenses spent for the staff whose contribution is great significance in the success of the bank.

Table 4.10

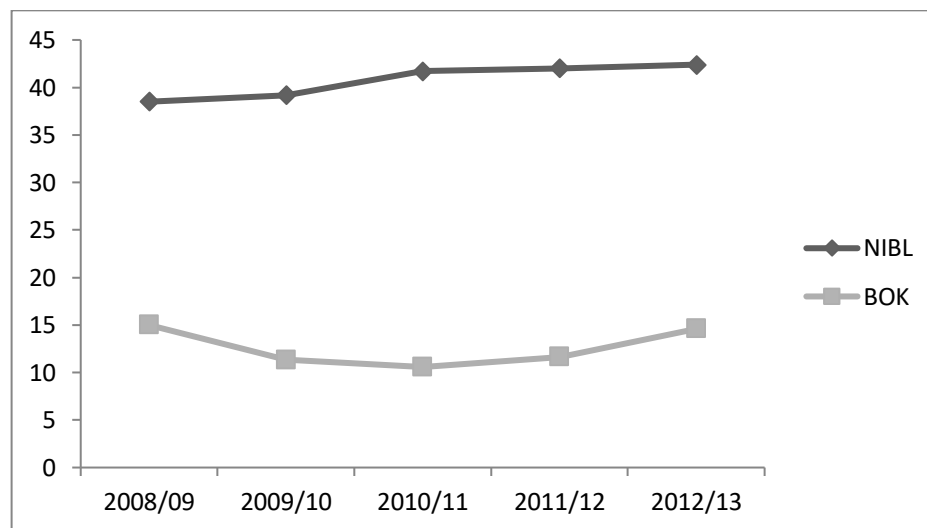
Staff Expenses to total operating expenses ratio

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	38.5	14.99
2009/10	39.2	11.35
2010/11	41.7	10.58
2011/12	42.0	11.63
2012/13	42.4	14.61
Mean	40.76	12.63
S.D.	1.59	1.81
C.V.	3.90	14.33

Sources: Appendix I & II

The table 4.10 presents the staff expenses to total operating expenses of NIBL and BOK during the last five fiscal years. The average staff expenses to total operating expenses ratio is 40.76% and 12.63% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the staff expenses is reduced by BOK in effective manner than NIBL. Likewise, Standard deviation for the NIBL and BOK is 1.59% and 1.81% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 3.90% and 14.33% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the staff expenses to total operating expenses ratio of BOK is more volatile than NIBL but can success in reducing it. It is also presented in following figure 4.9.

Figure 4.10
Staff Expenses to total operating expenses ratio



The ratio of staff expenses of NIBL is more than BOK. NIBL is spending more expenses for staff. Low ratio is good for the bank point of view but staff always expected different kind of facilities. So lower ratio may have negative effect in staff's morale which in turn profit will decrease and high ratio directly affects the profitability of bank.

4.4 Credit Risk Ratio:

This ratio indicates the possibility of loan being default or not getting repaid by the client with subsequent losses to the bank. It is calculated as the percentage of nonperforming loans to total

loans and advances/credit. Higher ratio shows the presence of more risky assets in the volume of loans and advances, and vice versa.

4.4.1 Nonperforming loan to total loan and advances

This ratio is the current challenges of commercial banks. Higher NPL negatively affect the credit performance of commercial banks. Nonperforming loan includes the pass, sub- standard and doubtful loan of the commercial banks. While distributing dividend decision NPL/NPA with more than 6 percent cannot distributed to its shareholder even if the banks earn huge profit. Nonperforming loan is also known as non performing assets. According to recent NRB directive NPL is not more than one percent of total loan and advances.

Table 4.11
Credit Risk Ratio of Sample Banks in (%)

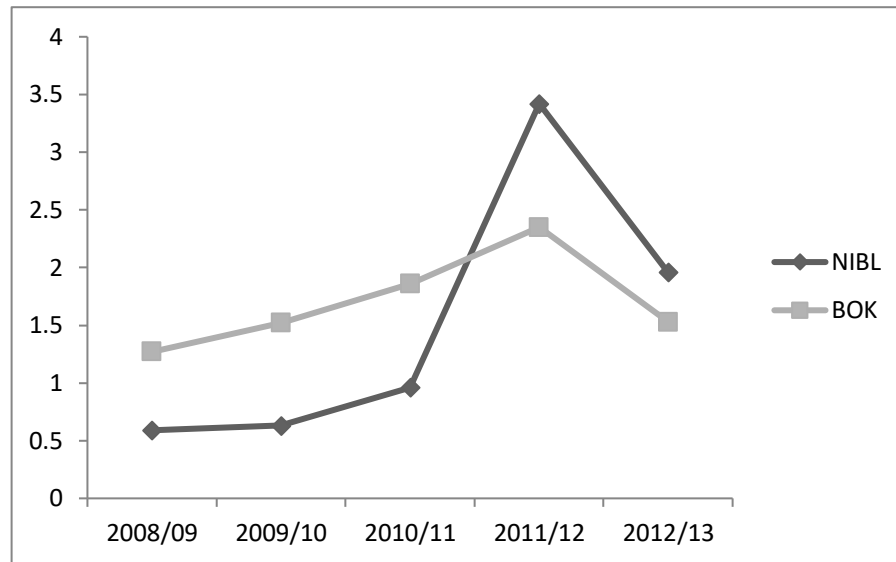
Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	0.59	1.27
2009/10	0.63	1.52
2010/11	0.96	1.86
2011/12	3.42	2.35
2012/13	1.96	1.53
Mean	1.51	1.71
S.D.	1.07	0.37
C.V.	70.86	21.63

Sources: Appendix I & II

The above table 4.11 presents the nonperforming loans to total loans and advances/credit ratio (credit risk) of NIBL and BOK during the last five fiscal years. The average NPL ratio is 1.51% and 1.71% for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 1.07% and 0.37% respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the credit risk ratio of both NIBL and BOK is not succeed to reduce in first three fiscal year 2008/09 to 2011/12 i.e. increasing trend and succeed to reduce only in fiscal year 2012/13. It is also presented in following figure 4.11.

Figure 4.11

Nonperforming loan to total loan and advances Ratio of Sample Banks in (%)



4.4.2 Performing loan to Total loan & advances

This ratio also measures the credit risk of the banks. Performing loan is the part of total loan and advances which is actively generating the productivity i.e. refinancing or investment. In other words, performing loan excludes the non performing loan. It is also the major part of credit risk.

Table 4.12

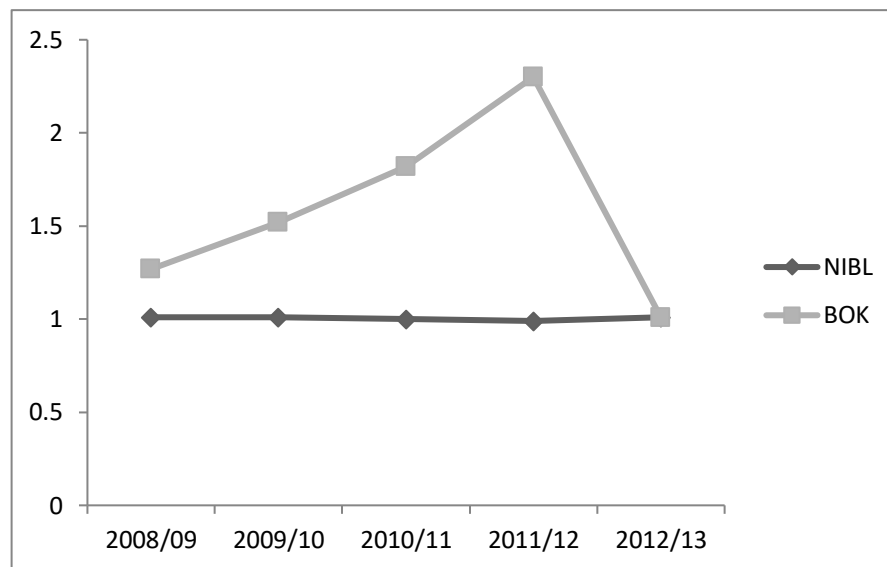
Performing loan to Total loan & advances (times)

Fiscal Year	Sample Banks	
	NIBL	BOK
2008/09	1.01	1.27
2009/10	1.01	1.52
2010/11	1.00	1.82
2011/12	0.99	2.30
2012/13	1.01	1.01
Mean	1.00	1.58
S.D.	0.02	0.45
C.V. (%)	2.00	28.48

Sources: Appendix I & II

The above table 4.12 presents the performing loans to total loans and advances/credit ratio (credit risk) of NIBL and BOK during the last five fiscal years. The average performing loan to total loan ratio is 1.00 times and 1.58 times for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 0.02 times and 0.45 times respectively. From this analysis, the (PL) credit risk ratio of BOK is higher than NIBL. It is also presented in following figure 4.12.

Figure 4.12
Performing loan to Total loan & advances (times)



4.5 Statistical Tools

4.5.1 Correlation Analysis

This tool is used to predict the relationship between deposits and loans and advances, net profit and outside assets and deposits and total investment. Under this study, Karl Pearson's coefficient of correlation is being used.

A. Correlation Analysis between Total Deposit and Profit

Deposit is the main tool for developing the banking performance of the banks. By mobilizing the deposits of the customers, banks earn the profit. So, it is necessary to study the relation between these two variable deposits and net profit. Here, deposit is taken as independent variable (x) and profit (y) are dependent variables. The purpose of computing the correlation between these two variables is to justify whether deposits are significantly used or not to earn

the net profit by the banks.

Table 4.13
Correlation Analysis between Total Deposit and net profit

Banks	R	r²	PE	6PE	Remarks
NIBL	0.7826	0.6125	0.1169	0.7014	Significant
BOK	0.8219	0.6755	0.0979	0.5874	Significant

Source: Calculation – Appendix III

Table 4.13 helps us to depict the relationship between the total deposit and profit of the two commercial banks namely NIBL and BOK. The correlation coefficient (r) between the total deposit and net profit for both the banks is positive which indicates the positive relationship between the two. When there is increase in the total deposit then the profit also increases along with it. PE measures the reliability of the observed correlation coefficient. The relationship between the total deposit and the net profit of both banks BOK and NIBL are significant as the value of 'r' is greater than 6PE.

B. Correlation Analysis between Total Deposit and Loans & Advances

Deposit is the main tool for developing the banking performance of the banks. Likewise loans and advances are the key part to mobilize the collected deposits. The coefficient of correlation between deposits and loans & advances measures the degree of relationship between these two variables. For this study, deposit is taken as independent variable(x) and loans and advances are dependent variables (y) The purpose of computing 'r' between these two variables is to justify whether deposits are significantly used as loans and advances in proper way or not.

Table 4.14
Correlation Analysis between Total Deposit and Loan & Advances

Banks	R	r²	PE	6PE	Remarks
NIBL	0.9236	0.8530	0.0443	0.2658	Significant
BOK	0.9673	0.9357	0.0194	0.1164	Significant

Source: Calculation – Appendix-III

Table no. 4.14 shows the relationship between the total deposit and loans and advances. There is highly positive relationship between these two for both banks. With the increase in

the total deposit there will be similar increase in the loans and advances, which results in good earnings for the banks. Probable error is the measurement of relationship between total deposit and loans and advances. Here, relationship between the total deposit and the loan and advances of both NIBL and BOK are significant since the value of 'r' is greater than 6PE.

C. Correlation Analysis between Loans and Advances and Net Profit

Loan and advances also plays a vital role in earning the profit. By mobilizing the deposit in loan and advances banks earns the profit. So, it is necessary to study the relation between these two variable loan and advances and net profit. Following table shows the coefficient of correlation between(r) coefficient of determinants (r^2) and probable error (PE) Loan and advances and net profit of banks.

Table 4.15
Correlation Analysis between Loan & Advances and Net Profit

Banks	R	r²	PE	6PE	Remarks
NIBL	0.8966	0.8039	0.0592	0.3552	Significant
BOK	0.7861	0.6180	0.1152	0.6912	Significant

Calculation – Appendix-III

Table no. 4.15 shows the relationship between the loans and advance and the net profit. The correlation coefficient (r) is highly positive for loans and advances also. It indicates that increase in loans and advances leads to the increase in profit and vice-versa. NIBL and BOK both are able to increase their profit relatively with the loans and advances. Both banks have significant relationship between loan and advance and net profit. Probable Error for both the banks is significant.

4.5.2 Trend Analysis

The main objective of this part is to analyze the trend of prospective net profit in future by analyzing the trend of past data of the banks. Trend analysis is very useful and commonly applied tool to forecast future event in quantitative term on the basis of tendencies in the dependent variable in the past period. Straight-line trend implies that irrespective of seasonal, cyclic and irregular fluctuation the trend value increases or decreases by absolute amount per unit of time.

A. Trend Analysis of Total Deposit

Trend analysis of Total Deposits shows the pattern of total deposit in the banks. Trend helps the investor to estimate its future deposit. Prediction of total deposit for the next six fiscal years is done here on the basis of past five years data.

Table 4.16

Trend Analysis of total Deposit (in million)

Name	a	b	Actual		Forecasted			
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
NIBL	53273.8	3837.8	64787.2	68625	72462.8	76300.6	80138.4	83976.2
BOK	22421.8	2390.7	29593.9	31984.6	34375.3	36766	39156.7	41547.4

Source Calculation – Appendix-IV

Figure 4.13

Trend Analysis of total Deposit

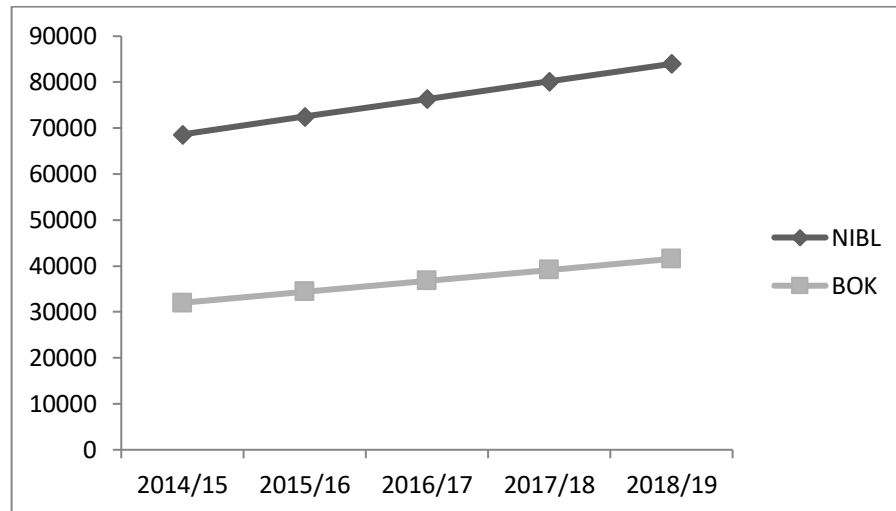


Table no. 4.16 and figure 4.13 show the trend analysis of the total deposit for the coming six fiscal Years of NIBL and BOK. Total Deposits of both the banks are increasing. The increasing rate of NIBL is higher i.e. Rs 3873.8 million than BOK i.e. 2390.7 million. It shows good future of the banks if they can regularly increase their deposits as per the prediction as stated above table.

B. Trend Analysis of Loans and Advances

Loans and advances of the two commercial banks for the coming five years are forecasted here. According to the calculation done in Appendix, the future forecast of the loans and advances of the above mentioned banks is shown in the table below.

Table 4.17
Trend Analysis of Loan & Advances (in million)

Name	a	b	Actual	Forecasted				
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
NIBL	41138	2163.6	47628.8	49792.4	51956	54119.6	56283.2	58446.8
BOK	18165.6	1699	23262.6	24961.6	26660.6	28359.6	30058.6	31757.6

Source: Calculation – Appendix-IV

Figure 4.14
Trend Analysis of Loan & Advances (in million)

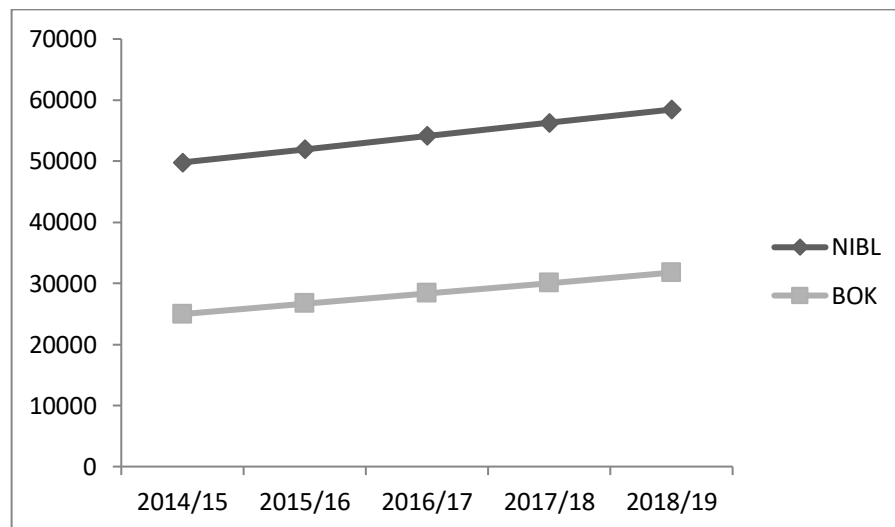


Table no. 4.17 and figure 4.14 presented above predict the Loans and Advances of the commercial banks for forgoing six fiscal years from fiscal years 2013/14 to 2018/19. Loans and advances of both the banks are in increasing trend. The increasing rate of loan and advances of NIBL is higher i.e. 2163.6 million than BOK i.e. 1699 million respectively. For the coming years also it is expected to increase as per the calculation done in this study.

4.6 Major Findings of the Study

- I. Average return on equity is 23.58% and 23.41% for NIBL and BOK respectively. This indicates that the return on equity investment for the bank is satisfactory. Likewise, Standard deviation for the NIBL and BOK is 3.78% and 2.69% respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on equity is higher of NIBL than BOK among the two sample banks. In same way, financial surplus to equity ratio for sample banks are fluctuating trend. NIBL has more risky that is higher CV 16.03% than BOK with 11.49%. In the fiscal year 2012/13 the return on equity of both NIBL and BOK are increasing which to 27.28% and 18.67% respectively (Table 4.1).
- II. The average return on assets is 2.02% and 2.38% for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 0.14% and 0.55% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 6.93% and 23.10% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 average return on assets is lower of NIBL which is 2.02% than BOK (2.38). In same way, financial surplus to assets ratio for sample banks are fluctuating trend. BOK has more risky than NIBL since BOK has greater CV (Table 4.2).
- III. The average return on capital employed ratio is 11.06% and 11.56% for NIBL and BOK respectively. This indicates that the return on capital fund or employed to risked assets for the bank is good i.e. effectiveness of management in earning profit. Likewise, Standard deviation for the NIBL and BOK is 0.32% and 0.60% respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on capital fund or employed to risked assets is slightly higher of BOK which is 11.56% than NIBL i.e. 11.06% in average among two sample banks. In same way, return on capital fund or employed to risked assets for BOK is more volatile than NIBL. NIBL have good managed its profitability to maintain capital adequacy than other sample banks. According to the coefficient variation BOK is more volatile which has more CV i.e. 5.19% than NIBL with 2.89 (Table 4.3).
- IV. The average net profit to total deposit ratio is 1.46% and 2.52% for NIBL and BOK respectively. Likewise, standard deviation indicates that the net profit to total deposit ratio for NIBL and BOK is 1.09% and 0.21% respectively. Coefficient of variation

- indicates the fluctuating trend or measuring the uniformity of the banks which is 74.66% and 8.33% for NIBL and BOK respectively (Table 4.4).
- V. The average net profit to total loan and advances ratio is 2.96% and 3.07% for NIBL and BOK respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 21.28% and 6.84% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 net profit to total loan and advances ratio of BOK is higher than NIBL with more uniformity (Table 4.5).
- VI. The average cash reserve ratio is 11.07% and 8.43% for NIBL and BOK respectively. This indicates that the cash reserve ratio for the both bank is maintained as directed by NRB standard i.e. to generate the liquidity. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 29.62% and 7.24% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 cash reserve ratio is higher of NIBL than BOK which is 11.07% in average among the sample banks. From this, it can be easily seen that the CRR of NIBL is less consistency than BOK since the CV of NIBL is higher than BOK (Table 4.6).
- VII. The average total loan/credit to total deposit ratio is 77.48% and 81.27% for NIBL and BOK respectively. This indicates that the capability of the banks to successfully utilize the total deposits on loans and advances for profit generating purposes. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 4.43% and 4.90% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 total loan/credit to total deposit ratio of BOK is slightly more volatile than NIBL. Thus, higher ratio indicates the efficient and effective utilization of funds while lower ratio indicates the inefficiency of the banks to stop them from remaining idle (Table 4.7).
- VIII. The average interest income to loans and advances ratio is 12.34% and 10.80% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the loans and advances in earning higher interest income. By measuring Coefficient of variation, BOK is more uniformity with 10.83% than NIBL with 15.80%. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the interest income to loans and advances ratio of NIBL is more volatile than BOK (Table 4.8).

- IX. The average interest expenses to total expenses ratio is 69.94% and 58.67% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the total expenses in reducing interest expenses. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 7.86% and 9.34% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the interest expenses to total expenses ratio of BOK is slightly more volatile than NIBL but can success in reducing interest expense except fiscal year 2012/13 (Table 4.9).
- X. The average staff expenses to total operating expenses ratio is 40.76% and 12.63% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the staff expenses is reduced by BOK in effective manner than NIBL. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 3.90% and 14.33% for NIBL and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the staff expenses to total operating expenses ratio of BOK is more volatile than NIBL but can success in reducing it (Table 4.10).
- XI. The average NPL ratio is 1.51% and 1.71% for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 1.07% and 0.37% respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the credit risk ratio of both NIBL and BOK is not succeed to reduce in first three fiscal year 2008/09 to 2011/12 i.e. increasing trend and succeed to reduce only in fiscal year 2012/13 (Table 4.11).
- XII. The average performing loan to total loan ratio is 1.00 times and 1.58 times for NIBL and BOK respectively. Likewise, Standard deviation for the NIBL and BOK is 0.02 times and 0.45 times respectively. From this analysis, the (PL) credit risk ratio of BOK is higher than NIBL (Table 4.12).
- XIII. The correlation coefficient (r) between the total deposit and net profit for both the banks is positive which indicates the positive relationship between the two. The relationship between the total deposit and the net profit of both banks BOK and NIBL are significant as the value of ' r ' is greater than 6PE (Table 4.13).
- XIV. The relationship between the total deposit and loan and advances of both NIBL and BOK are significant since the value of ' r ' is greater than 6PE (Table 4.14). Likewise, both banks have significant relationship between loan and advance and net profit (Table 4.15).

XV. The increasing total deposit rate of NIBL is higher i.e. Rs 3873.8 million than BOK i.e. 2390.7 million (Table 4.16). Likewise, the increasing rate of loan and advances of NIBL is higher i.e. 2163.6 million than BOK i.e. 1699 million respectively (Table 4.17).

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATION

In this chapter, three major aspects of the study are discussed. In the beginning all the findings have been summarized and some conclusions have been drawn based on major findings. Then, the gaps found and factors that caused those gaps are also presented. Recommendation is based on major findings of the study.

5.1 Summary

Banking industries have been regarded as one of the component of economy. It transfers the scattered funds collected from saving of the public into various productive sectors. Economic activities remains halt in absence of banking industries as it plays the role of catalyst for economic development of the country in the developing country where there prevail unorganized transactions. It helps to enhance economic activities of the country by providing capital funds for the smooth operation of business activities, create employment opportunities, investing agriculture, industry. Commercial banks in Nepal have come across a long way to reach at the present status they hold in the national economy. Since from the beginning of the establishment of NIBL and BOK to the present scenario with the emergence of new and growing banks have brought tremendous changes in terms of services, capacity development and the way they serve customers. Modern banking practices have been introduced by almost all the commercial banks in Nepal. Commercial banks that were initially involved merely in lending and deposit sector have now modified their traditional business concepts and introduced new services to Nepalese customer like, credit card, debit card, SMS banking, E-banking etc.

Banking sectors has made significant improvement after the Government of Nepal adopted liberal economic policy. One of the fast growing industries of Nepal is banking industry, after Nepal adopted liberal economic policy. But intense competition and lack of sufficient investment opportunities have created threat to banks. Therefore future in the banking sector will be more competitive with quality and speedy service. Banks have to provide quality and

speedy service and attain objectives along with maintaining social responsibility to sustain in market. Credit analysis is the process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items of balance sheet and profit and loss account. Credit management analysis is used by financial analysts for making decisions. It will compare the bank's ratios to its past performance. Among 31 commercial banks of Nepal, NIBL and BOK has been selected with their recent five fiscal years data starting from 2008/09 till 2012/13. Main objective of this study is to find out credit performance with profitability, liquidity, credit management and credit risk ratio of NIBL and BOK. Descriptive and analytical analysis have been done for the purpose by using various methodologies and based on the secondary data.

5.2 Conclusion

The study is based on the data of two commercial banks namely NIBL and BOK for five fiscal Years from 2008/09 to 2012/13. This study includes only secondary data and all the calculations and presentations are based on the secondary data. According to the analysis, the overall performance of the sample banks is found to be satisfactory. Both the banks are not strong in performance. However, both are strong in liquidity position and strong in profit making. The average return on equity is 23.58% and 23.41% for NIBL and BOK respectively. This indicates that the return on equity investment for the bank is satisfactory. The average ratio for return on assets is 2.02% and 2.38% for NIBL and BOK respectively. This indicates that the return on assets for the bank is satisfactory. The average return on capital employed ratio is 11.06% and 11.56 for NIBL and BOK respectively. This indicates that the return on capital fund or employed to risked assets for the bank is good i.e. effectiveness of management in earning profit. BOK is good management of its profitability to maintain capital adequacy than NIBL. The average net profit to total deposit ratio is 1.46% and 2.52% for NIBL and BOK respectively. The average net profit to total loan and advances ratio is 2.96% and 3.07% for NIBL and BOK respectively and NIBL is more uniformity than BOK by measuring CV. The average cash reserve ratio is 11.07% and 8.43% for NIBL and BOK respectively. This indicates that the cash reserve ratio for the both bank is maintained as directed by NRB standard i.e. 5%. It can be easily seen that the CRR of BOK is more consistency than BOK since the CV of BOK is lesser than NIBL.

The average total loan/credit to total deposit ratio is 77.48% and 81.27% for NIBL and BOK respectively. This indicates that the capability of the banks to successfully utilize the total deposits on loans and advances for profit generating purposes.

The average interest income to loans and advances ratio is 12.34% and 10.80% for NIBL and BOK respectively. Similarly, staff expenses to total operating expenses ratio is 40.76% and 12.63% for NIBL and BOK respectively. This indicates that the capability of the banks to manage the staff expenses is reduced by BOK in effective manner than NIBL. The average NPL ratio is 1.51% and 1.71% for NIBL and BOK respectively. Likewise, average performing loan to total loan ratio is 1.00 times and 1.58 times for NIBL and BOK respectively. From this analysis, the (PL) credit risk ratio of BOK is higher than NIBL. The relationship between the total deposit and the net profit of both banks BOK and NIBL are significant as the value of 'r' is greater than 6PE. The relationship between the total deposit and loan and advances of both NIBL and BOK are significant. Likewise, both banks have significant relationship between loan and advance and net profit. The increasing total deposit rate of NIBL is higher i.e. Rs 3873.8 million than BOK i.e. 2390.7 million (Table 4.16). Likewise, the increasing rate of loan and advances of NIBL is higher i.e. 2163.6 million than BOK i.e. 1699 million respectively. Hence, Banks have to prove that they are the potential contributors to the national economy ensuring adequate rate of return on investment, efficient and viable agencies for mobilization of savings and its channels into productive sectors and strategically well planned to be competitive with competitors and other agencies and are trustworthy.

5.3 Recommendation

Based on the analysis, interpretation and conclusions, some recommendations are made so that the concerned authorities, future researchers, academicians, bankers can get some insights on the present conditions on above topics. On the basis of the major findings some important suggestions have been forwarded which are as stated below:

- a. The average return on assets is 2.02% and 3.46% for NIBL and BOK respectively. Both the banks meet NRB standard with at least 0.75%. NIBL should improve it in order to compete with BOK (finding II).
- b. The average return on capital employed ratio is 11.06% and 11.56% for NIBL and BOK respectively i.e. effectiveness of management in earning profit. According to

- NRB directive this ratio base line is 10%. BOK is more volatile than NIBL. Hence, BOK should maintain it in consistent manner for the fiscal year (finding III).
- c. Loans and advances to total deposit ratio of BOK is 81.27% which is better than NIBL of 77.48%. This ratio of NIBL is less than below 80% as directed by NRB. But there is lack of investment in productive sector. Hence, they should search the productive sectors for investment which leads to the increase in the interest income as well as profit of the bank (finding VII).
 - d. The average interest expenses to total expenses ratio of NIBL is 69.94% which is higher than 58.67% of BOK. NIBL should reduce the interest expenses by revising the interest rate of deposit (finding IX).
 - e. The average staff expenses to total operating expenses ratio of NIBL is 40.76% higher than BOK i.e.12.63%. This indicates that the capability of the banks to manage the staff expenses is reduced by BOK in effective manner than NIBL. Hence, NIBL should reduce the staff expenses (finding X).
 - f. The average NPL ratio of BOK 1.71% is higher than NIBL 1.51%. According to NRB directive, NPL ratio is good if the banks have less than 1%. Hence, both banks should reduce the NPL (finding XI).
 - g. Performing loan to total loan and advances of BOK is higher than NIBL. BOK seems to more risky in credit management. Though the higher ratio is better but to avoid liquidity problem, both bank should revise the credit policy to earn higher and long term return (finding XII).
 - h. The banks should utilize their deposit in long term return rather than short term return because relationship between deposit and net profit is positive and significant. For this, they should focus the deposit in productive sector which help to growth the national economic activities (finding XIV).

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APPENDIX

Appendix-I

Summary of the Financial Transactions of NIBL from FY 2008/09 to 2012/13

(NPR in millions)

Details	2008/09	2009/10	2010/11	2011/12	2012/13
Total Loans Advances	36,241	40,318	41,095	41,636	46,400
Total assets	53,010	57,305	58,357	65,756	73,152
Total Deposit	46,698	50,094	50,138	57,010	62,429
Total Loan loss provision	586	630	792	1,269	1300
Non Performing loan	214	254	395	1,425	913
Net Profit	901	1,265	1,176	1,039	1,915
Interest Income	3,268	4,653	5,803	5,982	5,878
Interest expense	1,687	2,554	3,620	3,814	2,774
Performing loan	36613	40694	41492	41481	46787
Staff expenses	226	280	327	340	379
Total operating expenses	587	714	784	809	894
Total expenses	2589	3677	4762	5002	4418
Net worth/shareholder equity	3908	4585	5159	6049	7020

Source: Annual Reports of NIBL

Calculation of the various Credit Analysis Ratios of NIBL

Fiscal year	2008/09	2009/10	2010/11	2011/12	2012/13
Total loan & advances to total deposit ratio (%)	77.61	80.48	81.97	73.03	74.32
Total loan & advances to total assets ratio (%)	68.37	70.36	70.42	63.32	63.42
Total loan loss provision to Total loan & advances ratio (%)	1.62	1.56	1.93	3.05	2.80
Nonperforming loan/assets to Total loan & advances) ratio (%)	0.59	0.63	0.96	3.42	1.96
Net profit to total assets (ROA)	1.69	2.21	2.02	1.58	2.62
Return on capital employed / risk weighted fund (%)	11.24	10.55	10.91	11.10	11.49
Interest income to total loan &adv. (%)	9.02	11.54	14.12	14.37	12.67
Interest expenses to total expenses (%)	65.16	69.46	76.02	76.25	62.79
Liquidity (CRR in %)	10.32	7.77	7.67	13.6	16.0
NPL to performing loan (%)	5.84	0.62	0.95	3.44	1.95
Performing loan to TL & advances (times)	1.01	1.01	1.00	0.99	1.01
Net profit to TL & advances (%)	2.4	3.1	2.8	2.4	4.1
Net profit to total deposit (%)	0.46	0.51	0.79	2.49	3.06
Net profit to net worth /ROE (%)	23.06	27.58	22.80	17.18	27.28
Staff expenses to total operating expenses (%)	38.5	39.2	41.7	42.0	42.4

Summary of the Financial Transactions of BOK from FY 2008/09 to 2012/13

(NPR in millions)

Details	2008/09	2009/10	2010/11	2011/12	2012/13
Total Loans Advances	14946	17044	17468	18814	22556
Total assets	20496	23396	24758	28881	32545
Total Deposit	18084	20316	21018	24991	27700
Total Loan loss provision	298	379	489	505	494
Non Performing loan	190	260	326	443	346
Net Profit (After Tax)	462	509	605	607	617
Interest Income	1348	1871	2387	2621	2450
Interest expense	563	903	1219	1485	1219
Performing loan	14755	16784	17630	18875	22703
Staff expenses	146	169	196	249	286
Total operating expenses	974	1488	1853	2141	1957
Total expenses	1143	1539	1910	2306	2131
Net worth/shareholder equity	1742	2074	2435	2700	3304

Source: Annual Reports of BOK

Calculation of the various Credit Analysis Ratios of BOK

Fiscal year	2008/09	2009/10	2010/11	2011/12	2012/13
Total loan & advances to total deposit ratio (%)	82.65	83.90	83.11	75.28	81.43
Total loan & advances to total assets ratio (%)	72.92	72.85	70.55	65.14	81.43
Total loan loss provision to Total loan & advances ratio (%)	1.99	2.22	2.80	2.68	2.19
Nonperforming loan/assets to Total loan (& advances) ratio (%)	1.27	1.52	1.86	2.35	1.53
Net profit to total assets (%) (ROA)	2.25	2.18	3.46	2.10	1.90
Return on capital employed / risk weighted fund (%)	11.68	10.85	11.62	11.07	12.58
Interest income to total loan & adv. (%)	9.02	10.02	12.08	12.01	10.86
Interest expenses to total expenses (%)	49.26	58.67	63.82	64.39	57.20
Liquidity (CRR in %)	7.58	8.32	8.10	8.72	9.41
NPL to performing loan (%)	1.29	1.55	1.85	2.35	1.52
Performing loan to TL & advances (times)	1.27	1.52	1.82	2.30	1.01
Net profit to TL & advances (%)	3.09	2.99	3.37	3.15	2.74
Net profit to total deposit (%)	2.55	2.51	2.88	2.43	2.23
Net profit to net worth (%) (ROE)	26.52	24.54	24.85	22.48	18.67
Staff expenses to total operating expenses (%)	14.99	11.35	10.58	11.63	14.61

Notes:

- # Total Loan and advances include: total loan, advances and bill purchased of each financial year end as stated in balance sheet.
- # Total Loan Loss Provision include: pass, restructured substandard, doubtful and loss provision.
- # Amount in figures are rounded in million approximately.
- # Total expenses (include staff expenses, office operating expenses, interest expenses, income tax and other expenses) i.e. as stated in cash flow of concerned bank's annual report of each fiscal year.
- # Total operating expenses include staff expenses and office operating expenses.
- # Beyond self calculation some of the ratio like CRR, RWC (capital adequacy) staff expenses to total operating expense are drawn from the respective bank's annual report of financial indicator highlight.

Appendix- II

NIBL

Fiscal Year	ROE(X)	X – (23.58)	(X– 23.58)²
2008/09	23.06	-0.52	0.2704
2009/10	27.58	4	16
2010/11	22.8	-0.78	0.6084
2011/12	17.18	-6.4	40.96
2012/13	27.28	3.7	13.69
	117.9		71.5288

NIBL	$\bar{X} = \frac{117.9}{5} = 23.58$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 3.78$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{3.78}{23.58} \times 100$ $= 0.1603 \text{ or } 16.03\%$
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BOK

Fiscal Year	ROE(X)	X – (23.41)	(X– 23.41)²
2008/09	26.52	3.11	9.6721
2009/10	24.54	1.13	1.2769
2010/11	24.85	1.44	2.0736
2011/12	22.48	-0.93	0.8649
2012/13	18.67	-4.74	22.4676
	117.06		36.3551

BOK	$\bar{X} = \frac{117.06}{5} = 23.41$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 2.69$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{2.69}{23.41} \times 100$ $= 0.1149$ or 11.49%
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NIBL

Fiscal Year	ROA(X)	X – (2.02)	(X– 2.02) ²
2008/09	1.69	-0.33	0.1089
2009/10	2.21	0.19	0.0361
2010/11	2.02	0	0
2011/12	1.58	-0.44	0.1936
2012/13	2.62	0.6	0.36
	10.12		0.6986

NIBL	$\bar{X} = \frac{10.12}{5} = 2.02$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 0.14$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{0.14}{2.02} \times 100$ $= 0.0693$ or 6.93%
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BOK

Fiscal Year	ROA(X)	X – (2.38)	(X– 2.38) ²
2008/09	2.25	-0.13	0.0169
2009/10	2.18	-0.2	0.04
2010/11	3.46	1.08	1.1664
2011/12	2.1	-0.28	0.0784
2012/13	1.9	-0.48	0.2304
	11.89		1.5321

BOK	$\bar{X} = \frac{11.89}{5} = 2.38$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 0.55$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{0.53}{2.41} \times 100$ $= 0.2310 \text{ or } 23.10\%$
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#Note: Same process was used to calculate the mean, standard deviation and coefficient of variation of other different ratios.

NIBL

Fiscal Year	ROCE(X)	X – (11.06)	(X– 11.06) ²
2008/09	11.24	0.18	0.0324
2009/10	10.55	-0.51	0.2601
2010/11	10.91	-0.15	0.0225
2011/12	11.1	0.04	0.0016
2012/13	11.49	0.43	0.1849
	55.29		0.5015
Mean	11.06		
S.D.	0.32		
C.V.	2.89		

BOK

Fiscal Year	ROCE(X)	X – (11.56)	(X– 11.56) ²
2008/09	11.68	0.12	0.0144
2009/10	10.85	-0.71	0.5041
2010/11	11.62	0.06	0.0036
2011/12	11.07	-0.49	0.2401
2012/13	12.58	1.02	1.0404
	57.8		1.8026
Mean	11.56		
S.D.	0.60		
C.V.	5.19		

NIBL

Fiscal Year	NP to TD(X)	X – (1.46)	(X– 1.46)²
2008/09	0.46	-1	1
2009/10	0.51	-0.95	0.9025
2010/11	0.79	-0.67	0.4489
2011/12	2.49	1.03	1.0609
2012/13	3.06	1.6	2.56
	7.31		5.9723
Mean	1.46		
S.D.	1.09		
C.V.	74.66		

BOK

Fiscal Year	NP to TD(X)	X – (2.52)	(X– 2.52)²
2008/09	2.55	0.03	0.0009
2009/10	2.51	-0.01	0.0001
2010/11	2.88	0.36	0.1296
2011/12	2.43	-0.09	0.0081
2012/13	2.23	-0.29	0.0841
	12.6		0.2228
Mean	2.52		
S.D.	0.21		
C.V.	8.33		

NIBL

Fiscal Year	NP to TL(X)	X – (2.96)	(X– 2.96)²
2008/09	2.4	-0.56	0.3136
2009/10	3.1	0.14	0.0196
2010/11	2.8	-0.16	0.0256
2011/12	2.4	-0.56	0.3136
2012/13	4.1	1.14	1.2996
	14.8		1.972
Mean	2.96		
S.D.	0.63		
C.V.	21.28		

BOK

Fiscal Year	NP to TL(X)	X – (3.07)	(X– 3.07)²
2008/09	3.09	0.02	0.0004
2009/10	2.99	-0.08	0.0064
2010/11	3.37	0.3	0.09
2011/12	3.15	0.08	0.0064
2012/13	2.74	-0.33	0.1089
	15.34		0.2121
Mean	3.07		
S.D.	0.21		
C.V.	6.84		

NIBL

Fiscal Year	CRR (X)	X – (11.07)	(X– 11.07)²
2008/09	10.32	-0.75	0.5625
2009/10	7.77	-3.3	10.89
2010/11	7.67	-3.4	11.56
2011/12	13.6	2.53	6.4009
2012/13	16	4.93	24.3049
	55.36		53.7183
Mean	11.07		
S.D.	3.28		
C.V.	29.62		

BOK

Fiscal Year	CRR (X)	X – (8.43)	(X– 8.43)²
2008/09	7.58	-0.85	0.7225
2009/10	8.32	-0.11	0.0121
2010/11	8.1	-0.33	0.1089
2011/12	8.72	0.29	0.0841
2012/13	9.41	0.98	0.9604
	42.13		1.888
Mean	8.43		
S.D.	0.61		
C.V.	7.24		

NIBL

Fiscal Year	TL to TD (X)	X – (77.48)	(X– 77.48)²
2008/09	77.61	0.13	0.0169
2009/10	80.48	3	9
2010/11	81.97	4.49	20.1601
2011/12	73.03	-4.45	19.8025
2012/13	74.32	-3.16	9.9856
	387.41		58.9651
Mean	77.48		
S.D.	3.43		
C.V.	4.43		

BOK

Fiscal Year	TL to TD (X)	X – (81.27)	(X– 81.27)²
2008/09	82.65	1.38	1.9044
2009/10	83.9	6.42	41.2164
2010/11	83.11	5.63	31.6969
2011/12	75.28	-2.2	4.84
2012/13	81.43	0.16	0.0256
	406.37		79.6833
Mean	81.27		
S.D.	3.99		
C.V.	4.90		

NIBL

Fiscal Year	II to TL (X)	X – (12.34)	(X– 12.34)²
2008/09	9.02	-3.32	11.0224
2009/10	11.54	-0.8	0.64
2010/11	14.12	1.78	3.1684
2011/12	14.37	2.03	4.1209
2012/13	12.67	0.33	0.1089
	61.72		19.0606
Mean	12.34		
S.D.	1.95		
C.V.	15.80		

BOK

Fiscal Year	II to TL (X)	X – (10.80)	(X– 10.80)²
2008/09	9.02	-1.78	3.1684
2009/10	10.02	-0.78	0.6084
2010/11	12.08	1.28	1.6384
2011/12	12.01	1.21	1.4641
2012/13	10.86	0.06	0.0036
	53.99		6.8829
Mean	10.80		
S.D.	1.17		
C.V.	10.83		

NIBL

Fiscal Year	II to TE (X)	X – (69.94)	(X– 69.94)²
2008/09	65.16	-4.78	22.8484
2009/10	69.46	-0.48	0.2304
2010/11	76.02	6.08	36.9664
2011/12	76.25	6.31	39.8161
2012/13	62.79	-7.15	51.1225
	349.68		150.9838
Mean	69.94		
S.D.	5.50		
C.V.	7.86		

BOK

Fiscal Year	II to TE (X)	X – (58.67)	(X– 58.67)²
2008/09	49.26	-9.41	88.5481
2009/10	58.67	0	0
2010/11	63.82	5.15	26.5225
2011/12	64.39	5.72	32.7184
2012/13	57.2	-1.47	2.1609
	293.34		149.9499
Mean	58.67		
S.D.	5.48		
C.V.	9.34		

Fiscal Year	SE to TOE (X)	X – (40.76)	(X– 40.76)²
2008/09	38.5	-2.26	5.1076
2009/10	39.2	-1.56	2.4336
2010/11	41.7	0.94	0.8836
2011/12	42	1.24	1.5376
2012/13	42.4	1.64	2.6896
	203.8		12.652
Mean	40.76		
S.D.	1.59		
C.V.	3.90		

NIBL

BOK

Fiscal Year	SE to TOE (X)	X – (12.63)	(X– 12.63)²
2008/09	14.99	2.36	5.5696
2009/10	11.35	-1.28	1.6384
2010/11	10.58	-2.05	4.2025
2011/12	11.63	-1	1
2012/13	14.61	1.98	3.9204
	63.16		16.3309
Mean	12.63		
S.D.	1.81		
C.V.	14.33		

NIBL

Fiscal Year	NPL to TL (X)	X – (1.51)	(X– 1.51)²
2008/09	0.59	-0.92	0.8464
2009/10	0.63	-0.88	0.7744
2010/11	0.96	-0.55	0.3025
2011/12	3.42	1.91	3.6481
2012/13	1.96	0.45	0.2025
	7.56		5.7739
Mean	1.51		
S.D.	1.07		
C.V.	70.86		

BOK

Fiscal Year	NPL to TL (X)	X – (1.71)	(X– 1.71)²
2008/09	1.27	-0.44	0.1936
2009/10	1.52	-0.19	0.0361
2010/11	1.86	0.15	0.0225
2011/12	2.35	0.64	0.4096
2012/13	1.53	-0.18	0.0324
	8.53		0.6942
Mean	1.71		
S.D.	0.37		
C.V.	21.63		

NIBL

Fiscal Year	PL to TL (X)	X – (1.00)	(X– 1.00)²
2008/09	1.01	0.01	0.0001
2009/10	1.01	0.01	0.0001
2010/11	1	0	0
2011/12	0.99	-0.01	0.0001
2012/13	1.01	0.01	0.0001
	5.02		0.0004
Mean	1.00		
S.D.	0.02		
C.V.	2.00		

BOK

Fiscal Year	PL to TL (X)	X – (1.58)	(X– 1.58)²
2008/09	1.27	-0.31	0.0961
2009/10	1.52	-0.06	0.0036
2010/11	1.82	0.24	0.0576
2011/12	2.3	0.72	0.5184
2012/13	1.01	-0.57	0.3249
	7.92		1.0006
Mean	1.58		
S.D.	0.45		
C.V.	28.48		

Appendix –III

Correlation Analysis of sample banks

NIBL

Year	total deposit (X)	Net profit (Y)	XY	X ²	Y ²
2008/09	46698	901	42074898	2180703204	811801
2009/10	50094	1265	63368910	2509408836	1600225
2010/11	50138	1176	58962288	2513819044	1382976

2011/12	57010	1039	59233390	3250140100	1079521
2012/13	62429	1915	119551535	3897380041	3667225
	266369	6296	343191021	14351451225	8541748

$$\text{Correlation of coefficient } r = \frac{n \sum XY - \sum X \times \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 343191021 - 266369 \times 6296}{\sqrt{5 \times 14351451225 - (266369)^2} \sqrt{5 \times 8541748 - (6296)^2}}$$

$$r = 0.7826$$

$$\text{Coefficient determination } (r^2) = 0.6125$$

The probable error of 'r'

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

$$= \frac{0.6745 \times 1 - (0.7826)^2}{\sqrt{5}} = 0.1169$$

$$6 \times \text{P.E. 'r'} = 6 \times 0.1169 = 0.7014$$

If correlation (r) < 6 P E, it is insignificant. So perhaps there is no evidence of correlation. If correlation (r) > 6 P E, it is significant.

Correlation (r)	0.7826
r²	0.6125
P.E	0.1169
6 × P.E.	0.7014

BOK

Year	total deposit (X)	Net profit (Y)	XY	X ²	Y ²
2008/09	18084	462	8354808	327031056	213444
2009/10	20316	509	10340844	412739856	259081
2010/11	21018	605	12715890	441756324	366025
2011/12	24991	607	15169537	624550081	368449
2012/13	27700	617	17090900	767290000	380689
	112109	2800	63671979	2573367317	1587688

$$\text{Correlation of coefficient } r = \frac{n \sum XY - \sum X \times \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 52297153 - 100243 \times 2544}{\sqrt{5 \times 2056792873 - (100243)^2} \cdot \sqrt{5 \times 1337320 - (2544)^2}}$$

$$r = 0.8219$$

$$\text{Coefficient determination } (r^2) = 0.6755$$

The probable error of 'r'

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

$$= \frac{0.6745 \times 1 - (0.8219)^2}{\sqrt{5}} = 0.0979$$

$$6 \times \text{P.E. 'r'} = 6 \times 0.0979 = 0.5874$$

If correlation (r) < 6 P E, it is insignificant. So perhaps there is no evidence of correlation. If correlation (r) > 6 P E, it is significant.

Correlation (r)	0.8219
r²	0.6755
P.E	0.0979
6× P.E.	0.5874

Similar method has been applied for calculating other values which is directly presented as below.

NIBL

Year	total deposit (X)	total loan and advances (Y)	XY	X ²	Y ²
2008/09	46698	36241	1692382218	2180703204	1313410081
2009/10	50094	40318	2019689892	2509408836	1625541124
2010/11	50138	41095	2060421110	2513819044	1688799025
2011/12	57010	41636	2373668360	3250140100	1733556496
2012/13	62429	46400	2896705600	3897380041	2152960000
	266369	205690	1.1043E+10	14351451225	8514266726

Correlation (r)	0.9236
r²	0.8530
P.E	0.0443
6× P.E.	0.2658

BOK

Year	total deposit	total loan and advances	XY	X ²	Y ²
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	(X)	(Y)			
2008/09	18084	14946	270283464	327031056	223382916
2009/10	20316	17044	346265904	412739856	290497936
2010/11	21018	17468	367142424	441756324	305131024
2011/12	24991	18814	470180674	624550081	353966596
2012/13	27700	22556	624801200	767290000	508773136
	112109	90828	2078673666	2573367317	1681751608

Correlation (r)	0.9673
r²	0.9357
P.E	0.0194
6× P.E.	0.1164

NIBL

Year	total loan and advances (X)	Net profit (Y)	XY	X ²	Y ²
2008/09	36241	901	32653141	1313410081	811801
2009/10	40318	1265	51002270	1625541124	1600225
2010/11	41095	1176	48327720	1688799025	1382976
2011/12	41636	1039	43259804	1733556496	1079521
2012/13	46400	1915	88856000	2152960000	3667225
	205690	6296	264098935	8514266726	8541748

Correlation (r)	0.8966
r²	0.8039
P.E	0.0592
6× P.E.	0.3552

BOK

Year	total loan and advances (X)	Net profit (Y)	XY	X ²	Y ²
2008/09	14946	462	6905052	223382916	213444
2009/10	17044	509	8675396	290497936	259081
2010/11	17468	605	10568140	305131024	366025
2011/12	18814	607	11420098	353966596	368449
2012/13	22556	617	13917052	508773136	380689

	90828	2800	51485738	1681751608	1587688
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Correlation (r)	0.7861
r²	0.6180
P.E	0.1152
6× P.E.	0.6912

Appendix- IV

Trend analysis of total deposit & loan & advances of sample banks

NIBL

FY	total deposit (Y)	x=X-2010/11(3)	x ²	xY
2008/09	46698	-2	4	-93396
2009/10	50094	-1	1	-50094
2010/11	50138	0	0	0
2011/12	57010	1	1	57010
2012/13	62429	2	4	124858
	266369	0	10	38378

Let the middle year be assumed as 2010/11. Then,

The trend line equation is given by:

$$y = a + bx \quad \dots\dots\dots (i)$$

Where,

y = the regression line of dependent variable

a = constant

b = slope of the trend line or regression coefficient

x = independent variable

the trend line regression equation is solved by following two sub equation

$$\Sigma y = na + b \Sigma x \quad \dots\dots\dots (ii)$$

$$\Sigma xy = a \Sigma x + b \Sigma x^2 \quad \dots\dots\dots (iii)$$

Since the $\Sigma x = 0$,

$$a = \frac{\Sigma y}{n} = \frac{266369}{5} = 53273.8$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{38378}{10} = 3837.8$$

For 2012/13,

$$\begin{aligned} Y_c &= 53273.8 + 3837.8X \\ &= 53273.8 + 3837.8 \times 2 \\ &= 60949.4 \end{aligned}$$

Now, for coming Years,

Forecasted trend value of NIBL

Fiscal Year	X	$Y_c = 53273.8 + 3837.8X$	Deposit (Y_c)
2013/14	(2013/14-2010/11) = 3	$Y_c = 53273.8 + 3837.8 \times 3$	64787.2
2014/15	(2014/15 - 2010/11) = 4	$Y_c = 53273.8 + 3837.8 \times 4$	68625
2015/16	(2015/16 - 2010/11) = 5	$Y_c = 53273.8 + 3837.8 \times 5$	72462.8
2016/17	(2016/17 - 2010/11) = 6	$Y_c = 53273.8 + 3837.8 \times 6$	76300.6
2017/18	(2017/18 - 2010/11) = 7	$Y_c = 53273.8 + 3837.8 \times 7$	80138.4
2018/19	(2018/19 - 2010/11) = 8	$Y_c = 53273.8 + 3837.8 \times 8$	83976.2

BOK

FY	total deposit (Y)	$x=X-2010/11(3)$	x^2	xY
2008/09	18084	-2	4	-36168
2009/10	20316	-1	1	-20316
2010/11	21018	0	0	0
2011/12	24991	1	1	24991
2012/13	27700	2	4	55400
	112109	0	10	23907

Let the middle year be assumed as 2010/11. Then,

The trend line equation is given by:

$$y = a + bx \quad \dots\dots\dots (i)$$

Where,

y = the regression line of dependent variable

a = constant

b = slope of the trend line or regression coefficient

x = independent variable

the trend line regression equation is solved by following two sub equation

$$\Sigma y = na + b \Sigma x \quad \dots\dots\dots (ii)$$

$$\Sigma xy = a \Sigma x + b \Sigma x^2 \quad \dots\dots\dots (iii)$$

Since the $\Sigma x = 0$,

$$a = \frac{\Sigma y}{n} = \frac{112109}{5} = 22421.8$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{23907}{10} = 2390.7$$

For 2012/13,

$$\begin{aligned} Y_c &= 22421.8 + 2390.7 X \\ &= 22421.8 + 2390.7 \times 2 \\ &= 27203.2 \end{aligned}$$

Now, for coming Years,

Forecasted trend value of BOK

Fiscal Year	X	$Y_c = 22421.8 + 2390.7 X$	Deposit (Y_c)
2013/14	(2013/14-2010/11) = 3	$Y_c = 22421.8 + 2390.7 \times 3$	29593.9
2014/15	(2014/15 - 2010/11) = 4	$Y_c = 22421.8 + 2390.7 \times 4$	31984.6
2015/16	(2015/16 - 2010/11) = 5	$Y_c = 22421.8 + 2390.7 \times 5$	34375.3
2016/17	(2016/17 - 2010/11) = 6	$Y_c = 22421.8 + 2390.7 \times 6$	36766
2017/18	(2017/18 - 2010/11) = 7	$Y_c = 22421.8 + 2390.7 \times 7$	39156.7
2018/19	(2018/19 - 2010/11) = 8	$Y_c = 22421.8 + 2390.7 \times 8$	41547.4

Similarly trend value of total loan & advances of sample banks are presented as given below.

NIBL

FY	total loan and advances (Y)	$x=X-2010/11(3)$	x^2	xY
2008/09	36241	-2	4	-72482
2009/10	40318	-1	1	-40318
2010/11	41095	0	0	0
2011/12	41636	1	1	41636
2012/13	46400	2	4	92800
	205690	0	10	21636

Since the $\Sigma x = 0$,

$$a = \frac{\Sigma y}{n} = \frac{205690}{5} = 41138$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{21636}{10} = 2163.6$$

For 2012/13,

$$\begin{aligned} Y_c &= 41138 + 2163.6 X \\ &= 41138 + 2163.6 \times 2 \\ &= 45465.2 \end{aligned}$$

Now, for coming Years,

Forecasted trend value of NIBL

Fiscal Year	X	$Y_c = 41138 + 2163.6 X$	Loan & advances (Y_c)
2013/14	(2013/14-2010/11) = 3	$Y_c = 41138 + 2163.6 \times 3$	47628.8
2014/15	(2014/15 - 2010/11) = 4	$Y_c = 41138 + 2163.6 \times 4$	49792.4
2015/16	(2015/16 - 2010/11) = 5	$Y_c = 41138 + 2163.6 \times 5$	51956
2016/17	(2016/17 - 2010/11) = 6	$Y_c = 41138 + 2163.6 \times 6$	54119.6
2017/18	(2017/18 - 2010/11) = 7	$Y_c = 41138 + 2163.6 \times 7$	56283.2
2018/19	(2018/19 - 2010/11) = 8	$Y_c = 41138 + 2163.6 \times 8$	58446.8

BOK

FY	total loan and advances (Y)	$x=X-2010/11(3)$	x^2	xy
2008/09	14946	-2	4	-29892
2009/10	17044	-1	1	-17044
2010/11	17468	0	0	0
2011/12	18814	1	1	18814
2012/13	22556	2	4	45112
	90828	0	10	16990

Since the $\Sigma x = 0$,

$$a = \frac{\Sigma y}{n} = \frac{90828}{5} = 18165.6$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{16990}{10} = 1699$$

For 2012/13,

$$\begin{aligned} Y_c &= 18165.6 + 1699X \\ &= 18165.6 + 1699 \times 2 \\ &= 21563.6 \end{aligned}$$

Now, for coming Years,

Forecasted trend value of BOK

Fiscal Year	X	$Y_c = 18165.6 + 1699X$	Loan & advances (Y_c)
2013/14	$(2013/14 - 2010/11) = 3$	$Y_c = 18165.6 + 1699 \times 3$	23262.6
2014/15	$(2014/15 - 2010/11) = 4$	$Y_c = 18165.6 + 1699 \times 4$	24961.6
2015/16	$(2015/16 - 2010/11) = 5$	$Y_c = 18165.6 + 1699 \times 5$	26660.6
2016/17	$(2016/17 - 2010/11) = 6$	$Y_c = 18165.6 + 1699 \times 6$	28359.6
2017/18	$(2017/18 - 2010/11) = 7$	$Y_c = 18165.6 + 1699 \times 7$	30058.6
2018/19	$(2018/19 - 2010/11) = 8$	$Y_c = 18165.6 + 1699 \times 8$	31757.6