

**CREDIT MANAGEMENT OF COMMERCIAL BANK IN  
NEPAL**

**(With Reference to Nepal Investment Bank Limited and Nepal Credit and  
Commerce Bank Limited)**

**Submitted By**

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***In Partial Fulfillment of the Requirements for the  
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# **RECOMMENDATION**

This is to Certify that the Thesis

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**Entitled:**

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NEPAL**

**(With Reference to Nepal Investment Bank Limited and Nepal Credit and  
Commerce Bank Limited)**

*has been prepared as approved by this Department in the prescribed format of the Faculty of  
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Commerce Bank Limited)**

*And found the thesis to be original work of student written according to the prescribed  
format. We recommend the thesis to be accepted as the partial fulfillment of the  
requirements for the **Master's Degree of Business Studies (M.B.S.)***

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## DECLARATION

I hereby declare that this thesis entitled **CREDIT MANAGEMENT OF COMMERCIAL BANK IN NEPAL (With Reference to Nepal Investment Bank Limited and Nepal Credit and Commerce Bank Limited)** submitted to Office of the Dean, Faculty of Management, Tribhuwan University, is my original work done in the form of partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S.) under the supervision of my thesis supervisors Associate Prof. Ms. Sneha Lata Kafle and Mr. Laxman Raj Kandel of Shanker Dev Campus.

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# TABLE OF CONTENTS

**Recommendation**

**Vive- Voce Sheet**

**Declaration**

**Acknowledgement**

**Table of Contents**

**List of Tables**

**List of Figures**

**Abbreviations**

**Page No.**

## **CHAPTER – 1: INTRODUCTION**

**1-11**

1.1 Background of the Study	1
1.2 Information about Bank Under Study	5
1.2.1 Nepal Investment Bank Ltd.(NIBL)	5
1.2.2 Nepal Credit & Commerce Bank Ltd	5
1.3 Statement of the Problem	7
1.4 Objectives of the Study	10
1.5 Significant of the Study	10
1.6 Focus of the Study	10
1.7 Limitation of the Study	11
1.8 Organization of the Study	11

## **CHAPTER – 2: CONCEPTUAL FRAMEWORK AND**

### **REVIEW OF LITERATURE**

**12-45**

2.1 Conceptual Review	12
2.1.1 Concept of Commercial Bank	13
2.1.2 Functions of Commercial Banks	15
2.1.3 Concept of Credit	16
2.1.4 Types of Credit	17

2.1.5	Objectives of the Sound Credit Policy	20
2.1.6	Lending Criteria	20
2.1.7	Principles of sound lending policy	21
2.1.8	Some Important Banking Terms	25
2.1.9	Project Appraisal	29
2.1.10	Provisions of NRB for Extending Advances & Investment in Productive, Priority and Deprived Sector	29
2.2.1	Review of Articles	37
2.2.2	Review of Thesis	40
2.3	Research Gap	45
<b>CHAPTER –III: RESEARCH METHODOLOGY</b>		<b>46-64</b>
3.1	Introduction	46
3.2	Research Design	46
3.3	Population and Sample	46
3.4	Data Collection Method	48
3.5	Reliability of data	48
3.6	Data Analysis Tools	49
3.6.1	Financial Tools	49
3.6.2	Statistical Tools Used	54
<b>CHAPTER – IV: DATA PRESENTATION AND ANALYSIS</b>		<b>65-90</b>
4.1	Financial Condition of selected Nepalese Commercial Banks	60
4.1.1	Liquidity Ratio	60
4.1.1.1	Cash Reserve Ratio (CRR)	60
4.2	Loan Practices in NIBL and NCC	62
4.2.1	Total Loans & adv. to Total Deposit ratio	62
4.2.2	Total loan & adv. to total Assets Ratio	64
4.2.3	Loan Loss Provision to Total Loan & adv. Ratio	65
4.2.4	Non-performing Loans to total loan ratio	67
4.3	Profitability Ratio	69

4.3.1	Financial Surplus to total Assets Ratio / Return on Assets	69
4.3.2	Return on Capital Employed/fund on risked assets (ROCE)	70
4.3.3	Interest Expenses to Total Deposit Ratio	73
4.4	Statistical Tools	75
4.4.1	Strengths/Weakness of the Credit management of the Commercial banks	75
4.4.1.1	Relationship between the Total loan & adv. and Net Profit	76
4.4.1.2	Relationship between the Total loans and Total deposit	77
4.4.1.3	Relationship between the Total loans and Total Non-Performing Loans	77
4.4.2.1	Trend Analysis of Net Profit After Tax of NIBL and NCC bank	79
4.4.2.2	Trend Analysis of Loan of NIBL and NCC	80
4.5	Major Findings of Study	81

## **CHAPTER – V: SUMMARY, CONCLUSION**

### **AND RECOMMENDATIONS**

**91-95**

5.1	Summary	87
5.2	Conclusion	89
5.3	Recommendations	91

## **Bibliography**

## **Appendices**

## LIST OF TABLES

<b>Table No.</b>		<b>Page No.</b>
4.1	Cash Reserve Ratio in (%)	61
4.2	Total Loan & adv. to Total Deposit Ratio (in %)	63
4.3	Total loan & adv. to total Assets Ratio (in %)	64
4.4	Loan Loss Provision to Total Loan & Advances (in %)	66
4.5	Non-performing Loan to Total Loan ratio (in %)	67
4.6	Financial Surplus to total Assets Ratio of Sample Banks in (%)	69
4.7	Return on Capital Employed/fund on risked assets (ROCE) in (%)	71
4.8	Interest Income to total loan (in %)	72
4.9	Interest Expenses to Total Deposit Ratio (%)	74
4.10	Correlation coefficient between Total Loan & adv. and Net Profit	76
4.11	Correlation coefficient between Total Loan and Total Deposits	77
4.12	Correlation coefficient between Total loans and Total Nonperforming Loans	78
4.13	Forecasted Trend Analysis of NPAT for next six years ( in million)	79
4.14	Forecasted Trend Analysis of total loan for next six years ( in million)	80

## LIST OF FIGURES

<b>Figure No.</b>		<b>Page No.</b>
4.1	Cash Reserve Ratio of sample banks in (%)	62
4.2	Total loans to total deposit	64
4.3	Total loan & adv. to total Assets Ratio (in %)	65
4.4	Loan loss provision to total loan	67
4.5	Nonperforming loan to total loan ratio (in %)	68
4.6	Financial Surplus to total Assets Ratio for the Sample Banks	70
4.7	Return on Capital Employed/fund on risked assets (ROCE)	72
4.8	Interest Income to total loan (in %)	73
4.9	Interest expenses to total deposit ratio	75
4.13	Forecasted Trend Analysis of NPAT of Sample banks	80
4.14	Forecasted Trend Analysis of total loan of Sample banks	81

## ABBREVIATIONS

A.D	Anno Domini
A.M	Airthematic Means
AFS	Available for sale
BFIS	Bank and Financial Institutions
CDs	Certificate of Deposits
CRR	Cash Reserve Ratio
CV	Coefficient of variance
DDA	Demand Deposit Account
EBL	Everest Bank Limited
FDIC	Federal Deposit Insurance Corporation
GAO	General Accounting Office
GDP	Gross Domestic Product
GLBA	Gramm-Leach-Bliley Act
HBL	Himalayan Bank Limited
MMDAS	Money Market Demand Accounts
HTM	Held to maturity
JV	Joint venture
MMAAs	Money market Assets
NBL	Nepal Bank Limited
NIBL	Nepal Investment Bank Limited
NCC	Nepal Credit and commerce

NOWAs	Negotiable Order of Withdrawal Accounts
NPAs	Non- Performing Assets
NRB	Nepal Rastra Bank
OCC	Office of the comptroller of the Currency
ROCE	Return On Capital Employed
SCBNL	Standard Chartered Bank Nepal Limited.
SWOT	Strength Weakness Opportunity and Threat
TAF	Term Auction Facility
VBB:	Vibor Bikash Bank Ltd.

# **CHAPTER-I**

## **INTRODUCTION**

### **1. Introduction**

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

The poor structure of Nepalese economy slow paced industrial sector, low rate of employment, majority on non-organized financial sector, lack of organized capital market etc. have always been demanding an efficient, competent and liberalized banking industries. The existence of an ideal commercial banking system regularizes the scattered fund from public. Lending it to productive sector, if reduces the idle saving a country. Commercial Banks, It succeeded in increasing the banking habit of people. Would have great power in multiplying the deposits by way of credit creation and this would multiply the investment more than the limit granted by the national savings. The role of commercial banks in the economy like Nepal can be Judged from its contribution to a farmer to purchase a buffalo, to a big industry to established it industrial foundation, to an exporter to produce the exporting goods and to link the economy, trade and commerce in front of the opportunities goods and to link the economy, trade and commerce in front of the opportunities and challenges created by the globalization. Nepalese banking, If worked efficiently in pursuit of its ideology, it would be the people's hope towards the banking system is dependent upon it efficiency to implement its lending and investment function. "The two essential functions of commercial banks may best be summarized as the borrowing and lending of money. They borrow money by taking all kinds of deposits. Then it provides this money to those who are in need of its by grating overdrafts to fixed loan or by discourging bills of exchange or promissory notes.

Thus, the primary function of a commercial bank is that of a broken and dealer in money. By discharging this function of a commercial bank is that of a broken and dealer in money. By discharging this function efficiently, a commercial bankers renders a valuable service to the community by increasing the productive capacity of the country and there by accelerating I the pace of economic development

As financial institution, commercial bank is one of the major media in the frameworks of every economy because they collect scattered savings provides loan to the various sector according to the need of client. When bank provides loan new business and industries is established which infrastructure of national development, direction of economy rate of progress is strengthen by banking system. The primary issue of development is to increase investment. In productive sector of economy such as industrial and commercial, production, trade and commerce, international businesses generation of individual income and expenditure, government revenue etc.

Generally, banks refer to a commercial bank at present. Therefore, the activities of a commercial bank are synonymous to banking. A commercial bank refers to such type of bank, which deals in much exchange accepting deposits advancing loans. The pace of time has changed the portfolio of banking business from its primary function to.

Other functions such as merchant banking credit. Card business, documentary credit, travelers cheques business, home banking etc.

Lending is one of the most important functions of commercial bank. Credit in finance is the term used to denote transactions involving the transfer money or other property on promise of repayment usually at fixed future date. The person who deposit money in the bank they becomes creditors and the person who borrows m money from the bank they become debtor of the banks. The principal function of credit is first to transfer property in the name of bank, which want to take loan. The transfer is temporary made for a long price and interest. In present context lending money has become one of the main sour the bank. It plays an intermediary in channeling funds from lenders savers to borrowers/spenders. The quality of loan. Quality of borrower and quality of securities determine the health of any banker at the time of providing loan bank should follow some principle s that bankers should follow while granting loan. Besides that the character of person receiving credit, the capacity of borrower of utilize the fund, the percentage of borrower stake in the business are the basic elements, which measures the quality of borrow and the quality of loan. "The classical economic functions of and other financial intermediaries all over the world have-remained virtually unchanged in modern times. What lave been changed

are the institutional structure, the instrument and the techniques and used in performing these function.

The concept of the banking has been developed from the ancient history with the effort of ancient goldsmiths who developed the practice of storing people's gold and valuables under such arrangement the depositors would leave their gold for safekeeping would get back their gold and valuable after paying a small amount as fee for safekeeping and serving. 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 financial institutions are:

- ❖ Commercial banks
- ❖ Development banks
- ❖ Finance companies
- ❖ Savings and credit associations
- ❖ Mutual saving banks
- ❖ Credit unions
- ❖ Insurance companies
- ❖ Pension funds
- ❖ Investment companies
- ❖ Investment bankers
- ❖ Securities brokers and dealers

Banks grant loans and advances to industries. People and companies that result in the increase in the productivity of nation. For example: against to agricultural sector enhances the agricultural production. The loan amount can be used by the farmers as per their need to produce their product that will promote the agriculture production. Similarly the loan and advances to different people and corporate bodies help to increase their income and profits. They can use the amount as per their need at right place at the right time. Bank is a business organization where monetary

transaction occurs, it creates fund from its clients saving and lends the same to needy person or business companies in term loans, advances and 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.

Banking plus a significant role in the economic development of a country. Nepal bank limited (NIBL) is the first commercial bank of the country. Commercial banks are the heart of the financial institutions.

They hold the deposits of many persons, government establishments and business units. They made funds available through their lending and investing activities to borrowers, individuals, business firms and government establishments. So, they assist both the flow of goods and services from the procedures to consumers and financial activities of the government. They provide large proportion of the medium of exchange they are the media through which monetary policy is affected. These facts show that the commercial banking system of the nation is important to the functioning of the economy. Bank is a resource for the economic development. This maintains the self-confidence of carious segments of society and extends credit to the people.

The more developed financial systems of the world characterically, 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 named 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 similarly, non-fund based credit can be classified into documentary credit, guarantees and bill co-acceptance facility. Loan etc.

## **1.2 Information about Banks Under Study**

### **1.2.1 Nepal Investment Bank Ltd. (NIBL)**

Nepal investment Bank Ltd. (NIBL), previously Nepal Indosuez Ban Ltd. was established in 1986 as a joint venture between Nepalese and, French partners. The French partner (holding 50% of the capital of NIBL) was credit Agricola Indosuez. A subsidiary of one of the largest banking groups in the world.

With decision of credit Agricola Indosuez to divert, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% shareholding of credit Agricola Indosuez in Nepal Indosuez in Nepal Indosuez ban Ltd.

The name of the bank has been changed to Nepal Investment Bank Ltd. upon approval of bank's annual General meeting. Nepal Rastra Bank and company Register's office with the following shareholding structure.

- ❖ A group of companies holding 50% of the capital.
- ❖ Rashtriya Banijya bank Holding 15% of the capital.
- ❖ Rashtriya Beema Sansthan Holding the 15% percentage.

The remaining 20% being held by the general public (which means the NIBL is a company listed on the Nepal Stock Exchange).

### **1.2.2 Nepal Credit & Commerce Bank Ltd:**

**Nepal Credit & Commerce Bank Ltd. (NCC Bank)** formally registered as Nepal - Bank of Ceylon Ltd. (NBOC), commenced its operation on 14th October, 1996 as a Joint Venture with Bank of Ceylon, Sri Lanka. It was the first private sector Bank with the largest authorized capital of NRS. 1,000 million. The Head Office of the Bank is located at Siddhartha Nagar, Rupandehi, the birthplace of **LORD BUDDHA**, while its Corporate Office is placed at Bagbazar, Kathmandu.

The name of the Bank was changed to Nepal Credit & Commerce Bank Ltd., (NCC Bank) on 10th September, 2002, due to transfer of shares and management of the Bank from Bank of Ceylon, an undertaking of Government of Sri Lanka to Nepalese Promoters.

At present, NCC Bank provides banking facilities and services to rural and urban areas of the country through its 22 branches. The Bank has developed corresponding agency relationship with more than 150 International Banks having worldwide network.

### **Capital Structure**

Authorized Capital - Rs. 2 Billion

Issued Capital - Rs. 2 Billion

Paid up Capital - Rs. 1.4 Billion

The Bank is using Pumori Plus, the most commonly used software by Nepalese Banks. The Bank offers Any Branch Banking Service (ABBS) in all 22 branches. Telex and SWIFT are other modes of communication for efficient and effective transmission of information. In order to facilitate the customers with state of art technology, Bank is providing Debit Card facilities under the SCT (Smart Choice Technology) Network jointly in consortium with **40 other member Banks**. This facility enables the customers to withdraw cash from any of the **167 ATM Terminals** located at different parts of the country and to purchase goods from more than **743 shopping complexes and departmental stores** under POS arrangement. NCC Bank has strategic alliance with ICICI Bank, which facilitates our customers to remit their money to more than 670 locations of India through ICICI Bank branches and their correspondent Banks in India. Our customers can affect their money transfer to India either through Speed Transfer Arrangement or through Demand Draft Arrangement. Under Speed Transfer Arrangement, money can be credited on-line to the beneficiary's account at more than 400 branches of ICICI Bank, India. Under Demand Draft Arrangement, the Bank can issue draft payable at more than 670 locations in India.

We are globally connected through various prominent Banks in Asia, Europe and North America like American Express Bank, Standard Chartered Bank, UBAF etc. Our services across the globe include remittance, draft arrangement, import and export business, guarantee etc.

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

Most major banking problems have been awareness of the need to identify measure, monitor and control credit as well as to determine that they hold adequate capital against it. These risks that

they are adequately compensated for risks incurred. So, 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 their every need of the organization. Customers and can serve the society. To improve the profitability situation of the bank. It is necessary to stability is the major source and building better creditability position is the major strategy of every commercial bank. Credit is the most effective and sincere area in commercial bank. It is regarded as the heart of every commercial name. 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 ate considered as a clear evident in present situation. Thus, the specific research questions regarding credit management in Nepalese commercial naming sector are identified as follows:

- a. Is the credit practices adopted by commercial banks in good position?
- b. What is the credit efficiency of the Nepalese commercial banks?
- c. Is there any relationship between credit position and profitability situation?

Nepal is a small country with small market economic condition of the country is degrading due to conflict since 2052 B.S. But the si he latest banking technology to provide better, reliable and efficient services at a reasonable cost, to facilitate trade by making financial transactions easier, faster and more reliable through relationships with foreign banks and money transfer agencies, to contribute the overall social development of Nepal.

- ❖ Liquidity is maximum.
- ❖ Credit company is not available therefore the banks are providing credits on the basis of their own judgments.

- ❖ Due to the lack of enough in investment sectors, banks are competing unfairly in the limited area.
- ❖ Due to poor credit administration, the credit recovery process is slow.
- ❖ Non-performing credit is going upward.
- ❖ Clear-cut objectives and policy of the credit management is lacking.

Writing off the non-performing assets is not satisfactory. The legal process in the recovery of credit is lengthy and profitability situation?

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 on.

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 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 quality has not been satisfactory. The joint venture banks are not interested in granting loan to the priority sector. Joint venture banks have concerned their operation only in urban areas. The number of commercial banks and other financial institutions are increasing in recent time. Name of commercial banks in long run can service without implementing effective lending policy and practices. Commercial banks in Nepal have been facing various challenges and problem. Some of them arising due to the economic condition of the country, some of them arising due to confused policy and government many of them arising due to default of borrowers, some of them liquidity is maximum and due to unhealthy competition among the banks, the recovery to the banks credit is going towards negative trends. Non-performing credits of the banks are increasing year by year. To control such type of state,

the regularly body of the banks and financial institutions NRB has renewed its directives of the credit loss prevision. Therefore it is necessary to analyze the credit management or credit disbursement recovery provision for loss and write off the credit. As the samples of commercial banks 'NIBL' and 'NCC' have been selected.

The problems faced by the banks can be pointed out as follows:

- ❖ Liquidity is maximum.
- ❖ Credit company is not available therefore the banks are providing credits on the basis of their own judgments.
- ❖ Due to the lack of enough in investment sectors, banks are completing unfairly in the limited area.
- ❖ Due to poor credit administration, the credit recovery process is slow.
- ❖ Non-performing credit is going upward.
- ❖ Clear-cut objectives and policy of the credit management is lacing.
- ❖ Writing off the non-performing assets is not satisfactory. The legal process in the recovery of credit is lengthy and ineffective.

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

It 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. Therefore the main objectives of the study are to find out the credit management position of the 'NIBL' and 'NCC'.

- a. To analyze the credits and the advances provided by the two banks.
- b. To find out the strength and weakness in the credit administration of the two banks.
- c. To analyze the performance of the bank.
- d. To analyze the lending efficiency of the bank and its contribution in profit.
- e. To offer suitable and beneficial suggestions based on findings of this study.

### **1.5 Significant of the Study**

At present the joint venture banks are gaining a wide popularity through their efficient management and professional services and playing an eminent role in the economy. This study no doubt will have importance to various groups but in particular is directed to a certain group of people organizations, which are:

- a. Importance to Shareholders.
- b. Importance to management of these banks for the evaluation of the performance of their banks, and in comparison with other banks.
- c. Importance of "outsiders" which are mainly the customers, financial agencies.
- d. Importance to government bodies or the policy makers such as the central bank.
- e. Interested outside parties such as investors, customers (depositors as well as credit takers) : competitors personnel of the banks, stock brokers, dealers, market makers and students who want to know about credit practice of commercial bank.

### **1.6 Focus of the Study**

This study confirms the analysis of credit advances (i.e. credit disbursed and recovery) of two commercial banks. The present study analytically discloses the strength and weakness of the commercial banks in relation to credits disbursed and their recovery.

Here 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 correlation, coefficient of determination and trend analysis hypothesis 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.

### **1.7 Limitation of the study**

Although this study will try its utmost care to cover most of the important sectors it is still subject to the following limitations, which are as follows:

1. This research study is concentrated only on those factors that are related with credit practices.
2. This study largely depends on published documents as balance sheet, profit and loss account statements, which are circulated at the close of the financial year.
3. This study is associated only to the financial performance of 'NIBL' and 'NCC'.

4. In this study only selected financial and statistical tools and techniques are used.
5. The study will base on only the past five years period.
6. The study deals with mainly secondary data.

### **1.8 Organization of the Study**

The Study will comprise following chapters.

In **chapter-I (Introduction)**, this chapter will include background of the study introduction of 'NIBL' and 'NCC', statement of the problem, objectives, significance, focus, limitation, organization of the study itself.

In **chapter- II (Review of Literature)**, this chapter will include research design data collection, method of analysis and research variables. In **chapter-III (Research Methodology)**, this chapter will include research design data collection, method of analysis and research variables. In **chapter-IV (Presentation and Analysis of Data)**, this chapter will include data processing, data analysis and interpretation. In **Chapter-V (Summary, Conclusion & Recommendation)**, this last chapter will contain the findings of whole study after which major conclusion and recommendations are specified.

## **CHAPTER -II**

### **LITERATURE REVIEW**

The review of literature is a crucial aspect because it denotes planning of the study. The main purpose of literature review is to find out what works have been done in the area of the research problem under study and what has not been done in the field of books, reports, journals and research studies published by various institutions. Unpublished dissertations submitted by master level students have been reviewed.

It is divided into two headings:

- Conceptual Review
- Review of related studies

#### **2.1 Conceptual Review**

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

Bajracharya (1991), in his article "Monetary policy and deposit mobilization in Nepal" has concluded that mobilization of the domestic saving is one of the prime objectives of the monetary policy in Nepal. And commercial banks are the most active financial intermediaries for generating resources in the form of deposits of the private sector and providing credit to the investors in different sectors of the economy.

Book named "Banking Management" says that in the banking sector or transaction, the unavailability of loan management and its methodology is regarded as very important. Under this management, many subject matters like the policy of loan flow, the documents of loan

administration, audit of loan, the condition of loan flow the provision of security, this management plays a great role in healthy competitive activates (Bhandari, 2003;170).

It is very important to be reminded that most of the bank failures in the world are due to shrinkage in the value of loan and advance. Hence, risk of non-payment of loan is known as credit risk default risk (Dahal, 2002:114). Portfolio management helps to minimize or manage the credit risks by spreading over the risk to various portfolios. This method of managing credit risk is guided by the saying do not put all the eggs in a single basket (Bhandari, 2004; 300).

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

Before defining the term commercial bank, let us define the meaning of bank and commercial. According to S. and S.'s definition of bank, a banker or bank is a person or company carrying on the business of receiving money and collecting drafts, for customers subject to the obligation of honoring cheque drawn upon them from time to time by the customers to the extent of the amount available on their customer (Shekher and Shekher, 1999; 4).

Paget (1987), states that no one can be a banker who does not take deposit accounts take current accounts, issue and pay cheque of crossed and uncrossed, for his customers. He further adds that if the banking business carried on by any person is subsidiary to some other business; he cannot be regarded as a banker.

Commerce is the financial transactions related to selling and buying activities of goods and services. Therefore Commercial view point. They perform all kinds of banking functions as accepting deposit, advancing credits, credit creation and agency functions. They provide short-term credit, medium term credits and long terms credit to trade and industry. They also operate off balance sheet functions such as issuing guarantee, bonds, letter of credit, etc.

The Commercial Bank pool together the savings of the community and arrange for their productive use. They supply the financial needs of modern business. They accept deposits from the public, which are repayable on demand or on sort notice. They cannot afforded to invest their funds in long-term securities or loans. Their business is restricted to financing the short-term

need of trade and industry. In their day-to-day transactions they cannot afford to supply the block capital required for the purchase of fixed assets. They grant loans in the form of cash credit and overdrafts. They also render a number of subsidiary services such as collection of bills and cheques, Safe keeping of valuables of their customers etc. They provide short-term accommodation by discounting the bills of exchange. Commercial banks in general advance loan for short periods to industry and agricultural" (Radhaswamy, 1979; 495)

"Although Commercial banks are privately owned enterprises they have been given the extra ordinary power to create money in form of demand deposits, all well as to extinguish money so created" (Kent, 1972;323)

Commercial banks are 'financial intermediaries' for they borrow from those who are not immediately spending all their current receipts and they lend to those who have intentions of immediate spending on goods beyond the range of their own current receipts. (Sayers, 1967; 17)

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

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

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

- Accepting Deposit
- Advancing Credit

- Agency Services
- Credit Creation
- Financing of foreign Trade
- Safekeeping of Valuable
- Making Venture Capital Credits
- Financial Advising, Security Brokerage Services.

### **Assist in foreign Trade:**

The bank assist the traders engaged in foreign trade of the country. He discounts the bills of exchange drawn by exports to receive money in the home currency. Similarly, he also accepts the bills drawn by foreign exports (Vaidhya, 1999;29)

### **Offers Investment Banking and Merchant Banking Services**

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

### **2.1.3 Concept of Credit**

Credit is the amount of money lent by the creditor (bank) to the borrower (Customers) either on the basis of security or without security. Sum of the money lent by a bank, is known as credit (Oxford advanced learners Dictionary 1992; 279). Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credits and advances, which is one of the major sources of income for banks. Bank prepares credit portfolio,

otherwise it will not only add bad debts but also affect profitability adversely, (Varshney and Swaroop, 1994; 6)

Credit is a present right to a future payment. It is the power to obtain goods or services by giving a promise to pay money (or goods) on demand or at a specified date in the future. It may be defined as the power to secure commodities or services at the present time in return for some equal thing or services at a future date. A credit in Law, Commerce and Economics is the right which one person, the creditor has to compel another person, the debtor to pay or do something. It may be called a "short sale" of money, it means "sale on trust". (Johnson, 1940; 224) "Credit is the purchasing power." (Mill, 1945; 18)

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 repayment on specified date on demand. Banks generally grant credit in four ways (Chhabra and Taneja, 1991:4)

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

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

##### **Overdraft:**

It denotes the excess amount withdrawn over their deposits.

##### **Cash Credit:**

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

**Term Credit:**

It refers to money lent in lump sum to the borrowers. It is the 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 year 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 a 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/weak/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 carry out 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 banks are planning to offer installment credits on a variable rate basis. It can be secured and unsecured as well as direct and indirect installment credit.

### **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 develop for the purpose of completing proposed projects. Maturities on construction credits range from 12 months to as long as 4 to 5 years, depending on the size of the specific project (Johnson, 1940:242). The basic guiding principle involved in disbursement policy is to advance funds corresponding to the completion stage of the project. Hence, what percent of the credit will be disbursed at which stage of completion must be spelled in disbursement policy? term of 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. financiers bank equal (or Likely) charge on the project's assets.

### **Credit card 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 card, 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.

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

The purposes of a written credit policy are

- To assume 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.

### **2.1.6 Lending Criteria**

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

#### **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.
- Reference of other lenders with whom the applicant has dealt in the past or bank A/C statement of the customer.

#### **Capacity**

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

- Certified balance sheet and profit loss account for at least past 3 year.
- 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.

#### **Capital**

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

## **Collateral**

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

## **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 acceptances is accepted.

### **2.1.7 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.

## **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 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 portions of the deposits received for honoring the demands made by the customers. Only the balance can be safely. the banks endeavor is of the 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.

### **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.

### **Profitability**

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

Lending rates are affected by banks' internal policy like credit rating of the borrower, bank rate of NRB, inter-bank competition and NRB's guidelines on lending rates.

### **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 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.

### **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 is 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.

### **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.

### **National Interest and suitability**

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

### **2.1.8 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.

#### **A. 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 service 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.

## **B. Loan and Advances**

Loan, advance and overdraft are the main sources of income for a bank. Bank deposit 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.

## **C. 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 want to space it maturates so that the inflow of cash coincide with expect withdrawals by depositors or large loan demands of its customers.
- 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.

However, investment portfolio of commercial bank is established and maintained primarily with a view of nature of banks. Liabilities that are since depositors may demand fund 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.

#### **D. Investment on other Company's Share and Debentures**

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

#### **E. Liquidity**

Liquidity is the ability of 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 commercial bank and the bank should maintain adequate amount of cash in its vault and NRB for its daily operation and administrative purpose. As per the arrangement of NRB effective from fiscal year 2004/05, the commercial banks are required to maintain cash reserve of 5% with NRB of its total deposit liability with NRB. The previous provisions of cash in vault maintenance have been withdrawn now.

#### **F. Capital Adequacy**

Capital is the blood of any business without which business cannot be run or established. In financial term, capital is the excess of assets over liabilities and can be defined as the wealth, which is employed for the 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 require 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.

## **G. 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 through they have risk. Nowadays, some economists and finance specialists to expand the modern transactions of a bank stressfully highlight such activities.

## **H. Banking Risks**

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

### **Credit Risks**

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, its 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 with is 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.

### **2.1.9 Project Appraisal**

Before providing credit to the customer, bank makes analysis of project from various aspects and angles. It will help the bank to see whether project is really suitable to invest. The purpose of project appraisal answers the following questions:

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

Generally, the project appraisal involves the investigation from the following aspects (Gautam, 2004;258):

- Financial aspect
- Economic aspect
- management / Organizational aspect
- legal aspect

### **2.1.10 Provisions of NRB for Extending Advances & Investment in Productive, Priority and Deprived Sector**

#### **Productive Sector**

Productive Sector include advances to Priority Sector and Other productive Sector which includes advance 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, godown, banking or like companies etc.

As per NRB regulation, commercial banks are required to extend 40% of the total advances to productive 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 service, 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."

NRB has provided the requisite proportion of Priority Sector lending as follows:

**Table No.1**  
**NRB Requirement of Priority Sector Investment**

Fiscal year	Minimum Percent of Total Credit to be invested in Priority Sector
2004/05	7%
2005/06	6%
2006/07	4%
2007/08	2%
2008/09	2%
2009/10	Not compulsory
2010/11	3%
2011/12	3%

Source: NRB Directives 2012

### **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 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.

### **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 32(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 Advance whose principal amount are not past due for a period up to 3(three) months shall be included in this category. Thesis 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 for 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 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 and 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 and 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 a 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 overdue 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 and advances and accordingly be provided with requisite provisioning.

Prohibition to Recover Principal and Interest by Overdrawing the Current Account and Exceeding the Overdraft Limit Principal and interest on loans and 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 and interest by debiting the customer's account and

recovery is made as such resulting in overdraft, which is not settled within one month, such overdrawn, principal amount shall also be liable to be included under the outstanding loans and 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 and advances and purchase classified as per this Directives, shall be provided as follows:

<b>Classification of Loan</b>	<b>Loan Loss Provision</b>
Pass	1%
Substandard	25 %
Doubtful	50 %
Loss	100%

Note: Loss loan provision set aside for performing loan is defined as "general loan loss provision" and loan loss provisions set aside for Non-performing loan is defined as "Specific Loan Loss Provisions".

### **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 25% point shall also be provided. Classification of such loans and advances shall be prepared separately.

### **Rescheduling and Restructuring of loan**

In respect of loans and 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 determination 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 condition.
- Evidence of existing of adequate loan documentation.
- An evaluation of the borrower/enterprises' 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 Clauses (13.1) above, payment of interest according to the loan contract as originally specified should have been collected. The loan loss provision, in respect of rescheduled restructured and swap loans, shall be provide at minimum 12.5% Separate statement shall be pared 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 requested 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 of 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 classification. If the bank's response is not satisfactory, Nepal Rastra Bank shall initiate following action in exercises 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 32 of Nepal Rastra Bank Act 2012 with amendment.

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

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

#### **2.2.1 Review of Articles**

Shrestha, (1998) in her article "Lending operations of commercial banks of Nepal and its impact on GDP" presented the objectives of make an analysis of contribution of commercial bank's lending to the Gross Domestic Product (GDP) of Nepal. She has set a hypothesis that there has been a positive impact of lending of commercial banks to the GDP. In research methodology. She has considered GDP as the dependent variable and various sectors of lending viz. agriculture, industrial, commercial, service, general and social sectors as independent variables. A multiple regression technique has been applied to analyze the contribution.

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

impact on GDP by the lending of commercial banks in various sectors of economy, except service sector investment."

Bhattarai, (2002) in his article 'Something is rotten with the state of commercial banking in Nepal' starts with words like NPA, conflict of interest, mercy offshore ownership, well connected defaulter, loan swapping and political obstruction to describe the commercial banks in Nepal. Mr. Bhattarai quoted the words of the Government to describe the state of banking sector as 'terrible'. Also, he quotes one of the donor representatives involved in financial reform a "Nepal has the weakest central bank in the developing world." As per the author, bankers with patronage could get away with getting anything they wanted approved by the regulator. He quotes Mr. Investment SJB Rana, the first governor of NRB, "only 3 out of 12 Governors actually completed their five year terms in its entire history because they were sacked for undefined exigencies." he also quotes Pant, (2001) the Executive Director of Nabil." The financial sector is in appalling state."

Bhattarai says that all the evidences gathered for his article point to one direction the regulatory body, NRB not doing its job properly. He explains that the malaise with the financial sector was deep. As an instance, he presents Nabil Bank and its ownership. He bets on the fact that even Nabil Bank Shareholders do not know of the Bank's owners of the major block of shares. The author expects NRB to disclose this fact if they know about.

Another example Bhattarai presents is on the profitability of these banks in the very first year. He questions their profit figures with the given state of ailing economy. Where each sector is showing heavy losses. Also, the increasing trend of non performing Assets (NPAs) is explained by him as a result of scam. A scam process as explained to him by an NRB official goes like this, "You put in Rs. 50 million to promote a bank and then borrow Rs. 500 million from it. They are not opening banks to do banking but to siphon loans for themselves." However, the author is of a view that the new directives issued on October 2001 shall improve the situation.

Here, the author has not clearly mentioned for the research methodology. The conclusions are not well supported by data. The article reflects a one sided biased view of the author and the view of NRB on this has not been taken. The conclusion made by the author has not been tested.

"Central bank tightens blacklisting procedures". NRB has issued directives to all commercial banks and financial institution ensuring-greater transparency during loan disbursement. As per new provisions, all commercial the financial institutions are now required to disclose the name of loan defaulters in every six months. Until now there was no such legal system of disclosing the loan defaulter's name. The new directives have also barred the financial institutions from lending any amount to the blacklisted defaulter and his family members. The credit information Bureau (CIB) can blacklist the firm, company or clear the debt within the stipulated period. As per the set criteria for blacklisting, the CIB would monitor those individuals and companies that have the principle loans of above Rs. 1 million. If the creditor fails to clear the amount within time, or is found missing the loans among others, the creditor can be blacklisted." (Kathmandu Post, 2003; 9)

Due to slowdown in the world economy and deteriorating law and order situation of the country, many sectors of the economy are already sick. When any sector of economy catches cold, bank starts sneezing. From this perspective, the banking industry as a whole is not robust.

"In case of investors having lower income, portfolio management may be limited to small saving income". But on the other hand, portfolio management means to invest funds in various schemes of mutual funds like deposits, shares and debentures for the investors with surplus income. Therefore portfolio management becomes very important both for an individuals as well as institutional investors. Large investors would like to select a best mix of investment assets" (Shrestha, S.R., 2055; 13)

"A study of deposits and credits of commercial bank in Nepal" the credit deposit ratio would be 51:30 percent, other things remaining the same, in 2004 AD, which was the lowest under the period of review. So the commercial bank should try to give more credit entering new field as

far as possible. Otherwise they might not be able to absorb even its total expenses" (Shrestha, 2045; 12)

Investment Planning of Commercial Banks in Nepal." Portfolio (loan and investment) of commercial banks has been influenced by the variable securities rates. Investments' planning of commercial banks in Nepal is directly traced to fiscal policy of government and heavy regulatory procedure of the central Bank (NRB) so; the investments are not made in professional manners. Investment planning and operation of commercial banks in Nepal has not been found satisfactory in term of profitability. To overcome this problem she has suggested, commercial bank should take their investment function with proper business attitude and should perform lending and investment operation efficiently with the proper analyze of the project." (Shrestha, 1993; Investment planning of commercial Banks in Nepal)

### **2.2.2 Review of Thesis**

**Subedi (2009)** conducted a thesis entitled on "Credit management in commercial banks of Nepal. NABIL Bank , standard chartered Bank, Everest Bank and Himalayan Bank"

His research's objectives are:

- To analyze the volume contribution made by sample banks in credit and advances.
- To analyze the mobilization of deposit in credit of sample Banks.
- To study the relationship of deposit ,loan and advances and net profit of sample banks .
- To provide suitable suggestions for effective credit management.

The research findings of the study are:

- HBL has disbursed highest credit and advances than others.
- HBL has utilized the total deposit maximally than other banks in granting loan and advances.
- SCBNL has remained more effective in managing credit to gain highest interest income .
- The interest income on credit and advance to total assets has indicated that Credit and advances is major source of income in banks.

**Pandey(2009)** Conducted a research on (A comparative study on Credit management of Nepal Bank Ltd) The main objective of this research are as follow:

- To analyze the lending system of the bank.
- To examine the import of growth in deposit on liquidity and lending practices.
- To assess Credit practice of the bank.
- To explore the relationship with loan and advances and net profit of the bank.
- To provide suggestions and recommendations for the improvement based on the findings of this study.

Major Findings on this research work are:

- At the time of financial reengineering process of NBL, loan investment policy has been brought. New policy of lending focuses on cash flow lending by passing out collateral based lending
- liquidity Position of NBL seems strong . It is obvious that is the present situation of the country, investment potential is not favorable, so the liquidity is sufficient in the bank.
- Most of the banks are of Nepal nowadays are focusing on consumer lending ,NBL also falls on the same category. This is because of loadshedding.
- NBL has invested money in growing credit and advances but the recovery process of the bank is slow. Efficiency in management is not satisfactory.
- Most of the credit customers of NBL are satisfied with the banks . Customers said that the main strength of NBL Is Lending Intrest Rate. The Lending Rate Of NBL is found low in comparison of other Banks.
- By analyzing market demand and trend , NBL has brought retail banking facilities like Home Loan ,Margin lending whose market performance at present seems satisfactory.
- For effective credit management and customers service ,NBL has been making great effort for the development and empowerment of employees by conducting various training related to credit management and customer service . So that they could provide the best service to the customers as well as credit risk could be deducted.

**Upreti (2010)** conducted a research on (A comparative study on Credit management of commercial Banks with reference (NIBL and NIC) Banks . the main objectives of this research are as follows:

- To analyze the functions ,procedures and activities of commercial banks credit policy.
- To analyze the credit and advances provided by commercial banks.
- TO analyze the recovery status of credit disbursed.
- To find out the strength and weakness in credit administration of commercial Banks.

His major findings are as follows:

- Average loan and advances ratio of NIBL and NIC is 0.71 and 0.78. NIC has maintained higher loan and advances to total deposit which shows that NIC seems to be strong to mobilize its total deposit as loan and advances . All banks are capable to use more than 50% of deposit on loan and advances . If maintained this , it helps to make consistency on the profitability of banks .
- The average interest income to loan and advances of NIB is 0.05. ratio of NIB doesnot show clear direction .Average interest income to loan and advances ratio of NIC is 0.041 and in terms of the average ratio of NIB has best performance.
- NIB has lowest non performing loan to total loan and advances ,this NIB is the best performance than NIC. Banking sector is seriously affected by non performing loan. 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 the both banks.(NIB& NIC) to be sincere while granting loan and to do effective follow up for recovery of nonperforming loan.
- Correlation coefficient between non performing loan and loans of NIB is -0.666, which shows moderate , negative correlation .It indicates that non performing loan and loans were moderately, negatively related with each other. That means decreasing on performance in loan management helps to decrease the non performing loans.

**Ghimire(2010)** conducted a thesis entitled on “study of credit management of joint venture commercial banks -Nepal Investment bank and Bank of Kathmandu” His research objectives are:

- To see credit practices of sample banks.
- To examine efficiency of selected banks.
- To find out strength and weakness in credit administration.

The research findings of the study are:

- BOK has maintained higher credit and advances to total deposit .
- Fixed deposit is the main sources of granting credit for both Banks.
- Credit loss provisioning is in decreasing trend So, it indicates efficient credit policy.
- Interest rate effects amount of deposit , which is turn affect credit.

**Gurung(2013)** conducted a thesis entitled on “ Liquidity and Credit management practices of commercial Banks in Nepal- a comparative study with reference to Nepal Investment bank LTD and Himalayan Bank Ltd).

In his thesis main objectives are as follow:

- To analyze the trend of liquid assets maintained by the selected banks.
- To evaluate the Cash reserve ratio maintained by the commercial banks.
- To analyze the credit and advances provided by the commercial banks.
- To find out the strength and weakness in the credit aministration of the selected banks.

In his research main findings of the study are

- The current ratio of HBL is slightly higher than NIBL . This indicates the HBL ability to meet its obligation due in one year is better than NIBL . similarly, the lesser SD and CV of HBL indicate that the current ratio maintained by HBL is less risky and has more uniform variability than NIBL
- NIBL has always maintained a slightly higher CRR than the NRB requirements. This has resulted NIBL higher levels of CRR than compared to HBL. This indicates that liquidity maintained by NIBL is sounder than HBL The higher SD of NIBL indicates that more CRR always come with more risk which decrease the profitability of banks. On the contrary , HBL has not maintained its CRR as NRB requirement during FY 2007/08.

- The higher cash and bank balance to current assets ratio and cash and bank balance to current liabilities ratio also signifies the same things that NIBL has greater capability of meeting its demand for cash as and when required and also has a greater ability of meeting its obligation.
- The total loans and advances to total deposit average ratio of NIBL is higher than HBL . This indicates that NIBL has successfully utilizing its deposit by granting loans and advances to earn profit. The low standard deviation and coefficient variance of NIBL also confirms this fact that NIBL is much better utilizing its fund than HBL.
- The total loans and advances to total fixed assets of HBL are higher than of NIBL. This fact suggests that HBL is more capable of utilizing its long term, high interest bearing deposits into granting loans and advances for profit purpose.
- The loan loss provision to total loans and advances witnessed NIBL having lower ratio than HBL these suggest that NIBL has a lower rate of nonperforming loans and risky assets among its total volume of loans and advances.
- The relationship between the total credit and total liquid assets of NIBL witnessed significant positive correlation. This indicates that the banks have been effective in balancing the liquidity of the banks with their need to provide loans and advances .On contrary, the insignificant relationship between the total credit and total liquid assets of HBL establishes the fact with the increase in total credit; the bank has not been carefully maintaining the volume of total liquid assets, so that the threats of liquidity crunch may see in HBL.

### **2.3 Research Gap**

Since the above mentioned studies offer limited findings, more extensive testing, and adjustment of necessary variables are needed in ordered to be more conclusive about the credit management. Previous studies were directed to find the effect of the credit management of different

commercial bank. Similarly, Joshi's study is unable to present the exact condition of credit management in Nepalese banking sector Nepal.

Presently, this study aims to attempt to study about credit management of Nepalese commercial banks in Nepal. the previous relevant literature related to banking business has just reviewed to support the study. In Joshi's study, he failed to study the perfect credit management of Nepalese commercial banks. This study tries to fulfill this weakness. And there is also less research made in this topic especially in banking sector.

Credit management has very big role to sustain any banking business. It is equally important to identify the relation of performance of the banking business. So, it tries to assess the credit management of banking sector and by providing the proper atmosphere for the banking market in our country. The present study is based on five years data of 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 Introduction**

The basic framework of this study is descriptive as well as exploratory. In order to reach and accomplish the objectives of this study, different activities are carried out and different stages are crossed during the study period. For this purpose, the chapter aims to present and reflect the methods and techniques those are carried out and followed during the study period.

#### **3.2 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 with economy in procedure.

Research Design is the plan. Structure and strategy of investigation conceived so as to obtain answers to research questions and to control variances. There are many methods of research design and this study will be based on recent historical data. Mostly secondary data and information to be collected evaluated, verified and synthesized to reach a conclusion. To achieve the objective of this study descriptive data different journals and articles relevant with the study, annual reports of different fiscal years of concerned banks, NRB directives, banking and financial statistics report published by NRB and other related materials and clients.

#### **3.3 Population and Sample**

A population in most studies usually consists of large group because of its large size it is fairly difficult to collect detailed information form each member of population. Rather than collecting information from each member, a sub group is chosen which is believed to be representative of population. This sub-group is called a sample and the method of choosing is done by sampling. The sampling allows the researcher more time to make an intensive study of a research problem. The total commercial banks shall constitute the sample under the study. So, among the various commercial banks under the banking industry 'NIBL' and 'NCC' will be taken sample for the study.

**List of Licensed Commercial Banks**

<b>No.</b>	<b>Population Banks</b>	<b>Operation Date (A.D.)</b>	<b>Samples Banks</b>
1	Nepal Bank Limited	1937/11/15	<b>Neapl Investment Bank Limited</b> <b>(Established as Nepal Indo-suez Bank Ltd.)</b>
2	Rastra Banijya Bank	1966/01/23	
3	Nabil Bank Limited (Established as Nepal Arab Bank Limited)	1984/07/16	
4	Neapl Investment Bank Limited (Established as Nepal Indo-suez Bank Ltd.)	1986/02/07	
5	Standard Chartered Bank Limited (Established as Nepal Grindlays Bank Ltd.)	1987/01/30	
6	Himalayan Bank Limited	1993/01/18	
7	Nepal Bangladesh Bank Limited	1993/06/05	
8	Nepal SBI Bank Limited	1993/07/07	
9	Everest Bank Limited	1994/10/18	
10	Bank of Kathmandu Limited	1995/03/12	
11	Nepal Credit and Commerce Bank Limited (Established as Bank of Cylon)	1996/10/14	
12	Lumbani Bank Limited	1998/07/17	
13	Nepal Industrial and Commerce Bank Limimed	1998/07/21	
14	Machhapuchhre Bank Limited	2000/10/03	
15	Kumari Bank Limited	2001/04/03	
16	Laxmi Bank Limited	2002/04/03	
17	Siddhartha Bank Limited	2002/12/24	
18	Agriculture Development Bank Limited	2006/03/16	
19	Global Bank Limited	2007/01/02	
20	Citizen Bank International Limited	2007/06/21	
21	Prime Commercial Bank Limited	2007/09/24	
22	Sunrise Bank Limited	2007/10/12	
23	Bank of Asia Nepal Limited	2007/10/12	

24	Development Credit Bank Limited	2007/10/12	
25	NMB Bank Limited		
26	Kist Bank Limited	2066/1/24	
27	Janata Bank Nepal limited		
28	Mega Bank Nepal Limited	2067/4/7	
29	Commerce and Trust Bank Limited	2067/6/4	
30	Sivil Bank Limited	2067/8/10	
31	Century commercial Bank Limited	2067/11/26	
32	Sanima bank Limited	2068/11/3	

Out of these commercial banks following two commercial banks have been selected as a sample for this study.

- 1 Nepal Investment Bank ltd.
- 2 Nepal credit and Commerce Bank Ltd.

### **3.4 Data Collection Method**

All sorts of data that are considered to be relevant for the study have been aimed to collect through a couple of strategies. Some of the strategies that are about to be applied may include receiving banks publications, informal interviews with banks personnel, and different reports from Nepal Rastra Bank.

### **3.5 Reliability of data**

There exists a kind of skepticism regarding the bank personnel's interview as the study do not make them compelled to provide any sort of authentic data however, data received through central bank's statistics and research department, bank publications can be considered valid as they have already been audited. Similarly analytical data and texts from the freelance sector can be also be considered as valid and reliable because their analysis is independent and free of business purpose.

### **3.6 Data Analysis Tools**

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.

#### **3.6.1 Financial Tools**

Financial tools are used to examine the financial strength and weakness of the Bank. In this study, following financial tools are used.

##### **Ratio Analysis:**

Ratio refers to the numerical or quantitative relationship between two items/variables. A ratio is calculated by dividing one item of relationship with other. Ratio is a tool of financial management which can be expressed in percentage, fraction or in a stated comparison between numbers. "The technique of ratio analysis is a part of the whole process of analysis of financial statements of any business of industrial concern especially to take output and credit decisions. Through this technique, a comparative study can be made between different statistics concerning varied facts of a business unit. Just as the blood pressure, pulse and temperatures are the measures of health of an individual, so does ratio analysis measure the economics of financial health of a business concern.

Ratio analysis is a powerful and the most widely used tool of financial analysis. A ratio is defined as "The indicated quotient of two mathematical expressions" and as "The relationship between two or more things. A ratio is a figure or a percentage representing the comparison of one dollar amount with some other dollar amount as a base. Ratio analysis is a widely used tool of financial analysis. It is defined as the systematic use of ratio to interpret the financial statements so that the strength and weakness of a firm as well as its historical performance and current financial condition can be determined. In financial analysis a ratio is used as an index or yardstick for evaluation of the financial position and performance of a firm. Ratio helps to summarize the large quantities of financial data and to make qualitative judgment about the firm's financial performance. (Panday, 1995)

A large number of ratios can be generated from the components of profit and loss account and balance sheet. They are sound reasons for selecting different kinds of ratios for different types of situations. For this study, ratios are categorized into the following major headings:

### **A. Liquidity Ratio:**

Liquidity refers to the ability of a firm to meet its short term or current obligations as and when they fall due for payment. So liquidity ratios are used to measure the ability of a firm to meet its short term obligations and form them the present cash solvency as well as ability to remain solvent in the event of adversities of the same can be examined.

Inadequate liquidity can lead to unexpected cash short falls that must be covered at inordinate cost, thus reducing profitability. In the worst case, inadequate liquidity can lead to the liquidity insolvency of the institution. On the other hand, excessive liquidity can lead to low asset yields and contribute to poor earnings performance.

To find out the ability of banks to meet their short term obligations, which are likely to mature in the short period, these ratios are calculated. The following ratios are developed under the liquidity ratios to identify the liquidity position.

#### **i. Cash Reserve Ratio (CRR)/ Cash and Bank Balance to Total Deposit Ratio:**

This ratio shows the ability of banks immediate funds to cover their deposit. Higher the ratio shows higher liquidity position and ability to cover the deposits and vice versa. It can be calculated by dividing cash and bank balance by deposits. To maintain sound liquidity position, all commercial banks are required to maintain a certain portion of total deposits with NRB in their own account. This portion is called Cash Reserve Ratio (CRR) and is 5% and currently held at 6.0% according to amendment of monetary policy FY 2069/070 B.S by NRB. This ratio can be calculated using the following formula.

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

### **B. Activity/ Efficiency Analysis**

It is also known as turn over or efficiency ratio or assets management ratio measures how efficiently the firm employs the assets. Turn over means the number of times and assets flow

through a firm's operations and into sales. Greater rate of turnover or conversion indicates more efficiency of a firm in managing and utilizing its assets being other things equal. Various ratios are examined under this heading.

**i) Total loan to Total Deposits Ratio:**

Commercial banks utilize the outsider's fund for profit generation purpose. Total loan/ credit & advance to total deposit ratio shows whether the banks are successful to utilize the outsiders funds (i.e. total deposits) for the profit generating purpose on the credit and advances or not. Generally, a high ratio reflects higher efficiency to utilize outsider's fund and vice-versa. The ratio can be calculated by using following formula.

$$\text{Total loan to total deposits ratio} = \frac{\text{Total loan}}{\text{Total Deposits}}$$

**ii) Total loan/ credit to Total Assets Ratios:**

It measures the ability in mobilizing total assets into credit & advances for generating income. A higher ratio is considered as an adequate symbol for effective utilization of total assets of bank to credit and advances of which creates opportunity to earn more and more. It is calculated as:

$$\text{Total loan / credit to total assets ratio} = \frac{\text{total loan / credit}}{\text{Total Assets}}$$

**iii) Total loan Loss Provision to total loan ratio:**

It measures the percentage of credit loss provision on total loan or credit and advances. Credit loss provision on credit is given to reduce risk of nonpayment of released credit. It is computed as:

$$\text{Loan Loss Provision Ratio} = \frac{\text{Loan loss provision}}{\text{Total loan}}$$

**C. Profitability Ratio**

**i) Net Profit/Loss to Total Assets Ratio:**

The ratio is useful to measure how well management uses all the assets in the business to generate an operating surplus. Higher the ratio indicated the higher efficiency in the utilization of

total assets and vice-versa. The ratio is low due to low profit. In other words, it is low utilization of bank assets and over use of higher interest bearing amount of debt and vice-versa.

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

$$= \frac{\text{Net Profit / Loss}}{\text{Total Assets}}$$

**ii) 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.

**iii) Interest Income to Total loan /Credit:**

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

$$\text{Interest Income to total loan/credit} = \frac{\text{Interest Income}}{\text{Total loan / Credit}}$$

**iv) Interest expenses to total deposit:** an interest expense is the expenses paid by the banks in total deposit. It is calculated as following manner. It is calculated as following manner.

$$\text{Interest expense to total expenses} = \frac{\text{interest expenses}}{\text{total deposit}}$$

#### **D. 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.

$$\text{i) Credit Risk Ratio} = \frac{\text{nonperforming loan}}{\text{Total loan}}$$

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.

#### **Limitation of Ratio Analysis**

Ratio analysis is suffered from some inherent limitations that are direct inherited from financial statement. Some of the most common weakness of ratio analysis is as follows:

- i. Different firms in the industry although apparently comparable in respect to size, age location, product mix and technology may not be really comparable if they are following different accounting methods.
- ii. Financial statements record past transactions. They are, thus an index of what happened in the past. They do not show the current position of the business. Evidently ratio analysis is also primarily concerned with analyzing the past with May or may to be relevant today. It is thus a sort of post mortem analysis rather than a guide for decision making.
- iii. In the context of persistent price level changes, intra firm trends analysis losses much of its operational significance.
- iv. The differences in the definitions of items in the balance sheet and the income statement make the interpretation of ratios difficult.
- v. A single ratio in itself is not important: It would not be able to convey anything. For making a meaningful conclusion a number of ratios which makes confusion to analyst is t be calculated.
- vi. Ratio analysis is related to the quantitative analysis only but not with a qualitative analysis because it is ignored by ratio analysis.

- vii. The analyst or the user must have knowledge about the concern whose statements have been used for calculating the ratios only then the conclusion may be drawn without any knowledge of related firm.
- viii. Ratios have to be interpreted and different people may interpret the same ratio in different ways. Ratios are means to achieve a particular end but not an end itself. Hence, it totally depends upon the user as what conclusion he drawn on the basis of ratio calculation.
- ix. Sometimes ratio analysis may suffer from what is known as fallacy of misplaced concreteness.

Although, various limitations of ratio analysis and doubt may arise about the valid measure of the financial performance but they are used widely to measure the financial performance of the firm.

### 3.6.2 Statistical Tools Used:

For supporting the study, statistical tool such as mean, standard deviation, coefficient of variation, correlation, trend analysis, hypothesis and diagrammatic cum pictorial tools have been used under it.

#### Mean ( $\bar{X}$ )

The arithmetic mean or average is the sum of total values to the number of observations in the sample. It represents the entire data which lies almost between the two extremes. For this reason an average is frequently referred to as a measure of central tendency. In this study it is used in data related to dividend of sample banks over five years. It is calculated as:

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

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

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

Where,

$$\bar{X} = \text{Arithmetic mean return}$$

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

$n =$  total no. of observations

$\sum X =$  Sum of given observation

**Standard Deviation (S.D.)**

The measurement of the scatterings of the mass of figures in a series about an average is known as dispersion. S.D. is an absolute measurement of dispersion in which the drawbacks present in other measures of dispersion are removed. The high amount of dispersion reflects high standard deviation. The small standard deviation means the high degree of homogeneity of the observations. In simple term high SD means very less similarity in the values and low SD means high similarity among the values. SD gives the accurate result between

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

Where,

$X =$  number of observations in the sample

$\bar{X} =$  mean of number of observations in the sample

$n =$  number of years

$\sum (X - \bar{X})^2 =$  Sum of Total number of observations deviation from mean in the sample.

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

The co-efficient of variation (C.V.) is the relative measure based on the standard deviation and is defined as the ratio of the standard deviation to the mean expressed in percent. It is independent of units. Hence it is a suitable measure for comparing variability of two series with same or different units. A series with smaller C.V. is said to be less variable or more consistent or more homogeneous or more uniform or more stable than the other and vice versa. It is calculated as:

$$\text{C.V} = \frac{\sigma}{\bar{X}}$$

Where,

- $\bar{x}$  = Mean
- $\sigma$  = Standard Deviation
- C.V. = Coefficient of Variation

**Correlation**

The term correlation analysis is the analysis, which reflects that the variables of the two different data are related or we can say that correlation is the analysis of relation between more than one variable. "When the relation is of quantitative nature, the appropriate statistical tools for discovering and measuring the relationship and expressing it in a belief formula is known as Correlation." The relation between the data may be positive or negative. It can be determined by different ways such as graphical representation, Formula Method etc. When both variables are moving upward or downwards in the same proportion, it is said to be the condition of positive correlation and if the condition is vice versa that the condition is said to be negative correlation. The main purpose of this study is to find out the correlation between selected variables with each other over study period.

**Karl Pearson's Coefficient Correlation Analysis**

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.

### ***Trend Analysis***

It is an important and useful technique to analyze and interpret the financial statement. Under this technique of financial analysis, the ratio of different items for various periods is calculated and then a comparison is made. 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.

Trend analysis shows the direction progress upward or downward. It is an important form of horizontal analysis of financial statements often called as Pyramid Method of ratio analysis. More over in this method a statement used to analyzed with the base of another reference statement. Other method of analysis is the calculation of trend analysis and showing trend value in graph paper. On the other hand trend analysis is not out of limitation, it may effect by price level changes and the select ion of bases year may an obstacle. It can show only the trend in the operating result financial position of a concern cannot be discussed.

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. One of the most popular and mathematical method of determining the trend of time series is the least square method. By using this method, we can

estimate the future trend values of different variables. Hence, for the estimation of linear trend line following formula is used.

$Y = a + bX$  Where,

Y= Trend value a= Y Intercept

b= slope of trend line of the amount of change in Y Variable that is an associate with change in 1 unit in X variable

X= Time variable.

### **t- Statistics-**

It was developed by W.S. Gosset (Pen name Student) in 1908. Then this distribution is explained by R.A. Fisher. To test the validity of assumption of the study for small samples, t- test is used. For applying t distribution, the t- values are calculated first and compared with the critical values at a certain level of significance for given degree of freedom. If the computed value of 't' exceeds the table value (say t 0.05), it is known that the difference is significant at 5 percent level of significance but if t-values are less than the corresponding critical of the 't' distribution, the difference is not termed as significant.

Under  $H_0$ , the t statistic is:

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

Where,

t=calculated value of t

r= correlation of coefficient between the variables.

n= number of sample.

## **CHAPTER – IV**

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

Presentation and analysis of data is the process of organizing the data by tabulating and then placing that data in presentable form by using various tables, figures and sources. Present chapter has discussed the various aspects of credit management and their actual accomplishment. The data will be analyzed by using various financial and statistical tools to meet the stated objectives of the study. It also compares the data between selected banks. Besides, it also presents the various finding generated from data analysis.

#### **4.1 Financial Condition of selected Nepalese Commercial Banks**

Financial analysis assists in identifying the major strengths and weaknesses of a firm. It indicates whether a company has enough cash to meet its obligations ability to utilize properly their available resources. Financial analysis can also be used to assess the company's liability as an ongoing enterprise and determine whether a satisfactory return is being earned for the risks return. This is necessary to find out the comparative credit practices in those banks. Under this study purpose, financial condition of both the banks in terms of credit practices; credit efficiency has analyzed the comparative loan position of selected commercial banks.

##### **4.1.1 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. Cash Reserve Ratio (CRR) is one of the crucial measurements of liquidity in which cash and bank balance to total deposit of different banks is calculated and analyzed in this section.

###### **4.1.1.1 Cash Reserve Ratio (CRR):**

The Cash Reserve Ratio (CRR) is 5.0% and currently (CRR) held at 6.0% according to amendment of monetary policy FY 2069/070 B.S by NRB. It shows whether the banks have complied with the NRB requirements or not. CRR of the two sample commercial banks NIBL and NCC have been computed as follows.

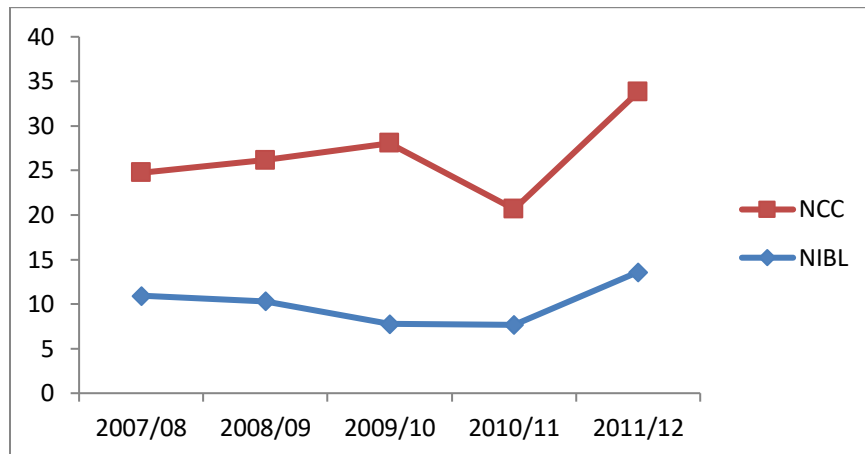
**Table 4.1**  
**Cash Reserve Ratio in (%)**

<b>Fiscal Year</b>	<b>Sample Banks</b>	
	<b>NIBL</b>	<b>NCC</b>
2007/08	10.91	13.84
2008/09	10.32	15.85
2009/10	7.77	20.29
2010/11	7.67	12.99
2011/12	13.6	20.19
Mean	10.05	16.63
S.D.	2.20	3.09
C.V.	21.89	18.58

*Sources: Appendix I & II*

The above table 4.1 presents the cash reserve ratio of NIBL and NCC during the last five fiscal years. The average cash reserve ratio is 10.05% and 16.63% for NIBL and NCC respectively. This indicates that the cash reserve ratio for the all bank is maintained above the standard as directed by NRB. i.e. to generate the liquidity. Likewise, Standard deviation for the NIBL and NCC are 2.20% and 3.09% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 21.89% and 18.58% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 cash reserve ratio is highest of NCC which is 16.63% than NCC. From this analysis, it can be easily seen that the CRR of NIBL is more fluctuating in comparison to NCC. It is also shown in following figure.

**Figure 4.1 Cash Reserve Ratio of sample banks in (%)**



## **4.2 Loan Practices in NIBL and NCC**

Loan practices show the lending policies and practices adopted by the selected commercial banks during the study period. It measures the ability of an organization in terms of loan practices by using historical data.

### **4.2.1 Total Loans & adv. to Total Deposit ratio**

The main source of bank's lending depends on its deposit. This ratio is calculated to find out how successfully the banks are utilizing their deposits on loan for profit generating activities. Greater ratio indicates the better utilization of total deposits. The ratios are presented in the following table.

**Table 4.2****Total Loan & adv. to Total Deposit Ratio (in %)**

<b>Fiscal Year</b>	<b>Sample Banks</b>	
	<b>NIBL</b>	<b>NCC</b>
2007/08	78.36	72.14
2008/09	77.61	78.70
2009/10	80.48	77.49
2010/11	81.97	84.28
2011/12	73.03	78.26
Mean	78.29	78.17
S.D.	3.05	3.86
C.V.	3.89	4.94

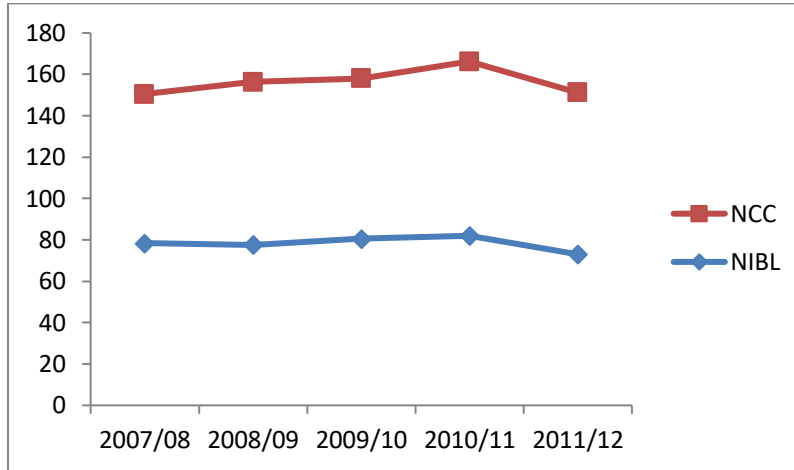
*Source: Appendix-I and Appendix-II*

The table 4.2 shows that the total loan & adv. to total deposit ratio of NIBL is 78.36%, 77.61%, 80.48% , 81.97% and 73.03% from fiscal year 2007/08 to 2011/12 respectively. Similarly, the ratio of NCC bank is 72.14%, 78.70%, 77.49%, 84.28% and 78.26% from fiscal year 2007/08 to 2011/12 respectively. In overall comparison, NIBL Bank had utilized its total deposits better in consecutive years than in fiscal year 2007/08. While NCC bank had been able to utilize its total deposits in year 2010/11. Likewise, the mean ratio of NIBL and NCC are 78.29% and 78.17% respectively. By coefficient variation analysis, NIBL bank has more uniformity than NCC bank since NIBL has less CV of 3.89%.

NIBL had been strong to mobilize its total deposit as loan and advances. Nevertheless, higher ratio doesn't necessarily mean that it is always better from liquidity point of view. But it is true that the banks should aim to maintain more than 50% of deposits as loan to achieve profit. It is also presented in the following figure.

**Figure 4.2**

**Total loans to total deposit**



**4.2.2 Total loan & adv. to total Assets Ratio**

Total loan & adv. to total assets ratio indicates the volume of loans out of total assets. A high degree of the ratio indicates that bank has been able to mobilize its fund through lending function. However lending always carries a certain risk of default. Therefore a high ratio represents low liquidity and low ratio represents low productivity with high degree for safety in terms of liquidity.

**Table 4.3**

**Total loan & adv. to total Assets Ratio (in %)**

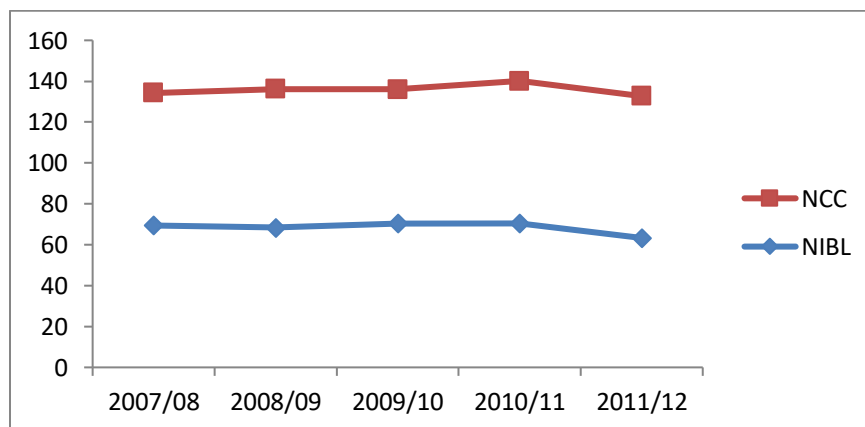
Fiscal Year	Sample Banks	
	NIBL	NCC
2007/08	69.45	64.87
2008/09	68.37	67.83
2009/10	70.36	65.73
2010/11	70.42	69.73
2011/12	63.32	69.38
Mean	68.38	67.51
S.D.	2.64	1.93
C.V.	3.86	2.86

*Source: Appendix-I and Appendix-II*

Table 4.3 shows that the ratio of total loan & adv. to total assets in five years for the sample commercial banks. Total loan to total assets ratio of NIBL ranges the highest of 70.42% in the fiscal year 2010/11, and the lowest of 63.32% in the fiscal year 2011/12. Likewise, the ratio of NCC is highest of 69.73% in the fiscal year 2010/11 and the lowest of 64.87% in the fiscal year 2007/08 respectively. From the mean point of view, it can be said that mean ratio of NIBL is higher of 68.38% than the NCC of 67.51%. It can be concluded that the higher mean ratio indicates the good lending performance. By measuring coefficient of variation, NCC is more uniformity than NIBL since NCC has lesser CV of 2.86% than that of NIBL i.e. 3.86%. Here, NIBL and NCC should focus to increase loan to total assets ratio to increase lending performance. It is also shown from the following figure.

**Figure 4.3**

**Total loan & adv. to total Assets Ratio (in %)**



#### **4.2.3 Loan Loss Provision to Total Loan & adv. Ratio**

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

**Table 4.4**  
**Loan Loss Provision to Total Loan & Advances (in %)**

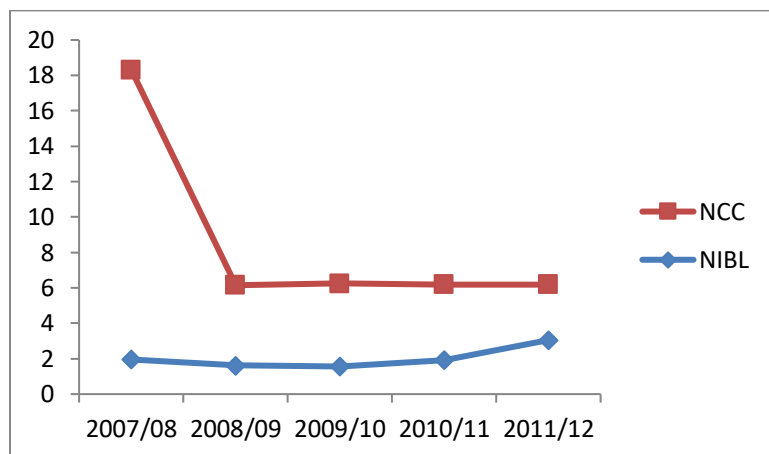
Fiscal Year	Sample Banks	
	NIBL	NCC
2007/08	1.97	16.35
2008/09	1.62	4.53
2009/10	1.56	4.69
2010/11	1.93	4.27
2011/12	3.05	3.14
Mean	2.03	6.59
S.D.	0.54	4.90
C.V.	26.60	74.36

*Source: Appendix-I and Appendix-II*

Table 4.4 shows the loan loss provision to total loan & adv. ratio of selected commercial banks over the five year study period. The ratio of NIBL ranges highest 3.05% in the fiscal year 2011/12 and lowest 1.56% in the fiscal year 2009/10. Average ratio of NIBL is 2.03%. Likewise, this ratio of NCC is highest 16.35% in the fiscal year 2007/08 and lowest 3.14% in the fiscal year 2011/12. It has mean ratio of 6.59%. Here, average loan loss provision to total loan ratio of NCC is highest than NIBL. This increased ratio indicates the increased volume of non-performing loans and vice versa. By measuring coefficient of variation, NCC is less uniformity since it has higher CV of 74.36% than NIBL i.e. 26.60%. It is also shown in the following figure.

**Figure 4.4**

**Loan loss provision to total loan**



**4.2.4 Non-performing Loans to Total Loan Ratio**

NRB has directed all the commercial banks to create loan loss provision against the doubtful and bad debts. But our concerned banks have not provided data on non-performing loan in Balance Sheet and Profit & Loss A/C. To measure the volume of non-performing loan to total loan the main indicator of NIBL and NCC has been used. This ratio shows the percentage on non-recovery loans in total loan.

**Table 4.5**

**Non-performing Loan to Total Loan ratio (in %)**

Fiscal Year	Sample Banks	
	NIBL	NCC
2007/08	1.14	16.42
2008/09	0.59	2.74
2009/10	0.63	8.43
2010/11	0.96	3.82
2011/12	3.42	2.73
Mean	1.35	6.83
S.D.	1.06	5.24
C.V.	78.52	76.72

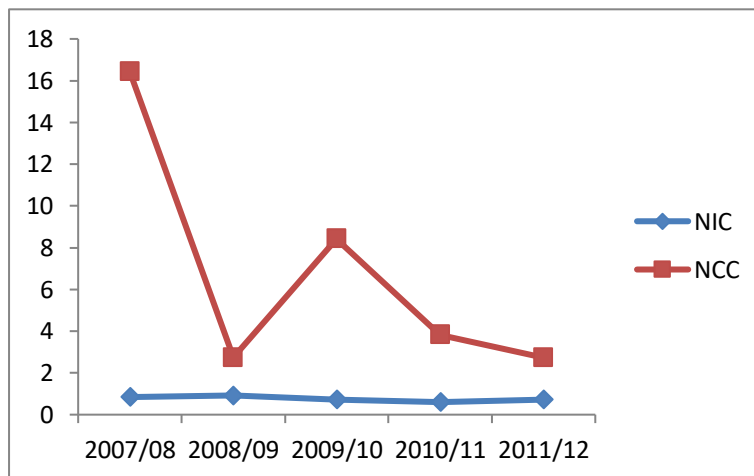
*Source: Appendix-I and Appendix-II*

Table 4.5 shows the Non-performing loan to total loan over the five year study period. The ratio of NIBL ranges highest of 3.42% and the lowest is 0.59% in FY 2011/12 and FY in 2008/09 respectively. Like wise the ratio of NCC is highest of 16.42% and the lowest of 2.73% respectively in FY 2007/08 and 2011/12. The mean Non-performing loan to total loan of NIBL and NCC are 1.35% and 6.83% respectively. Ratio of NIBL in all year are below the average standard except in FY 201/12. NIBL has the lowest non performing loan to total loan & advances , thus NIBL is best performer than NCC. By measuring coefficient of variation, NCC is more uniformity since it has 76.72% than NIBL with CV of 78.52%.

Banking sector is seriously affected by the non-performing loans. Sample banks are not far from this above fact. If non-performing loan increases, the overall banking business will be affeted. So provision amount will get increased and profit will decrease. So, it is suggested that both the sample banks to be sincere while granting loan and to do effective follow up for recovery of non-performing loans.

**Figure 4.5**

**Nonperforming loan to total loan ratio (in %)**



### 4.3 Profitability Ratio

#### 4.3.1 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 all banks 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 4.6 presents the financial surplus to assets for the banks.

**Table 4.6**

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

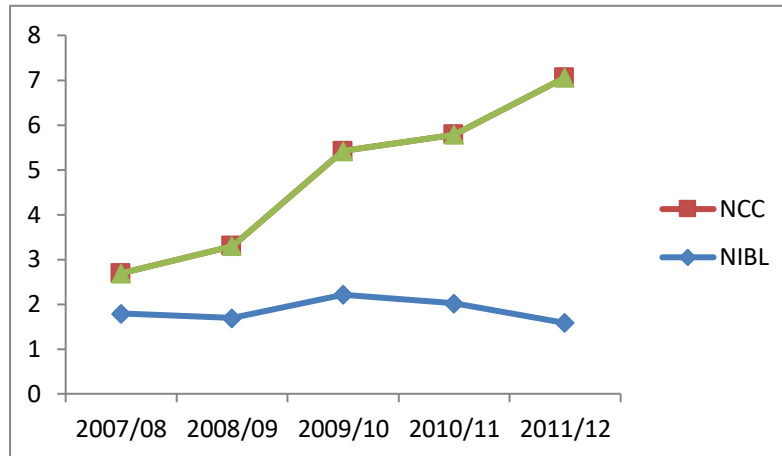
Year	Sample Banks	
	NIBL	NCC
2007/08	1.79	0.90
2008/09	1.69	1.61
2009/10	2.21	3.21
2010/11	2.02	3.76
2011/12	1.58	5.48
Mean	1.86	2.99
S.D.	0.23	1.62
C.V.	12.37	54.18

*Sources: Appendix I & II*

Table 4.6 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 1.86% and 2.99% for NIBL and NCC respectively. This indicates that the return on assets for the bank is satisfactory. Likewise, Standard deviation for the NIBL and NCC are 0.23% and 1.62% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 12.37% and 54.18% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 return on assets is higher of NCC which is 2.99% than of NIBL which is 1.86% among the two sample banks. In same way, financial surplus to assets ratio for sample banks are fluctuating trend. NCC has more risky that is higher CV 54.18% than NIBL. Following figure shows also makes more clear.

**Figure 4.6**

**Financial Surplus to total Assets Ratio for the Sample Banks**



**4.3.2 Return on Capital Employed/fund on Risked Assets (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 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 4.7****Return on Capital Employed/fund on risked assets (ROCE) in (%)**

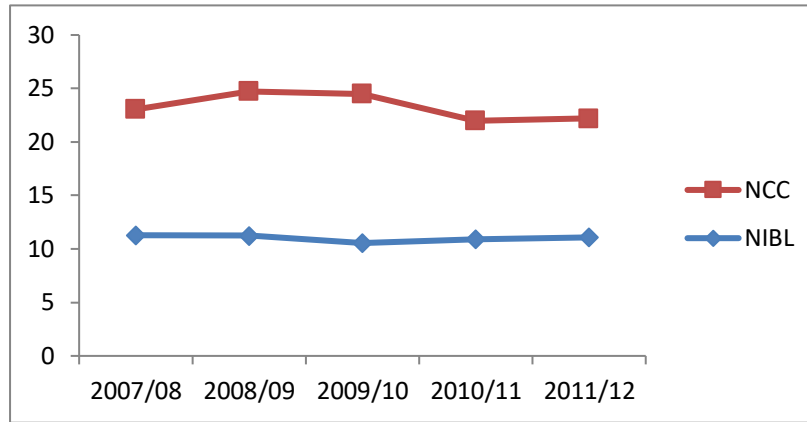
<b>Fiscal Year</b>	<b>Sample Banks</b>	
	<b>NIBL</b>	<b>NCC</b>
2007/08	11.28	11.77
2008/09	11.24	13.48
2009/10	10.55	13.94
2010/11	10.91	11.07
2011/12	11.10	11.09
Mean	11.02	12.27
S.D.	0.27	1.21
C.V.	2.45	9.86

*Sources: Appendix I & II*

Table 4.7 presents the result of return on capital fund or employed to risked assets of the sample banks. The average of this ratio is 11.02% and 12.27% for NIBL and NCC 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 NCC is 0.27% and 1.21% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 2.45%, and 9.86% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 return on capital fund or employed to risked assets is higher of NCC which is 12.27% than of NIBL which is 11.02% in average among the two sample banks. In same way, return on capital fund or employed to risked assets for NCC is more volatile than NIBL. According to the coefficient variation NIBL is more uniformity which has less CV i.e. 2.45% than NCC. Following figure also makes clear.

**Figure 4.7**

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



**Interest Income to total Loan**

Interest income to loan & advances is one of the major sources of income for a commercial bank. The high volume of interest income is the indicator of good a performance of lending activities.

**Table 4.8**

**Interest Income to total loan (in %)**

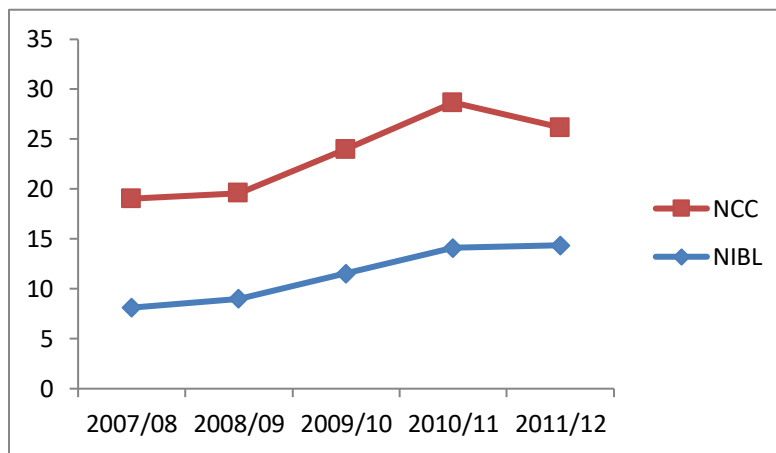
Fiscal Year	Sample Banks	
	NIBL	NCC
2007/08	8.12	10.92
2008/09	9.02	10.56
2009/10	11.54	12.43
2010/11	14.12	14.55
2011/12	14.37	11.78
Mean	11.43	12.05
S.D.	2.56	1.41
C.V.	22.40	11.70

*Source: Appendix-I and Appendix-II*

Table 4.8 shows the ratio of Interest income to total loan of the selected sample banks over the five study period. The interest income to total loan ratio of NCC Bank ranges highest of 14.43 during fiscal year 2010/11 and lowest of 10.56% during fiscal year 2008/09. Likewise, the ratio

of NIBL bank is highest i.e. 14.37% in FY 2011/12 and lowest 8.12% in FY 2007/08. The Mean ratio of NIBL and NCC is 11.43% and 12.05% respectively. By this analysis, the mean ratio of NCC is higher than NIBL. By measuring coefficient of variation, NCC has less risker than NIBL since NCC has less CV i.e. 11.70% than NIBL of 22.40%. Since NCC bank has higher mean interest income to loan than that of NIBL Bank, NCC bank has a good performance from Interest income point of view. It is also clear from the following figure.

**Figure 4.8**  
**Interest Income to total loan (in %)**



### 4.3.3 Interest Expenses to Total Deposit Ratio

This ratio measures the percentage of total interest paid against total deposit. A high ratio indicates higher interest expenses on total deposit. Commercial banks are dependent upon its ability to generate cheaper fund has moves the probability of generating loan & advances and vice versa.

**Table 4.9**  
**Interest Expenses to Total Deposit Ratio (%)**

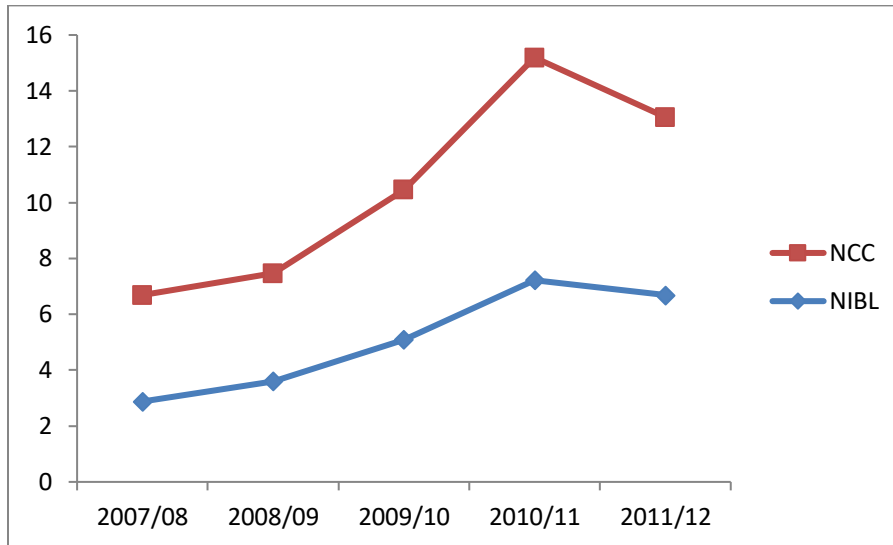
Fiscal Year	Sample Banks	
	NIBL	NCC
2007/08	2.88	3.81
2008/09	3.61	3.86
2009/10	5.09	5.36
2010/11	7.22	7.97
2011/12	6.69	6.37
Mean	5.09	5.47
S.D.	1.68	1.58
C.V.	3.30	28.88

*Source: Appendix-I and Appendix-II*

Table 4.9 shows the cost of deposit of selected commercial banks over the study period. Ratio of NIBL ranges highest 7.22% in the fiscal year 2010/11 and lowest 2.88% in the fiscal year 2007/08. Average ratio of NIBL is 5.09% in an average. The ratio shows the increasing trend over the study period but slightly decreasing from 7.22% to 6.69% 2010/11 to 2011/12 respectively. Likewise, the ratio of NCC ranges highest 7.97 in the fiscal year 2010/11 and the lowest 3.81% in the fiscal year 2007/08. Its average ratio is 5.47%, in an average. The ratio increasing trends except in fiscal year 2011/12. Average ratio of NCC is slightly higher than NIBL. Likewise, measuring the coefficient of variation, NCC has more CV i.e. 28.88% than NIBL i.e.3.30%. This indicates that NIBL is more uniformity than NCC. It is also clear from the following figure.

**Figure 4.9**

**Interest expenses to total deposit ratio**



#### **4.4 Statistical Tools**

The statistical analyses include the calculation of correlation coefficients of different variables in order to find out the liquid assets trend of the respective commercial banks and to figure out the strengths and weaknesses of credit management of the commercial banks.

##### **4.4.1 Strengths/Weakness of the Credit management of the Commercial banks**

This section deals with the degree of management success in handling the credit of the bank. It does not deal with the SWOT analysis of the Credit department. The degree of the management success in handling the credits and advances of the bank is determined by the significance of a series of relationship of loans and advances among a number of factors such as net profit, liquid assets, total deposits etc. This relationship among different variables is determined by the Pearson's coefficient of correlation of the data of the respective banks. The objective behind this analysis is to understand and analyze the impact of the credit provided by the banks to its net profitability and liquidity position.

##### **4.4.1.1 Relationship between the Total loan & adv. and Net Profit**

The relationship between the total loan & adv. with the net profit of the samples banks indicates how much credits granted has actually resulted in profit. In other words, it tries to analyze

whether the total loan and net profit of the banks are moving in the same direction or not. The following table shows the correlation coefficient between the total credit and net profit denoted by 'r'. 'r<sup>2</sup>' indicates the coefficient of determination, t<sub>cal</sub> and t<sub>tab</sub> refers to calculated value of t- statistic and tabulated value of t-statistic at 5% level of significance at 3 degree of freedom two tailed test for respectively. The following results are worth highlighting.

**Table 4.10**

**Correlation coefficient between Total Loan & adv. and Net Profit**

<b>Banks</b>	<b>r</b>	<b>r<sup>2</sup></b>	<b>t<sub>cal</sub></b>	<b>t<sub>tab</sub></b>	<b>Result</b>
N IBL	0.8829	0.7795	3.257	3.182	Significant
NCC	-0.9013	0.8123	3.603	3.182	Significant

*Source: Appendix III and IV*

The table above 4.10 clearly highlights the relationship between the total loan and the net profit earned by the NIBL and NCC. The positive relationship shown by correlation coefficient of NIBL pointed out the fact that an increase in total loan has resulted in an increase in the net profit. This positive relationship is considered significant as the increase in total loan & adv. affect the net profit of the NIBL. On the other hands, NCC has negative correlation coefficient between loan and net profit pointed out the fact that increase in total loan has resulted in a decrease in net profit and vice-versa. In the context of significant relationship a few inferences can be made. The calculated value t<sub>cal</sub> of NIBL i.e. 3.257 greater than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test(3.182) . Since, the calculated value of t is less than tabulated t null hypothesis is rejected and H<sub>1</sub> is accepted. Likewise, the calculated value t<sub>cal</sub> of NCC i.e. 3.603 more than tabulated' at 5% significance level at 3 degree of freedom for two tailed test (3.182). Thus, we conclude that there is insignificant relation between total loan and net profit of both NIBL and NCC.

**4.4.1.2 Relationship between the Total loans and Total deposit**

The relationship between the total loan and total deposit is of great significant, as it indicates the direction taken by the total loan with the changes in the volume of total deposit. A bank will be unable to provide large volumes of loan if it does not receive adequate and sufficient deposits in a timely basis. The following table shows the correlation coefficient between the total credit and

total deposits denoted by 'r'. 'r<sup>2</sup>' indicates the coefficient of determination, t<sub>cal</sub> and t<sub>tab</sub> refers to calculated value of t- statistic and tabulated value of t-statistic at 5% level of significance at 3 degree of freedom respectively. The following results are worth highlighting.

**Table 4.11**  
**Correlation coefficient between Total Loan and Total Deposits**

<b>Banks</b>	<b>r</b>	<b>r<sup>2</sup></b>	<b>t<sub>cal</sub></b>	<b>t<sub>tab</sub></b>	<b>Result</b>
NIBL	0.9587	0.9191	5.838	3.182	Significant
NCC	0.9908	0.9817	12.686	3.182	Significant

*Source: Appendix III and IV*

The table 4.11 clearly highlights the relationship between the total Loan and the total deposit received. The positive relationship shown by their correlation coefficient points out the fact that the changes in each variable are taking place in the same direction, i.e., an increase in total loan is supported by an increase in the total deposit. This positive relationship is highly significant as the banks won't be able to sustain for a longer period if any one of these variables do not increase or decrease with one another. The calculated value t<sub>cal</sub> of both sample banks i.e. NIBL and NCC (5.838 and 12.686) is greater than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test (3.182). It indicates that there is significant difference between total loan and total deposit of NIBL and NCC.

#### **4.4.1.3 Relationship between the Total loans and Total Non-Performing Loans**

The relationship between the total loan and total non-performing loans indicates the volume of nonperforming loans raised from the total credit granted. This suggests the volume and chances of loans being default or not paid by the clients are of significant value or not. The following table shows the correlation coefficient between the total credit and total nonperforming loans denoted by 'r'. 'r<sup>2</sup>' indicates the coefficient of determination, t<sub>cal</sub> and t<sub>tab</sub> refers to calculated value of t- statistic and tabulated value of t-statistic at 5% level of significance at 3 degree of freedom respectively. The following results are worth highlighting.

**Table 4.12**

**Correlation coefficient between Total loans and Total Nonperforming Loans**

<b>Banks</b>	<b>r</b>	<b>r<sup>2</sup></b>	<b>t<sub>cal</sub></b>	<b>t<sub>tab</sub></b>	<b>Result</b>
NIBL	0.4118	0.1696	0.783	3.182	Insignificant
NCC	-0.4940	0.2440	0.9841	3.182	Insignificant

*Source: Appendix III and IV*

Table 4.12 presents the correlation coefficient between total loan and total nonperforming loans of the NIBL and NCC. As depicted by the figures above, the correlation between these two variables is highly negative of NCC, which means, they are moving in the opposite direction. The negative relationship points out the fact that an increase in non-performing loans leads to a decrease in total volume of loan. This is bad news as the banks' capacity to provide loans would decline if more credits granted resulted in non-performing ones. This would result in a huge loss for the bank. In contrast to NIBL, the correlation between these two variables is positive of NIBL, which means, they are moving in the same direction. The positive relationship points out the fact that an increase in non-performing loans leads to a increase in total volume of loan. However, if the volume of loans being default decreases with the increase in the volume of loan provided, this denotes the effective handling of loans and efficient handling of non-performing loans by the credit department. It also suggests that the staffs of the credit department have a quick learning curve when it comes to handing non-performing loans and credit. By testing t-statistic, The calculated value  $t_{cal}$  of both NIBL and NCC (0.783 and 0.9841) is less than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test(3.182). It indicates that correlation coefficient between loan and advances and total nonperforming loan of NIBL and NCC is insignificant. It probably means that the volume of loan being default does not significantly depend upon the volume of the loan provided only. There may be several other reasons for the loans being default.

**4.4.2.1 Trend Analysis of Net Profit After Tax of NIBL and NCC bank**

The trend of Net Profit After Tax (NPAT) of commercial banks tend to identify the average Net profit maintained by the banks and to identify the rate of changes in the volume of liquid fund in the next five years using the trend shown by the historical data. The following table 4.13 reveals

the forecast of the Net Profit to be maintained by the respective banks for the next 6 years. This has been calculated using the trend analysis of last ten years' data.

**Table 4.13**

**Forecasted Trend Analysis of NPAT for next six years ( in million)**

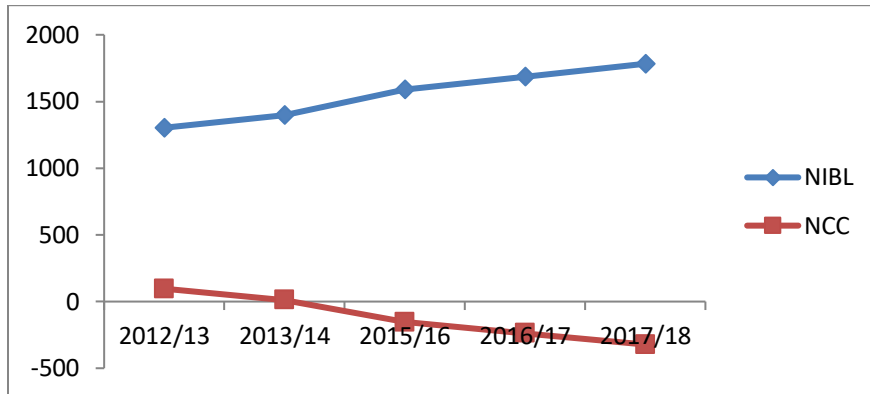
Name	a	b	Forecasted					
			2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
NIBL	1015.6	959	1303.3	1399.2	1495.1	1591	1686.9	1782.8
NCC	347.6	- 83.7	96.32	12.62	-71.08	-154.78	-238.48	-322.18

*Source: Appendix V and VI*

The table 4.13 deals with the trend of net profit after tax maintained by the respective banks for the next six years. The table presents the forecast of the bank's net profit after tax from the FY2011/12 to FY2017/18. As already given by their regression equation, the average net profit after tax maintained by the banks, NIBL and NCC are Rs. 1015.6 million and 347.32 million respectively, with other things remaining unchanged. However, the slope of the equation, that usually shows the rate of change in the value, reveals two different directions of the banks. NIBL has a positive rate of 959 million which denotes that with every unit change in the year, the value of the net profit after tax will increase by additional 959 million. Whereas, in case of NCC, the value of this rate of change will decreased by 83.7 million, with reveal the decreasing trend of the bank in maintaining the net profit after tax volume. On the basis of previous five years data, the forecasted net profit after tax for next six years from fiscal year 2012/13 to 2017/18 of the NIBL and NCC are directly computed in the above table 4.13. This trend is more clearly understood from the following figure.

**Figure 4.13**

**Forecasted Trend Analysis of NPAT of Sample banks**



#### 4.4.2.2 Trend Analysis of Loan of NIBL and NCC

The trend of total loan of commercial banks tend to identify the average loan maintained by the banks and to identify the rate of changes in the volume of liquid fund in the next six years using the trend shown by the historical data. The following table 4.14 reveals the forecast of the Net Profit to be maintained by the respective banks for the next 6 years. This has been calculated using the trend analysis of past five years' data.

**Table 4.14**

**Forecasted Trend Analysis of total loan for next six years ( in million)**

Name	a	b	Forecasted					
			2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
NIC	37257.4	3413.2	47497	50910.2	54323.4	57736.6	61149.8	64563
NCC	8596.62	1728.51	13781.52	15509.8	17238.12	18966.42	20694.72	22423.02

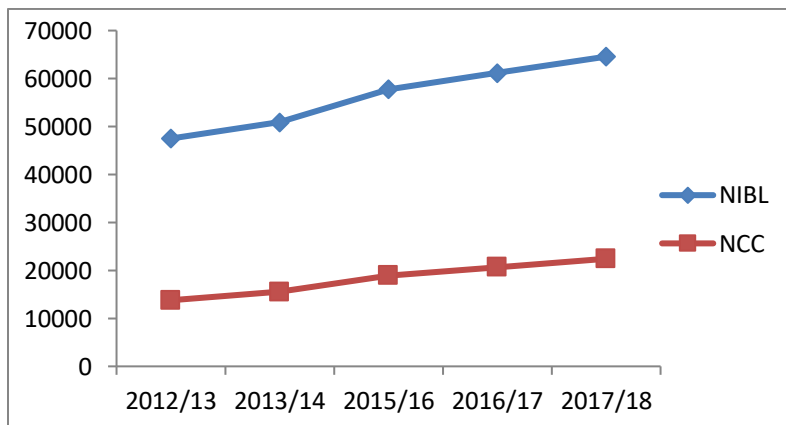
Source: Appendix V and VI

The table 4.14 deals with the trend of total loan maintained by the respective banks for the next six years. The table presents the forecast of the bank's total loan from the FY2012/13 to FY2017/18. As already given by their regression equation, the average total loan maintained by

the banks, NIBL and NCC are Rs. 37257.4 million and 8596.62 million respectively, with other things remaining unchanged. However, the slope of the equation, that usually shows the rate of change in the value, reveals two different directions of the banks. Both banks i.e. NIBL and NCC has a positive rate of 3413.2 million and Rs. 1728.51 million which denotes that with every unit change in the year, the value of total loan will increase by additional 3413.2 million and Rs 1728.51 million respectively. On the basis of previous five years data, the forecasted total loan for next six years from fiscal year 2012/13 to 2017/18 of the NIBL and NCC are directly computed in the above table 4.14. This trend is more clearly understood from the following figure.

**Figure 4.14**

**Forecasted Trend Analysis of total loan of Sample banks**



#### 4.5 Major Findings of Study

Major findings of the study are as follows:

- The average cash reserve ratio is 10.05% and 16.63% for NIBL and NCC respectively. This indicates that the cash reserve ratio for the all bank is maintained above the standard as directed by NRB. i.e. to generate the liquidity. Likewise, Standard deviation for the NIBL and NCC are 2.20% and 3.09% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 21.89% and 18.58% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 cash reserve ratio is highest of NCC which is 16.63% than NCC.

- Total loan & adv. to total deposit ratio of NIBL is 78.36%, 77.61%, 80.48%, 81.97% and 73.03% from fiscal year 2007/08 to 2011/12 respectively. Similarly, the ratio of NCC bank is 72.14%, 78.70%, 77.49%, 84.28% and 78.26% from fiscal year 2007/08 to 2011/12 respectively. In overall comparison, NIBL Bank had utilized its total deposits better in consecutive years than in fiscal year 2007/08. While NCC bank had been able to utilize its total deposits in year 2010/11. Likewise, the mean ratio of NIBL and NCC are 78.29% and 78.17% respectively. By coefficient variation analysis, NIBL bank has more uniformity than NCC bank since NIBL has less CV of 3.89%. NIBL had been strong to mobilize its total deposit as loan and advances.
- Total loan to total assets ratio of NIBL ranges the highest of 70.42% in the fiscal year 2010/11, and the lowest of 63.32% in the fiscal year 2011/12. Likewise, the ratio of NCC is highest of 69.73% in the fiscal year 2010/11 and the lowest of 64.87% in the fiscal year 2007/08 respectively. From the mean point of view, it can be said that mean ratio of NIBL is higher of 68.38% than the NCC of 67.51%. By measuring coefficient of variation, NCC is more uniformity than NIBL since NCC has lesser CV of 2.86% than that of NIBL i.e. 3.86%.
- The ratio of NIBL ranges highest 3.05% in the fiscal year 2011/12 and lowest 1.56% in the fiscal year 2009/10. Average ratio of NIBL is 2.03%. Likewise, this ratio of NCC is highest 16.35% in the fiscal year 2007/08 and lowest 3.14% in the fiscal year 2011/12. It has mean ratio of 6.59%. Here, average loan loss provision to total loan ratio of NCC is highest than NIBL. This increased ratio indicates the increased volume of non-performing loans and vice versa. By measuring coefficient of variation, NCC is less uniformity since it has higher CV of 74.36% than NIBL i.e. 26.60%.
- The ratio of NIBL ranges highest of 3.42% and the lowest is 0.59% in FY 2011/12 and FY in 2008/09 respectively. Like wise the ratio of NCC is highest of 16.42% and the lowest of 2.73% respectively in FY 2007/08 and 2011/12. The mean Non-performing loan to total loan of NIBL and NCC are 1.35% and 6.83% respectively. Ratio of NIBL in all year are below the average standard except in FY 2011/12. NIBL has the lowest non performing loan to total loan & advances , thus NIBL is best performer than NCC. By

measuring coefficient of variation, NCC is more uniformity since it has 76.72% than NIBL with CV of 78.52%. Thus, Banking sector is seriously affected by the non-performing loans. Sample banks are not far from this above fact. If non-performing loan increases, the overall banking business will be affected. So provision amount will get increased and profit will decrease.

- The average ratio for return on assets is 1.86% and 2.99% for NIBL and NCC respectively. This indicates that the return on assets for the bank is satisfactory. Likewise, Standard deviation for the NIBL and NCC are 0.23% and 1.62% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 12.37% and 54.18% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 return on assets is higher of NCC which is 2.99% than of NIBL which is 1.86% among the two sample banks. In same way, financial surplus to assets ratio for sample banks are fluctuating trend. NCC has more risky that is higher CV 54.18% than NIBL.
- The average of return on capital fund ratio is 11.02% and 12.27% for NIBL and NCC 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 NCC is 0.27% and 1.21% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 2.45% and 9.86% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 return on capital fund or employed to risked assets is higher of NCC which is 12.27% than of NIBL which is 11.02% in average among the two sample banks.
- The interest income to total loan ratio of NCC Bank ranges highest of 14.43 during fiscal year 2010/11 and lowest of 10.56% during fiscal year 2008/09. Likewise, the ratio of NIBL bank is highest i.e. 14.37% in FY 2011/12 and lowest 8.12% in FY 2007/08. The Mean ratio of NIBL and NCC is 11.43% and 12.05% respectively. By this analysis, the mean ratio of NCC is higher than NIBL. By measuring coefficient of variation, NCC has less risker than NIBL since NCC has less CV i.e. 11.70% than NIBL of 22.40%. Since NCC bank has higher mean interest income to loan than that of NIBL Bank, NCC bank has a good performance from Interest income point of view.

- Average ratio of NIBL is 5.09% in an average. The ratio shows the increasing trend over the study period but slightly decreasing from 7.22% to 6.69% 2010/11 to 2011/12 respectively. Likewise, the ratio of NCC ranges highest 7.97 in the fiscal year 2010/11 and the lowest 3.81% in the fiscal year 2007/08. Its average ratio is 5.47%, in an average. The ratio increasing trends except in fiscal year 2011/12. Average ratio of NCC is slightly higher than NIBL. Likewise, measuring the coefficient of variation, NCC has more CV i.e. 28.88% than NIBL i.e.3.30%. This indicates that NIBL is more uniformity than NCC.
- The positive relationship is considered significant as the increase in total loan & adv. affect the net profit of the NIBL. On the other hands, NCC has negative correlation coefficient between loan and net profit pointed out the fact that increase in total loan has resulted in a decrease in net profit and vice-versa. In the context of significant relationship, calculated value  $t_{cal}$  of both NIBL and NCC is greater than tabulated value i.e. 3.257 greater than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test(3.182) there is insignificant relation between total loan and net profit of both NIBL and NCC.
- The positive relationship shown by their correlation coefficient points out the fact that the changes in each variable are taking place in the same direction, i.e., an increase in total loan is supported by an increase in the total deposit. The calculated value  $t_{cal}$  of both sample banks i.e. NIBL and NCC (5.838 and 12.686) is greater than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test (3.182). It indicates that there is significant difference between total loan and total deposit of NIBL and NCC.
- The correlation between nonperforming loan and total loan variables is highly negative of NCC, which means, they are moving in the opposite direction. The negative relationship points out the fact that an increase in non-performing loans leads to a decrease in total volume of loan. This is bad news as the banks' capacity to provide loans would decline if more credits granted resulted in non-performing ones. This would result in a huge loss for the bank. In contrast to NIBL, the correlation between these two variables is positive of NIBL, which means, they are moving in the same direction. The positive relationship points out the fact that an increase in non-performing loans leads to a increase in total volume of loan. By testing t- statistic, The calculated value  $t_{cal}$  of both

NIBL and NCC (0.783 and 0.9841) is less than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test(3.182). It indicates that correlation coefficient between loan and advances and total nonperforming loan of NIBL and NCC is insignificant.

- Given by their regression equation, the average net profit after tax maintained by the banks, NIBL and NCC are Rs. 1015.6 million and 347.32 million respectively, with other things remaining unchanged. However, the slope of the equation, that usually shows the rate of change in the value, reveals two different directions of the banks. NIBL has a positive rate of 959 million which denotes that with every unit change in the year, the value of the net profit after tax will increase by additional 959 million. Whereas, in case of NCC, the value of this rate of change will decreased by 83.7 million, with reveal the decreasing trend of the bank in maintaining the net profit after tax volume.
- The average total loan maintained by the banks, NIBL and NCC are Rs. 37257.4 million and 8596.62 million respectively, with other things remaining unchanged. However, the slope of the equation, that usually shows the rate of change in the value, reveals two different directions of the banks. Both banks i.e. NIBL and NCC has a positive rate of 3413.2 million and Rs. 1728.51 million which denotes that with every unit change in the year, the value of total loan will increase by additional 3413.2 million and Rs 1728.51 million respectively.

## **CHAPTER – V**

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

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

#### **5.1 Summary**

At present situation of banks, deposit collection is not much difficult, as liquidity of overall banking system is rising up. But the lending function is not like that, as banks are facing two major challenges in lending. First of all, due to unfavorable political environment and violence, businessmen are reluctant to invest in business, so the volume of loan and advances is not in regular trend and if loan is given, the problem of turning loan to non-performing is another challenge that banks are facing. In addition, various risk like credit risk, interest rate risk, liquidity risk, price risk, foreign exchange risk, transaction risk and so on are associated with lending. So, to disburse loan in the most productive and secure sector has become the target of each bank. It is extremely essential to have a mechanism through which small amount of saving can be collected and transferred into efficient uses. Hence, finance plays a vital role and thus contributes in the economic development of nation and the banks provide such financial services. The basis of business is borrowing from individuals, firms and occasionally government i.e. receiving deposit from them. With these resources and bank's own capital, banks disburse loan or extent credit and also invest in securities. Bank is an institution, which deals with the transaction of money. They perform several financial monetary and economic activities that are essential to accelerate the rate of economic growth of the country.

The main function of bank is to collect the scattered money from public in the form of deposit and to disburse it as loan in order to obtain profit. Bank charges higher interest rate to borrowers than pay to depositors. Success of bank does not rely on mobilization of deposit as loan, the timely recovery of loan is also equally important. If loan are not recovered on time, it become non-performing loan and the bank has to maintain higher amount of loan loss provision which

leads to stumpy profit. Hence, the profitability of the bank is very much affected by the lending function. In this study, analysis and presentation of data has been conducted by using both financial and statistical tools.

Out of the total population of 32 commercial banks, two banks were taken as sample using judgmental sampling method. Two major commercial banks NIBL and NCC banks were selected from the private sector banks. Secondary data has been used in the study. Annual reports and other publications from the basic of secondary data. Beside this newspaper, relevant thesis, journals, articles, related websites etc are also taken from this study. The data collected from the various sources are recorded systematically and presented in appropriate forms of tables and charts and appropriate mathematical, statistical, financial, graphical tools have been applied to analysis the data. The data of five consecutive years of two selected banks have been analyzed to meet the objective of the study. The study tried to analyze the comparative position of bank in term of credit management and its impact on relative variables. This study is aimed at overall credit management of commercial banks.

Nepal Rasta Bank has set up a directive regarding load loss provision of Nepalese commercial banks. According to this provision a bank has to maintain 1%, 25%, 50%, 100% loan loss provision for its pass, substandard, doubtful, bad loan respectively. It is found that sample bank maintain higher than requirement for own type of loan, whereas lower for another class of loan category. They should make provision perfectly as per requirement, neither more nor less. The reason may be over provision create inadequacy of capital, reduce profit and less provision create legal hassle to the bank. The loan loss provision made by NIBL and NCC banks seems NIBL is satisfactory and NCC is poor as compared, not a serious matter, only little attention is needed to manage LLP of each loan category. Likewise role of NRB is essential, regular supervision and control over the Nepalese commercial banks by NRB, whether they are implementing NRB's directive perfectly or not is very important.

## **5.2 Conclusion**

This study has been undertaken to evaluate the credit management of commercial banks. Two banks Nepal Investment Bank Limited (NIBL) and Nepal Credit & Commerce Bank (NCC) are under study and five years financial data of respective banks have been used for the study.

The average cash reserve ratio is 10.05% and 16.63% for NIBL and NCC respectively. This indicates that the cash reserve ratio for the all bank is maintained above the standard as directed by NRB. i.e. to generate the liquidity. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 21.89% and 18.58% for NIBL and NCC respectively. From the five years analysis i.e. fiscal year 2007/08 to 2011/12 cash reserve ratio is higher than of NCC which is 16.63% than NCC. In overall comparison, NIBL Bank had utilized its total deposits better in consecutive years than in fiscal year 2007/08 while NCC bank had been able to utilize its total deposits in year 2010/11. Likewise, the mean ratio of NIBL and NCC are 78.29% and 78.17% respectively. By coefficient variation analysis, NIBL bank has more uniformity than NCC bank since NIBL has less CV of 3.89%. NIBL had been strong to mobilize its total deposit as loan and advances. Total loan to total assets mean ratio of NIBL is higher of 68.38% than the NCC of 67.51%. Similiarly, average loan loss provision to total loan ratio of NCC is highest than NIBL. This increased ratio indicates the increased volume of non-performing loans and vice versa. By measuring coefficient of variation, NCC is less uniformity since it has higher CV of 74.36% than NIBL i.e. 26.60%.

The average ratio for return on assets is 1.86% and 2.99% for NIBL and NCC respectively. This indicates that the return on assets for the bank is satisfactory. NCC has more risky that is higher CV 54.18% than NIBL. The average of return on capital fund ratio is 11.02% and 12.27% for NIBL and NCC 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. Return on capital fund or employed to risked assets is higher of NCC which is 12.27% than of NIBL which is 11.02% in average among the two sample banks. The Mean ratio of interest income of NIBL and NCC is 11.43% and 12.05% respectively. By this analysis, the mean ratio of NCC is higher than NIBL. Since NCC bank has higher mean interest income to loan than that of NIBL Bank, NCC bank has a good performance from Interest income point of view.

The positive relationship is considered significant as the increase in total loan & adv. affect the net profit of the NIBL. On the other hands, NCC has negative correlation coefficient between loan and net profit pointed out the fact that increase in total loan has resulted in a decrease in net

profit and vice-versa. In the context of significant relationship, calculated value  $t_{cal}$  of both NIBL and NCC is greater than tabulated value i.e. 3.257 greater than tabulated 't' at 5% significance level at 3 degree of freedom for two tailed test(3.182) there is insignificant relation between total loan and net profit of both NIBL and NCC. Likewise, the correlation between total loan and total deposit, both NIBL and NCC are significant relationship while testing t-test. Similarly, correlation between nonperforming loan and total loan variables is highly negative of NCC, which means that an increase in non-performing loans leads to a decrease in total volume of loan. The positive relationship of NIBL points out the fact that an increase in non-performing loans leads to a increase in total volume of loan. By testing t- statistic, correlation coefficient between loan and advances and total nonperforming loan of NIBL and NCC is insignificant.

The average net profit after tax maintained by the banks, NIBL and NCC are Rs. 1015.6 million and 347.32 million respectively, with other things remaining unchanged. NIBL has a positive rate of 959 million which denotes that with every unit change in the year, the value of the net profit after tax will increase by additional 959 million whereas, in case of NCC, the value of this rate of change will decreased by 83.7 million, with reveal the decreasing trend of the bank in maintaining the net profit after tax volume. Likewise, average total loan maintained by the NIBL and NCC are Rs. 37257.4 million and 8596.62 million respectively, with other things remaining unchanged. Both banks NIBL and NCC has a positive rate of 3413.2 million and Rs. 1728.51 million which denotes that with every unit change in the year, the value of total loan will increase by additional 3413.2 million and Rs 1728.51 million respectively.

### **5.3 Recommendations**

As per the above conclusion the following recommendations can be made.

- Banking sector is seriously affected by the non-performing loan. All banks are not far from this above fact. Thus, Banks should sincere while granting loan and made effective follow up for recovery of non-performing loan.
- High ratio shows the capability of bank on mobilizing its total deposit as loan. Thus, both of the banks should try to raise the total loan to deposit; here they have maintained more than 50%.
- Banks should exercise in more loan creation and reduce the loan interest rate in more competitive manner.

- Banks should reduce service charge so as customers feel positive message in borrowing loan.
- Banks should also invest and give priority to small farmer not only large business so that agriculture products can be increased which leads to employment and increase economic growth.
- Bank should manage credit policy effectively and also provide the true fact of financial records to its stakeholders.

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## APPENDIX

### Appendix-I

#### Summary of the Financial Transactions of NIBL from FY 2007/08 to 2011/12

(NPR in millions)

Details	2007/08	2008/09	2009/10	2010/11	2011/12
Total Loans & Advances	26,997	36,241	40,318	41,095	41,636
Total assets	38,873	53,010	57,305	58,357	65,756
Total Deposit	34,452	46,698	50,094	50,138	57,010
Total Loan loss provision	533	586	630	792	1,269
Non Performing loan	309	214	254	395	1,425
Net Profit	697	901	1,265	1,176	1,039
Interest Income	2,194	3,268	4,653	5,803	5,982
Interest expense	992	1,687	2,554	3,620	3,814

*Source: Annual Reports of NIBL*

#### Calculation of the various Credit Analysis Ratios of NIBL

Fiscal year	2007/08	2008/09	2009/10	2010/11	2011/12
Total loan & advances to total deposit ratio (%)	78.36	77.61	80.48	81.97	73.03
Total loan & advances to total assets ratio (%)	69.45	68.37	70.36	70.42	63.32
Total loan loss provision to Total loan & advances ratio (%)	1.97	1.62	1.56	1.93	3.05
Nonperforming loan/assets to Total loan (& advances) ratio (%)	1.14	0.59	0.63	0.96	3.42
Net profit to total assets	1.79	1.69	2.21	2.02	1.58

Return on capital employed / risk weighted fund (%)	11.28	11.24	10.55	10.91	11.10
Interest income to total loan &adv. (%)	8.12	9.02	11.54	14.12	14.37
Interest expenses to total deposit (%)	2.88	3.61	5.09	7.22	6.69
Liquidity (CRR in %)	10.91	10.32	7.77	7.67	13.6

### Summary of the Financial Transactions of NCC from FY 2007/08 to 2011/12

(NPR in millions)

Details	2007/08	2008/09	2009/10	2010/11	2011/12
Total Loans &Advances	5,281	7,184	8,388	9,229	12,900
Total assets	8,141	10,590	12,761	13,236	18,594
Total Deposit	7,320	9,128	10,825	10,951	16,485
Total Loan loss provision	863	325	393	395	405
Non Performing loan	867	197	707	353	352
Net Profit	499	416	424	221	178
Interest Income	577	758	1,042	1,343	1,519
Interest expense	278	352	580	873	1,050

Source: Annual Reports of NCC

Calculation of the various Credit Analysis Ratios of NCC

Fiscal year	2007/08	2008/09	2009/10	2010/11	2011/12
Total loan & advances to total deposit ratio (%)	72.14	78.70	77.48	84.28	78.26
Total loan & advances to total assets ratio (%)	64.87	67.83	65.73	69.73	69.38
Total loan loss provision to Total loan & advances ratio (%)	16.34	4.52	4.68	4.28	3.18
Nonperforming loan/assets to Total loan (& advances) ratio (%)	16.42	2.74	8.43	3.82	2.73
Net profit to total assets (%)	0.90	1.61	3.21	3.76	5.48
Return on capital employed / risk weighted fund (%)	11.77	13.48	13.94	11.07	11.09
Interest income to total loan &adv.	10.92	10.56	12.42	14.54	11.78
Interest expenses to total deposit	3.80	3.86	5.36	7.97	6.37
Liquidity (CRR in %)	13.84	15.85	20.29	12.99	20.19

**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.

## Appendix-II

### Calculation of Mean, Standard Deviation (S.D.) and Coefficient of Variation (CV) of NIBL

#### Cash Reserve Ratio (CRR)

Fiscal Year	(X) CRR	X – X(10.05)	(X– 10.05) <sup>2</sup>
2007/08	10.91	0.86	0.7396
2008/09	10.32	0.27	0.0729
2009/10	7.77	-2.28	5.1984
2010/11	7.67	-2.38	5.6644
2011/12	13.6	3.55	12.6025
	<b>50.27</b>	0.02	<b>24.2778</b>

Where,

$\bar{X} = \frac{50.27}{5} = 10.05\%$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 2.20\%$	$\begin{aligned} \text{(C.V.)} &= \frac{\sigma}{\bar{x}} \times 100 \\ &= \frac{2.20}{10.05} \times 100 \\ &= 21.89\% \end{aligned}$
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Total loan & adv. to total deposit

<b>Fiscal Year</b>	<b>(X) TL to TD</b>	<b>X – X(78.29)</b>	<b>(X– 78.29)<sup>2</sup></b>
2007/08	78.36	0.07	0.0049
2008/09	77.61	-0.68	0.4624
2009/10	80.48	2.19	4.7961
2010/11	81.97	3.68	13.5424
2011/12	73.03	-5.26	27.6676
	<b>391.45</b>		<b>46.4734</b>
$\bar{X}$	78.29		
<b>S.D.</b>	3.05		
C.V. (%)	3.89		

Total loan to total assets

<b>Fiscal Year</b>	<b>(X) TL to TA</b>	<b>X – X(68.38)</b>	<b>(X– 68.38)<sup>2</sup></b>
2007/08	69.45	1.07	1.1449
2008/09	68.37	-0.01	1E-04
2009/10	70.36	1.98	3.9204
2010/11	70.42	2.04	4.1616
2011/12	63.32	-5.06	25.6036
	<b>341.92</b>	0.02	<b>34.8306</b>
$\bar{X}$	68.38		
<b>S.D.</b>	2.64		
C.V. (%)	3.86		

Loan Loss provision to total loan & adv.

Fiscal Year	(X) LLP to TL	X – X(2.03)	(X– 2.03) <sup>2</sup>
2007/08	1.97	-0.06	0.0036
2008/09	1.62	-0.41	0.1681
2009/10	1.56	-0.47	0.2209
2010/11	1.93	-0.1	0.01
2011/12	3.05	1.02	1.0404
	<b>10.13</b>	-0.02	<b>1.443</b>
$\bar{X}$	2.03		
<b>S.D.</b>	0.54		
<b>C.V. (%)</b>	26.60		

Nonperforming loan to total loan

Fiscal Year	(X) NPL to TL	X – X(1.35)	(X– 1.35) <sup>2</sup>
2007/08	1.14	-0.21	0.0441
2008/09	0.59	-0.76	0.5776
2009/10	0.63	-0.72	0.5184
2010/11	0.96	-0.39	0.1521
2011/12	3.42	2.07	4.2849
	<b>6.74</b>	-0.01	<b>5.5771</b>
$\bar{X}$	1.35		
<b>S.D.</b>	1.06		
<b>C.V. (%)</b>	78.52		

### Return on assets

Fiscal Year	(X) ROA	X – X(1.86)	(X– 1.86) <sup>2</sup>
2007/08	1.79	-0.07	0.0049
2008/09	1.69	-0.17	0.0289
2009/10	2.21	0.35	0.1225
2010/11	2.02	0.16	0.0256
2011/12	1.58	-0.28	0.0784
	<b>9.29</b>	-0.01	<b>0.2603</b>
$\bar{X}$	1.86		
<b>S.D.</b>	0.23		
<b>C.V. (%)</b>	12.37		

### Return on capital employed/ risked weighted assets ratio

Fiscal Year	(X) ROWCE	X – X(11.02)	(X– 11.02) <sup>2</sup>
2007/08	11.28	0.26	0.0676
2008/09	11.24	0.22	0.0484
2009/10	10.55	-0.47	0.2209
2010/11	10.91	-0.11	0.0121
2011/12	11.1	0.08	0.0064
	<b>55.08</b>	-0.02	<b>0.3554</b>
$\bar{X}$	11.02		
<b>S.D.</b>	0.27		
<b>C.V. (%)</b>	2.45		

Interest income to total loan & adv.

<b>Fiscal Year</b>	<b>(X) II to TL</b>	<b>X – X(11.43)</b>	<b>(X– 11.43)<sup>2</sup></b>
2007/08	8.12	-3.31	10.9561
2008/09	9.02	-2.41	5.8081
2009/10	11.54	0.11	0.0121
2010/11	14.12	2.69	7.2361
2011/12	14.37	2.94	8.6436
	<b>57.17</b>	0.02	<b>32.656</b>
$\bar{X}$	11.43		
<b>S.D.</b>	2.56		
<b>C.V. (%)</b>	22.40		

Interest expenses to total deposit

<b>Fiscal Year</b>	<b>(X) IE to TD</b>	<b>X – X(5.09)</b>	<b>(X– 5.09)<sup>2</sup></b>
2007/08	2.88	-2.21	4.8841
2008/09	3.61	-1.48	2.1904
2009/10	5.09	0	0
2010/11	7.22	2.13	4.5369
2011/12	6.69	1.6	2.56
	<b>25.49</b>	0.04	<b>14.1714</b>
$\bar{X}$	5.09		
<b>S.D.</b>	1.68		
<b>C.V. (%)</b>	3.30		

### Calculation of Mean, Standard Deviation (S.D.) and Coefficient of Variation (CV) of NCC

#### Cash Reserve Ratio

Fiscal Year	(X) CRR	X – X(16.63)	(X– 16.63) <sup>2</sup>
2007/08	13.84	-2.79	7.7841
2008/09	15.85	-0.78	0.6084
2009/10	20.29	3.66	13.3956
2010/11	12.99	-3.64	13.2496
2011/12	20.19	3.56	12.6736
	<b>83.16</b>	0.01	<b>47.7113</b>

NCC	$\bar{X} = \frac{83.16}{5}$ $= 16.63$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = \sqrt{\frac{47.7113}{5}} = 3.09$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{3.09}{16.63} \times 100$ $= 18.58\%$
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Other values are calculated in the same manner and which results are presented as below.

#### Total Loan to Total Deposit Ratio (%)

Fiscal Year	TL to TD(X)	X – X(78.17)	(X– 78.17) <sup>2</sup>
2007/08	72.144	-6.026	36.312676
2008/09	78.702	0.532	0.283024
2009/10	77.489	-0.681	0.463761
2010/11	84.28	6.11	37.3321
2011/12	78.255	0.085	0.007225
	<b>390.87</b>		<b>74.398786</b>
$\bar{X}$	78.17		
S.D.	3.86		
C.V. (%)	4.94		

**Total Loan to total Assets Ratio (%)**

<b>Fiscal Year</b>	<b>TL to TA(X)</b>	<b>X – X(67.51)</b>	<b>(X– 67.51)<sup>2</sup></b>
2007/08	64.868	-2.642	6.980164
2008/09	67.83	0.32	0.1024
2009/10	65.731	-1.779	3.164841
2010/11	69.733	2.223	4.941729
2011/12	69.378	1.868	3.489424
	<b>337.54</b>		<b>18.678558</b>
$\bar{X}$	<b>67.51</b>		
<b>S.D.</b>	<b>1.93</b>		
<b>C.V. (%)</b>	<b>2.86</b>		

**Loan Loss Provision to Total Loan (%)**

<b>Fiscal Year</b>	<b>LLP to TL(X)</b>	<b>X – X(6.59)</b>	<b>(X– 6.59)<sup>2</sup></b>
2007/08	16.345	9.755	95.160025
2008/09	4.5297	-2.0603	4.24483609
2009/10	4.6877	-1.9023	3.61874529
2010/11	4.2753	-2.3147	5.35783609
2011/12	3.1402	-3.4498	11.90112004
	<b>32.9779</b>		<b>120.2825625</b>
$\bar{X}$	<b>6.59</b>		
<b>S.D.</b>	<b>4.90</b>		
<b>C.V. (%)</b>	<b>74.36</b>		

### Non-performing Loan to Total Loan (in %)

Fiscal Year	NPL to TL(X)	$X - X(6.83)$	$(X - 6.83)^2$
2007/08	16.423	9.593	92.025649
2008/09	2.7437	-4.0863	16.69784769
2009/10	8.4312	1.6012	2.56384144
2010/11	3.8202	-3.0098	9.05889604
2011/12	2.7301	-4.0999	16.80918001
	<b>34.1482</b>		<b>137.1554142</b>
$\bar{X}$	<b>6.83</b>		
<b>S.D.</b>	<b>5.24</b>		
<b>C.V. (%)</b>	<b>76.72</b>		

### Return on assets

Fiscal Year	(X) ROA	$X - X(2.99)$	$(X - 2.99)^2$
2007/08	0.9	-2.09	4.3681
2008/09	1.61	-1.38	1.9044
2009/10	3.21	0.22	0.0484
2010/11	3.76	0.77	0.5929
2011/12	5.48	2.49	6.2001
	<b>14.96</b>	<b>0.01</b>	<b>13.1139</b>
$\bar{X}$	2.99		
<b>S.D.</b>	1.62		
<b>C.V. (%)</b>	54.18		

Return on capital employed/ risked weighted capital (RWCC)

<b>Fiscal Year</b>	<b>(X) ROWCE</b>	<b>X – X(12.27)</b>	<b>(X– 12.27)<sup>2</sup></b>
2007/08	11.77	-0.5	0.25
2008/09	13.48	1.21	1.4641
2009/10	13.94	1.67	2.7889
2010/11	11.07	-1.2	1.44
2011/12	11.09	-1.18	1.3924
	<b>61.35</b>	1.77636E-15	<b>7.3354</b>
$\bar{X}$	12.27		
<b>S.D.</b>	1.21		
<b>C.V. (%)</b>	9.86		

**Interest Income to Total Loan (%)**

<b>Fiscal Year</b>	<b>II to TL(X)</b>	<b>X – X(12.05)</b>	<b>(X– 12.05)<sup>2</sup></b>
2007/08	10.9182	-1.1318	1.28097124
2008/09	10.5572	-1.4928	2.22845184
2009/10	12.425	0.375	0.140625
2010/11	14.5496	2.4996	6.24800016
2011/12	11.776	-0.274	0.075076
	<b>60.226</b>		<b>9.97312424</b>
$\bar{X}$	<b>12.05</b>		
<b>S.D.</b>	<b>1.41</b>		
<b>C.V. (%)</b>	<b>11.70</b>		

**Interest Expenses to Total Deposit Ratio (%)**

<b>Fiscal Year</b>	<b>IE to TD(X)</b>	<b>X – X(5.47)</b>	<b>(X– 5.47)<sup>2</sup></b>
2007/08	3.80727	-1.66273	2.764671053
2008/09	3.85749	-1.61251	2.6001885
2009/10	5.35817	-0.11183	0.012505949
2010/11	7.97341	2.50341	6.267061628
2011/12	6.37113	0.90113	0.812035277
	<b>27.36747</b>		<b>12.45646241</b>
$\bar{X}$	<b>5.47</b>		
<b>S.D.</b>	<b>1.58</b>		
<b>C.V. (%)</b>	<b>28.88</b>		

### Appendix-III

#### Correlation of total loan, total deposit and non performing loan of NIBL

#### Correlation between total loan and net profit

Year	total loan (X)	Net profit (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2007/08	26997	697	18816909	728838009	485809
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
	186287	<b>5078</b>	<b>194059844</b>	<b>7090144735</b>	<b>5360332</b>

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

$$= \frac{5 \times 194059844 - 186287 \times 5078}{\sqrt{5 \times 7090144735 - (186287)^2} \cdot \sqrt{5 \times 5360332 - (5078)^2}}$$

$$r = 0.8829$$

Coefficient determination ( $r^2$ ) = 0.7795

#### For t-test

Null hypothesis  $H_0$ : There is no significance difference between total loan and advances and net profit of NIC or the variables are uncorrelated.

Alternative hypothesis  $H_1$ : There is significance difference between total loan and advances and net profit of NIC or the variables are correlated.

Under  $H_0$ , the t statistic is:

Calculation of t statistic:

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

$$t = \frac{0.8829}{\sqrt{1 - (0.8829)^2}} \times \sqrt{5 - 2}$$

$$t = 3.257$$

Degree of freedom = 5 - 2 = 3

Tabulated/Critical value:

At 3 degree of freedom for two tailed test at 5% level of significance tabulated value of  $t_{0.05, 3d.f.} = 3.182$

Decision: since calculated value of t is greater than tabulated value of t  $H_0$  is rejected &  $H_1$  is accepted. Hence, there is **significance difference** between total loan and advances and net profit of NIC **or the variable are correlated.**

(**Decision:** if Calculated t is less than tabulated t  $H_0$  is accepted and if calculated t is greater than tabulated t  $H_0$  is rejected i.e. accept  $H_1$ . **Note:** similar method has been applied for the calculation of others)

<b>Correlation (r)</b>	0.8829
<b>R<sup>2</sup></b>	0.7795
<b>t<sub>cal</sub></b>	3.257
<b>t<sub>tab</sub></b>	3.182

#### **Correlation between total loan and total deposit**

Year	total loan (X)	total deposit (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2007/08	26997	34452	930100644	728838009	1186940304
2008/09	36241	46698	1692382218	1313410081	2180703204
2009/10	40318	50094	2019689892	1625541124	2509408836
2010/11	41095	50138	2060421110	1688799025	2513819044
2011/12	41636	57010	2373668360	1733556496	3250140100
	186287	<b>238392</b>	<b>9076262224</b>	<b>7090144735</b>	<b>11641011488</b>

<b>Correlation (r)</b>	0.9587
<b>R<sup>2</sup></b>	0.9191
<b>t<sub>cal</sub></b>	5.838
<b>t<sub>tab</sub></b>	3.182

### Correlation between total loan and non performing loan

Year	total loan (X)	nonperforming loan (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2007/08	26997	309	8342073	728838009	95481
2008/09	36241	214	7755574	1313410081	45796
2009/10	40318	254	10240772	1625541124	64516
2010/11	41095	395	16232525	1688799025	156025
2011/12	41636	1425	59331300	1733556496	2030625
	<b>186287</b>	<b>2597</b>	<b>101902244</b>	<b>7090144735</b>	<b>2392443</b>

<b>Correlation (r)</b>	0.4118
<b>R<sup>2</sup></b>	0.1696
<b>t<sub>cal</sub></b>	0.783
<b>t<sub>tab</sub></b>	3.182

## Appendix-IV

### Correlation of total loan, total deposit and non performing loan of NCC

#### Correlation between total loan and net profit

Year	total loan (X)	Net profit (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2007/08	5281	499	2635219	27888961	249001
2008/09	7184	416	2988544	51609856	173056
2009/10	8388	424	3556512	70358544	179776
2010/11	9229	221	2039609	85174441	48841
2011/12	12900	178	2296200	166410000	31684
	42982	<b>1738</b>	<b>13516084</b>	<b>401441802</b>	<b>682358</b>

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

$$= \frac{5 \times 13516084 - 42982 \times 1738}{\sqrt{5 \times 401441802 - (42982)^2} \cdot \sqrt{5 \times 682358 - (1738)^2}}$$

$$r = -0.9013$$

$$\text{Coefficient determination } (r^2) = 0.8123$$

#### For t-test

Null hypothesis H<sub>0</sub>: There is no significance difference between total loan and advances and net profit of NCC or the variables are uncorrelated.

Alternative hypothesis H<sub>1</sub>: There is significance difference between total loan and advances and net profit of NCC or the variables are correlated.

Under H<sub>0</sub>, the t statistic is:

Calculation of t statistic:

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

$$t = \frac{0.9013}{\sqrt{1 - (0.9013)^2}} \times \sqrt{5 - 2}$$

$$t = 3.603$$

$$\text{Degree of freedom} = 5 - 2 = 3$$

Tabulated/Critical value:

At 3 degree of freedom for two tailed test at 5% level of significance tabulated value of  $t_{0.05, 3d.f.} = 3.182$

Decision: since calculated value of t is less than tabulated value of t  $H_0$  is accepted. Hence, there is no **significance difference** between total loan and advances and net profit of NCC **or the variable are uncorrelated.**

(**Decision:** if Calculated t is less than tabulated t  $H_0$  is accepted and if calculated t is greater than tabulated t  $H_0$  is rejected i.e. accept  $H_1$ .**Note:** similar method has been applied for the calculation of others)

<b>Correlation (r)</b>	-0.9013
<b>R<sup>2</sup></b>	0.8123
<b>t<sub>cal</sub></b>	3.603
<b>t<sub>tab</sub></b>	3.182

#### **Correlation between total loan and total deposit**

Year	total loan (X)	total deposit (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2007/08	5281	7320	38656920	27888961	53582400
2008/09	7184	9128	65575552	51609856	83320384
2009/10	8388	10825	90800100	70358544	117180625
2010/11	9229	10951	101066779	85174441	119924401
2011/12	12900	16485	212656500	166410000	271755225
	<b>42982</b>	<b>54709</b>	<b>508755851</b>	<b>401441802</b>	<b>645763035</b>

<b>Correlation (r)</b>	0.9908
<b>R<sup>2</sup></b>	0.9817
<b>t<sub>cal</sub></b>	12.686
<b>t<sub>tab</sub></b>	3.182

### Correlation between total loan and non performing loan

Year	total loan (X)	nonperforming loan (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2007/08	5281	867	4578627	27888961	751689
2008/09	7184	197	1415248	51609856	38809
2009/10	8388	707	5930316	70358544	499849
2010/11	9229	353	3257837	85174441	124609
2011/12	12900	352	4540800	166410000	123904
	<b>42982</b>	<b>2476</b>	<b>19722828</b>	<b>401441802</b>	<b>1538860</b>

<b>Correlation (r)</b>	-0.4940
<b>R<sup>2</sup></b>	0.2440
<b>t<sub>cal</sub></b>	0.9841
<b>t<sub>tab</sub></b>	3.182

## Appendix- V

### Calculation of Trend Analysis of net profit and total loan of NIBL bank

#### Trend value of net profit of NIBL

FY	NPAT(Y)	X=X-2009/10	x <sup>2</sup>	xY
2007/08	697	-2	4	-1394
2008/09	901	-1	1	-901
2009/10	1265	0	0	0
2010/11	1176	1	1	1176
2011/12	1039	2	4	2078
	<b>5078</b>	<b>0</b>	<b>10</b>	<b>959</b>

Let the middle year be assumed as 2009/10. 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  $\Sigma x = 0$ ,

$$a = \frac{\Sigma y}{n} = \frac{5078}{5} = 1015.6$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{959}{10} = 95.9$$

For 2011/12,

$$\begin{aligned} Y_c &= 1015.6 + 95.9 X \\ &= 1015.6 + 95.9 \times 2 \\ &= 1207.4 \end{aligned}$$

Now, for coming Years,

<b>Fiscal Year</b>	<b>X</b>	<b>Yc = 1015.6 + 95.9 X</b>	<b>NPAT (Yc)</b>
2012/13	(2012/13-2009/10) = 3	Yc = 1015.6 + 95.9 × 3	1303.3
2013/14	(2013/14 – 2009/10) = 4	Yc = 1015.6 + 95.9 × 4	1399.2
2014/15	(2014/15 - 2009/10) = 5	Yc = 1015.6 + 95.9 × 5	1495.1
2015/16	(2015/16 - 2009/10) = 6	Yc = 1015.6 + 95.9 × 6	1591
2016/17	(2015/16 - 2009/10) = 7	Yc = 1015.6 + 95.9 × 7	1686.9
2017/18	(2015/16 - 2009/10) = 8	Yc = 1015.6 + 95.9 × 8	1782.8

**Trend value of total loan of NIBL**

<b>FY</b>	<b>total loan (Y)</b>	<b>X=X-2009/10</b>	<b>x2</b>	<b>xY</b>
2007/08	26997	-2	4	-53994
2008/09	36241	-1	1	-36241
2009/10	40318	0	0	0
2010/11	41095	1	1	41095
2011/12	41636	2	4	83272
	<b>186287</b>	<b>0</b>	<b>10</b>	<b>34132</b>

Now,

$$a = \frac{\Sigma y}{n} = \frac{186287}{5} = 37257.4$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{34132}{10} = 3413.2$$

For 2011/12,

$$\begin{aligned} Y_c &= 37257.4 + 3413.2 X \\ &= 37257.4 + 3413.2 \times 2 \\ &= 44083.8 \end{aligned}$$

Now, for coming Years,

<b>Fiscal Year</b>	<b>X</b>	<b><math>Y_c = 37257.4 + 3413.2X</math></b>	<b>Total loan (<math>Y_c</math>)</b>
2012/13	$(2012/13-2009/10) = 3$	$Y_c = 37257.4 + 3413.2 \times 3$	47497
2013/14	$(2013/14 - 2009/10) = 4$	$Y_c = 37257.4 + 3413.2 \times 4$	50910.2
2014/15	$(2014/15 - 2009/10) = 5$	$Y_c = 37257.4 + 3413.2 \times 5$	54323.4
2015/16	$(2015/16 - 2009/10) = 6$	$Y_c = 37257.4 + 3413.2 \times 6$	57736.6
2016/17	$(2015/16 - 2009/10) = 7$	$Y_c = 37257.4 + 3413.2 \times 7$	61149.8
2017/18	$(2015/16 - 2009/10) = 8$	$Y_c = 37257.4 + 3413.2 \times 8$	64563

## Appendix- VI

### Calculation of Trend Analysis of net profit and total loan of NCC bank

#### Trend value of net profit of NCC

FY	NPAT(Y)	X=X-2009/10	x <sup>2</sup>	xY
2007/08	499	-2	4	-998
2008/09	416	-1	1	-416
2009/10	424	0	0	0
2010/11	221	1	1	221
2011/12	178	2	4	356
	<b>1738</b>	<b>0</b>	<b>10</b>	<b>-837</b>

Let the middle year be assumed as 2009/10. 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  $\Sigma x = 0$ ,

$$a = \frac{\Sigma y}{n} = \frac{1738}{5} = 347.6$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{-837}{10} = -83.7$$

For 2011/12,

$$\begin{aligned} Y_c &= 347.6 - 83.7 X \\ &= 347.6 - 83.7 \times 2 \\ &= 180.02 \end{aligned}$$

Now, for coming Years,

<b>Fiscal Year</b>	<b>X</b>	<b>Yc = 347.6 - 83.7X</b>	<b>NPAT (Yc)</b>
2012/13	(2012/13-2009/10) = 3	Yc = 347.6 - 83.7 × 3	96.32
2013/14	(2013/14 - 2009/10) = 4	Yc = 347.6 - 83.7 × 4	12.62
2014/15	(2014/15 - 2009/10) = 5	Yc = 347.6 - 83.7 × 5	-71.08
2015/16	(2015/16 - 2009/10) = 6	Yc = 347.6 - 83.7 × 6	-154.78
2016/17	(2015/16 - 2009/10) = 7	Yc = 347.6 - 83.7 × 7	-238.48
2017/18	(2015/16 - 2009/10) = 8	Yc = 347.6 - 83.7 × 8	-322.18

**Trend value of total loan of NCC**

<b>FY</b>	<b>total loan (Y)</b>	<b>X=X-2009/10</b>	<b>x2</b>	<b>xY</b>
2007/08	5281	-2	4	-10562
2008/09	7184	-1	1	-7184
2009/10	8388	0	0	0
2010/11	9229	1	1	9229
2011/12	12900	2	4	25800
	<b>42982</b>	<b>0</b>	<b>10</b>	<b>17283</b>

Since the  $\Sigma x = 0$ ,

$$a = \frac{\Sigma y}{n} = \frac{42982}{5} = 8596.40$$

$$b = \frac{\Sigma XY}{\Sigma X^2} = \frac{17283}{10} = 1728.3$$

For 2011/12,

$$\begin{aligned} Y_c &= 8596.40 + 1728.3 X \\ &= 8596.62 + 1728.3 \times 2 \\ &= 12053.22 \end{aligned}$$

Now, for coming Years,

<b>Fiscal Year</b>	<b>X</b>	<b><math>Y_c = 8596.62 + 1728.51 X</math></b>	<b>Total loan (<math>Y_c</math>)</b>
2012/13	$(2012/13-2009/10) = 3$	$Y_c = 8596.62 + 1728.51 \times 3$	13781.52
2013/14	$(2013/14 - 2009/10) = 4$	$Y_c = 8596.62 + 1728.51 \times 4$	15509.82
2014/15	$(2014/15 - 2009/10) = 5$	$Y_c = 8596.62 + 1728.51 \times 5$	17238.12
2015/16	$(2015/16 - 2009/10) = 6$	$Y_c = 8596.62 + 1728.51 \times 6$	18966.42
2016/17	$(2015/16 - 2009/10) = 7$	$Y_c = 8596.62 + 1728.51 \times 7$	20694.72
2017/18	$(2015/16 - 2009/10) = 8$	$Y_c = 8596.62 + 1728.51 \times 8$	22423.02