

# **LIQUIDITY AND PROFITABILITY ANALYSIS OF NEPALESE COMMERCIAL BANKS**

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

**A Thesis**

**Submitted By:**

**ACHYUTM KAFLE**

**T.U. Regd. No: 7-2-31-1001-2004**

**Second Year Exam Roll No: 390361**

**Campus Roll No: 2256/064**

**Submitted To:**

Office of the Dean

Faculty of Management

Tribhuvan University

*In Partial Fulfillment of the Requirement for the Degree of*

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

Putalisadak, Kathmandu

March, 2014

## **RECOMMENDATION**

This is to certify that the Thesis

Submitted by:

**ACHYUTM KAFLE**

Entitled:

**LIQUIDITY AND PROITABILITY ANALYSIS OF NEPALESE COMMERCIAL  
BANKS**

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

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

.....

**Asso. Prof. Ramesh Raj Gautam**  
**(Thesis Supervisor)**

.....

**Prof. Dr. Kamal Deep Dhakal**  
**(Head of Research Department)**

.....

**Asso. Prof. Prakash Singh Pradhan**  
**(Campus Chief)**

**VIVA-VOCE SHEET**

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

Submitted by:

**ACHYUTM KAFLE**

Entitled:

**LIQUIDITY AND PROITABILITY ANALYSIS OF NEPALESE COMMERCIAL  
BANKS**

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

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

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

Viva-Voce Committee

Head, Research Department .....

Member (Thesis Supervisor) .....

Member (External Expert) .....

## **DECLARATION**

I hereby declare that the work reported in this thesis entitled **LIQUIDITY AND PROFITABILITY ANALYSIS OF NEPALESE COMMERCIAL BANKS (With Reference to Nepal SBI and Bank of Kathmandu Ltd.)** submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Study (M.B.S.) under the supervision of Associate Professor **Ramesh Raj Gautam** of Shanker Dev Campus, Faculty of Management, T.U.

.....

**ACHYUTM KAFLE**

**T.U. Regd. No: 7-2-31-1001-2004**

**Second Year Exam Roll No: 390361**

**Campus Roll No: 2256/064**

## ACKNOWLEDGEMENT

This study, **LIQUIDITY AND PROITABILITY ANALYSIS OF NEPALESE COMMERCIAL BANKS (With Reference to Nepal SBI and Bank of Kathmandu Ltd.)** prepared for the partial fulfillment for the degree of Master of Business Studies (MBS). This study is an outcome of serious inspiration and moral support of many people and for this I always grateful to all of them. I take this opportunity to express my sincere gratitude to all those who have directly or indirectly encouraged me to make this study.

I would like to express special gratitude to **Associate Professor Ramesh Raj Gautam** Shanker Dev Campus, Faculty of Management who provided ideas, advice and guidance from vary beginning. I would like to express special gratitude to **Associate Professor Prakash Singh Pradhan**, Campus Chief, Shanker Dev Campus and **Professor Dr. Kamal Deep Dhakal**, Head of research department of Shanker Dev Campus. I would also like to express special thanks to the library staff of Shanker Dev campus who helped me to prepare this thesis and for his valuable suggestion.

At last but not least I would like to express my heartfelt thanks to my spouse, my family members and other friends who have supported me providing consistent help and encouragement.

.....  
**ACHYUTM KAFLE**

**T.U. Regd. No: 7-2-31-1001-2004**

**Second Year Exam Roll No: 390361**

**Campus Roll No: 2256/064**

## TABLE OF CONTENTS

**Recommendation**

**Viva- voce sheet**

**Declaration**

**Acknowledgement**

**Table of Contents**

**List of Tables**

**List of Figures**

**Abbreviations**

### CHAPTER- I

#### INTRODUCTION

	Page No
1.1 Background of the study	1
1.1.1 Profile of Selected Sample Commercial Bank.	2
1.1.1.1 Bank of Kathmandu Ltd.	2
1.1.1.2 Nepal SBI Bank Ltd.	3
1.2 Statement of Problem	4
1.3 Objectives of the Study	4
1.4 Significance of the Study	4
1.5 Limitation of the study	5
1.6 Organization of the Study	5

### CHAPTER II

#### REVIEW OF LITERATURE

2.1 Conceptual Framework	7
2.1.1 Profits, Profitability and Liquidity	9
2.1.1.1 Introduction and Definitions	9
2.1.1.2 Objectives, Profitability and Liquidity	10
2.1.1.3 Measuring profitability and liquidity	11
2.1.1.4 Book-keeping	13

2.1.1.5 Measuring Liquidity	13
2.1.1.6 Liquidity vs Profitability	13
2.1.2 Brief History of Growth of Banking System	14
2.1.3 The Structure, Scope and Objective of Modern Banking	15
2.1.4 History of Commercial Banks in Nepal	16
2.1.5 Main Functions and Services of Commercial Banks	18
2.1.6 Provisions of NRB for Extending Advances & Investment in Productive, Priority and Deprived Sector	24
2.2 Review of previous studies	31
2.2.1 Review of Articles and Journals	31
2.2.2 Review of Previous thesis	34
2.3 Research Gap	39

## CHAPTER-III

### RESEARCH MEHODOLOGY

3.1 Research Design	40
3.1.1 Population of the Study	41
3.1.2 Sample of the Study	42
3.1.3 Nature and Sources of Data	42
3.1.4 Data Gathering Procedure	42
3.1.5 Data Analysis Procedure	43
3.1.6 Financial Tools	43
3. 1.6.1 Liquidity Ratio	43
3.1.6.2 Asset Management Ratio	44
3.1.6.3 Activity Ratio	44
3.1.6.4 Profitability Ratio	45
3.1.7 Statistical tools	46
3.1.7.1 Arithmetic Mean	47
3.1.7.2 Karl Pearson's Coefficient Correlation	47
3.1.7.3 Standard deviation	48
3.1.7.4 Coefficient of Correlation Probable Error (6P E)	48
3.1.7.5 Trend Analysis	48

## CHAPTER – IV

### PRESENTATION AND ANALYSIS OF DATA

4.1 Evaluation of Profitability Position of the Banks	51
4.1.1 Financial Surplus (NPAT) to Equity/ net worth Ratio/Return on Equity	51
4.1.2 Financial Surplus to total Assets Ratio / Return on Assets	53
4.1.3 Return on Capital Employed/fund on risked assets (ROCE):	55
4.1.4 Net Profit to Total Deposit:	57
4.1.5 Net Profit to Total loan and advances	58
4.2 Evaluation of Liquidity Position of the Bank	59
4.2.1 Liquidity Ratio	59
4.2.1.1 Cash Reserve Ratio (CRR):	59
4.3 Credit Management Analysis	61
4.3.1 Total Loan/credit to Total Deposit Ratio:	61
4.3.2 Interest Income to Loans and Advances Ratio:	62
4.4 Credit Risk Ratio:	63
4.4.1 Nonperforming loan to total loan and advances	64
4.5 Statistical Tools	65
4.5.1 Correlation Analysis	65
4.5.2 Trend Analysis	68
4.6 Major Findings of the Study	70

## CHAPTER – V

### SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary	74
5.2 Conclusion	75
5.3 Recommendation	76

Bibliography

Appendices



## LIST OF TABLES

Table 4.1 Financial Surplus to Equity Ratio of Sample Banks in (%)	52
Table 4.2 Financial Surplus to total Assets Ratio of Sample Banks in (%)	54
Table 4.3 Return on Capital Employed/fund on risked assets (ROCE) in (%)	55
Table 4.4 Net Profit to Total Deposit In (%)	57
Table 4.5 Net Profit to Total loan and advances in (%)	58
Table 4.6 Cash Reserve Ratio in (%)	60
Table 4.7 Total Loan & advances/credit to Total Deposit Ratio (in %)	61
Table 4.8 Interest Income to Loans and Advances Ratio in (%)	62
Table 4.9 Credit Risk Ratio of Sample Banks in (%)	64
Table 4.10 Correlation Analysis between Total Deposit and net profit	65
Table 4.11 Correlation Analysis between Total Deposit and Loan & Advances	66
Table 4.12 Correlation coefficient between Total loans & advances and Total Nonperforming Loans	67
Table 4.13 Forecasted Trend Analysis of NPAT for next six years	68
Table 4.14 Trend Analysis of Loan & Advances	69

## **LIST of FIGURES**

Figure 4.1 Financial Surplus to Equity Ratio of Sample Banks in (%)	53
Figure 4.2 Financial Surplus to total Assets Ratio for the Sample Banks	55
Figure 4.3 Return on Capital Employed/fund on risked assets (ROCE) (%)	56
Figure 4.4 Net Profit to Total Deposit Ratio (%)	57
Figure 4.5 Net Profit to Total loan and advances in (%)	59
Figure 4.6 Cash Reserve Ratio of sample banks in (%)	60
Figure 4.7 Total Loan/credit to Total Deposit Ratio (in %)	62
Figure 4.8 Interest Income to Loans and Advances Ratio in (%)	63
Figure 4.9 Nonperforming loan to total loan and advances Ratio of Sample Banks in (%)	65
Figure 4.10 Forecasted Trend Analysis of NPAT of Sample banks (Million)	69
Figure 4.11 Trend Analysis of Loan & Advances (Million)	70

## **ABBREVIATIONS**

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

# CHAPTER- I

## INTRODUCTION

### 1.1 Background of Study

Every business entity wants to increase its profit both on short-run and long run but maintaining profitability from a sustainable manner is very difficult task. Profitability, on the other way, depends on other so many variables like liquidity. So these two variables – profitability and liquidity are the most important things for every businessman.

There is a trade-off between liquidity and profitability; gaining more of one ordinarily means giving up some of the other. Short meaning of liquidity is saving enough money in the form of cash, or near-cash assets, to meet your financial obligations. Alternatively, liquidity is the position with which assets can be converted into cash. Similarly, profitability is measure of the amount by which a company's revenues exceed its relevant expenses. In this regard, we can say that liquidity and profitability are the two parts of a picture – “liquidity” being on one end of a straight line and "Profitability" on the other end of the line. If a businessman is on the line and moves toward one, s/he automatically moves away from the other. In other words, there is the trade-off between liquidity and profitability.

An important point to be noted here is that if we go from the top of the list to the bottom, the liquidity decreases. However, as we go from top to bottom, the profitability increases. In other words, the most profitable investment for company is normally in its fixed assets; the least profitable investment is cash (Hafiz, 2010).

Profit is what accrues (is added to) capital at the end of an period of activity as a result of a difference between the value of sales and the cost of raw materials, labour and capital that went into the production of the goods sold. Liquidity is the availability of capital at each and every point of the working capital cycle to ensure the smooth flow of production through the business. Liquidity means enough cash and enough working capital to ensure the day-to-day running of the business (Edward, 2010).

Banks are most effective medium of mobilizing the national resources, their efficiency in mobilizing the resources lies in expanding their main business i.e. accepting deposits and advances along with making a marginal profit, the instrument of interest rate can also play an important role for such purpose. But the regulation of interest rates are done by the Nepal Rastra Bank, the central bank of Nepal and the a commercial bank need not face much problem in the fixation of such rates (Pradhan, 2006)

The Nepal bank limited, being one of the commercial bank of Nepal is contributing finances in the economic development of the country since the establishment of the bank, but the process of economic development of a country like Nepal is basically based on the economic growth, the role of financial factors are the most important among the other factors. Considering profitability and liquidity as major factors for a decision maker this study has been conducted.

### **1.1.1 Profile of Selected Sample Commercial Bank.**

#### **1.1.1.1 Bank of Kathmandu Ltd.**

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

Bank of Kathmandu, since its inception, has been using information technology for its mainstream banking activities. All its branches including rural areas are interconnected to the bank's intranet system providing online real time Any Branch Banking system to its valued customers. Continuous updates, upgrades and replacements of it equipments and software have become one of the major focuses of the bank to stand up to the challenges posed by the fast changing environment. Bank of Kathmandu has well-developed correspondent relationships with over 150 banks globally to help its customers to carry out their business worldwide promptly and conveniently. Bank of Kathmandu have maintained accounts in major currencies in the internationally renowned banks as well tied up with various Instant Money Transfer Companies (IMTC) like X-press Money Service Ltd., Money Gram,

International Money Express P. Ltd etc for efficient execution of international banking business and also enables inflow of foreign exchange earnings to the country with high security. This bank came into operation with a objectives of catering new business yet not identified and offering new banking products and services with a modern look by adopting modern banking technology.

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

The shareholding structure comprises of:

Public shares holding 58.19% of share capital.

Promoters share holding 41.81% of share capital.

#### **1.1.1.2 NEPAL SBI BANK**

Nepal SBI Bank Limited is a major national level financial services provider engaged in various retail and commercial banking services.

A team of nearly 580 people, move, lend, invest and protect money of over 300,000 customers nationally and worldwide. Since its inception on July 7, 1993, Bank is continuously upgrading quality of its service delivery and customer satisfaction with the help of state-of -the-art technology. Extending the reach to 27 districts through our 59 physical outlets including 50 branches, 6 extension counters and three administrative offices, we are among largest private banks in Nepal. In addition, we serve our valued customers through e-delivery points like Mobile Banking, Automated Teller Machines (ATMs) and

Online banking service for both corporate and retail clients. They work as subsidiary of State Bank of India—India’s largest bank in almost any benchmark and business parameters, with over 203 years of history and expertise in banking—which has 55 percent of ownership.

The capital composition of Nepal SBI bank is presented as below:

Joint venture (State Bank of India)	55.00%
General public	30.00%
Employment Provident Fund	15.00%

## **1.2 Statement of the Problem**

Main problem of this study is to assess the profitability and liquidity condition of selected Nepalese commercial banks. More specifically, following are some problems for the study:

- What is the liquidity position of the SBI and BOK?
- What is the profitability position of SBI and BOK?
- Are the sample bank commercial banks utilizing the available resources properly and efficiently?
- Is there any relationship between selected dependent variables and independent variables regarding liquidity and profitability of sample banks?

## **1.3 Objectives of the Study**

After the establishment of bank banks, the banking activities is said to be proliferated. This study, in the regard, has tried to accomplish the objectives as given below:

- To assess the profitability and liquidity position of the SBI and BOK.
- To evaluate the sample bank banks in terms of resource utilization.
- To evaluate the relationship between selected dependent and independent variables regarding liquidity and profitability of the sample bank banks.

## **1.4 Significance of the Study**

In order to bring smooth change and development resource utilization is the key factor that must be considered. In this ground, this study will help to consider effective utilization of resources to formulate corporate strategy.

Liquidity, profitability, leverage and other major aspect of resource utilization and relation of return with other financial variables, etc. are the main issues to be dealt with. This study will be helpful to researcher, scholar, students, treasures, policy makers and other interested parties.

Knowledge as to the technique of evaluating the status of resource utilization may be acquired through this study which helps to control and evaluate the effectiveness of resources, which in turn decreases the cost of holding idle assets and increase the shareholder's wealth.

## 1.5 Limitation of the Study

Beyond the time and resource constraints some of the unavoidable hindrances may come in course of study are as follows:

- Out of the total commercial banks two bank commercial banks viz. SBI Bank, and Everest bank Ltd. have been selected as sample.
- Available secondary data are used. Thus, the reliability depends on it.
- Historical data of over five fiscal years i.e. FY 2008/09 to 2012/13 have been collected and analyzed.
- Selected financial and statistical tools have been used for analysis.

## 1.6 Organization of the Study

This research has been organized in the manner below:

**Chapter I – Introduction:** The first chapter deals with introduction. This includes background, statement of problem, focus of study, objectives of the study, and limitation of the study, review of literature and research methodology.

**Chapter II – Review of Literature:** Different books, journal, periodicals, different researcher past thesis and opinion etc. are reviewed during the study period and these are shown in this chapter.

**Chapter III – Research Methodology:** This chapter clarifies the nature of the whole research. It includes, research design, sources of data and collection procedure etc. similarly, data are analyzed using different tools and techniques and all of these techniques are briefly defined in this chapter.

**Chapter IV – Presentation and Analysis of Data:** The fourth chapter presents the data collected different sources. Based on the data analysis of stock market has been performed. Likewise, after analyzing the presented data, major findings are drawn.

**Chapter V – Summary, Conclusion and Recommendation:** In the fifth chapter summaries the main conclusions and offers suggestions for further improvement.

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



## CHAPTER II

### REVIEW OF LITERATURE

This section attempts to build strong theoretical background through the help of which further search for solutions of the research problems would be easier. Resource mobilization: its theoretical background, academic insights, nature, advantages, importance and other various issues are addressed here in this chapter as contributed by different management experts and others towards this field. While reviewing literature different sources like books, documents, bulletins, reports, journals and articles etc. are consulted.

#### 2.1 Conceptual Framework

This section presents the concepts of key terms used in this research.

**Profit:** We have to clarify the meaning of profit first. Generally, profit is the making of gain in business activity for the benefit of the owners of the business whereas profitability indicates the ability to earn a profit. An Income Statement is traditionally used to measure profitability of a company. A pro-forma income statement shows projected profitability of company.

Dictionary meaning of profit is the money that you make in business or by selling things, especially after paying costs involved, the advantage that you get from doing something (Hornby, 2000).

Profit is essential to survive in any business concern for its successful operation, future expansion and growth. It is the primary measures of success of business organization. It is the excess income over the cost of production. The word 'profit' implies a comparison of the operations of business between two dates, which are usually separated by an interval of one year. The term 'profit' is very controversial and there are different interpretations about it. It has various dimensions and views to be realized. The researcher has already accepted the view of Lynch and Williamson, an economist, labour leader, investor, revenue agent and an accountant of the concern has different view about profit. An economist can view that profit is the reward for entrepreneurship for risk taking. A labour leader might say that it is a measure of how efficiently labour has produced and that it provides a base for negotiating a wage increase. An investor can view it as a measure of the return on his or her money. An

internal revenue agent might regard it is the base for determining income taxes. The account can define it simply as the excess of a firm's revenue over the expense of producing revenue in a given fiscal period.

Profit is the reward for risk taking in business. An entrepreneur earns profit as reward for his innovations. Arguments of economists on profit may be put in three broad groups. The first looks upon profit as the reward for bearing risks and uncertainties, the second views profit as the consequence of perfection and in-perfection in the competitive adjustment of the economy to dynamic change, the third sees profit as the reward for successful innovation (Joel, 1997). It could be noted that profit is residual income left after the payment of the contractual rewards to other factors of production (Mathuva, 2009).

It can be concluded from these definitions that there is no definite definition of profit. It depends on the definer's views; and their interest. The researcher would use the profit as revenue after cost of production. Under the cost of production, all factors of production should be considered for e.g. house rent, labour wage, material cost, machine cost, cost of capital as well opportunity cost of capital.

**Profitability:** Profitability of a firm is measured in terms of the firm's sales, total assets, and equity or share value. These provide the base to analyze the firm's earnings with respects to a given level of total assets, the ownership investment or share value. Higher the ratios of the firm, higher will be the profitability and vice versa. In case of a bank, we can take total deposit as equivalent meaning of sales.

**Liquidity:** Dictionary meaning of liquidity is the state of owning things of value that can easily be exchanged for cash. Any business organization uses different assets while operating the business but these all assets are not liquid. As for example, land and building, vehicle, office equipments etc. are not liquid assets. Liquid assets are those assets which can be converted into cash promptly. Cash in hand, bank balance, gold etc. are examples of liquid assets. Therefore, liquidity is the state in which one can change its assets into cash soon.

Profitability tells us whether the business is "sustainable". Will it keep functioning? If a company is making a profit--even if only a little one--than it has no reason to close its doors. Similarly, liquidity tells us if the business has enough cash to pay its obligations. Imagine a

business with \$100.00 in cash. If it has \$110.00 in expenses due this month, it isn't very liquid. By month's end, it better make \$10.00 more, or it will not be able to function. (It could borrow the money, sell something, or otherwise raise it.) If a company has \$100.00, and only \$50.00 in expenses this month, it is "liquid" enough to cover its obligations. Gateway (the computer company) has long survived years of losses, because it was very liquid. It had about \$1,000,000,000 (a billion dollars) in 2001. It has lost money every year since, but still functions because it had enough "liquidity" (and no long-term debt) to survive. Dell (the computer company) has survived for years because it was profitable (until recently) even though it had billions of dollars in debt. Both are important, and neither measure alone can give you a true picture of any company's ability to continue. But at some point--if it doesn't gain profitability--it will fail (Lorenjo, 2010).

Some viewers focus that company's liquidity position is to be considered as short term planning and its profitability position is to be considered as long term planning. Short-term liquidity is the ability of the company to meet its short-term financial commitments. Short-term liquidity ratios measure the relationship between current liabilities and current assets. This helps us measure a company's ability to sell inventory, to collect receivables and to pay current liabilities (Jonsons & Beyrs, 2010).

It is already discussed that the profit of a business is the difference between its revenues and its costs. It is important to consider two main types of profits:

**a. Gross profit** - is calculated by deducting the cost of sales of a business from its sales revenue (turnover).

**b. Operating profit** - is calculated by then taking away overhead expenses from gross profit.

## **2.1.1 Profits, Profitability and Liquidity**

### **2.1.1.1 Introduction and Definitions**

Amongst many criteria of business success, there are two which are expressed in financial terms, namely profitability and liquidity. Profit is the excess of resources earned over resources expended or income less costs. Various profit figures (gross, net, pre-tax etc.) for the period can be read from the Profit and Loss Account (US term "Income Statement"). Profitability is the relationship between profits and capital (the "static" resources set aside to

earn those profits). Measuring profitability means that you have to relate a profit figure (from the Profit and Loss Account) to a resources figure (from the Balance Sheet).

In short, profit is the measure of gain, and profitability the relation of this gain to the firm's assets. If profitability exceeds the cost of the firm's capital, that is the interest rate at which it can borrow money, it can call it successful.

It is beneficial to society as a whole if less profitable businesses give up their resources to more profitable, because the total profit earned will raise, other things being equal. For this to hold true private and public profit must be equivalent; this is not the case where, for example, profit earners cause there to be social costs, such as atmospheric pollution or noise.

Liquidity may be defined as the ability of a firm to meet its financial obligations as they fall due. The balance sheet (defined as "a structured statement of assets and liabilities") measures these resources and claims, and describes the liquidity of the firm i.e. the relationship between assets and liabilities see also (LD10, Accounting Theory and the Purpose of Accounting).

### **2.1.1.2 Objectives, Profitability and Liquidity**

Profit may be seen as an end in itself (i.e. the "mission" - see LD02) but it is better viewed as a necessary means to an end, namely the survival and growth of the organisation. Japanese companies and some others are reported as seeing profits as a cost of staying in business, which is an echo of the economists' view of normal profits as a cost of capital, with any excess or deficit being cleared over time as new firms move into, or out of, the industry.

Likewise, liquidity is a constraint which must be satisfied both directly, in that firms must settle their debts, and indirectly, in that they must also report an ability to continue to do so. If in the annual accounts, a firm reports poor liquidity, this may cause such a fall in confidence that its state becomes a self-fulfilling prophecy, as creditors demand immediate payment, the classic example being "a run on the bank".

### **2.1.1.3 Measuring profitability and liquidity**

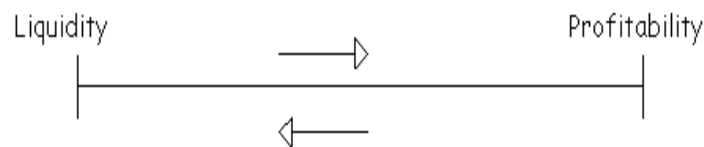
Whereas definition and discussion of the concepts are activities beloved by academics, their practical day to day expression and measurement is a matter for business personnel and

accountants. Large organisations may employ accountants or, like smaller firms, hire the services from independent professionals. There is an associated profession whose skills overlap, namely of auditing, whose function is to validate the work of the accountant through an independent evaluation of the accounts.

There is a trade-off between liquidity and profitability; gaining more of one ordinarily means giving up some of the other. Short meaning of liquidity is saving enough money in the form of cash, or near-cash assets, to meet your financial obligations. Alternatively, liquidity is the position with which assets can be converted into cash. Similarly, profitability is measure of the amount by which a company's revenues exceed its relevant expenses. Following figure clarifies this reality:

**Figure 2.1**

**Liquidity vs. Profitability Trade-off**



In this regard, we can say that liquidity and profitability are the two parts of a picture – “liquidity” being on one end of a straight line and "Profitability" on the other end of the line. If a businessman is on the line and moves toward one, s/he automatically moves away from the other. In other words, there is the trade-off between liquidity and profitability.

This is easy to illustrate with a simple example. The items on the asset side of a company's balance sheet are listed in order of liquidity, i.e., the ease with which they can be converted into cash. In order, the most important of these assets are:

- Cash
- Marketable Securities
- Accounts Receivable
- Inventory
- Fixed Assets

An important point to be noted here is that if we go from the top of the list to the bottom, the liquidity decreases. However, as we go from top to bottom, the profitability increases. In other words, the most profitable investment for company is normally in its fixed assets; the least profitable investment is cash (Hafiz, 2010).

Profit is what accrues (is added to) capital at the end of an period of activity as a result of a difference between the value of sales and the cost of raw materials, labour and capital that went into the production of the goods sold. Liquidity is the availability of capital at each and every point of the working capital cycle to ensure the smooth flow of production through the business. Liquidity means enough cash and enough working capital to ensure the day-to-day running of the business (Edward, 2010).

Banks are most effective medium of mobilizing the national resources, their efficiency in mobilizing the resources lies in expanding their main business i.e. accepting deposits and advances along with making a marginal profit, the instrument of interest rate can also play an important role for such purpose. But the regulation of interest rates are done by the Nepal Rastra Bank, the central bank of Nepal and the a commercial bank need not face much problem in the fixation of such rates (Pradhan, 2004)

Finance can be defined as the art and science of managing money. Virtually all individuals and organizations earn or raise money and spend or invest it. Finance is concerned with the process, institutions, markets and instruments involved in the transfer of money among and between individuals, businesses and governments. Finance, in other words, can be defined as the management of the flows of money through an organization, whether it can be a corporation, school, bank or government agency. Finance concerns itself with the actual flows of money as well as any claims against money (Hampton, 2001:245).

Such expressions and such measurement require care, routine and administration as well as an understanding of the principles involved. All the levels of profit (gross, operating, net and retained) are expressed in the various sections of the Profit and Loss Account.

#### **2.1.1.4 Book-keeping**

The book-keeping activities of the firm begin with data capture and then serve two main purposes, firstly as part of the day to day administration of the firm's business (i.e. the payment of bills and the receipt of money owing) and secondly to classify the firm's transactions. When sorted into liabilities, assets, income and expenses, these transactions, drawn up into "accounts", and with appropriate adjustments to bridge the gaps between the transactions and economic reality, provide the "Final Accounts" which provide the expression of profit and liquidity that are the subject of this digest (see also LD11, Accounting Statements and LD20 Book-keeping). Viewed as a whole, these activities give rise to a "magic pool of information" from which all can make extractions without diminishing the pool.

#### **2.1.1.5 Measuring Liquidity**

Liquidity, which is much easier to measure than profit, is shown in the Balance Sheet, which can be seen (Chart 2, Appendix 1) as simply an accumulation of timing differences. There is a quantity dimension and a time dimension to liquidity - it is no good having money coming in tomorrow if you need it now - that is unless you can persuade your creditor to wait. If you hold cash or readily realisable assets such as shares, your liquidity is soundly based. If it consists of debtors, it is dependent on their ability and willingness to pay. If it consists of goods, liquidity is a function of the saleability of those goods and may be low if they are not in demand. For the Christmas season of 1984, Acorn and Sinclair Computers, both over-estimated sales so badly that they were left with large stocks of home computers. In each case this was a major factor causing the company (and the British position in micro-computers) to collapse (Firoj, 2010).

#### **2.1.1.6 Liquidity vs Profitability**

The financial manager is always faced with the difficulties of liquidity vs. profitability. She/he has to strike a balance between the two. I) the firm has adequate cash to pay for its bills. II) The firm has sufficient cash to make unexpected large purchases and, above all. III) The firm has cash reserve to meet emergencies, at all times. Profitability goal, on the other hand, requires that the funds of the firm are so used so as to yield the highest return.

Liquidity and profitability are very closely related. When one increases the other decreases. Apparently liquidity and profitability goals conflict in most of the decisions which the finance manager makes. For example, if higher inventories are kept in anticipation of increase in prices of raw materials, profitability goal is approached but the liquidity of the firm is endangered. Similarly, the firm by following a liberal credit policy may be in a position to push up its sales but its illiquidity decrease.

There is also a direct relationship between higher risk and higher return. Higher risk on the one hand endangers the liquidity—a" the firm, higher return on the other hand increases its profitability. A company may increase its profitability by having a very high debt equity ratio. However, when the company raises funds from outside sources, it is committed to make the payment of interest, etc. at fixed times and in fixed amounts and hence to that extent of its liquidity is reduced.

Thus, in every area of financial management, the financial manager is to choose between risk and profit and generally he chooses in between the two. He should forecast cash flows and analyse the various sources of funds. Forecasting of cash flow and managing the flow of internal funds are the functions which lead to liquidity, cost control and forecasting future profits are the functions of finance manager which lead to profitability. An efficient finance manager fixes that level of operations where both profit and risk are optimised (Duke, 2010).

### **2.1.2 Brief History of Growth of Banking System**

The modern banking performing various functions is quite recent growth. But the origins of banking can be traced very far back into history. In this respect Marshall on his book "money credit and commerce has started that the traces of rudimentary banking can be found in Egyptian and Phoenicia history." There are records of money lending by the temples of Babylon as making loans testing and exchanging coins and arranging credit transactions and silver. Roman law recognized transfer of funds in a bank in payment of debt in 5<sup>th</sup> century. But alone with the down fall of the Roman empire its civilization and the beginning of the dark age towards 475 A.D. all the banking practice took place towards 12<sup>th</sup> century and there is evidence that by the 14<sup>th</sup> century there was a high developed system in several Mediterranean cities (Kluse, 2004).



The forerunners of modern banking are three ancestors they were merchants, the moneylenders and Gold Smith in England, gold smith were main origin of private banks. While in France the trail ants or revenue formers represents the earlier forms of bank, in earlier age those ancestor of modern banking practiced the function of accepting deposits of others, charging some interest for custody of money, gradually other functions were also developed and practiced as accepting of deposit by paying interest for attracting more deposit, by advancing loans on security basis fund transferring, issue notes and cheque and so on.

Mainly development of modern commerce banks was only since the 19<sup>th</sup> century, the 20<sup>th</sup> century observed development of various banking institutions which were highly specialized particularly in developed countries like USA, FRANCE, USSR etc. but nowadays there are various international intuitions has been developed such as IMF, IBRD, ADB etc which are key to the developed of modern international business (Mathur, 2007)

### **2.1.3 The Structure, Scope and Objective of Modern Banking**

The banking system of word has many similarities but they also differ sometime in quite material aspects. The principle differences are in the details of organization technique the national charter, history, laws and needs. The differences are gradually becoming less because of the growing efficiency of international communication and habit of practices that has been successful in another country. Banking system may be classified in terms of their structure and purpose (Sayers, 2009).

Modern developed financial system will be classified in following points:

- Central Bank.
- Commercial Bank.
- Other financial institutions.

**Central Bank:** It is the bank of apex origin of government itself for the purpose of performing all major financial operation of the government or economy as the whole. In other word it guides, directs supervisor's controls and influences the operation and behaviour of all other financial institutions for economic welfare.

**Commercial Bank:** Those types of financial institutions that mainly deal with the activities of the trade commerce, industry and agriculture are commercial banks. The main objective of commercial bank is to mobilization ideal resources in productive use after collecting them from scattered sources and for profit maximization purpose.

**Other Financial Institutions:** Other financial institutions may be classified as following:

- The industrial banks providing long and medium term credit for development of industries.
- The agriculture banks supplying financial assistance for agricultural development.
- The saving banks
- Investment banks to foster investment activities of investors.
- Co-operative institution for the development of rural area.
- Hire purchase financial companies.
- Insurance companies etc.

#### **2.1.4 History of Commercial Banks in Nepal**

Though the modern banking institutions have a very recent origin in Nepal, some crude bank operations were known to have been practice even in the ancient time. Effect of Indian currency is too much in the early stages of banking development Indian currency is circulated throughout the country. Though the term bank is new thing for Nepalese economy there was banking business in the form of money lending business done by several persons. The this respect J.C. Ojha says, it is not possible to give correct chronological history in view of the fact that not authentic historical record is available in respect of banking, it can be inferred from references in the history of Nepal regarding rebuilding of Kathmandu in 723 A.D. Guna kama Deva form the borrowing and that of Shankhadhar (a Sudra merchant) action of introduction of Nepalese sambat, Some 57 years and thereafter to mark the repayment of all debts that money lending have been prevalent long before that (*Ojha,2005:76*).

Tankadhari did money-lending business during the ruling of Jyasthiti Malla in 14<sup>th</sup> century. He classified the people in 64 classes on the basis of their occupations. Tankadhari were one of them who occupy money lending and commercial business activities, money-lending business particularly for financing the foreign trade with Tibet become quite popular during the reign of Mallas. If we go through the Nepalese history we find that Nepalese participation

in foreign trade with Tibet and India. The moneylenders at that time advance for commercial transactions against personal security, the farmer also uses to borrow money from such moneylenders.

On the history of banking development of Nepal Y.P. Pant says, the history of banking and currency in the country become definite only from the 15<sup>th</sup> century that is in the Lichhivi period when the first coins were minted in the advance of the 7<sup>th</sup> century coins of red copper started to be used for exchange purpose. Later on during 12<sup>th</sup> century in the works of various reforms measures initiated by the rulers particularly during the Mallas period stated the inscription of the king's names and dates on the coin (Pant, 1979).

During the periods from sixteen to eighteen centuries refinement in the coins age and developments in the indigenous banking were brought into circulation for the first time not only this the factor of Nepal sending its coin to circulation in Tibet as legal tender, shows the predominant position of this country in the internal and external economy of Himalaya. Such trends are indicative of the development of currency and banking (Pant, 1979).

Further steps were taken on this ground Ranodip Singh (1877 to 1885) established Tejarath in Kathmandu. Tejarath was Government financial institution supplying credit to people at 5% rate of interest against security of gold silver and armaments (Shrestha; 2007). Government servants can also take loans from Tejarath against the personal security. During the time of Chandra Samsher (1901-1929) credit facilities of Tejarath were extended to some other parts of country by opening its branches. At the time the volume of loan for consumption purpose was large and to control serious rate of interest ranging from 75% to 35% and also to curb unfair practices on the part of the unscrupulous moneylenders. On this ground Y.P. Pant says, all department of banking system in Nepal the *Tejarath Adda* may be regarded as the father of modern banking institutions and for quite a long time it rendered good services to the government to servant as well as to the general public the institutions adopted one of elementary functions of the granting loans against gold, silver and other collateral securities which probably was not considered to be a function falling within the competence of banking (Pant,1979).

In the Nepalese history Nepal bank Ltd. was established in 1994 (BS) as a first modern bank in 2013 (BS). Nepal Rastra Bank was established under the Nepal Rastra Bank Act 2012 B.S.

as an apex body of banking institutions. Following the establishment of Rastriya Banijya Bank in 2022 B.S. several joint venture banks were established in Nepal. Among them Nepal Arab Bank Ltd. is the first joint venture bank established in Nepal. Thereafter Nepal Indosuez Bank Ltd, Nepal Grindlays Bank Ltd., Himalayan Bank Ltd., Nepal SBI Bank Ltd., Nepal Balgaladesh Bank Ltd., Everest Bank Ltd., Bank of Kathmandu Ltd., Nepal Bank of Ceylon etc. were established (Khadka, 2008).

### **2.1.5 Main Functions and Services of Commercial Banks**

Traditional functions of commercial banks are only concern with accepting deposit and providing loans in ancient time but modern commercial banks works for over all development of industry trade and commerce, services and agriculture also. It cannot be said with certainly what should be less detach for banking as it is on march as a function of banking are widening it will not be wrong to say that banks will assume in course of time a complete economic lit of man (Bashu, 2009).

Main function of bank in Nepal is as follows:

**Accepting deposit:** The main function of commercial banks is to accept deposits. The existence of deposit is as old as banking system. Deposit gives life to the commercial banking system. There are different types of deposits. Some of them are as follows:

#### **(1) Current or demand deposit**

In such type of deposits interest are not paid and party can draw or deposit money at any time in his account. There is no limit of deposit or withdrawal in this type of account. In few countries banks charges few commission on the operation of this type of deposit which is negligible. It may be transferred by the order of the owner to other by means cheque. Demands deposits are banks debts payable on call or order do they are just like call loans.

#### **(2) Time deposits**

This type of account is withdraw able only on the expiry of the period for which would be kept in the bank. Banks pays interest on such account according to the contract of period. Money to 6 months, 1 year, two year or five years it may be more than 5 years. Commercial banks in Nepal are taking deposits on those type of account are for 3 months. 6 months, 1 or

2 year only. These fixed deposits are main sources of loans and advances for commercial banks.

### (3) **Saving deposit**

These deposits are such types of accounts in which depositors are not allowed to draw more than a fixed sum of money more than once or twice a week. This type of account may be opened with little sum of money on. On this deposits interest is paid. In Nepal commercial banks are giving 13% interest per annum.

### (4) **Home saving program**

In this type of deposit depositors are given a box locked by the bank and at the end of week depositors brings the box to the bank and bank opens the box in front of depositor and the amount inside the box will be deposited on depositors account. Our commercial banks are practicing this type of account in few branches.

**Agency services:** On this aspect commercial banks performs following functions:

- Dealing with transaction of foreign exchange business.
- Serving as agent or correspondent on the behalf or the clients.
- Issuing of letter of credit circulates notes, bank drafts, and traveler's cheque.
- Purchases and sale of different type of securities, remittance of funds.
- Collections and payment of cheque, bills, promissory notes, coupons, dividend and other type of bonds.
- Acting as executors
- Distribution and supply of legal tender currency through out the country.
- Keeping valuable article in safe custody.

Similarly these banks facilitates other type of different functions in short, ordinary banking business consists of changing cash for bank deposits and bank deposits for cash, transferring bank deposits from one person or corporation to another giving bank deposit in exchange for bills of exchange, issuance of government bonds, served promises for business to repay and so forth.

## **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 is 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.

## **2.1.6 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 increases 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.2.1

## 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%
2012/13	3.5%

Source: NRB Directives 2013

#### ❖ 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 over due installment. In the event of conversion of contingent liabilities of the bank e.g. letters of credit, un-matured guarantees, into 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**

Expect 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.

## **2.2 Review of previous studies**

### **2.2.1 Review of Articles and Journals**

The opinions or views expressed regarding commercial banks and their activities on journals, magazines, etc. are focused as follows:

Poudel (2008) published article entitled "*Banking Challenge ahead focuses in the potential areas.*" In this, Banks should invest to fight the prevailing economic recession. Currently growth in the profitability of JVBs has been mainly due to external factors such as the foreign exchange rate but not to the growth in the real sector of the economy. Therefore, to sustain the current financial position in the long run, banks should enter new areas by marketing their credit in important sub sectors such as hydro electricity, tourism, irrigation etc. He further writes that, saving collection is another factor which is necessary for banks to balance their operations and generate sufficient surplus in their cash flow. Banks facing with capital adequacy problem may increase capital or reduce assets or reallocated the existing assets structure in order to maintain the desired level of capital base. Liquidity is measures by the speed with which a bank's assets can be converted into cash to meet deposit withdrawal and other current obligation. It is also important in view of survival and growth of a bank.

The researcher also clarifies the principle objectives of analyzing financial statements are to identify as financial adaptability (liquidity), financial performance (profitability) and financial position of bank (solvency). Most of the users of the financial statement are interested in assessing the bank's overall performance i.e. profitability which is affected by the structure of balance sheet and profit and loss account, operating efficiency and internal management system, managerial decisions taken by top management regarding interest rate, exchange rate and Lending policies etc.

Shrestha, (2010) in his article "*commercial bank's comparative performances evaluation stresses on a paper risk management*". In this context he writes, "adequacy provisioning is the surest way to get relief from sinking loan after careful consideration of portfolio risk. A clear out criteria is necessary to treat interest suspense account and it is advisable that all interest unpaid for more than six month need to treated as unearned income. The researcher further suggests regarding the risk management of the bank are any customer having overdue loan of two years or more in his account should not be given other loan facilities, strong provisioning or reservations are required in restructure portfolio relating to overdue loans, all credit including overdrafts should be given a maturity date and should be subjected to revision at that time and consequently categorized as good substandard or doubtful loans

and financial credit worthiness of the borrower must be evaluated properly before granting the loans etc.

Shrestha (2012) “*Preconditions for Effective Banking Regulation and supervision*” published in Souvenir RBB journals on 23<sup>rd</sup> January, 2012. Effective regulation and supervision promotes financial stability ensuring that BFIs operate in a safe and sound manner. The prudential regulation and supervision also recognizes that BFIs can facilitate growth in the economy and channel credit to its most efficient condition. The regulations on capital adequacy, liquidity requirement, loan loss provisioning, single obligor limit, licensing and the ownership control, governance, transparency, risk management requirements prompt financial stability. Stability in the banking and financial sector is critical in ensuring that the banking and financial system can provide fund based loans and non-fund based services to support business and households. Consequently, monitoring. Generally, Nepalese BFIs are facing the problem of poor governance and bad management, which is frequently evidenced by political intervention, poor lending practices, bad concentration of credit, massive connected lending, poor internal control and risk management. The NRB supervision determines to eradicate instance of non-compliance brought to light a number of challenges.

Khanal, (2013) in his article *Banks can counter high stock's capital adequacy is satisfactory* published in April 30, 2013 The Himalayan Times. The central bank has claimed that banks have sound financial health. The stress test result of commercial banks as of mid- July 2012 on credit, liquidity and market stock revealed their ability to withstand high shocks, according to Nepal Rastra Bank financial stability report. Among the 32 existing commercial banks, a standard credit shock would push capital below the regulatory minimum in 22 banks and two commercial banks would be undercapitalized said adding sustained deposit with drawals over five consecutive days would rendered five illiquid and liquidity ratios of 17 banks would fall below 20 percent in the event of sudden large withdrawal by institutional depositors. Given the amount and nature of exposure, commercial banks are relatively less vulnerable to market shock. While the resilience of the commercial banks to credit and market shocks have improved over time, the liquidity scenario analysis shows some potential risk, it added, through the soundness of financial institutions was maintained with adequate capital, liquidity and profitability buffers and improvement in assets quality. The banking sector is

adequately capitalized with the overall industry average capital ratio of 18.2 percent. The capital adequacy ratio of class ‘A’, ‘B’, and ‘c’ institutions stood at 11.5%, 20.5% and 23.1% respectively. In mid-july 2012, this is well above the minimum regulatory requirement.

Singh (2014) conducted her article "loan portfolio of commercial bank" updated in The Himalayan Times march 15, 2014. According to the researcher, most Nepali households, owning a home and a car has become achievable thanks to banks offering home and auto loans at a relatively cheaper rate. Commercial banks have started providing home loans and auto loans at as less as 9.5 per cent interest rate as of now, depending on the period of the debt. The rates used to be higher than 11.5 almost a year ago. “Since these loans are EMI based even half a percentage point matters to the borrowers, so the lower the interest rate the better receptive the public become,” said head of corporate affairs at Standard Chartered Bank Nepal Diwakar Poudel. Consumer loans are paid back based on equated monthly installments that allows borrowers to pay back the principal and interest every month. The low base rate — that sets the minimum rate of lending rate based on the bank’s cost of operation — has allowed banks to offer loans at lowered rate. The average base rate of banks stands at nine percent as of the end of the fourth quarter of last fiscal year. The reduced rates have boosted sales of these homes. The amount of house and land registration fee collected in last fiscal year increased by 11.67 per cent signaling better business.

### **2.2.2 Review of Previous thesis**

Poudel's (2009) research on “*Profitability Analysis of Standard Chartered Bank Nepal Ltd. and NABIL Bank Ltd.*” He used the both statistical and financial tools on the basis of secondary data. He had taken the five years data from fiscal year 2004/05 to 2008/09 with sample of two banks Standard Chartered bank ltd. and NABIL bank Ltd. The objectives of his study were as follows.

#### **Objectives**

- To evaluate the soundness of profitability and operating efficiency of SCBNL and NABIL Bank Ltd.

- To compare and analyze the fund base interest income with fee based income of SCBNL with NABIL Bank Ltd.
- To compare the cost of deposits of the SCBNL with NABIL in regards with the profitability.

A major findings of his study were given below.

- The NABIL Bank had not adopted any cost management strategy to have control over its cost of funding. NABIL had paid very higher interest to deposits and other working funds than SCBNL.
- The cost management strategy was ideal to reduce the various costs and increase the profitability.
- The bank was not followed the strictly investment policy to avoid the non-performing assets and felt to increase investment in the government securities to trade off and stabilized the quality investment in commercial LDO.
- Both banks was not given the focus on planning, research and development for the proper planning and controlling purpose which the management in regards the cost control strategy and avoid unnecessary leakage in the expenses.

Maharjan's (2010) study on *“Profitability Analysis of commercial Banks (A case study of Rastriya Banijya Bank And Nepal Bank Ltd.)”* The researcher used the financial tools like profitability ratio and statistical tools like simple correlation had been used to analyze the secondary data. The researcher had taken five years data from fiscal year 2005/06 to 2009/10 with two sample bank of Rastriya Banijya Bank and Nepal bank ltd. The objectives of his study were as follows.

Objectives:

- To evaluate the profitability and operating financial efficiency of Nepal Bank Ltd. and Rastriya Banijya Bank.
- To compare and analyze the fund based interest income with fee based income of Nepal Bank Ltd. and Rastriya Banijya Bank.
- To analyze the profit and loss trend and growth of the bank over the period.

Major Findings of his study were given below.

- The net operating margin of RBB was better than NBL but the ratio of RBB was very inconsistent in comparison to NBL. But the ratio of NBL was very low and needed to be improved.
- Both the banks had very high staff expense related to total operating expense due to over staffing and still both the banks had to rethink to maintain the appropriate level of staff to minimize the staff expenses.
- The operating efficiency ratio of both the banks was very unfavorable during the study period due to the huge amount of operating expenses in compare to the operating income

Manandhar's (2011) research on "*Credit Risk and Profitability of Commercial Banks*". He analyzed the data of six commercial banks. To ascertain his research, he used credit risk (NPL to TL& advances), profitability ratio like ROA, ROE, NP to TL and advances, NP to total deposit etc. Likewise, he used the correlation for statistical analysis. Researcher used secondary data for his study. The researcher had taken the five years data from fiscal year 2008/09 to 2009/10 with six sample banks of NABIL, SBI, Nepal Investment, Nepal Bangladesh, Himalayan and Everest bank. The objectives of his study were given below.

Objectives:

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

Major finding of his study was given below:

- The Nonperforming assets of Nepal investment bank and Nepal Bangladesh bank were increasing due to the lack of weak credit management. In other words, they had not kept the sufficient collateral while granting the loan. In other words, there was inadequate credit policy while loan disbursement.

- The Nonperforming assets of Everest bank and NABIL bank were decreasing during the study period. They revised the credit policy to disburse the loan and likewise, previously they were made sufficient loan loss provision for this purpose.
- The Nonperforming assets of Himalayan bank and SBI Bank were fluctuating during the study period. They also unable to maintain the effective lending policy while disbursing the loan.
- The percentage difference between targeted achieved loan disbursement and collection is in fluctuating trend. Likewise, deposit collection and loan disbursement were positively correlated.
- Credit disbursement and repayment had significant relationship. Flow of new credit depended upon the recovery status.

Shrestha's (2012) study on “*Productivity Measurement of Credit Position In Nepalese Commercial Banks (Special reference to Bank Of Kathmandu Ltd. and Nepal Investment Bank Ltd.)*.” In her study, researcher used the different financial ratio like loan loss provision to total loan and advances, nonperforming loan to total loan and advance, doubtful loan to total loan, sector wised loan of Bank of Kathmandu and Nepal Investment bank ltd. from fiscal year 2007/08 to 2011/12 with two samples Bank of Kathmandu and Nepal Investment bank ltd. Likewise, she used the statistical tools as correlation and trend analysis to show the relationship and growth trend. The objectives of her study were given below.

Objectives:

- To explore the productivity measurement on credit position of BOK and NIBL.
- To inspect the level of the non-performing loan investments that exists within the banking industry.
- To analyze the lending policy of Nepalese commercial banks with the help of BOK and NIBL.

Major findings of her study were given below:

- NIBL had high liquidity than BOK. Likewise, fluctuation in CRR ratio is lower of BOK in relation to NIBL.
- BOK had higher investment in government securities than NIBL.
- BOK had the highest average ratio of loan and advances to total deposit.
- Among the two sampled banks, NIBL bank had lowest non-performing assets to total assets ratio with the average of 0.87% compared to 1.32% of BOK. Besides that both banks had performed well in managing the non-performing assets low even in the higher increment in the total assets side.
- Among the two sampled banks, NIBL bank had maintained the low mean non-performing assets to total loan and advances ratio with 1.33% in relation to that of BOK is 1.94%.
- NIBL had increased collecting interest bearing deposits but BOK has managed to reduce the ratio, which means their non-interest bearing deposits were growing. NIBL had highest interest bearing deposits.

Rouniyar's (2013) research on "*Liquidity & profitability Analysis of Listed of Four Commercial Banks (with reference to NABIL bank Ltd., Standard Chartered Bank Ltd., Everest Bank Ltd. and Nepal SBI bank Ltd.)*". He used both financial i.e. CRR ratio and Profitability ratio of ROA, ROE, NP to TL, NP to Total deposit etc. and statistical tools Like correlation between total loan and advances with profit , correlation between total loan and advances and total deposit, trend analysis of NPAT etc. to analyze the secondary data. He had taken ten years data from fiscal year 2000/01 to 2010/11 with four sample banks of NABIL, SBI, Standard Chartered and Everest bank ltd.

The objectives of his study were as follows:

- To assess the profitability and liquidity position of the commercial banks,
- To evaluate the relationship between selected dependent and independent variables regarding liquidity and profitability of the banks



Major findings of his study were given below:

- From the ten years analysis i.e. fiscal year 2001/02 to 2010/11 return on equity was highest of SCBNL and lowest of SBI among the four sample banks. SBI has more risk than other sample banks.
- In the same way, return on capital fund or employed to risked assets for SBI was more volatile than other sample banks. SBI had not managed its profitability to maintain capital adequacy than other sample banks. NABIL was more uniformity which has less CV than others.
- Net profit to total deposit ratio for the bank was satisfactory i.e. well management in earning profit. Net profit to total loan and advances ratio was highest of SCBNL
- Cash and Bank Balance to Current Assets for the bank was satisfactory i.e. to generate the liquidity. This ratio was highest of EBL and lowest of SCBNL.

### **2.3 Research Gap**

The review provides us the path that 'Liquidity' ensures short-term survival where 'Profitability' ensures long-term survival. Both are essential for any company to survive. Previous researchers have conducted the researches relating to profitability as well as profit planning & control for the number of studies on banks is small. This research will fulfil this lacking to some extent. After reviewing different literatures it is found that pervious researchers have analyzed profitability condition using different tools and techniques. However, return on equity and return on assets ratio in order to analyze the short run profitability is not seen employed. Similarly, this research "Analysis of Liquidity and Profitability of Commercial Banks (SBI and BOK) "gives the mirror of banking industry. Likewise, both samples have drawn five years to analyze the profitability and liquidity with latest data. This analysis is also new and crucial research and varies from the others. Therefore, to some extent, this gap is to be fulfilled through this research.

## **CHAPTER-III**

### **RESEARCH MEHODOLOGY**

Research methodology chapter deals with the research design, sources of data, data collection, population & sample, processing & tabulating procedures. The research orientation and activities are encouraged in the college and universities in order to reinforce and improve learning, and to enhance analytical and research skills. Also, it is now widely accepted that an understanding of the concepts and methods of research is just not the concern of the university family, but is essential for other professionals working in different fields. Hence, the research methodology is to aggregate of the research design used, data collection techniques used, sampling design implemented, statistical tools and technique used and employed and so on. For the purpose of achieving the objectives of study the applied methodology are used. The research methodology used in the present study is briefly mentioned below.

#### **3.1 Research Design**

A research design is a specification of methods and procedures for acquiring the information needed. It is the overall operational pattern of frame work for the project that stipulates what information is to be collected, from which sources and by what procedures.” (*Paul & Donald; 1999: 134*) The research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance.

Since the main objective of the study is to analyze the liquidity and profitability analysis of Nepalese commercial bank with reference to BOK and SBI. The study depends on the secondary data. Various financial parameter and effective techniques are employed to identify the condition of credit management of the sample banks. The research study is carried out by collecting information regarding the borrowers, and the lending policies of the banks through secondary data. Moreover, the study is conducted in the light of central bank's rules and regulations that stand for the commercial banks. The research study has adopted descriptive cum analytical research designs.

### 3.1.1 Population of the Study

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

All of them are as follows which are taken as the population for the study:

1. Nepal Bank Ltd.
2. Rastriya Banijya Bank Ltd.
3. Bank of Kathmandu Ltd.
4. Himalayan Bank Ltd.
5. Standard Chartered Bank Nepal Ltd.
6. Agriculture Development Bank Ltd.
7. Nepal Credit and Commerce Bank Ltd.
8. Laxmi Bank Ltd.
9. Kumari Bank Ltd.
10. Nepal Bangladesh Bank Ltd.
11. Nepal SBI Bank Ltd.
12. Everest Bank Ltd.
13. Nepal Investment Bank Ltd.
14. Machhapuchhre Bank Ltd.
15. Sunrise Bank Ltd.
16. Prime Commercial Bank Ltd
17. Citizen Bank International Ltd.
18. Siddhartha Bank Ltd.
19. Global Bank Ltd.
20. Lumbini Bank Ltd.
21. KIST Bank Ltd.
22. Nabil Bank Ltd.
23. NMB Bank Ltd.
24. Grand Bank Ltd.
25. Janata Bank Ltd.
26. Nepal Commerz and Trust Bank Ltd.

27. Mega Bank Ltd.
28. Civil Bank Ltd.
29. Century Bank
30. Sanima Bank Ltd.
31. N IC Asia Bank Ltd.

### 3.1.2 Sample of the Study

Out of thirty-one commercial banks (A class licensed by NRB) following two commercial banks have been selected as a sample for this study. The research study has utilized the purposive method for the sample study of commercial bank.

1. Nepal SBI Bank Ltd. (SBI)
2. Bank of Kathmandu (BOK).

### 3.1.3 Nature and Sources of Data

There are different sources of data. Basically there are two types of sources of data i.e. primary sources and secondary sources. Primary sources of data are drawn through questionnaire, interview, discussion, and made direct observation to obtain required information. Likewise, secondary data are drawn from secondary materials/sources. In this study the nature and sources of data are drawn from secondary. Secondary sources consists of annual reports of the banks, published and unpublished bulletins, reports of the banks, previous studies and reports, banking and financial statistics report of Nepal Rastra Bank Magazines etc.

### 3.1.4 Data Gathering Procedure

All of data that are considered significant 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 bank publications, unpublished bulletins, reports of the banks, previous studies and reports, banking and financial statistics report of Nepal Rastra Bank Magazines etc.

### **3.1.5 Data Analysis Procedure**

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

### **3.1.6 Financial Tools**

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

#### **3. 1.7.1 Liquidity Ratio**

Liquidity ratio measures the liquidity position of a firm. It measures the firm's ability to meet its short-term obligations or its current liabilities. It measures the speed with which a bank's assets can be converted into cash to meet deposit withdrawal and other current obligations.

Liquidity is a bank's ability to generate cash quickly and at a reasonable cost. Thus, liquidity risk is the risk that a bank will not be able to generate enough cash to meet its short-term needs without incurring large costs, within a certain period.

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

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

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

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

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

### 3.1.6.2 Asset Management Ratio

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

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

Total credit to total deposit

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

### 3.1.6.3 Activity Ratio

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

- Interest income to total loan and advances ratio

Interest income to loan and advances ratio

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

### 3.1.6.4 Profitability Ratio

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

- Net profit to Total loan and advances ratio
- Net profit to total Assets ratio (ROA)
- Return on Capital Employed (ROCE):
- Net Profit to Total Deposit:

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

Net profit to loan and advances.

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

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

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

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

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

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

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

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

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

**Credit Risk Ratio:**

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

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

Higher ratio shows the presence of more risk 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.

**3.1.7 Statistical tools**

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

**3.1.7.1 Arithmetic Mean**

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

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



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

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

Where,

$\bar{X}$  = Arithmetic mean return

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

$n$  = total no. of observations

$\sum X$  = Sum of given observation

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

### 3.1.7.2 Karl Pearson's Coefficient Correlation

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

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

$r$  = coefficient of correlation

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

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

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

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

### 3.1.7.3 Standard deviation

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

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

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

Where,

$\sigma$  = Standard deviation

$\bar{X}$  = Arithmetic mean

n = total no. of observation

### 3.1.7.4 Coefficient of Correlation Probable Error (6P E)

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

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

Therefore,

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

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

### 3.1.7.5 Trend Analysis

Trend analysis shows the direction progress upward or downward. It is an important from of horizontal analysis of financial statements often called as Pyramid Method of ratio analysis. Trend analysis is not out of limitation, it may effect by price level changes and the select icon of bases year may an obstacle. It can show only the trend in the operating result financial position of a concern cannot be discussed. This method is basically

helpful in making comparative study of financial management. Generally a period of five years is considered satisfactory. This method of analysis involves the computation of percentage relationship that each statements item bears same to the same items in the base of year.

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

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

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

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

Regression equation of y on x:

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

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

Regression equation has been used to understand the algebraic relations. As there are two

Lines of regression so there are two equations;

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

For given change in the value of x.

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

In this research following variables are considered.

Trend analysis of Loan and advances of Sample banks (SBI and BOK)

Trend analysis of Net Profit after tax of Sample banks (SBI and BOK)

## CHAPTER - IV

### PRESENTATION AND ANALYSIS OF DATA

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

#### **4.1 Evaluation of Profitability Position of the Banks**

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

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

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

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

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	18.58	26.52
2009/10	16.02	24.54
2010/11	16.17	24.85
2011/12	15.02	22.48
2012/13	20.30	18.67
Mean	17.21	23.41
S.D.	1.93	2.69
C.V.	11.21	11.49

*Sources: Appendix I & II*

Table 4.1 presents the result of return on equity of the SBI and BOK. According to this, the return to equity for SBI varies for five years. The average of this ratio shows that the return to equity is 17.21% and 23.41% for SBI and BOK respectively. Similarly, Standard deviation for the SBI and BOK is 1.93% and 2.69% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 11.21% and 11.49% for SBI and BOK respectively.

From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on equity of BOK is higher than SBI among the two sample banks. In the same way, financial surplus to equity ratio for sample banks are fluctuating trend. BOK has more risk that is slightly higher CV 11.49% than that of SBI (11.21%). It is also presented in the following figure.

Figure 4.1

Financial Surplus to Equity Ratio for the Sample Banks

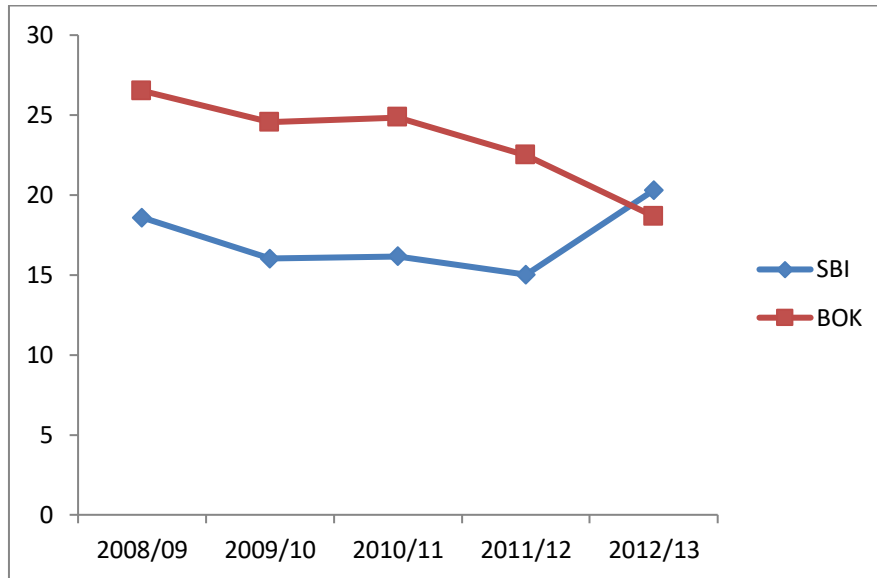


Figure 4.1 presents the trend of financial surplus to equity ratio (ROE) for the banks. The trend for two sample banks i.e. SBI and BOK are positive and almost constant. To sum up, financial surplus to equity investment for both the bank is satisfactory. It implies that the average short-term profitability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

#### 4.1.2 Financial Surplus to total Assets Ratio / Return on Assets

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

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

Year	Sample Banks	
	SBI	BOK
2008/09	1.05	2.25
2009/10	1.08	2.18
2010/11	1.01	3.46
2011/12	0.83	2.10
2012/13	1.19	1.90
Mean	1.03	2.38
S.D.	0.12	0.55
C.V.	11.65	23.10

*Sources: Appendix I & II*

Table 4.2 presents the result of financial surplus to assets ratio or return on assets of the SBI and BOK. The average ratio for return on assets is 1.03% and 2.38% for SBI and BOK respectively. Likewise, Standard deviation for the SBI and BOK is 0.12% and 0.55% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 11.65% and 23.10% for SBI and BOK respectively.

From the five years analysis i.e. fiscal year 2008/09 to 2012/13 average return on assets is lower of SBI which is 1.03% than BOK with 2.38%. In the same way, financial surplus to assets ratio for sample banks are in fluctuating trend. BOK has more risk than SBI since BOK has greater CV. In the fiscal year 2012/13 the return on assets of SBI is increasing and BOK is decreasing i.e. reached to 1.19% and 1.90% respectively. Following figure shows also makes clear.



**Figure 4.2**

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

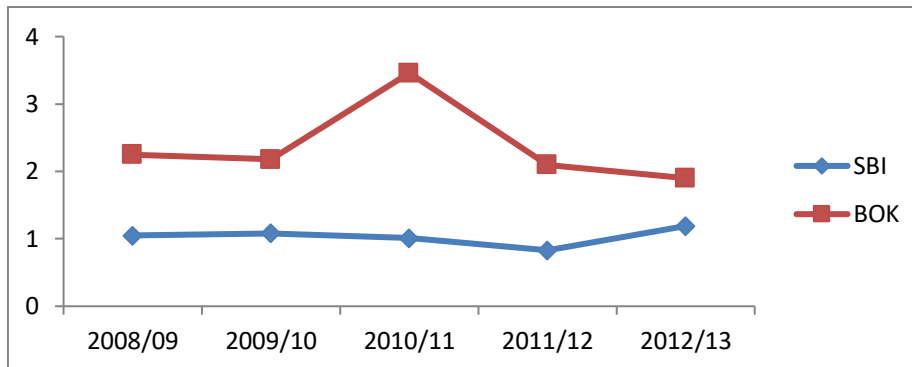


Figure 4.2 presents ratio of financial surplus to assets for the sample banks. Through this analysis it predicts that the bank's success in future. Financial surplus with respect to equity investment and assets are higher in BOK than SBI.

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

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

**Table 4.3**

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

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	11.92	11.68
2009/10	12.25	10.85
2010/11	11.52	11.62
2011/12	11.21	11.07
2012/13	12.39	12.58
Mean	11.86	11.56
S.D.	0.44	0.60
C.V.	3.71	5.19

*Sources: Appendix I & II*

Table 4.3 presents the result of return on capital fund or employed to risked assets of SBI and BOK. The average of this ratio is 11.86% and 11.56% for SBI and BOK respectively. This indicates that the return on capital fund or employed to risked assets for the bank is good i.e. effectiveness of management in earning profit. Likewise, Standard deviation for the SBI and

BOK is 0.44% and 0.60% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 3.71% and 5.19% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on capital fund or employed to risked assets is slightly higher in SBI which is 11.86% than BOK i.e. 11.56%. In same way, return on capital fund or employed to risked assets for BOK is more volatile than SBI. SBI has good managed its profitability to maintain capital adequacy than other sample bank. Following figure also makes it clear.

**Figure 4.3**

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

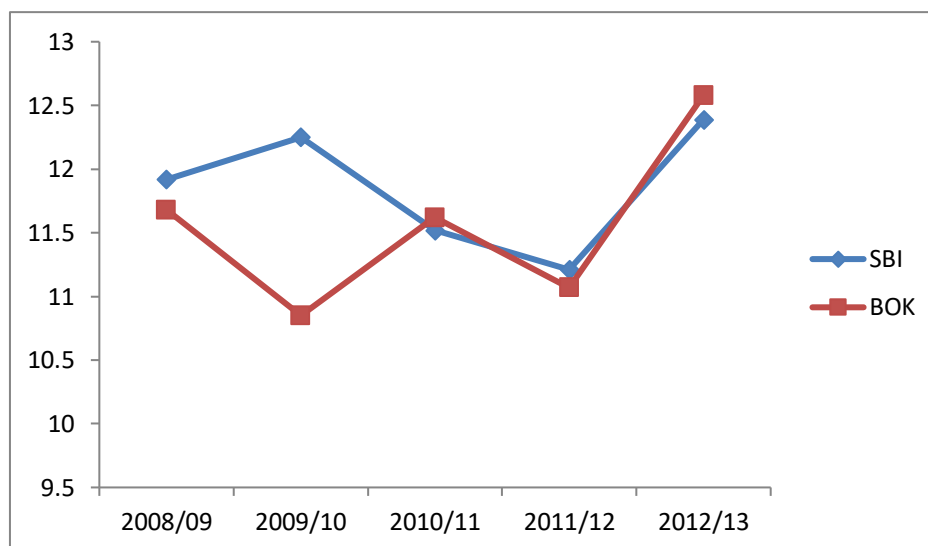


Figure 4.3 depicts the ROCE ratio is most important because it reflects the overall efficiency of its used capital. Higher ratio is favourable to the firm and vice-versa. The return on capital fund or employed to risked assets of SBI is slightly higher than that of BOK.

#### 4.1.4 Net Profit to Total Deposit:

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

**Table 4.4**  
**Net Profit to Total Deposit In (%)**

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	1.13	2.55
2009/10	1.12	2.51
2010/11	1.09	2.88
2011/12	0.89	2.43
2012/13	1.31	2.23
Mean	1.11	2.52
S.D.	0.13	0.21
C.V.	11.71	8.33

*Sources: Appendix I & II*

**Figure 4.4**  
**Net Profit to Total Deposit Ratio**

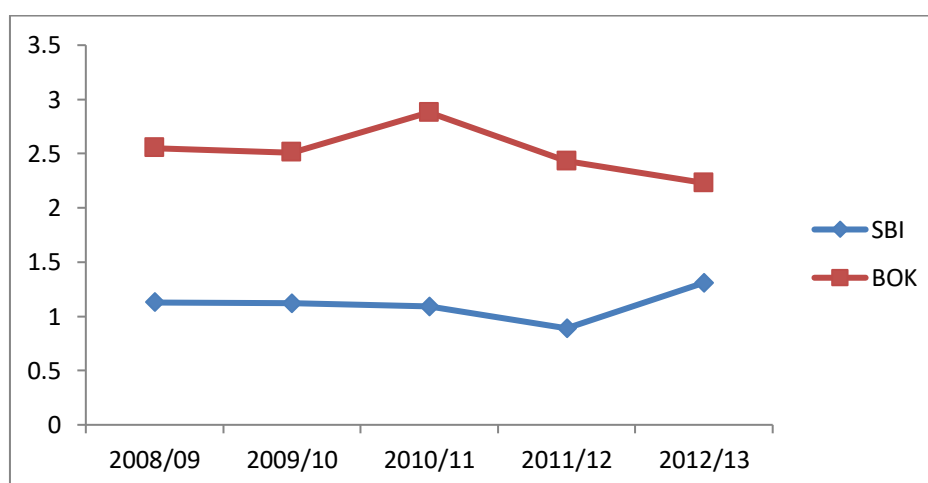


Table 4.4 and figure 4.4 depicts the Net profit to total deposit gauges the bank's efficiency to generate net profits out of the total deposit it collected. From the table 4.4, the average of net

profit to total deposit ratio is 1.11% and 2.52% for SBI and BOK respectively. Likewise, standard deviation indicates that the net profit to total deposit ratio for SBI and BOK is 0.13% and 0.21% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 11.71% and 8.33% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 net profit to total deposit ratio is higher in BOK than SBI.

#### 4.1.5 Net Profit to Total loan and advances:

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

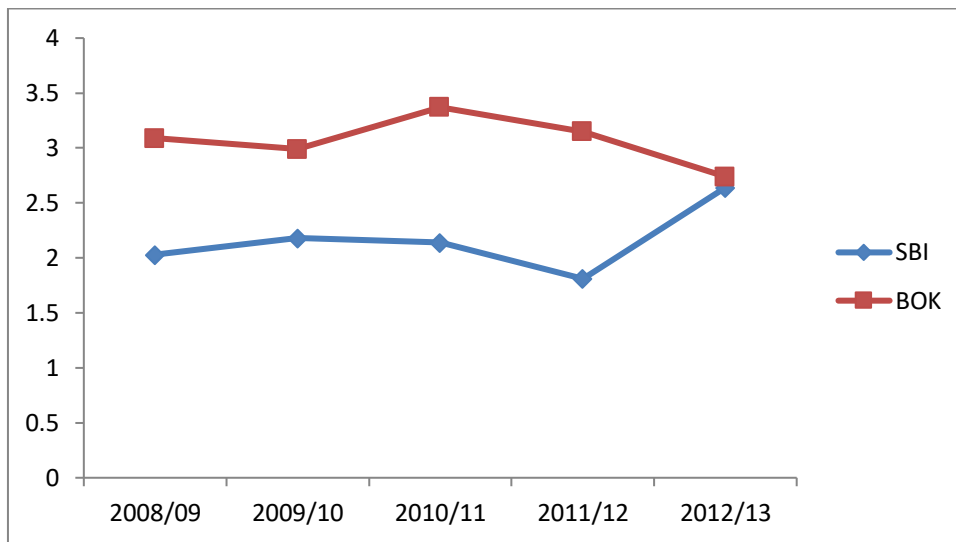
**Table 4.5**  
**Net Profit to Total loan and advances in (%)**

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	2.03	3.09
2009/10	2.18	2.99
2010/11	2.14	3.37
2011/12	1.81	3.15
2012/13	2.64	2.74
Mean	2.16	3.07
S.D.	0.27	0.21
C.V.	12.5	6.84

*Sources: Appendix I & II*

The above table 4.5 depicts the Net profit to total loan and advances gauges the bank's efficiency to generate net profits out of the total loan and advances. The average of Net profit to total loan and advances ratio is 2.16% and 3.07% for SBI and BOK respectively. Likewise, Standard deviation for the SBI and BOK is 0.27%, and 0.21%, respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 12.5% and 6.84% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 Net profit to total loan and advances ratio of BOK is higher than SBI is more uniformity. It is also shown in following figure 4.5.

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



#### **4.2 Evaluation of Liquidity Position of the Bank**

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

##### **4.2.1 Liquidity Ratio**

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

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

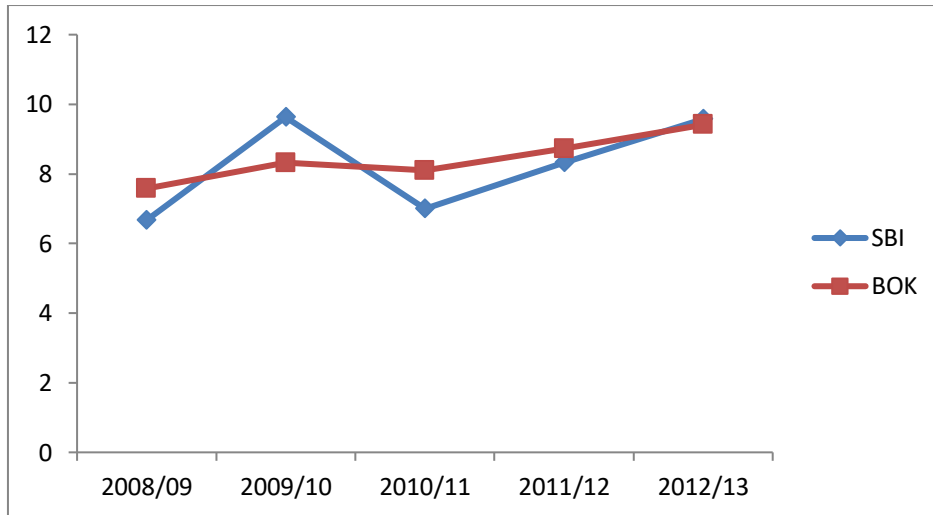
NRB has directed the Cash Reserve Ratio (CRR) to be maintained to 5% minimum. It shows whether the banks have complied with the NRB requirements or not. CRR of the two banks for SBI and BOK have been computed as follows.

**Table 4.6**  
**Cash Reserve Ratio in (%)**

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	6.67	7.58
2009/10	9.63	8.32
2010/11	7.00	8.10
2011/12	8.33	8.72
2012/13	9.58	9.41
Mean	8.24	8.43
S.D.	1.24	0.61
C.V.	15.05	7.24

*Sources: Appendix I & II*

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



The table 4.6 and figure 4.6 present the cash reserve ratio of SBI and BOK during the last five fiscal years. The average cash reserve ratio is 8.24% and 8.43%, for SBI and BOK respectively. This indicates that the cash reserve ratio for the both bank has been maintained as directed by NRB standard i.e. to generate the liquidity. Likewise, Standard deviation for the SBI and BOK is 1.24% and 0.61% respectively. Coefficient of variation indicates the

fluctuating trend or measuring the uniformity of the banks which is 15.05% and 7.24% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 cash reserve ratio of BOK is slightly higher than SBI which is 8.43% on average among the sample banks. From this, it can be easily seen that the CRR of SBI is less consistent than BOK since the CV of SBI is higher than BOK.

### 4.3 Credit Management Analysis

#### 4.3.1 Total Loan/credit to Total Deposit Ratio:

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

**Table 4.7**

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

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	55.84	82.65
2009/10	52.48	83.90
2010/11	51.2	83.11
2011/12	49.62	75.28
2012/13	49.55	81.43
Mean	51.74	81.27
S.D.	2.32	3.99
C.V.	4.48	4.90

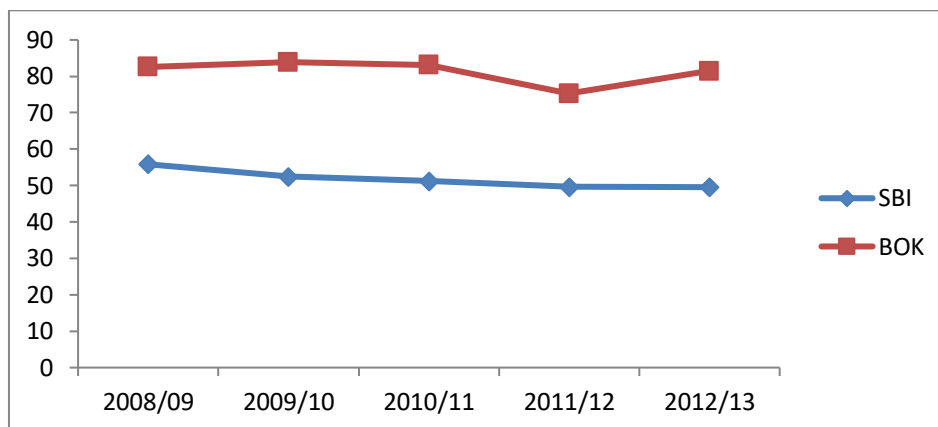
*Sources: Appendix I & II*

The table 4.7 presents the total loan/credit to total deposit ratio of SBI and BOK during the last five fiscal years. The average total loan/credit to total deposit ratio is 51.74% and 81.27% for SBI and BOK respectively. This indicates that the capability of SBI is seems to be poor to utilize the total deposits on loans and advances for profit generating purposes as compared to BOK. Likewise, Standard deviation for the SBI and BOK is 2.32% and 3.99% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 4.48% and 4.90% for SBI and BOK respectively. From the five years analysis

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

**Figure 4.7**

**Total Loan/credit to Total Deposit Ratio (in %)**



#### 4.3.2 Interest Income to Loans and Advances Ratio:

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

**Table 4.8**

**Interest Income to Loans and Advances Ratio in (%)**

Fiscal Year	Sample Banks	
	SBI	BOK
2008/09	7.56	9.02
2009/10	9.8	10.02
2010/11	11.24	12.08
2011/12	11.27	12.01
2012/13	11.20	10.86
Mean	10.21	10.80
S.D.	1.44	1.17
C.V.	14.10	10.83

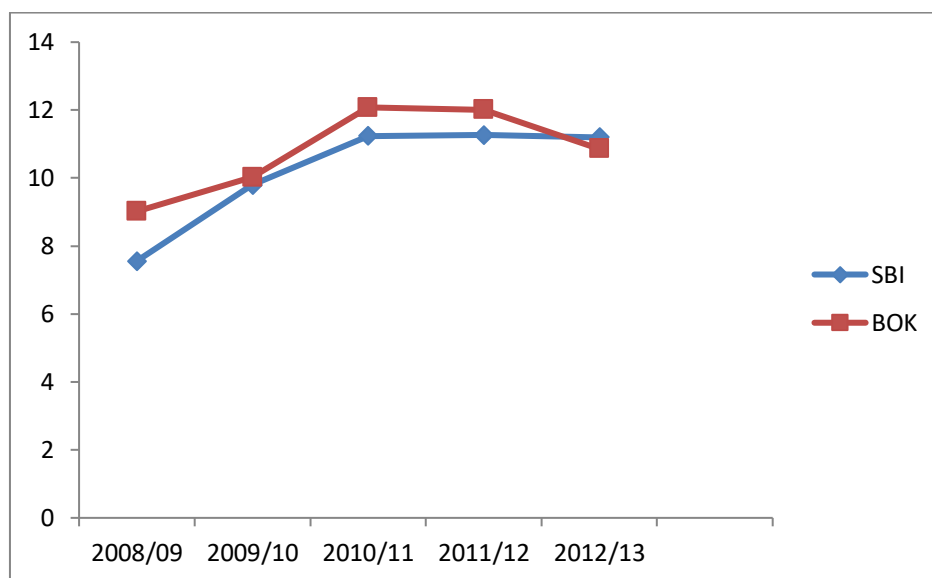
*Sources: Appendix I & II*



The table 4.8 presents the interest income to loans and advances ratio of SBI and BOK during the last five fiscal years. The average interest income to loans and advances ratio is 10.21% and 10.80% for SBI and BOK respectively. This indicates that the capability of the banks to manage the loans and advances in earning higher interest income. Likewise, Standard deviation for the SBI and BOK is 1.44%, and 1.17% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 14.10% and 10.83% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the interest income to loans and advances ratio of SBI is more volatile than BOK. It is also presented in following figure 4.8.

**Figure 4.8**

**Interest Income to Loans and Advances Ratio in (%)**



#### **4.4 Credit Risk Ratio:**

This ratio indicates the possibility of loan being default or not getting repaid by the client with subsequent losses to the bank. It is calculated as the percentage of nonperforming loans to total loans and advances/credit. Higher ratio shows the presence of more risk assets in the volume of loans and advances, and vice versa.

#### 4.4.1 Nonperforming loan to total loan and advances

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

**Table 4.9**

#### **Credit Risk Ratio of Sample Banks in (%)**

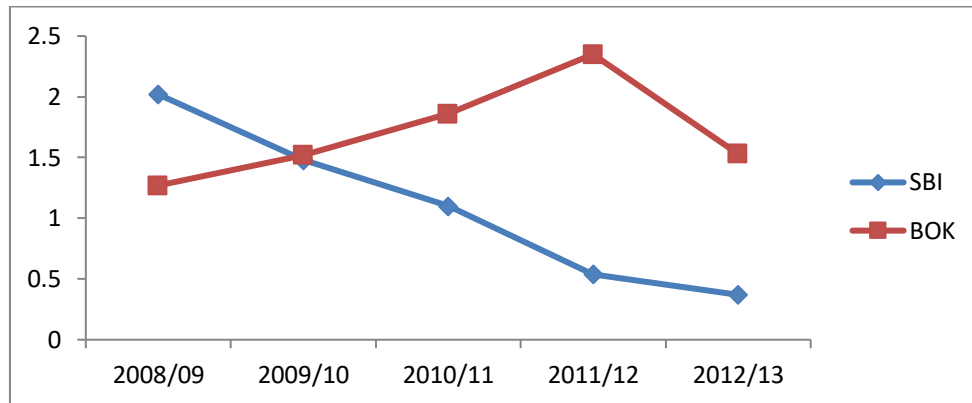
<b>Fiscal Year</b>	<b>Sample Banks</b>	
	<b>SBI</b>	<b>BOK</b>
2008/09	2.02	1.27
2009/10	1.48	1.52
2010/11	1.1	1.86
2011/12	0.54	2.35
2012/13	0.37	1.53
Mean	1.10	1.71
S.D.	0.61	0.37
C.V.	55.45	21.63

*Sources: Appendix I & II*

The table 4.9 presents the nonperforming loans to total loans and advances/credit ratio (credit risk) of SBI and BOK during the last five fiscal years. The average NPL ratio is 1.10% and 1.71% for SBI and BOK respectively. Likewise, Standard deviation for the SBI and BOK is 0.61% and 0.37% respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the credit risk ratio of BOK is not succeed to reduce in first three fiscal year 2008/09 to 2011/12 i.e. increasing trend and succeed to reduce only in fiscal year 2012/13. However, SBI is well performer and success to reduce in each fiscal year from 2008/09 to 2012/13. It is also presented in following figure 4.9.

**Figure 4.9**

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



#### 4.5 Statistical Tools

##### 4.5.1 Correlation Analysis

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

##### A. Correlation Analysis between Total Deposit and net Profit

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

**Table 4.10**

**Correlation Analysis between Total Deposit and net profit**

Banks	R	r <sup>2</sup>	PE	6PE	Remarks
BOK	0.8219	0.6755	0.0979	0.5874	Significant
SBI	0.8857	0.7845	0.0650	0.3901	Significant

*Source: Calculation – Appendix III*

Table 4.10 helps us to depict the relationship between the total deposit and profit of the two commercial banks namely SBI and BOK. The correlation coefficient (r) between the total deposit and net profit for both the banks is positive which indicates the positive relationship

between the two. When there is increase in the total deposit then the profit also increases along with it. PE measures the reliability of the observed correlation coefficient. The relationship between the total deposit and the net profit of both banks BOK and SBI are significant as the value of 'r' is greater than 6PE.

### **B. Correlation Analysis between Total Deposit and Loans & Advances**

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

**Table 4.11**  
**Correlation Analysis between Total Deposit and Loan & Advances**

<b>Banks</b>	<b>R</b>	<b>r<sup>2</sup></b>	<b>PE</b>	<b>6PE</b>	<b>Remarks</b>
BOK	0.9673	0.9357	0.0194	0.1164	Significant
SBI	0.9971	0.9942	0.0018	0.0105	Significant

*Source: Calculation – Appendix-III*

Table no. 4.11 shows the relationship between the total deposit and loans and advances. There is highly positive relationship between these two for both banks. With the increase in the total deposit there will be similar increase in the loans and advances, which results in good earnings for the banks. Probable error is the measurement of relationship between total deposit and loans and advances. Here, relationship between the total deposit and the loan and advances of both SBI and BOK are significant since the value of 'r' is greater than 6PE.

### **C. Correlation Analysis between Loans and Advances and Nonperforming loan**

The relationship between the total credit (loans and advances) 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 loan and advances and total nonperforming loans denoted by 'r'. 'r<sup>2</sup>' indicates the coefficient of determination, probable error is tested whether there is significant between them or not. Following table shows the coefficient of correlation between(r) coefficient of determinants (r<sup>2</sup>) and probable error (PE) Loan and advances and nonperforming loan of banks.

**Table 4.12**

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

<b>Banks</b>	<b>R</b>	<b>r<sup>2</sup></b>	<b>PE</b>	<b>6PE</b>	<b>Result</b>
SBI	-0.8465	0.7166	0.0855	0.5129	Significant
BOK	0.6305	0.3975	0.1817	1.0904	Insignificant

*Source: Calculation – Appendix-III*

The table 4.12 presents the correlation coefficient between total loan and advances and total nonperforming loans of BOK and SBI. As depicted by the figures above, the correlation between these two variables is highly negative, which means, they are moving in the opposite direction for SBI whereas positive in the case of BOK. The negative relationship points out the fact that an decrease in non-performing loans leads to a increase in total volume of credit of SBI. This would result favorable for the SBI. 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. BOK is not succeeding to reduce the non-performing loan as increase in the total loan and advances. By testing probable error, the relationship between total loan and advances and nonperforming loan is insignificant in the case of BOK but significant for SBI. 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

#### 4.5.2 Trend Analysis

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

##### A. Trend Analysis of Net Profit After Tax of BOK and SBI

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 six 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 five years' data.

**Table 4.13**

**Forecasted Trend Analysis of NPAT for next six years**

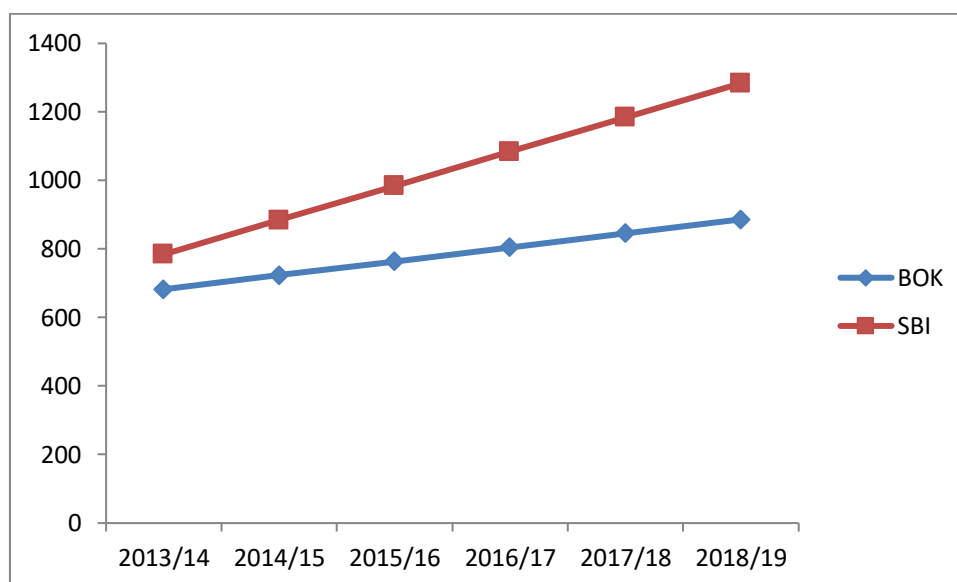
Name	a	b	Forecasted					
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
BOK	560	40.8	682.4	723.2	764	804.8	845.6	886.4
SBI	484.4	99.9	784.1	884	983.9	1083.8	1183.7	1283.6

*Source: Appendix IV*

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 BOK and SBI net profit after tax from the FY2013/14 to FY2018/19. As already given by their regression equation, the average net profit after tax maintained by the banks, BOK and SBI are Rs.560 million and 484.4 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. BOK has a positive rate of 40.8 million which denotes that with every unit change in the year, the value of the net profit after tax will increase by additional 40.8 million. Whereas, in case of SBI the value of this rate of change will increase by 99.9 million which reveals the increasing 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 2013/14 to 2018/19 of the BOK and SBI are directly computed in the above table 4.13. This trend is also clearly understood from the following figure 4.10.

**Figure 4.10**  
**Forecasted Trend Analysis of NPAT of Sample banks**



### **B. Trend Analysis of Loans and Advances**

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

**Table 4.14**  
**Trend Analysis of Loan & Advances (in million)**

Name	a	b	Actual	Forecasted				
			2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
SBI	21877.4	3501.4	32381.6	35883	39384.4	42885.8	46387.2	49888.6
BOK	18165.6	1699	23262.6	24961.6	26660.6	28359.6	30058.6	31757.6

*Source: Calculation – Appendix-IV*

**Figure 4.11**  
**Trend Analysis of Loan & Advances (in Million)**

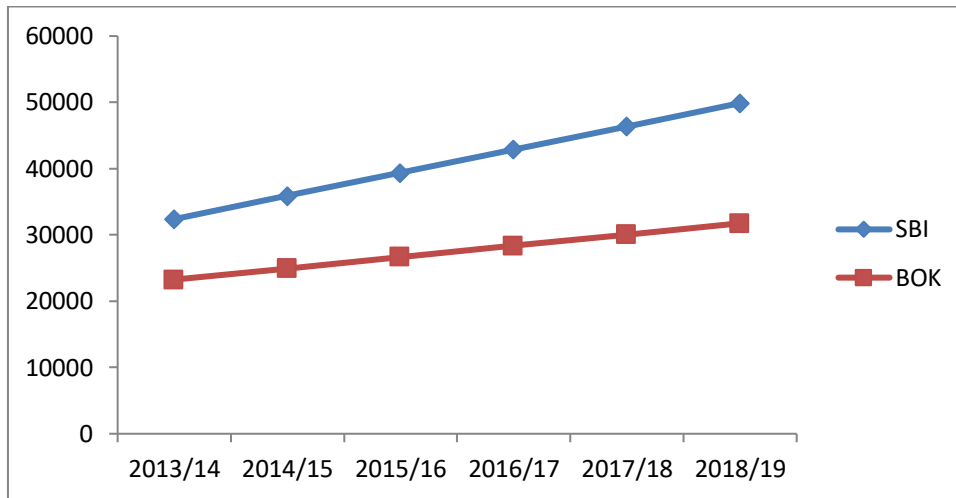


Table no. 4.14 and figure 4.11 presented above predict the Loans and Advances of the commercial banks for forgoing six fiscal years from fiscal years 2013/14 to 2018/19. Loans and advances of both the banks are in increasing trend. The increasing rate of loan and advances of SBI is higher i.e. 3501.4 million than BOK i.e. 1699 million respectively. For the coming years also it is expected to increase as per the calculation done in this study.

#### **4.6 Major Findings of the Study**

The major findings of the study are as follows.

- The average return on equity ratio shows that the return to equity is 17.21% and 23.41% for SBI and BOK respectively. Similarly, Standard deviation for the SBI and BOK is 1.93% and 2.69% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 11.21% and 11.49% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on equity of BOK is higher than SBI among the two sample banks. BOK has more risk that is slightly higher CV 11.49% than SBI of 11.21%.
- The average ratio for return on assets is 1.03% and 2.38% for SBI and BOK respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 11.65% and 23.10% for SBI and BOK respectively.



From the five years analysis i.e. fiscal year 2008/09 to 2012/13 average return on assets is lower of SBI which is 1.03% than BOK with 2.38%. In same way, financial surplus to assets ratio for sample banks are fluctuating trend. BOK has more risk than SBI since BOK has greater CV. In the fiscal year 2012/13 the return on assets of SBI is increasing and BOK is decreasing i.e. reached to 1.19% and 1.90% respectively.

- The average return on capital fund or employed to risked assets is 11.86% and 11.56% for SBI and BOK respectively. Likewise, Standard deviation for the SBI and BOK is 0.44% and 0.60% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 3.71% and 5.19% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 return on capital fund or employed to risked assets is slightly higher of SBI which is 11.86% than BOK i.e. 11.56% in average among two sample banks. In same way, return on capital fund or employed to risked assets for BOK is more volatile than SBI. SBI has good managed its profitability to maintain capital adequacy than other sample banks.
- The average of net profit to total deposit ratio is 1.11% and 2.52% for SBI and BOK respectively. Likewise, standard deviation indicates that the net profit to total deposit ratio for SBI and BOK is 0.13% and 0.21% respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 11.71% and 8.33% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 net profit to total deposit ratio is higher of BOK than SBI.
- The average of Net profit to total loan and advances ratio is 2.16% and 3.07% for SBI and BOK respectively. Likewise, Standard deviation for the SBI and BOK is 0.27%, and 0.21%, respectively. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 12.5% and 6.84% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 Net profit to total loan and advances ratio of BOK is higher than SBI with more uniformity.
- The average cash reserve ratio is 8.24% and 8.43% for SBI and BOK respectively. This indicates that the cash reserve ratio for the both bank is maintained as directed by NRB standard i.e. to generate the liquidity. Coefficient of variation indicates the

fluctuating trend or measuring the uniformity of the banks which is 15.05% and 7.24% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 cash reserve ratio is slightly higher of BOK than SBI which is 8.43% in average among the sample banks. From this, it can be easily seen that the CRR of SBI is less consistency than BOK since the CV of SBI is higher than BOK.

- The average total loan/credit to total deposit ratio is 51.74% and 81.27% for SBI and BOK respectively. This indicates that the capability of the SBI is seems to be poor to utilize the total deposits on loans and advances for profit generating purposes as compared to BOK. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 4.48% and 4.90% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 total loan/credit to total deposit ratio of BOK is slightly more volatile than SBI. Thus, higher ratio indicates the efficient and effective utilization of funds while lower ratio indicates the inefficiency of the banks to stop them from remaining idle.
- The average interest income to loans and advances ratio is 10.21% and 10.80% for SBI and BOK respectively. This indicates that the capability of the banks to manage the loans and advances in earning higher interest income. Coefficient of variation indicates the fluctuating trend or measuring the uniformity of the banks which is 14.10% and 10.83% for SBI and BOK respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the interest income to loans and advances ratio of SBI is more volatile than BOK.
- The average NPL ratio is 1.10% and 1.71% for SBI and BOK respectively. Likewise, Standard deviation for the SBI and BOK is 0.61% and 0.37% respectively. From the five years analysis i.e. fiscal year 2008/09 to 2012/13 the credit risk ratio of BOK is not succeed to reduce in first three fiscal year 2008/09 to 2011/12 i.e. increasing trend and succeed to reduce only in fiscal year 2012/13. However, SBI is well performer and success to reduce in each fiscal year from 2008/09 to 2012/13.
- The correlation coefficient ( $r$ ) between the total deposit and net profit for both the banks is positive which indicates the positive relationship between the two. PE measures the reliability of the observed correlation coefficient. The relationship between the total deposit and the net profit of both banks BOK and SBI are significant as the value of ' $r$ ' is greater than 6PE.

- There is highly positive relationship between total deposit and loan and advances among two sample banks. Here, relationship between the total deposit and the loan and advances of both SBI and BOK are significant since the value of 'r' is greater than 6PE.
- The correlation between total loan and advances and nonperforming loan is highly negative, which means, they are moving in the opposite direction of SBI whereas positive in the case of BOK. The negative relationship points out the fact that a decrease in non-performing loans leads to increase in total volume of credit of SBI. This would result favorable for the SBI. But BOK is not succeeding to reduce the non-performing loan as increase in the total loan and advances. By testing probable error, the relationship between total loan and advances and nonperforming loan is insignificant in the case of BOK but significant for SBI.
- The average net profit after tax maintained by the banks, BOK and SBI are Rs.560 million and 484.4 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. BOK has a positive rate of 40.8 million which denotes that with every unit change in the year, the value of the net profit after tax will increase by additional 40.8 million Whereas, in case of SBI the value of this rate of change will increase by 99.9 million with reveal the increasing trend of the bank in maintaining the net profit after tax volume
- The increasing rate of loan and advances of SBI is higher i.e. 3501.4 million than BOK i.e. 1699 million respectively. For the coming years also it is expected to increase on the basis of five fiscal years historical data.

## CHAPTER - V

### SUMMARY, CONCLUSION AND RECOMMENDATION

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

#### 5.1 Summary

This study has covered the period of five years being from 2008/09 to 2012/13. Secondary data have been used in analysis process. Both statistical and financial tools have been employed for the purpose of analyzing the data. In the study two banks are selected as sample. They are BOK and SBI. For this different aspects of profitability, liquidity and resource utilization of sample banks. Banking industries plays the role of catalyst for economic development in the developing country like Nepal where there prevail unorganized transactions. It helps to enhance economic activities of the country by providing capital funds for the smooth operation of business activities, create employment opportunities, investing agriculture, industry. Commercial banks in Nepal have come across a long way to reach at the present status they hold in the national economy. Since from the beginning of the establishment of BOK and SBI to the present scenario with the emergence of new and growing banks have brought tremendous changes in terms of services, capacity development and the way they serve customers. Modern banking practices, management information system have been introduced by almost all the commercial banks in Nepal. Both sample banks that were initially involved merely in lending and deposit sector have now modified and introduced new services to Nepalese customer like, credit card, debit card, SMS banking, E-banking etc.

Banking sectors has made significant improvement after the Government of Nepal adopted liberal economic policy. But intense competition and lack of sufficient investment opportunities have created threat to banks. Therefore future in the banking sector will be

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

## **5.2 Conclusion**

This study includes only secondary data and all the calculations and presentations are based on the secondary data. According to the analysis, the overall performance of the sample banks is found to be satisfactory. The average return on equity ratio shows that the return to equity is 17.21% and 23.41% for SBI and BOK respectively. Similarly, the average ratio for return on assets is 1.03% and 2.38% for SBI and BOK respectively. However, both are strong in liquidity position and strong in profit making. The average return on capital fund or employed to risked assets is 11.86% and 11.56% for SBI and BOK respectively. SBI has good managed its profitability to maintain capital adequacy than BOK. The average of net profit to total deposit ratio is 1.11% and 2.52% for SBI and BOK respectively. This indicates that net profit to total deposit ratio is higher of BOK than SBI. The average of Net profit to total loan and advances ratio is 2.16% and 3.07% for SBI and BOK respectively. The average cash reserve ratio is 8.24% and 8.43% for SBI and BOK respectively. This indicates that the cash reserve ratio for the both bank is maintained as directed by NRB standard i.e. to generate the liquidity. The cash reserve ratio is slightly higher of BOK than SBI which is 8.43% in an average. The average total loan/credit to total deposit ratio is 51.74% and 81.27% for SBI and BOK respectively. This indicates that the capability of the SBI is seems to be poor to utilize the total deposits on loans and advances for profit generating purposes as compared to BOK.

The average interest income to loans and advances ratio is 10.21% and 10.80% for SBI and BOK respectively. This indicates that the capability of the banks to manage the loans and

advances in earning higher interest income. The interest income to loans and advances ratio of SBI is more volatile than BOK. The average NPL ratio is 1.10% and 1.71% for SBI and BOK respectively. The credit risk ratio of BOK is not succeed to reduce in first three fiscal year 2008/09 to 2011/12 i.e. increasing trend and succeed to reduce only in fiscal year 2012/13. However, SBI is well performer and success to reduce in each fiscal year from 2008/09 to 2012/13.

The correlation coefficient ( $r$ ) between the total deposit and net profit for both the banks is positive which indicates the positive relationship between total deposit and the net profit of both banks BOK and SBI are significant as the value of ' $r$ ' is greater than 6PE. There is highly positive relationship between total deposit and loan and advances among two sample banks. Here, relationship between the total deposit and the loan and advances of both SBI and BOK are significant since the value of ' $r$ ' is greater than 6PE. The correlation between total loan and advances and nonperforming loan is highly negative, which means, they are moving in the opposite direction of SBI whereas positive in the case of BOK. The negative relationship points out the fact that a decrease in non-performing loans leads to increase in total volume of credit of SBI. This would result favorable for the SBI. But BOK is not succeeding to reduce the non-performing loan as increase in the total loan and advances. By testing probable error, the relationship between total loan and advances and nonperforming loan is insignificant in the case of BOK but significant for SBI. The average net profit after tax maintained by the banks, BOK and SBI are Rs.560 million and 484.4 million respectively, with other things remaining unchanged. Similarly, BOK has a positive rate of 40.8 million whereas SBI the value of this rate of change will increase by 99.9 million. The increasing rate of loan and advances of SBI is higher i.e. 3501.4 million than BOK i.e. 1699 million respectively. For the coming years also it is expected to increase on the basis of five fiscal years historical data.

### **5.3 Recommendation**

Based on the analysis, major findings and conclusions some important suggestions have been forwarded which are as stated below:

- The average return on assets is 1.08% and 2.38% for SBI and BOK respectively. Both the banks meet NRB standard with at least 0.75%. SBI should improve it in order to compete with BOK.

- The average return on capital employed ratio is 11.86% and 11.56% for SBI and BOK respectively. This indicates that both banks succeed in an effective management to earn profit. According to NRB directive this ratio base line is 10%. BOK is more volatile than SBI. Hence, BOK should maintain it in consistent manner for the fiscal year.
- Loans and advances to total deposit ratio of BOK is 81.27% which is better than SBI of 51.74%. This ratio of SBI is less than below 80% as directed by NRB. But there is lack of investment in productive sector. Hence, they should search the productive sectors for investment which is leads to the increase in the interest income as well as profit of the bank.
- The average NPL ratio of BOK 1.71% is higher than SBI 1.10%. However, SBI can succeed to reduce it in each subsequent year. According to NRB directive, NPL ratio is good if the banks have less than 1%. Hence, both banks should reduce the NPL.
- The banks should utilize their deposit in long term return rather than short term return because relationship between deposit and net profit is positive and significant. For this, they should focus the deposit in productive sector which help to growth the national economic activities and increase self employment.

## BIBLIOGRAPHY

### Books,

- Bashu, N. (2009) *Basic Functions of Commercial Bank*. New Delhi: Himalayan Publication, Pvt., Ltd.
- Edward, S. (2010). *Liquidity of Business*. London: Zenith Publishing House.
- Hampton, J.J. (1996). *Financial Decision Making*. New Delhi: Prentice Hall of India Private Limited.
- Khadka, L.P. (2008). *Origin of Banks in Nepal*. Pokhara: Rara Publication, Pvt., Ltd.
- Kuchhal, S.C. (1974). *Financial Management*. New Delhi: Chaitanya Publishing House Pvt. Ltd.
- Kulkarni, M. (1985). *Effects of working capital management on SME profitability*. *International Journal of Managerial Finance*, 2, 164-177.
- Ojha, J.C. (2005). *History of Nepalese Commercial Banks*. Biratnagar: Ratna Vidya Sadan.
- Pant, P. (1979). *Financial Management*. Kathmandu: MK Publishers and Distributors Pvt. Ltd.
- Pant, P.R. (2005). *A Handbook of Research Methodology and Thesis Writing*. Kathmandu: Buddha Academic Publishers and Distributors Pvt. Ltd.
- Pradhan, R.S. (1993). *Stock Market Behavior in Small Capital Market: A Case of Nepal*. Kathmandu: The Nepalese Management Reviews.
- Pradhan, R.S. (2004). *Financial Management*. Kathmandu: Buddha Academic Publishers and Distributors Pvt. Ltd.
- Rose, S. & Wilkinson, P.J. (1993). *Fundamentals of Corporate Finance*. Bombay: Richard D. Irwin Inc.
- Shrestha, K.M. (2007). *Tejarath: Security of Gold, Silver and Ornaments*. Bhairahawa: Lumbini Publication, Pvt., Ltd.



## Journal and Periodicals

- Duke, S.A. (2010). Trade credit, quality guarantees, and product marketability. *Financial Management*, 23, 117-124.
- Hafiz, A. (2010). Liquidity-profitability tradeoff: an empirical investigation in an emerging market. *International Journal of Management Study*, 18, 48-61.
- Hornby, I. (2000). Relationship between working capital management and profitability of listed companies in the Athens stock exchange. *Journal of Financial Analysis*, 3, 26-25.
- Joel, M. (1997). Working capital management and profitability. *International Review of Business Research*, 3, 279-300.
- Jonsons, M. & Beyrs, C. (2010). Does working capital management affect profitability of Pakistani firms? *Journal of Business Accounting*. 30, 573-588.
- Khanal, A. (2013). "Banks Can Counter High Stock's Capital Adequacy is Satisfactory" *The Himalayan Times*. April 30, 2013.
- Klise, L. (2004). Efficiency of working capital management and corporate profitability. *Financial Management and Education*, 8, 37-45.
- Mathuva, D. (2009). The influence of working capital management components on corporate profitability: a survey on Kenyan listed firms. *Research Journal of Business Management*, 3, 1-11.
- Poudel, R. (2008) "Banking Challenge ahead focuses in the potential areas." *NRB Journal*. July, 2008.
- Sayers, O.T. (2009). Liquidity management and corporate profitability: evidence from panel data analysis of selected quoted companies in Nigeria. *Research Journal of Business*, 3, 73-84.
- Shrestha, P. (2010) "Commercial Bank's Comparative Performances Evaluation Stresses on a Paper Risk Management" *The Himalayan Times*. April 15, 2010.
- Shrestha, S. (2012). "Preconditions for Effective Banking Regulation and supervision" *RBB Journals* Jan. 23, 2012
- Singh, D. (2014). "Loan Portfolio of Commercial Bank" *The Himalayan Times* (Update). March 15, 2014.

### **Unpublished Thesis**

Maharjan, S. (2010) "Profitability Analysis of commercial Banks (A case study of Rastriya Banijya Bank And Nepal Bank Ltd.)." Kathmandu: An Unpublished Master's thesis, Shanker Dev Campus, Faculty of Management, T.U.

Manandhar, P. (2011). "Credit Risk and Profitability of Commercial Banks". Kathmandu: An Unpublished Master's thesis, Shanker Dev Campus, Faculty of Management, T.U.

Poudel, P. (2009). "Profitability Analysis of Standard Chartered Bank Nepal Ltd. and NABIL Bank Ltd." Kathmandu: An Unpublished Master's thesis, Shanker Dev Campus, Faculty of Management, T.U.

Rouniyar, D.P. (2013) "Liquidity & profitability Analysis of Listed of Four Commercial Banks (with reference to NABIL bank Ltd., Standard Chartered Bank Ltd., Everest Bank Ltd. and Nepal SBI bank Ltd.)" Kathmandu: An Unpublished Master's thesis, Shanker Dev Campus, Faculty of Management, T.U.

Shrestha, R. (2012) "Productivity Measurement of Credit Position In Nepalese Commercial Banks (Special reference to Bank Of Kathmandu Ltd. and Nepal Investment Bank Ltd.)." Kathmandu: An Unpublished Master's thesis, Padma Kanya Multiple Campus, Faculty of Management, T.U.

### **Website**

[www.nrb.org.np](http://www.nrb.org.np) { Accessed on Jan/05/2014 }

[www.sebonp.com](http://www.sebonp.com){ Accessed on Jan/05/2014 }

[www.bok.com.np](http://www.bok.com.np) { Accessed on Jan/15/2014 }

[www.google.com](http://www.google.com){ Accessed on Feb/01/2014 }

[www.nsbi.com.np](http://www.nsbi.com.np){ Accessed on Jan/07/2014 }

## APPENDICES

### Appendix-I

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

(NPR in millions)

Details	2008/09	2009/10	2010/11	2011/12	2012/13
Total Deposit	27957	34896	42415	53337	58920
Total Loans & Advances	15612	17480	21365	26142	28788
Non Performing loan	315	492	239	144	109
Total assets	30916	38047	46088	58059	64796
Net Profit After Tax	316	391	464	480	771
Shareholder's equity (net worth)	1702	2440	2869	3196	3798
Interest income	1460	2269	3099	3769	4111

*Source: Annual Reports of SBI*

#### SBI

FY	2008/09	2009/10	2010/11	2011/12	2012/13
ROE (%)	18.58	16.02	16.17	15.02	20.30
ROA (%)	1.05	1.08	1.01	0.83	1.19
ROCE (F)/(%)	11.92	12.25	11.52	11.21	12.39
NPAT to Deposit (%)	1.13	1.12	1.09	0.89	1.31
NPAT to TL and ADV./Credit( %)	2.03	2.18	2.14	1.81	2.64
CRR (%)	6.67	9.63	7.00	8.33	9.58
TL/credit to Total deposit (%)	55.84	52.48	51.2	49.62	49.55
Interest income to TL and Adv.(%)	7.56	9.8	11.24	11.27	11.20
Credit risk (NPL to TL and Adv./credit)(%)	2.02	1.48	1.1	0.54	0.37

*Source: Annual Reports of SBI*

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

(NPR in millions)

Details	2008/09	2009/10	2010/11	2011/12	2012/13
Total Loans Advances	14946	17044	17468	18814	22556
Total assets	20496	23396	24758	28881	32545
Total Deposit	18084	20316	21018	24991	27700
Non Performing loan	190	260	326	443	346
Net Profit (After Tax)	462	509	605	607	617
Net worth/shareholder equity	1742	2074	2435	2700	3304
Interest Income	1348	1871	2387	2621	2450

*Source: Annual Reports of BOK*

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

Fiscal year	2008/09	2009/10	2010/11	2011/12	2012/13
Total loan & advances to total deposit ratio (%)	82.65	83.90	83.11	75.28	81.43
Nonperforming loan/assets to Total loan (& advances) ratio (%)	1.27	1.52	1.86	2.35	1.53
Net profit to total assets (%) (ROA)	2.25	2.18	3.46	2.10	1.90
Return on capital employed / risk weighted fund (%)	11.68	10.85	11.62	11.07	12.58
Interest income to total loan & adv. (%)	9.02	10.02	12.08	12.01	10.86
Liquidity (CRR in %)	7.58	8.32	8.10	8.72	9.41
Net profit to TL & advances (%)	3.09	2.99	3.37	3.15	2.74
Net profit to total deposit (%)	2.55	2.51	2.88	2.43	2.23
Net profit to net worth (%) (ROE)	26.52	24.54	24.85	22.48	18.67

**Notes:**

- # Total Loan and advances include: total loan, advances and bill purchased of each financial year end as stated in balance sheet.
- # Amount in figures are rounded in million approximately.

## Appendix –II

### SBI

FY	ROE (x)	X- mean	(x-17.21)2
2008/09	18.58	1.37	1.8769
2009/10	16.02	-1.19	1.4161
2010/11	16.17	-1.04	1.0816
2011/12	15.02	-2.19	4.7961
2012/13	20.3	3.09	9.5481
	<b>86.09</b>		<b>18.7188</b>

SBI	$\bar{X} = \frac{86.09}{5} = 17.21$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 1.93$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{1.93}{17.21} \times 100$ $= 0.1121 \text{ or } 11.21\%$
-----	-------------------------------------	---	---

### BOK

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

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

SBI

FY	ROA(x)	X- mean	(x-1.03)2
2008/09	1.05	0.02	0.0004
2009/10	1.08	0.05	0.0025
2010/11	1.01	-0.02	0.0004
2011/12	0.83	-0.2	0.04
2012/13	1.19	0.16	0.0256
	<b>5.16</b>		<b>0.0689</b>

SBI	$\bar{X} = \frac{5.16}{5} = 1.03$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 0.12$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{0.12}{1.03} \times 100$ $= 0.1165 \text{ or } 11.65\%$
-----	-----------------------------------	---	--

BOK

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

BOK	$\bar{X} = \frac{11.89}{5} = 2.38$	$(\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} = 0.55$	$(C.V.) = \frac{\sigma}{\bar{x}} \times 100$ $= \frac{0.53}{2.41} \times 100$ $= 0.2310 \text{ or } 23.10\%$
-----	------------------------------------	---	--

**#Note:** Same process was used to calculate the mean, standard deviation and coefficient of variation of other different ratios.

## SBI

FY	ROCE(x)	X- mean	(x-11.86)2
2008/09	11.92	0.06	0.0036
2009/10	12.25	0.39	0.1521
2010/11	11.52	-0.34	0.1156
2011/12	11.21	-0.65	0.4225
2012/13	12.39	0.53	0.2809
	<b>59.29</b>		<b>0.9747</b>
Mean	11.86		
S.D.	0.44		
C.V.	3.71		

## BOK

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

## SBI

FY	NP/TD(x)	X- mean	(x-11.86)2
2008/09	1.13	0.02	0.0004
2009/10	1.12	0.01	0.0001
2010/11	1.09	-0.02	0.0004
2011/12	0.89	-0.22	0.0484
2012/13	1.31	0.2	0.04
	5.54		0.0893
Mean	1.11		
S.D.	0.13		
C.V.	11.71		



BOK

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

SBI

FY	NP/TL(x)	X- mean	$(x-2.16)^2$
2008/09	2.03	-0.13	0.0169
2009/10	2.18	0.02	0.0004
2010/11	2.14	-0.02	0.0004
2011/12	1.81	-0.35	0.1225
2012/13	2.64	0.48	0.2304
	<b>10.8</b>		<b>0.3706</b>
Mean	2.16		
S.D.	0.27		
C.V.	12.5		

## BOK

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

## SBI

FY	CRR (x)	X- mean	(x-8.24) <sup>2</sup>
2008/09	6.67	-1.57	2.4649
2009/10	9.63	1.39	1.9321
2010/11	7	-1.24	1.5376
2011/12	8.33	0.09	0.0081
2012/13	9.58	1.34	1.7956
	<b>41.21</b>		<b>7.7383</b>
Mean	8.24		
S.D.	1.24		
C.V.	15.05		

## BOK

Fiscal Year	CRR (X)	X – (8.43)	(X– 8.43) <sup>2</sup>
2008/09	7.58	-0.85	0.7225
2009/10	8.32	-0.11	0.0121
2010/11	8.1	-0.33	0.1089
2011/12	8.72	0.29	0.0841
2012/13	9.41	0.98	0.9604
	<b>42.13</b>		<b>1.888</b>

Mean	8.43
S.D.	0.61
C.V.	7.24

SBI

FY	TL/TD (x)	X- mean	(x-51.74)2
2008/09	55.84	4.1	16.81
2009/10	52.48	0.74	0.5476
2010/11	51.2	-0.54	0.2916
2011/12	49.62	-2.12	4.4944
2012/13	49.55	-2.19	4.7961
	258.69		26.9397
Mean	51.74		
S.D.	2.32		
C.V.	4.48		

BOK

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

## SBI

FY	II/TL (x)	X- mean	(x-10.21)2
2008/09	7.56	-2.65	7.0225
2009/10	9.8	-0.41	0.1681
2010/11	11.24	1.03	1.0609
2011/12	11.27	1.06	1.1236
2012/13	11.2	0.99	0.9801
	51.07		10.3552
Mean	10.21		
S.D.	1.44		
C.V.	14.10		

## BOK

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

## SBI

FY	NPL/TL (x)	X- mean	(x-1.10)2
2008/09	2.02	0.92	0.8464
2009/10	1.48	0.38	0.1444
2010/11	1.1	0	0
2011/12	0.54	-0.56	0.3136
2012/13	0.37	-0.73	0.5329
	5.51		1.8373
Mean	1.1		
S.D.	0.61		
C.V.	55.45		

BOK

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

## Appendix –III

### Correlation Analysis of sample banks

BOK

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

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

$$= \frac{5 \times 63671979 - 112109 \times 2800}{\sqrt{5 \times 2573367317 - (112109)^2} \cdot \sqrt{5 \times 1587688 - (2800)^2}}$$

$$r = 0.8219$$

Coefficient determination ( $r^2$ ) = 0.6755

The probable error of 'r'

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

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

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

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

<b>Correlation (r)</b>	0.8219
<b>r<sup>2</sup></b>	0.6755
<b>P.E</b>	0.0979
<b>6× P.E.</b>	0.5874

**SBI**

FY	Total deposit (X)	Net Profit (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2008/09	27957	316	8834412	781593849	99856
2009/10	34896	391	13644336	1217730816	152881
2010/11	42415	464	19680560	1799032225	215296
2011/12	53337	480	25601760	2844835569	230400
2012/13	58920	771	45427320	3471566400	594441
<b>Sum</b>	<b>217525</b>	<b>2422</b>	<b>113188388</b>	<b>10114758859</b>	<b>1292874</b>

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

$$= \frac{5 \times 113188388 - 217525 \times 2422}{\sqrt{5 \times 10114758859 - (217525)^2} \cdot \sqrt{5 \times 1292874 - (2422)^2}}$$

$$r = 0.8857$$

Coefficient determination ( $r^2$ ) = 0.7845

The probable error of 'r'

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

$$= \frac{0.6745 \times 1 - (0.8857)^2}{\sqrt{5}} = 0.0650$$

$$6 \times \text{P.E. 'r'} = 6 \times 0.0650 = 0.3901$$

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

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

**BOK**

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

<b>Correlation (r)</b>	0.9673
<b>r<sup>2</sup></b>	0.9357
<b>P.E</b>	0.0194
<b>6× P.E.</b>	0.1164

### Correlation between total loan and advances and total deposit of SBI

Year	total deposit (X)	total loan and advances (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2008/09	27957	15612	436464684	781593849	243734544
2009/10	34896	17480	609982080	1217730816	305550400
2010/11	42415	21365	906196475	1799032225	456463225
2011/12	53337	26142	1394335854	2844835569	683404164
2012/13	58920	28788	1696188960	3471566400	828748944
	<b>217525</b>	<b>109387</b>	<b>5043168053</b>	<b>10114758859</b>	<b>2517901277</b>

<b>Correlation (r)</b>	0.9971
<b>r<sup>2</sup></b>	0.9942
<b>P.E</b>	0.0018
<b>6× P.E.</b>	0.0105

### SBI

FY	Total loan and advances(X)	NPL (Y)	XY	X <sup>2</sup>	Y <sup>2</sup>
2008/09	15612	315	4917780	243734544	99225
2009/10	17480	492	8600160	305550400	242064
2010/11	21365	239	5106235	456463225	57121
2011/12	26142	144	3764448	683404164	20736
2012/13	28788	109	3137892	828748944	11881
<b>Sum</b>	<b>109387</b>	<b>1299</b>	<b>25526515</b>	<b>2517901277</b>	<b>431027</b>



<b>Correlation (r)</b>	-0.8465
<b>r<sup>2</sup></b>	0.7166
<b>PE</b>	0.0855
<b>6PE</b>	0.5129

#### BOK

<b>FY</b>	<b>Total loan and advances(X)</b>	<b>NPL (Y)</b>	<b>XY</b>	<b>X<sup>2</sup></b>	<b>Y<sup>2</sup></b>
2008/09	14946	190	2839740	223382916	36100
2009/10	17044	260	4431440	290497936	67600
2010/11	17468	326	5694568	305131024	106276
2011/12	18814	443	8334602	353966596	196249
2012/13	22556	346	7804376	508773136	119716
<b>Sum</b>	<b>90828</b>	<b>1565</b>	<b>29104726</b>	<b>1681751608</b>	<b>525941</b>

<b>Correlation (r)</b>	0.6305
<b>R<sup>2</sup></b>	0.3975
<b>PE</b>	0.1817
<b>6PE</b>	1.0904

### Appendix- IV

#### Trend analysis of total loan & advances and Net profit of sample banks

##### Trend Analysis on NPAT of Sample selected banks

#### SBI

<b>FY</b>	<b>NPAT(Y)</b>	<b>X=X-2010/11</b>	<b>x<sup>2</sup></b>	<b>xY</b>
2008/09	316	-2	4	-632
2009/10	391	-1	1	-391
2010/11	464	0	0	0
2011/12	480	1	1	480
2012/13	771	2	4	1542
	2422	0	10	999

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

The trend line equation is given by:

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

Where,

$y$  = the regression line of dependent variable

$a$  = constant

$b$  = slope of the trend line or regression coefficient

$x$  = independent variable

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

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

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

Since the  $\Sigma x = 0$ ,

$$a = \frac{\Sigma y}{n} = \frac{2422}{5} = 484.4$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{999}{10} = 99.9$$

For 2012/13,

$$\begin{aligned} Y_c &= 484.4 + 99.9X \\ &= 484.4 + 99.9 \times 2 \\ &= 684.2 \end{aligned}$$

Now, for coming Years,

### Forecasted trend value of SBI

Fiscal Year	X	$Y_c = 484.4 + 99.9 X$	NPAT ( $Y_c$ )
2013/14	$(2013/14 - 2010/11) = 3$	$Y_c = 484.4 + 99.9 \times 3$	784.1
2014/15	$(2014/15 - 2010/11) = 4$	$Y_c = 484.4 + 99.9 \times 4$	884
2015/16	$(2015/16 - 2010/11) = 5$	$Y_c = 484.4 + 99.9 \times 5$	983.9
2016/17	$(2016/17 - 2010/11) = 6$	$Y_c = 484.4 + 99.9 \times 6$	1083.8
2017/18	$(2017/18 - 2010/11) = 7$	$Y_c = 484.4 + 99.9 \times 7$	1183.7
2018/19	$(2018/19 - 2010/11) = 8$	$Y_c = 484.4 + 99.9 \times 8$	1283.6

### Trend analysis of NPAT

BOK

FY	NPAT(Y)	$X = X - 2010/11$	$x^2$	$xY$
2008/09	462	-2	4	-924
2009/10	509	-1	1	-509
2010/11	605	0	0	0
2011/12	607	1	1	607
2012/13	617	2	4	1234
	<b>2800</b>	<b>0</b>	<b>10</b>	<b>408</b>

Since the  $\Sigma x = 0$ ,

$$a = \frac{\Sigma y}{n} = \frac{2800}{5} = 560$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{408}{10} = 40.8$$

For 2012/13,

$$\begin{aligned} Y_c &= 560 + 40.8X \\ &= 560 + 40.8 \times 2 \\ &= 641.6 \end{aligned}$$

Now, for coming Years,

**Forecasted trend value of BOK**

<b>Fiscal Year</b>	<b>X</b>	<b>Yc = 560+ 40.8X</b>	<b>NPAT (Yc)</b>
2013/14	(2013/14-2010/11) = 3	Yc = 560+ 40.8 × 3	682.4
2014/15	(2014/15 – 2010/11) = 4	Yc = 560+ 40.8 × 4	723.2
2015/16	(2015/16 - 2010/11) = 5	Yc = 560+ 40.8 × 5	764
2016/17	(2016/17 - 2010/11) = 6	Yc = 560+ 40.8 × 6	804.8
2017/18	(2017/18 - 2010/11) = 7	Yc = 560+ 40.8 × 7	845.6
2018/19	(2018/19 - 2010/11) = 8	Yc = 560+ 40.8 × 8	886.4

**SBI**

<b>FY</b>	<b>total loan and advances (Y)</b>	<b>x=X-2010/11(3)</b>	<b>x<sup>2</sup></b>	<b>xY</b>
2008/09	15612	-2	4	-31224
2009/10	17480	-1	1	-17480
2010/11	21365	0	0	0
2011/12	26142	1	1	26142
2012/13	28788	2	4	57576
<b>Sum</b>	<b>109387</b>	<b>0</b>	<b>10</b>	<b>35014</b>

Since the  $\Sigma x = 0$ ,

$$a = \frac{\Sigma y}{n} = \frac{109387}{5} = 21877.4$$

$$b = \frac{\Sigma xy}{\Sigma x^2} = \frac{35014}{10} = 3501.4$$

For 2012/13,

$$\begin{aligned} Y_c &= 21877.4 + 3501.4X \\ &= 21877.4 + 3501.4 \times 2 \\ &= 28880.2 \end{aligned}$$

Now, for coming Years,

**Forecasted trend value of SBI**

<b>Fiscal Year</b>	<b>X</b>	<b>Yc = 21877.4 + 3501.4X</b>	<b>Loan and advances (Yc)</b>
2013/14	(2013/14-2010/11) = 3	Yc = 21877.4 + 3501.4 × 3	32381.6
2014/15	(2014/15 – 2010/11) = 4	Yc = 21877.4 + 3501.4 × 4	35883
2015/16	(2015/16 - 2010/11) = 5	Yc = 21877.4 + 3501.4 × 5	39384.4
2016/17	(2016/17 - 2010/11) = 6	Yc = 21877.4 + 3501.4 × 6	42885.8
2017/18	(2017/18 - 2010/11) = 7	Yc = 21877.4 + 3501.4 × 7	46387.2
2018/19	(2018/19 - 2010/11) = 8	Yc = 21877.4 + 3501.4 × 8	49888.6

**BOK**

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

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

The trend line equation is given by:

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

Where,

y = the regression line of dependent variable

a = constant

b = slope of the trend line or regression coefficient

x = independent variable

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

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

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

Since the  $\Sigma x = 0$ ,

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

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

For 2012/13,

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

Now, for coming Years,

#### Forecasted trend value of BOK

<b>Fiscal Year</b>	<b>X</b>	<b>Y<sub>c</sub> = 18165.6 + 1699X</b>	<b>Loan &amp; advances (Y<sub>c</sub>)</b>
2013/14	(2013/14-2010/11) = 3	Y <sub>c</sub> = 18165.6 + 1699 × 3	23262.6
2014/15	(2014/15 - 2010/11) = 4	Y <sub>c</sub> = 18165.6 + 1699 × 4	24961.6
2015/16	(2015/16 - 2010/11) = 5	Y <sub>c</sub> = 18165.6 + 1699 × 5	26660.6
2016/17	(2016/17 - 2010/11) = 6	Y <sub>c</sub> = 18165.6 + 1699 × 6	28359.6
2017/18	(2017/18 - 2010/11) = 7	Y <sub>c</sub> = 18165.6 + 1699 × 7	30058.6
2018/19	(2018/19 - 2010/11) = 8	Y <sub>c</sub> = 18165.6 + 1699 × 8	31757.6