

**A THESIS ON**  
**INVESTMENT PATTERN OF COMMERCIAL BANKS IN NEPAL**  
(A Comparative Study on Nepal Investment Bank Ltd and Bank of Kathmandu Ltd)

**A Thesis**  
**By**  
**BINU SHRESTHA**  
**ST. XAVIER'S CAMPUS**  
**T.U. Regd. No.: 7-3-282-252-2007**  
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## **DECLARATION**

I hereby declare that the work reported in this thesis entitled "**Investment Pattern of Commercial Banks in Nepal (A Comparative Study on Nepal Investment Bank Ltd 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 Studies (MBS) under the supervision of **Mr. Shankar Thapa of St.Xaviers Campus, TU.**

.....  
**BINU SHRESTHA**  
**ST.XAVIER'S Campus**  
**Exam Roll No.: 4126**  
**T.U. Regd. No.: 7-3-282-252-**  
**2007**

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FEBURARY, 2013

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BINU SHRESTHA  
Researcher

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# ABBREVIATIONS

BOK	Bank of Kathmandu
C.V	Coefficient of Variation
CB	Commercial Bank
F.Y	Fiscal Year
i.e.	That is
JVBs	Joint Venture Banks
Ltd.	Limited
NIBL	Nepal Investment Bank Limited
NO.	Number
NRB	Nepal Rastra Bank
OBS	Off-Balance Sheet
P.Er	Probable Error
RBB	Rastriya Banijya Bank
ROA	Return on Assets
Rs.	Rupee
S.D	Standard Deviation
T.U.	Tribhuvan University
Viz	Verses



# **CHAPTER - I**

## **INTRODUCTION**

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

The development of any country depends upon economic development of the country and economic development is supported by financial infrastructure of the country. Banks play vital role in the economic growth of the country. Every well-organized financial institution including finance companies, commercial banks, joint venture banks and other financial institutions play significant role for the development of the country. They collect scattered financial resources from the mass and invest them among those who are associated with the economic, commercial and social activities of the country. This provides fuel to development process. Investment is an important intergradient of overall national economic development because it ensures efficient allocation of fund to achieve the material and economic well being of the society. Investment policy is an important factor of the investment practice. Investment refers to sacrifice of current money for future money, generally two attributes are involved in it, they are time and risk. In this study, the word investment conceptualized the investment of income, saving or other collected fund. The term investment covers a wide range of activities. It is a widely known fact that an investment is only possible where there is adequate savings. If all the incomes and savings are used to fulfill the minimum needs, then there is no existence of investment. Thus, both saving and investment are interrelated. Investment policy is the most important factor of the investment practice. The joint commercial banks formulate sound investment policies to make it more effective, which eventually contributes to the economic growth of the country. The sound investment policy helps the banks to maximize the quality and quantity of investment and helps to achieve the loan objective of profit maximization and social welfare. Formulation of sound investment policies and coordinated and planned efforts push forward to the forces of economic growth. The commercial banks should be formulated in such a way that maximizes the profit and minimizes the risk from lending. Nepalese joint venture commercial banks are far behind fulfilling the responsibility to invest in the crucial sector of the economy for the upliftment of the national economy. Good investment policy ensures maximum amount of investment in all sectors with proper utilization.

In the present context there is tough competition in the banking market but not enough opportunity to make investment. In this salutation, joint venture banks can take initiation in search of new opportunities to survive in the competitive market and earn satisfactory profit. There is high liquidity in the money market but here seems to be no profitable area to invest. Flow of money is more than requirement. Likewise, the banks and financial companies (institution) are offering very low deposit interest rate. This indicates that the joint venture banks should be able to create new investment opportunities to make investment to survive and earn maximum profit in the highly competitive market.

For the entire development of the country the proper development of industry and trade is must. Therefore, the banks should give priority for the accelerating the economic growth of the country. As the strong economic condition of a country is represented by the development of industry, trade and business, which is main sector of the banks to carry out its activities and to achieve its aim of profit maximizing. Proper investment practice assists the joint venture banks to make profitable investment which helps in the development of country as well as achieve the objective of making the profit.

Nepal is a developing country. Development and expansion of financial Institutions are essential for the economic growth of the country. The pace of development of depends on any country in this modern era largely the level of financial development. Financial Institutions provide capital to develop trade, industry and business. Banks Finance companies, co-operative societies, Insurance companies, stock exchange help in the economic development of the country.

As a financial institution, the commercial banks are one of the major media in the framework of every economic because they collect scattered saving and provide loans to the various sectors according to the need of the clients. When banks provide loans new businesses and industries are established which helps in the development of the country. In this way the whole infrastructure of national development, direction of economy at the rate of progress are strengthen by the banking system. The primary issue of development is to increase the investment in productive sector of the economy such as industrial and commercial production trade and commerce, international business, generation of individual income and expenditure government revenue etc.

Investment is a present sacrifice for the sake of future benefits. The present is certain but the future is uncertain. So investment always involves risk. Investment is always related with risks and returns. In other words, it is commitment of money and other resources that are expected to generate additional money and resources in the future such as commitment takes place in the present and is certain to occur but the reward comes in the future are always remains uncertain. Therefore, every investment entails some degree of risk.

Investment policies are the strategies which find the answer of the question like who's to invest and why to invest? The initial step setting and investment policy involves determining the investor's objectives and the amount of his or her investable wealth, because there is positive relationship between risk and return for an investor to say that his or her objective is to "make lot of money". What is appropriate for an investor in this situation is to state that the objective is to attempt to make a lot of money while recognizing that there is some chance that large losses may be incurred. Investing objectives should be stated in terms of both risk and return. Setting a clear investment policy also involves the identification of assets depends upon many things such as investment objective; able wealth tax consideration etc.

Nowadays there is very much competition in banking market but less opportunity to make investment. In this situation joint venture banks can take initiation in search of new opportunities, so that they can survive in the competitive market and earn profit. But an investment is very risky job. For a purposeful, safe, profitable investment bank must follow sound investment policy. The fundamental principles of investment must be followed thoroughly for a profitable investment. Investment policy should ensure minimum risk and maximum profit. Good investment policy ensures maximum amount of investment to all sectors with proper utilization. There is highly liquidity in the market but there seems no profitable place to invest. Flowing of money hundred times more than required when there were called by the banks and financial institutions is the example of the high liquidity in the money market. At the same time, the banks and financial institutions are offering very low deposit interest rate. In this situation Nepalese banks are required to explore new opportunities to make investment if they want to survive in the competitive market.

The income and profit of the bank depends upon its lending procedure, lending policy and investment of its fund in different securities. The greater the created by the bank the higher will be the profitability. A sounding lending and investment policy is not significant for the promotion of commercial saving a backward country like Nepal. Investment portfolio of bank includes all of those assets that comprise secondary reserve and investment account. The

secondary reserve is the assets of the bank that is easily and readily convertible into cash. It is created to replenish primary reserve on case o need. Once the bank has provided funds for its primary and secondary reserve and for loans to customers, funds may then be allocated to the investment account. Loan and advances can be distinguished from investment the former carries the concept of the use of something for a relatively short period on the condition that it or its equivalent will be returned. But an investment on the other hand implies the outlay of fund for the purpose of obtaining a flow or the principle is returned. Investment decision always evaluates credit and money rate risk.

### **Introduction of Banks under Study**

Banking is the necessity of every country as it plays a crucial role in enriching economic and social life of a country. Banks are the backbone of a country for economic development. The existence and development of a good banking system in any country is a reflection and an index of its economic progress. Both are not only interrelated but also interdependent. It itself may not contribute much to national wealth it render services in mobilizing and canalizing the resources and developing salutary for capital formation adds to national wealth and economic development. It mobilizes the financial resources of the community through funds to desired channels. The main objective of banking is to meet the financial needs of the country.

Various writers have provided different types of definition regarding the term “Bank”. Some of the well-known definitions of banks are as follows:

According to Kent, “A bank is an organization whose principal operations are concerned with the accumulation of the temporarily idle of money of the general public for the purpose of advancing to other for expenditure”.

According to U.S. Law, “Any institution offering deposits subject to withdrawal to demand and making loans of a commercial nature is a bank.”

According to Nepal Commercial Bank Act 2031 B.S., “ A commercial bank is one which exchanges money, deposits money, accepts deposits, grants loans and performs commercial banking functions and which is not a bank meant for cooperation agriculture, industries or for such specific purpose.”

Thus, Bank is an institution, which is engaged in monetary transaction. It deals with money by accepting various types of deposits, disbursing loan and rendering other various financial services. It is rendering a wide range of services to the people in different walks of life, so it has become as essential part of the modern society.

## **(A) Nepal Investment Bank (NIBL)**

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one the largest banking group in the world.

With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd. The name of the bank has been changed to Nepal Investment Bank Ltd. upon approval of bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office with the following shareholding structure:

- A group of companies holding 50% of the capital
- Rastriya Banijya Bank holding 15% of the Capital.
- Rastriya Beema Sansthan holding 15% of the Capital.

The remaining 20% being held by the General Public (which means that NIBL is a Company listed on the Nepal Stock Exchange).

The bank believes that NIBL, which is managed by a team of experienced bankers and professionals having proven track record, can offer customer what the customer are looking for. The bank is sure that customer choice of a bank will be guided among other things by its reliability and professionalism.

**"The Bank's Vision is to be the most preferred provider of Financial Services in Nepal".**

### **Mission Statement**

To be the leading Nepali Bank, delivering world class service through the blending of state-of-the art technology and visionary management in partnership with competent and committed staff, to achieve sound financial health with sustainable value addition to all our stakeholders. The bank is committed to do this mission while ensuring the highest levels of ethical standards, professional integrity, corporate governance and regulatory compliance.

## **(B) Bank of Kathmandu (BOK)**

Bank of Kathmandu Limited has become a prominent name in the Nepalese banking sector. Bank of Kathmandu Limited (BOK) has today become a landmark in the Nepalese banking sector by being among the few commercial banks which is entirely managed by Nepalese professionals and owned by the general public.

BOK started its operation in March 1995 with the objective to stimulate the Nepalese economy and take it to newer heights. BOK also aims to facilitate the nation's economy and to become more competitive globally. To achieve these, BOK has been focusing on its set objectives right from the beginning. The bank's objective is

- To contribute to the sustainable development of the nation by mobilizing domestic savings and channeling them to productive areas
- To use the latest banking technology to provide better, reliable and efficient services at a reasonable cost
- To facilitate trade by making financial transactions easier, faster and more reliable through relationships with foreign banks and money transfer agencies
- To contribute to the overall social development of Nepal

**Vision:** To become a significant contributor to the economic development of Nepal by distinguishing the bank as an efficient, competitive, safe and top quality financial institution.

### **Mission Statement**

To offer financial services and becoming the “Bank of Choice” by dedicating to the progress and growth of the institution for the community, customers, employees, supervisors and stockholders.

## **1.2 Focus of the Study**

This study is to find out investment pattern of BOK and NIBL so the concentration of this research is to emphasize the investment policies of the commercial banks namely Nepal investment Bank Ltd. and Bank of Kathmandu ltd. So the study evaluates investment pattern of BOK and NIBL and it also examines investment portfolio of BOK and NIBL. In the bank system, investments are the allocations of funds to marketable securities and are accounted under as separate portfolio excluding loan and advance. The investment portfolio is the aggregation of marketable securities such as shares, debenture, and bonds etc. including government securities. This study will conclude on the policy and practices that BOK and NIBL is adopting for the purpose of investment management. So these will surely help to bridge

the gap between deposit and investment pattern. Furthermore, the study will help the management of the banks to take necessary actions in investment pattern.

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

The present situation of Nepal is economically unstable. There is no peace and security in the country so the investors are discouraged to invest. Banking industries are facing the problem from the component of external environment such as political, legal, economics and social. The unstable politics is the main cause .which is hampering for the growth of banking sectors. The other common problems both joint venture banks and state owned commercial banks and state owned commercial banks is the cut through completion. Most people of Nepal are illiterate and people are unaware about the banking system. Due to the lack of effective human resources and trained manpower, growing banks is the serious problem for the existing healthy competition.

The Commercial banks are not interested in granting loan to primary and deprived sector of the economy. Banks are active only in urban sector because they see great opportunities for the minimization of profit. Rural areas are being neglected. There are only few rural development banks active in Nepal while Nepal is full of rural areas.

Similarly, financial companies and Development Banks have been emerging rapidly and the bank has to compete with them since finance companies are making investment in the sectors where commercial banks typically invest. Commercial banks are most interested in providing loans on short-term projects due to safety and security of their loans. Thus, they are following conservative loan policy based on strong security. However, these banks do not have a well-organized investment policy. They rely much on the instructions and guidelines of Nepal Rastra bank. Even if they have formulated some guidelines, they fail to implement it due to poor supervision and lack of professionalism.

In the light of the very fact that commercial banks are the backbone of the economy of a country, it is highly useful to make the present study on the Nepal Investment Bank Limited and Bank of Kathmandu Limited. In this ground the study deals with the following issues.

- What is the relationship between investment, loan and advances with total deposit, net profit and outside assets?
- How can the collected funds are properly used?

- What is the profitability position of the banks?
- What is the trend position of banks in terms of deposits collection and net profit?
- What is the effect of investment decision on profitability position of the banks?
- Is there significant relationship between loan and advances, total interest earned to total outside assets etc.?

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

The basic objectives of the study are an attempt to make overall review regarding investment policy of NIBL, and BOK. To be more precise the specific objective of the study are:

- To Assess out the relationship between total investment, loan and advances, deposit, net profit and outside assets.
- To identify the impact of investment priority sectors of Commercial Banks.
- To assess the impact of investment on profitability.
- To analyze and forecast the trend and structure of deposit utilization and its projection for five years of commercial banks i.e. 2006 to 2010.
- To assess the comparative study of investment, deposit loan and advances, and net profit.
- To provide suggestions and possible guidelines to improve investment policy and its problems.

### **1.6 Significance of the Study**

Integrated and speedy development of the country is possible only when competitive banking service reaches the nooks and corners of the country, commercial banks occupy an important economy because it provides capital for the development of industry trade and business investing the saving collected as deposits. Besides, commercial banks render a numerous service to their customer in view of facilitating their economic and social life.

The focus of the study is to highlight the investment policies of joint venture banks expecting that the study can bridge the gap between deposits and investment policies. And the study would provide information to the management of the banks that would help them to collective action.



This study is to find out the existing situation as well as future prospectus of marketing and financial return. The collected fund is utilized in a good manner as investment then only good return and sustainability or possible. Return on investment first, sustains the institution and provides handful income to the investor. The better the investment policy, the more valuable, the company, the higher return the shareholders etc and vice versa. Since the different parties' shareholders, general public and government are directly affected by the investment policy of the financial institution, thus researcher feels the needs to study the investment pattern.

The commercial banks can effects the economic condition of the whole country, so effort is made to highlight the investment pattern of commercial banks expecting that this study can be bridge to the gap between deposits and investment. The study also provides information to the management of the bank that would help them to take collective action. Investor basic reason for investment activity is to maximize their personal happiness or utility. From the study we would able to provide information to the shareholders to make decision while making investment on shares of different commercial bank.

### **1.7 Limitation of the Study**

Investment pattern of the banks are analyzed by using appropriate tool of quantities analysis. The analysis is limited to the internal data of the banks. External factors affecting liquidity and investment of the banks could not be measured by quantitative expression. Therefore, they were analyzed by using descriptive method based on informal interviews of the concerned officials of the banks. The limitation of the study is another aspect of study. This study has numbers of limitation like shortage of time reliability of statistical tools used and lack of research experience and some other limitations are:

- a) Only two commercial banks are the concern of the study due to the inadequate time period.
- b) The study is focus on those factors, which is related with investment pattern.
- c) The study is based on the period of five-year trend of concerned banks i.e. from 2006 to 2010.
- d) This study concentrates only on those factors that are related with investment. Among many factors affecting investment decision and valuation of firm. Only certain factors are studied,

## **1.8 Organization of the study**

The study has been divided into five chapters and is organized as follows.

### **Chapter 1: Introduction**

### **Chapter 2: Review of Literature**

### **Chapter 3: Research Methodology**

### **Chapter 4: Presentation and Analysis of Data**

### **Chapter 5: Summary, Conclusion and Recommendations**

**Chapter One** deals with the introduction of the study consisting subject matter, statement of the problem, Objectives of the study, significant of the study, limitation of the study and organization of the study.

**Chapter Second** deals with review of literature, which includes review of books, review of journals and annual reports published by the banks, and other authorities review or related articles and previous thesis as well.

**Chapter Third** describes the research methodology of various sequential steps that have been following in conducting this study and material used as each steps which includes research design, population and sample, data analysis and tools, ratio analysis, profitability ratio, risk ratio, growth ratio etc.

**Chapter Forth** is analysis chapter, which deals with the presentation and analysis of data through a define course of research methodology. This chapter is to analysis different statistical tools and financial tools.

**Chapter Fifth** is related to summary, conclusion and recommendation of the study. Finally, bibliography and appendices have been included at the end.

## **REVIEW OF LITERATURE**

Literatures are the main sources of information related with the study. According to Joshi 2001, 'Review of literature means reviewing research studies or other relevant proposition in the related areas of study so that all the past studies, their conclusions and deficiencies may be known and future research can be conducted. It is an integral mandatory process in research work. The chapter deals with review of literature react to the investment pattern of the commercial banks. This chapter has been divided into two main sections. The first section of the chapter implies with the conceptual framework of the study which second section implies the review of previous studies.

### **2.1 Conceptual Framework**

There is an important role of banks in the economic growth and development of a country. To achieve an ideal economic growth and development, the banks should have strong and well-managed organization of banking system. When banking is appropriately organized, it aids and facilitates the growth of trade and industry and hence of national economy, banks are considered not as dealer in money but as the leaders of development. Banks are not just the storehouse of the country's wealth but are the reservoirs of resource necessary for economic development.

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

### **2.2 Historical Development of Bank**

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

Several concepts have been put forward about the origin of the word “Banking”. The term bank derives from Latin “Bancus”, which refers to the bench on which the banker would keep its money and his records. Some persons trace its origin to the French word “Banque” and the Italian word “Banca” which means a bench for keeping; lending and exchanging go money in the market.

The first bank of the world called the “Bank of Venice” was established in Venice, Italy in year 1157. The bank of Barelona and the bank of Genoa were established in 1401 and 1407, respectively. In England, the banking begins with English goldsmith only after 1640. The bank of Amsterdam was the great bank in seventeenth century.

### **2.3 Banking History of Nepal**

There are limited records of traditional banking practiced in the history of Nepal.

From the available information, it is very difficult to trace the correct chronological history of the traditional banking system due to the lack of historical reports of banking system. The historical records state that Guna Kama dev, the king of Kathmandu, borrowed money to rebuild his kingdom in 728 AD.

Sine efforts of banking were carried out during the Rana regime. The ‘Tejarath Adda’ was established during this period, which might be regarded as the father of modern banking institution in Nepal. During the Prime Minister ship of Juddha Shamsher in 1937 AD the “Tejarath Adda” was replaced by a commercial bank, ‘Nepal Bank Ltd.’, which could be considered as a milestone that marked the beginning of a new era in the history of modern banking in Nepal.

The Nepal bank limited was established in 1994 being the first Commercial bank of Nepal. Thereafter,

In 1956, the Central Bank, Nepal Rastra Bank (NRB) was established. It was established with the purpose of developing Banking system in the country to promote industry, trade and agriculture as well as to circulate Nepalese currency all over the country.

Rastriya Banijya Bank was another important bank to be established in Nepal. This bank was established in government sector in 2022(1966) under the Banijya Bank Act 2021(1965) according to the recommendation of the Nepal Rastra Bank with its head office in Kathmandu.

Agriculture Development bank in 2024 B.S. In 2031 B.S the commercial bank act 2031 was regulated. After 2041 B.S, the government allowed joint venture banks to operate in the country. Then, the board of joint venture public limited was opened whereby commercial banks started establishing in the country.

Nepal Arab Bank Limited is the first bank established in joint investment in Nepal with its head office in Kathmandu. This bank was established in 2041 (1985) under the Commercial Bank Act 2031(1974) and the Companies Act 2021(1965). Form, it is called Nabil Bank. It is established with the permission of the central bank ( The Nepal Rastra Bank). There are Nepalese and foreign investors in it. This bank, by making a good profit, has provided the employment to many persons. It has opened many branch offices. It has been giving banking services by using extra modern tech. It has been giving banking services by using extra modern technologies. It is very popular bank. It has the largest number of branches among the private banks i.e., 15 branches.

The second bank established in joint investment was the Nepal Indosuez Bank Limited with its head office in Kathmandu. It was established in 2042(1985).After these banks, there was a progressive increase in the number of joint venture commercial banks in Nepal. Nowadays, there are 31 commercial banks, 61 development banks, 78 finance companies, 13 lagu development, 19 co-operative limited, 47 Non- Government Organization and 117 Hulak Bachat Banks operating in Nepal. The open and liberal policy in the financial sector has helped in establishing many commercial banks and financial institutions in the country. But now its name is Nepal Investment Bank Limited. It has played a great role in the development of baking system. It has also opened its branch offices. At present, there is no foreign investment in it. All shares are owned by, the Nepalese shareholders.

The NBL was incorporated in 1937 under the Nepal Bank Act of 1937 with an authorized capital share of Rs.100 Lakhs. At frist, the majority of share was owned by the government. Now government owns only 40% share with the suggestion of World Bank of transfer the ownership to the private sector for better functioning of the financial sector. But it not breeds results as expected.

Standard Chartered Bank Nepal Limited (earlier known as Nepal Grindleys Bank Ltd.) came into existence in 2043(1987) as a joint venture between ANZ Grindleys and Nepal Bank Limited with its head office in Kathmandu. It started its business with a Rs. 30 million paid-up

capital. After acquiring of the ANZ operation in the region by the Standard Chartered, it has become a subsidiary of SC Grindleys, which holds 50% of share in the bank. Now, from the date July 13,2001, it renamed as SCB Nepal Ltd. after takeover by Standard Charter.

Himalayan Bank Ltd (HBL), is a joint venture with Habib Bank of Pakistan, started its operation on 2049(1992) with its head office in Kathmandu with paid-up capital of Rs.60 million.

Nepal SBI Bank Ltd. is a joint venture between Employees Provident Fund and State Bank of India, wherein Indian Bank hold 50% of the equity. The bank started its operation in 2050(1993) with its head office in Kathmandu. The initial paid-up capital was Rs.119.95 million. After the establishment of this bank, generally the monetary transaction between Nepla and India have been carried out through this bank.

Nepal Bangladesh Bank Limited was established in 2051(1994) with its head office in Kathmandu. This bank was formed in joint investment of the International Finance Investment and Commerce, Bangladesh.

Everest Bank Limited started its operation in 2051(1994) with its head office in Kathmandu. It entered into joint venture with Punjab National Bank of India (PNB) in January 1997 only. PNB holds 20% equity stake in the bank.

Bank of Kathmandu (BOK) was started as a joint venture with Syam Bank of Thailand in 2051(1994) with its head office in Kathmandu. During 1997 Syam CB reduced its share holding to 3% and later on it withdrawn all his share and management was completely handed over to Nepali Promoters. From then onwards it has used aggressive strategies in the banking sector of Nepal and was able to stand and make distinguish image in the country.

Nepal Credit and Commerce Bank Ltd (NCCB) (earlier known as Nepal Bank of Coylon Limited ) was a joint venture with a leading Bank of Sri Lanka. It was established in 2053 with its head office in Siddharthanagar, Bhairahawa. It was renamed as NCC Bank Limited in September 10,2001

Lumbini Bank Limited started its operation in 2055 with its head office in Narayangadh.

Nepal Industrial and Commercial Bank Limited (NIC) was established in 2055 with its head office in Biratnagar. It does not have any joint venture yet. It has employed a senior banker from India to heads its operation.

Machapuchhre Bank Limited started its operation as regional Bank from Pokhara in 2057.

Kumari Bank Limited was established in 2056 but its operation commenced only form 2057 with its head office in Kathmandu. It started its operation with the issued capital of NRs. 500 million.

Laxmi Bank Limited has started its operation from 2058 with its head office in Birgunj. The bank has its issued and paid-up capital as NRs. 500 million and NRs.275 million respectively.

Siddhartha Bank Limited is the commercial bank established in 2058 but commenced its operation from 2059 with its head office in Kathmandu. It had issued capital of NRs. 500 million.

Global Bank Limited has started its operation form 2063 with his head office in Birgunj.

Citizen Bank is the last commercial bank established in 2064 with the head office at Kathmandu

## **2.4 Feature of Sound Lending and Investment Policy of Bank**

Every commercial bank has its own goal, purpose and outputs. The commercial banks are mainly motivated with the goal of earning profit. There are many regions for gaining the goal of earning profit. A bank is a legal person. The shareholders are the owner of the bank. The board of directors is the agent of the bank. It operates the bank. To run the banks many employee are appointed. It needs a great amount of expenses to run the bank, whether it is direct or indirect, there is continuing expenses in the bank. In addition to it, the aim of any person or institution to invest the money to the bank is to earn more profit only. A bank established without the aim of gaining the profit is the central bank. Other banks are inspired with the object of earning profit and helping the economic development and finally to take the social responsibility. They should have the ability to use the policy of investment and to implement it much more carefully otherwise a bank may be unsuccessful in its goal (Bhandari, 2003: 126)

Investment is the prime factor of earning profit. So, after the establishment of bank, it collects much deposit accounts get the deposit in the form of the current, saving and fixed deposit accounts. In this way, the bank apart from the amount deposited from such accounts, collects the capital by selling its share. The bank can take loans. Thus, a great capital fund is formed in the bank from different source.

It is not better to keep such capital fund is formed in the bank from different source. It is not better to keep such capital fund inactive. The bank should be able to define its investment policy by making a deep study on the subjects that which sector world be the more trust –

worthy and dependable to invest the amount collected in the bank. If the bank applies following investment policies or principles, it can be successful in its goal.

### **a) Liquidity**

Liquidity refers both to a business's ability to meet its payment obligations, in terms of possessing sufficient liquid assets, and to such assets themselves. Liquidity is the most important policy of investment. A bank should not forget the principal of liquidity while it is following its investment policy. Liquidity means the whole stock in the economy.

In Nepal, the money in use, the money in the accounts of current, saving, fixed period and the money in margin account refer to liquidity. The liquid property means cash stock of the commercial banks, the amount of the short terms, current account, and short-term government and business security and Treasury bill.

The commercial banks are considered to be as financial mediators. The commercial banks have liability to the deposits and they immediately should give it in the time when the depositors asked. For this purpose, the bank should keep adequate liquid funds. And also they should gain profit by utilizing the deposit as a loan and advances. If the bank can't return the deposits at the time of demand it may lose the customers and their trust. If adequate liquid fund is kept they can return the deposit at will of the depositors but such bank can loan for a long time. In same way, if they invest the whole deposit loan and advances, they can't give it at the time of demand by the depositors, so, the commercial bank tried to move the liquidity and profit together. It is the great challenge for the manager of the bank.

The commercial bank should attract deposits because a deposit is called raw material of banking, without which bank can't run. It is an important thing in which sectors the amount of each deposit is to be invested.

The interest is not given for the amount of current account. But as it has to give payment immediately, plenty of liquidity is necessary for it. From the viewpoint of property, loan and advance are more income generating sectors but they are less liquid able. The amount would not be recorded in the time of want. Similarly, keeping more money in the bank is very more liquid able but does not generate income to the bank. The quantity of liquidity is less for investment so maintenance of co-ordination between the property and liquidity by keeping some parts of its own property, as a liquid property to provide loan and to invest it is the success of the commercial banks.



The central bank pays attention to this reality to give directions on liquidity to the commercial banks (Bhandari, 2003:127).

### **b. Profitability**

The objective of the commercial bank is to earn profit. The bank should follow the objective by focusing it on the sectors in which it can earn much profit. The bank should not keep its means and materials inactive; it should keep on investing the means and materials on appropriate and safe area. The banks can gain much profit from the safe and long-term investment. But there is less liquidity in such investment. But there is less liquidity in such investment. It may lose the investment in the sector where profit is not gained. Where much risk is there, is much profit. But sometimes, it may create a situation where the bank should face the great economic loss, by loss of the investment of the risky sector. So the profit and liquidity are two opposite principles. If the bank pays its attention only for profit, the liquidity becomes less, if it pays its attention on the liquidity, it can't be a long-term investment and the bank doesn't get profit. So it should maintain equality in it. The profit of the bank is the interest rate and the bank charge. So, the bank should always think to apply an appropriate investment policy in such sector from which can earn much. (Bhandari, 2003:128).

### **c. Safety**

A bank should pay a special emphasis on safety. If the invested area is unsafe, it isn't good omen for the bank. The bank should pay much emphasis on the principle of safety, to follow the investment policy. There will be no doubt of loss whether it is great or little, if the bank has not invested in a safe sector. The bank should think it with much sensibility. To invest on an unsafe sector with the hope of gaining much is to accept the security of low quality. To invest large loan against less securities by receiving commission, to invest in new places without care, observation and to follow the long-term loan including these all reasons will make unsafe of the bank's investment. They should be avoided as much as can be. There will be no loss to the bank, if it invests in profitable sector. So the bank should seriously study whether there is a possibility of investment or not. It should invest in a safe sector. If the property taken as the securities are ruined, securities is low in standard or low valued and if there is no possibility of sale of the security, the bank suffers from loss. The bank should follow the principle of safety and the short-term loan and should invest in profitable sector. In such conditions, there will be

no possibility of loss. The secured sectors mean the securities of the inland and foreign, company's shares, debentures and government bank etc (Bhandari, 2003:128)

#### **d. Diversification**

The principle of diversification means the banking policy of investing the money in the various sectors. The bank should not follow the policy of investment only in one or two sectors. If it follows such policy, certainly its investment policy will not be successful. The bank by studying and analyzing the different sectors where it is possible to earn more from little investment should extend its investment. If it invests in many sectors, it becomes successful to keep it in balance. There will be less profit from investment of some sector and there will be maximum profit from some other sectors. There may loss too in some sectors. On the whole, a bank should be able to be a competent itself. If it happens so, the banking transaction does not go up and down. It can run the bank comfortably and smoothly.

In the case of earning profit, the bank should follow the policy of investing various fields. So, there is a statement "a bank should not lay all its eggs in the same basket". By following this principle, on the basis of gold, silver, diamond, development bond, shares of company, debentures, goods, imports and export bills and other appropriate securities, the banks have moves ahead of their investment policy. The bank always gets success in their working capacity from such investment. And the bank becomes successful in its goal (Bhandari, 2003:129).

#### **e. Marketability**

A bank should adopt the principle of marketability in investment policy. In certain way, the bank moves its investment or flows loan against security. To invest the money, the bank should follow the policy of taking the security of high quality as far as possible. The market of Nepal is small. In such a small market in order to livingness to its banking transaction, a bank should flow its loan by taking the first class securities. The bank should keep in mind the main principle of marketability while it makes investment. Are the goods taken as securities saleable in the market or not? Can the loan be recovered by selling it in the market or not? The bank should adopt the investment policy by paying the attention to the different aspects, it should study the market evaluate of the goods which are taken as security. The bank should do such things, which would help earn the profit and make the investment policy successful. The bank should not invest money by taking the securities of goods, which are not saleable in the market

and though they are sold but not fetch the reasonable price, and there is no value of such things. The bank should take as far as possible such goods which keeps may be safely and freshly in the market and the loan will be recovered like gold, silver, diamond, company's shares certificates, debentures, development bond and other similar types of securities of immovable property like house, land etc. can't be sold in time. So, if the provides loan by taking reasonable goods as security it can be sold in the market easily and the bank can be saved from becoming insecure (Bhandari, 2003:129).

#### **f. Tangibility**

A commercial bank should prefer tangible security to an intangible one. It may be considered that tangible property doesn't yield an income apart from intangible securities, which have lost their value due to price level inflation.

#### **g. Legality**

Illegal issued securities may cause problems to the investors. Therefore, all commercial banks should follow the directives of NRB, Ministry of finance and other relevant organization at the time of mobilizing funds.

### **2.5 Principle of a Good Investment Policy**

#### **a. Principle of Safety**

The safety sought in investment is not absolute or completes the word means, rather protection against loss under reasonable likely. It calls for careful review of economic and industrial trends before choosing any type of investment or the time to invest. Thus, this principle recognizes that errors are unavoidable and requires extensive diversification (American Institute of Banking, 1972:149).

#### **b. Adequate Liquidity and Collateral Value**

An investment is a liquid asset if it can be converted into cash without delay at full market value in any quantity. For an investment to be liquid, it must be reversible or marketable. The difference between reversible and marketability is the process whereby the transaction is

reversed or terminated while marketability involves the sale of the investment in the market for cash. To, meet emergencies, every investor must have a sound portfolio to be sure for the additional funds, which may be needed for the business opportunities. Whether money is rising is to be done by sale or by borrowing it will be easier if the portfolio pursues a planned proportion of higher grade and readily saleable investment.

### **c. Stability of Income**

Stability of income must be looked at different ways just as was security of principle. An investor must consider stability of monetary income and stability of the purchasing power of income. However, emphasis on income stability may not always be consistent with other investment principles. If the income stability is stressed, capital growth and diversification will be limited.

### **d. Capital Growth**

Capital appreciation has today become an important principle. Recognizing the connection between corporation and industry growth and very large capital appreciation, investors and their advisors constantly are seeking “growth stock”. It is exceedingly difficult to make successful choice. The ideal “growth stock” is the right issue in the right industry, bought at the right time.

### **e. Tax status**

To plan an investment program without regarding to one’s tax status may be costly to the investor. There are really two problems involved here that, one concerned with the burden of income taxes upon that income. When investors’ incomes are small, they are anxious to have maximum cash returns on their hand, investors who are not possess for cash income often find that income taxes deplete certain types of investment incomes less than others.

### **f. Purchasing power stability**

Since an investment nearly always involves the commitment of current funds with the objective of the investor should consider receiving greater amounts of future funds, the purchasing power of the future funds. For maintaining purchasing power stability, investors should carefully study the degree of price level inflation they accept, the possibility of gain and loss in the investment available to them and the limitation imposed by personal and family considerations.

### **g. Conceivability**

To be safe from social disorders, government confiscation or unacceptable levels of taxation, property must be conceivable and level no record of income received from its use or sale. Gold and precious stones have long been estimated for purposes because they combine high value with bulk and are readily transferable (American Institute of Banking, 1972:149)

## **2.6 Sources Of Funds For The Investment**

There are different sources of funds for the investment of the bank.

### **a. Capital**

Capital is the life blood of the trade and commerce. Therefore, capital is needed for the operation of the bank as in other business. The capital terms consists of two elements like:

#### **i. Issuing shares      ii. General reserves**

**i. Issuing share:** Bank issues its share for the collection of capital. So this is one of the sources of fund to invest. By increasing in the issue of shares the bank can increase its capital.

**ii. General reserves:** Reserves are kept by the bank separated from the profit. This reserve is also invested at the time of contingency and to cover the loss in future.

### **b. Accumulated profit**

If the capital is not sufficient and there is need of more money to invest in that case the bank use the accumulated profit to invest. In the time of contingency also, the bank invests its accumulated profit for recovering its future loss.

### **c. Deposits**

Deposits are the main sources of funds. By providing certain rate of interest, commercial bank calls for the deposits from the customer. Mainly, the bank like current deposit, fixed deposit and saving deposits, accepts three types of the deposits. These different types of deposits are used for lending the money to different sector like agriculture, production, trade services sector and other industry. The deposits will lead to increase the working capital of the bank.

### **d. External and internal borrowings**

Borrowing money through different banks or different institution can collect the funds. In a developing country like Nepal, those types of borrowing are very important. The commercial banks may not have sufficient funds to invest in different sector. In that case it has to borrow from other bank or other financial institutions. Generally the commercial bank borrows from two sources i.e. external and internal. Generally external borrowing means the borrowing from foreign banks, and foreign government. Internals the commercial banks borrow mainly from inter banks and Nepal Rastra Banks. So the commercial bank cannot provide loan or investment without the funds from the funds collected from above different sources the commercial bank grants loan.

#### **e. Other use of funds**

A commercial bank must maintain the minimum bank balance with NRB i.e. 8% fixed deposit and 6% for current and saving deposit account in local currency. Similarly, 3% cash balance of all local currency accounts must be maintained by it according to the rules of NRB to have a good liquidity position. Again, a part of funds should be used for bank balance in foreign bank and to purchase fixed assets like land, building, furniture, computers, stationery etc.

#### **f. Off Balance Sheet Activities**

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

### **2.7 Review Of Legislative Provisions**

This section includes some reviews of legislative framework under which the commercial banks operate. Legislative provisions influence on a bank's establishment, mobilization and resources utilization. A commercial bank should specify the legislative provisions indicated by other financial institutions and rules and regulations formulated by NRB.

#### **Investment Management Regulation**

A commercial bank decides to invest in shares and securities but such investment is restricted to 10% of paid up capital. However, such investments in all companies in which the bank has financial interest shall be limited to 20% of paid up capital of the bank. But, the total amount of investment in shares and securities of organized institution is restricted to 30% of the paid up capital of the bank (NRB Directives). Commercial banks are not allowed to invest in any shares, securities and hybrid capital instruments issued by any financial institutions licensed by NRB. A commercial bank is related to the fund collected as paid up capital, fund needed to expand the branches, and flexibility of NRB rules and regulations. The main provisions of NRB are discussed hereunder.

#### **i) Provisions for investment in the deprived sector**

Investment in shares of the rural development bank by commercials, which used to be counted for the priority sector lending, is only now the deprived sector lending. According recent provisions effective from 1997/98, NBL, RBB, NABIL, NGBL, NIBL are required to 3% invest, HBL, NSBL, NBBL, EBL, are required to invest 2%, BOK is required to invest 1.75 %,

NBCL is required to invest 0.75% and new commercial banks are required to invest 0.25% of their total loans and advances to the deprived sector.

**ii) Provisions for credit to the priority sector**

Commercial banks are required to extend loans and advances at 12% of their total outstanding credit to the priority sector (agriculture, cottage and small industries and service, which are counted commercial bank's loan to the co-operatives licensed by the NRB is also to be counted as the priority sector credit from 1995/96 onwards.

**iii) Provision for the investment in productive sector**

NRB directs the commercial banks they should extend at least 40% of their total credit to the productive sector. Productive sector investment includes loans to priority sector, agriculture sector, industrial sector etc.

**iv) Provision for the single borrower Limit**

NRB directs commercial banks to set an upper limit of loan financed to an individual, firm, company or group of companies. The single borrower limit should not exceed 25% in the case of fund – based credit and 50% in the case of non- fund based credit such as the letter of credit, guarantee, acceptance letter, and commitment in a fixed proportion of capital funds of the bank. Similarly, NRB has graded NABIL, NGBL, NIBL, HBL, NSBL and NBBL as class 'A' banks, which have been kept outside the provision of the single borrower credit limit. Likewise commercial banks are permitted to extend an additional 10% credit above the limit fixed by NRB as before in the case of consortium financing.

**v) Provision for minimizing liquidity risk**

A gap found between maturing assets and maturing liabilities is the liquidity risk. They are monitoring their assets and liabilities on the basis of maturity period. Maturity periods such as 0-90 days, 91-180days, 181-270days, 271-365days, and above 1 year are classified for the purpose of matching the assets liability maturity.

**vi) Cash reserve requirements (CRR)**

Commercial banks are required to have maximum CRR to ensure adequate liquidity, to meet the depositor's demand for cash at any time and to inject the confidence in depositors regarding the safety of their deposited funds. NRB directs them to deposit at Nostro accounts maintained with NRB minimum 5% of total deposit of two weeks. Cash kept and bank's vault is not considered as a part of CRR.



### **vii) Loan classification and loan provision**

NRB directs commercial banks to classify their outstanding loan and advances, investment and other assets into four categories viz. pass loan, performing loan, substandard loan, doubtful and bad loan when making loan loss provision (LLP) of 1%, 25%, 50% and 100% respectively.

### **viii) Directives regarding interest rate spread**

The difference between interest charged on loan and advances and the interest paid to the depositors is interest rate spread. Previously, NRB directed the commercial banks to have interest rate spread at maximum of 5% but now there is no regulation though NRB official including governor used to give pressure on banks for reducing the interest spread rate on different forums and meetings.

## **2.8 Receive of Books**

Banks are type of institution, which deal in money and substitute for money. They deal with credit and credit instrument. The important thing for the bank is good circulation of credit. Fluctuate flow of credit and weak decision harms the whole economy and the banks as well. Good management of credit or credit instrument is very important for banks.

In the words of Reed, Cotter, Gill and Smith, “Commercial bank still remain the heart of our financial system holding the deposits of millions of personal, governments and business units. They make funds available through their lending and investing activities to borrowers, individuals, business firms and governments. Commercial banks are the most important type of financial institutions in the nation in terms of aggregate assets” (Reed, Gill, Cotter and Smith, 1980:5)

The secret of successful banking is to distribute resources between the various forms of assets in such a way as to get a sound balance between liquidity and profitability so that there is cash (on hand quickly realizable) to meet every claim and at the same time, enough income for the bank to pay its way and earn profit for its shareholders” (M. Radheswami/ S. V. Vasudaran, 1985:219).

In the word of Gitman and Jochnk, “Investment is any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generate positive return” (Gitman and Jochnk, 1990:21)”.

“Investment has many factors. It involve putting money into bonds, treasury bills or note or common stock or painting or real state or mortgage or oil venture or cattle or the theater. It may involve specially in bull markets or selling short in bear market. It may involve option,

straddles, rights, warrants, convertibles, margin, gold, silver, mutual funds, money market funds, index funds and result in accumulation wealth. Diversity and challenge characterize the field. For the able or lucky, the reward may be uniformed result can be uniformed result can be disastrous (Ghone, Zinbarg and Zeiked, 1997:1).

According to William. F. Sharpe, Gordon T. Alexander and Jeffery V. Baily, "Investment in it's broaden sense means the sacrifice of current dollars for future dollars. Two different attributes are generally involved: time and risk. The sacrifice take place in the present and its magnitude is generally uncertain "(Sharpe , Alexander and Bail, 1998: 1)

According to Chales P Jones, "Investment is the commitment of funds to one or more assets that will be held over some future time period. Investment is concerned with the management of an investor's wealth, which is the sum of certain income and present value of all future income' (Jones, 1999: 33).

According to I. M. Pandey, "Investment decision expenditure and benefits should be measured in cash. In investment analysis, cash flow is more important than according profit. It may also be pointed out that investment decision affects the firm's value. The firm's value will increase if investments are profitable and add to the shareholder's wealth. Thus, investment should be evaluated on the basis of criteria, which is compatible with the objectives of the shareholder's wealth if it yields benefit in excess of the minimum benefits as per the opportunity cost of capital" (Pandey, 1999: 407).

Before this study, various students regarding various aspects of commercial banks and joint venture commercial banks such as investment policy, lending policy financial performance, interest rate structure etc, have conducted several thesis works. Some of them, as supposed to relevant for the study are presented below.

Mr. Raja Ram Khadka (1985) on his study, "A study on the investment policy of Nepal Arab Bank Ltd." (NBIL) compared NABIL with that of Nepal Grindlays Bank Ltd.(NGBL) and Nepal Indosuez Bank Ltd.(NIBL). The main objectives of the study were to evaluate the liquidity assets management efficiency and profitability positions in related to fund mobilization of NABIL Bank Ltd. In the comparison of other joint venture banks (JVBs).

The objectives of the study were:

To evaluate the liquidity, assets management efficiency and profitability position in relation to fund mobilization of NABIL Bank Ltd. In the comparison of other joint venture banks.

To discuss fund mobilization of NABIL Bank Ltd. In respect to its based off- balance sheet transactions and based on balance sheet transactions in comparison of other joint venture banks (JVBs).

To evaluate the growth ratio of loans and advances and total investment with respective growth rate of total deposit and net profit of NABIL Bank Ltd. In comparison to other JVBs.

To find out the relationship between total deposit and total investment, total loan and advances, and net profit and outside assets of NABIL Bank in the comparison to other JVBs.

**The findings of the study are as follows:**

The liquidity position of NABIL Bank Ltd. is comparatively worse than that of other JVBs. NABIL Bank Ltd. has more portions of current assets as loans and advances but less portion of investment on government securities.

NABIL Bank is comparatively less successful in on balance sheet operation as well as off balance sheet operation than that of other JVBs.

There is significant relationship between deposit and loan advances as well as outside assets and net profit but not between deposit and total investment in case of both NABIL BANK Ltd. and other JVBs.

Profitability position of NABIL Bank Ltd . is not better than that of other JVBs.

The investment policy of the bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk. Various authors have explained their views regarding investment policy of banks bit formulation and implementation may be different. Singh and Singh (1993), “The investment policies of banks are conditioned to great extend by the national policy frame work, every bankers has to apply his own judgment for arriving at a credit decision, keeping of course, his banker’s credit policy also in mind”.

They further state, “The field of investment is more challenging as it offers relatively greater scope to banker for judgment and discretion in selecting their loan portfolio. Bit this higher degree of freedom in the field of credit management is also accompanies greater risk. Particularly during recent years, the credit function has become more complex.”

NABIL Bank is more successful in deposit mobilization but failure to mountain high growth rate of profit in comparison to JVBs (Khadka, 1998).

Mr. Upendra tuladhar (1998) has conducted a study on, “A study on investment policy of Nepal Grindlays Bank Ltd.” In the comparison to other joint venture banks of Nepal”.

**The objectives of the study were:**

To study the fund mobilization and investment policy with respect to fee based off balance sheet transactions.

To evaluate the growth ratios of loan and advances and investment with respective growth rate of total deposit and net profit.

To study the liquidity, efficiency of assets management and profitability position.

To perform an empirical study of the customer's views and ideas regarding the existing services and adopted investment policy of the joint venture banks.

**From his study following conclusions were drawn:**

Nepal Grindlays Bank Ltd. (NGBL) has maintain consistent and successful liquidity than NABIL Bank and Himalayan bank Ltd (HBL).

The mean of investment to total deposit ratio of Nepal Grindlays Bank Ltd. is higher than the other JVBs. The mean of the loan and advance to total deposit ratio of Nepal Grindlays Bank Ltd. is less and inconsistent than NABIL and HBL.

Reilly (1999) defines, "An investment may be defined as the current commitment of funds for a period of time to derive future flows that will compensate the investing unit for time of funds are committed, for the expected rate of inflection and also for the uncertainty involved in the future flow of the funds."

From the above definition, it is clear that an investment means to trade a known rupee amount today for some expected future stream of payment or benefits that will exceed current outlay by an amount that will compensate the investor for the time of uncertainty involved in expected future cash flows. Thus investment is the most important function of commercial banks. It is a very challenging task for commercial banks. So a bank has or be very cautions while investing their funds in various sectors. The success of a bank heavily depends upon the proper management of its investible funds.

Investment management of a bank is guided by the investment policy adopted by the bank. The investment pattern of the bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk

**Review of Articles**

Sharma article (1988) "A study of joint venture banks in Nepal; co-existing and growing out" pointed out that it is very much beneficial for Nepalese to let joint venture banks to enhance the development of local commercial banks. But the government should charge more

cost to joint venture banks than the local commercial banks. He suggested Nepal government to treat equally to joint venture banks and local banks, both types of banks will co-exist complementing each other and contributing the national accelerated development.

Pradhan(1999) has pointed out of some major issues on local commercial banks in comparison of recently established joint venture banks through his article, **“Nepal Baniya Bank”, Upalabdhī Tatha Chūnautī**”. The study deals with the whole commercial banks system of Nepal in respect of their performance and profitability. Some of his finding relevant to his study is summarizes below:

- Due to the lack of education, most of the Nepalese people do not go for saving in institutional manner. However, they are very much used of saving be it in the form of cash or ornaments. Their reluctance to deal with institutional system is governed by the lower level of understanding about financial organization process, withdrawal system, and availability of depositing facilities and so on.
- The deposit collection rate of local banks is very poor in comparison to joint venture banks.
- The patterns of deposit are also different between these banks. The rent of current deposit in local banks is 9.34% only where as in the same joint venture banks is 52.6%, but fixed deposit ratio is very high on local banks.

Mr. Pardhan has also suggested for the prosperity of deposit mobilization. They are as follows:

- By cultivating service the habit of using rural banking unit
- By adding service hour system to bank.
- By providing sufficient institutional services in the rural areas.
- Nepal Rastra Bank could also organize training program to develop skilled manpower.
- . By spreading co-operatives to the rural areas to develop mini banking service.

Sharma(2000) article, **“Banking the future of competition”** has said, “Due to the lank of the investment revenues bank are tempted to ingest without proper credit appraisal and on personal guarantee, whose negative side effects would show colors only after 4 to 5 years. “Again he said that private commercial banks have mushroomed only in urban areas where banking transactions in large volume is possible, the rural and sub urban areas mostly remain unattended too. This is likely to prevail till competition takes its full rein in the urban area.”

.Hadlock and James (2002), **“Do banks provide financial slack?”** In this paper their main hypothesis is that the banks have the ability to accurately price financial claims thus including a preference for undervalued firms to choose bank debts as their marginal financial source. They refer to this expect that this information benefit will be weighed against the variety of contracting costs in a firm’s ultimate financing choice. In particular they find that firms who exhibit small pronouncement stock price run-ups and those with high stock return volatility are relatively more likely to announce new banks loans. Since they expect that these firms are the most likely to be undervalued, these findings are consist dent with the presence of and information benefit to bank debt finance.

For identify whether the firms weighted these information benefits of bank finance against other contracting costs, they examine the variation. In the sensitivity of the bank loan likelihood to their variables measuring potential under valuation. They find that firms with public debt outstanding tend to exhibit a relatively low sensitivity of bank loan likelihoods to these variables. Since they expect that the contracting costs of bank debt finance are relatively that firm weighs the information benefits of bank debt finance are relatively that firm weighs the information benefits of bank debt against the contracting costs.

The result suggest that for firms with public securities markets for the forms to cross the threshold where the information benefits of bank debt finance outweigh relatives contracting costs. Agricultural projects services centre has submitted in their report on where “On Going Evaluation of Intensive Banking program in (October 1985).” This study has widely covered the whole aspects of IBP. It says due to the wide net work of commercial banks they have now 346 branches at present and the huge amount of idle funds estimated at Rs.3226 million in 1984/85 lying with them. The investment of commercial banks in the priority sector area seems justified.

To generate intensive for commercial banks, it has necessary to raise the interest rate which would sufficiently cover up the cost lending leave some profit margin as well. As the indirect cost of borrowing small loans between two to three thousand rupees is six percentages, some effective measures could be taken to lower this rate to compensate the small borrows for the proposed rise in the rate of interest.”

Sharma and Bhatt (2002) in their article, “Priority receives sector” has present “The commercial banks should take care of board national interest and they showed not confine their lending activities only to commercial area providing quick interest, if some proportion could be directed to the area conclusive to build economic infrastructures of the country it would create atmosphere conducive to their investment in future. In our society where ignorance and literacy is in wide scale, it is necessary that the banks search entrepreneurs instead of entrepreneurs searching banks. So they have opined that the priority sector program is a timely and appropriate will designed to create additional productive, employment opportunities there by increasing production and the general living, standard of rural poor. But the success of the program largely depends upon the integrated operation with other programs designs for rural development. Further they argue that various programmers viz: Rural development, land reform, sajha, Bank to the village national Champaign, Adult literacy etc. could not materials their objective despite their sound theoretically philosophy and good objectives.”

Shrestha (2005) article, “**A study on deposit and credits of commercial banks in Nepal**” concluded that the credit deposit ratio would be 51.30% other things remaining the same in 2004 AD, which was the lowest under the period of review. So he had strongly recommended that the commercial bank should try to give mote credit entering new field as for as possible. Otherwise, they might not be able to absorb even its total expenses

### **Review of Dissertations**

Many researchers have published their research article about the investment policy in Nepal. There are many these that have been conducted by students regarding the various aspects of commercial banks and financial institutions in order to achieve their goal effectively. Some of these, as supposed to be relevant for the study are presented below:

Pokharel (2001) conducted as study on “**Investment pattern and policy of Rastriya Banijya Bank**” with the objective of:

- To review the present investment policy of Rastriya Banijya Bank.

- To examine whether the bank has been fully utilizing the deposits mobilized or not.
- To establish the relationship between deposits, loans and advances and the effect on them by the change of interest rate.
- To recommend for the improvements in the investment policy.

The research findings of the study are concluded as:

- From the study of investment pattern of Rastrya Banijya Bank, it is observed that the investment is mainly towards the security of gold and silver.
- From the study it has been revealed that there has never been any clear and specific investment policy. In fact the bank is running its business without have any definite direction, except to follow the directives issued by the Nepal Rastra bank from time to time in some specific matters.
- The deposit raised by the banks is not properly utilized. This also reflects the lack of definite policy of the Rastriya Banijya Bank.
- The effect of changes in interest rate has neither contributed to raise deposits nor has been favorable in investment extension.
- Time to time checking and supervision by the bank should be faithfully followed.

Ojha (2003) conducted a study on **“Investment of commercial banks in priority sector”** with the objective of:

- To analyze the trend of investments in private sector for 10 years from 2047 to 2056
- To analyze the trend of repayment in private sectors for 10 years from 2047 to 2056
- To measure the effectiveness of the program in terms of the investment and repayment in rural and urban sector.
- To evaluate the banking procedures and services in disbursing loan in this sector.
- To provide package of suggestion based on this study.

The research findings of the study are as follows:

- The target of 12% investment of total outstanding liabilities in priority sector and 3% out which has been invested in deprived sector has been met by Rastriya Banijya Bank.
- Trend analysis of repayment for 10 years shows that the repayment has also increased in the following years.



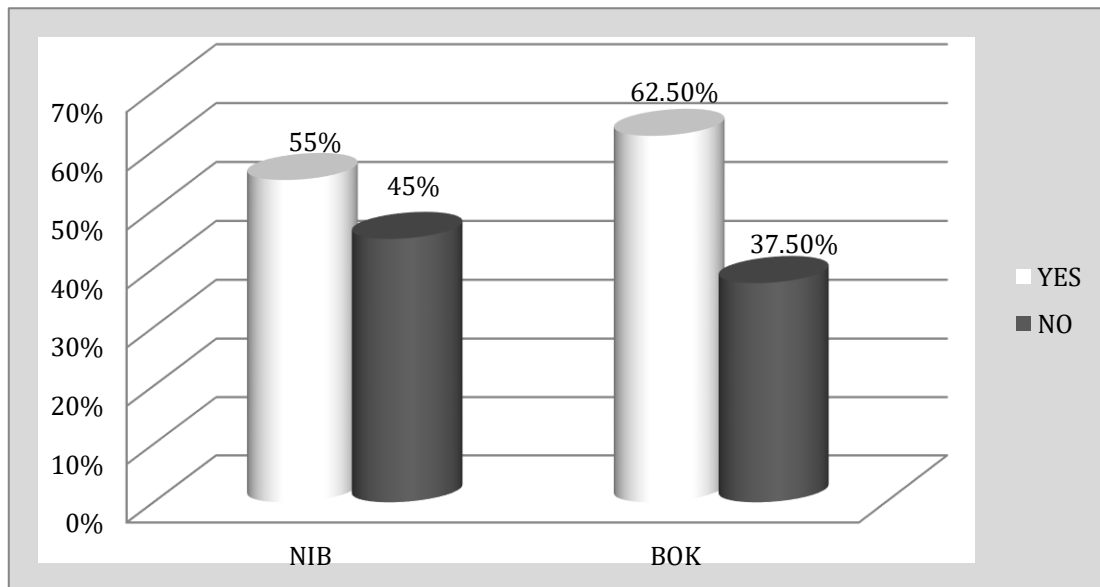
- Interest charged on the loan disbursed in this sector is fairly less than the interest charge on loan for other purposes. In addition to this, there is high overhead cost incurred for supervision, administration and others in this program.
- Regression analysis shows positive relation between investment and repayment
- The Chi square test of effectiveness of program is more effective in rural and semi rural areas as compared the urban areas.
- Investment on agriculture is higher than investment on industry and service sector.
- In fact, if the supervisors make the scheduled supervision and inspection and the frequent contact with the borrowers, the chance of misuse of the loan can be minimized.

Shahi (2004) conducted a study on **“Investment policy of commercial banks in Nepal”** with the main objectives of

- To evaluate the liquidity, asset management efficiency and the profitability and risk position of Nepal bank limited to the joint venture banks.
- To discuss fund mobilization and investment policy of Nepal bank limited in respect to its fee based off-balance sheet transaction and fund based on-balance sheet transaction in comparison to the joint venture banks.
- To find out the empirical relationship between various important variables i.e., deposits, loan and advances, investment, net profit etc. and compare them with the joint venture banks.

The tabulated Result is shown Figure 4.2

**Figure 4.2**



- To analyze the deposit utilization trend and its projection for next five years of the Nepal bank limited and compare it with that of the joint venture banks.
- To provide a package of workable suggestions and possible guidelines to improve investment policy of Nepal bank limited and the joint venture banks based on the findings of the analysis, for the improvement of financial performance of Nepal bank limited in future.

The research was conducted mainly on the basis of the secondary data. The research findings of the study are as follows:

- The liquidity position of NBL is comparatively better than that of the joint venture banks. Highly fluctuating liquidity position shows that the bank has not formulated any stable policy. It can also be conducted that NBL has more portions of current assets as loan and advances but less portion as investment on government securities.
- The mean ratio of loan and advance to total deposit of NBL is slightly lower than that of the joint venture banks. The mean ratio of total investment to total deposit of NBL is lower than that of the joint venture banks. The mean ratio of investment on government securities to total working fund of NBL is slightly lower than of joint venture banks. The mean ratio of total off-balance sheet operation to loan and advances of NBL is found significantly lower than that of joint venture banks. So it was concluded that NBL is comparatively less successful in on- balance sheet as well as off balance sheet operation that of the joint

venture banks. It hasn't followed any definite policy with regard to the management of its assets.

- Profitability position of NBL is comparatively not better than that of the joint venture banks. It indicates that NBL must maintain its high profit margin in future.
- There is comparatively higher risk in NBL than that of the joint venture banks regarding various aspects of the banking function.
- It has been found that there is significant relationship between deposits and loan and advanced. There is negative relationship between deposits and investment in case of NBL and positive in case of the joint venture banks.
- NBL higher trend analysis values of loan and advances and deposits, but lower trend values of net profit and total investment in comparison to the joint venture banks for next five years.
- Highly fluctuating ratios of NBL ratios of NBL show that it has not formulated any stable policy to maintain its liquidity in a consistent manner.
- High portion of cash and bank balance in NBL shows its negligence and inefficiency in its best utilization. It has not considered the cost of fund and its opportunity costs. Higher percentage of loan loss ratios shows that NBL is weak in credit collection. There is absence of a sound credit collection policy. NBL has not followed innovative appraisal, improper collateral evaluation, irregular supervision, etc. is a severe problem for the bank's success.

Laudari (2006) has conducted his study entitled, **“A study on investment policy of Nepal Indosuez Bank Ltd, in comparison of Nepal SBI Bank Ltd.”** The researcher's main objective of study was examine the liquidity assets management and profitability position and investment policy of NIBL in comparison to NSBL to study the growth ratios of loan and advances and investment to total deposits and net profit of NIBL in comparison to NSBL.

Through his research Mr. Laudari has found that the both banks current assets have exceeded the current liabilities therefore the ratio consider satisfactory. But there cash reserve ratios have fluctuated in high degree. However NIBL has maintained both current ratio and cash reserve ratio better than that of NSBL. As per Mr.Laudari the assets management ratios shows that deposit utilization of NIBL is less effective than NSBI. He has stated that NIBL has invested

lesser amount on government securities and share and debenture than that of NABI, not only did NIBL a better performance in;

- Return on total assets and loan and advances.
- Interest earning but it paid lower interest amount to working fund.
- The growth ratio of total deposit, loan and advances, total investment and net profit of NIBL are less than that of NSBL.

Pant (2007), thesis paper, **“A study of commercial bank deposit and its utilization”**, had made an attempt to highlight the discrepancy between resources collection and resources utilization. He concluded that commercial banks failure in resource utilization is due to their lending confined to short terms only. So, he recommended the commercial banks to give emphasis also on long and medium term lending for better utilization of the deposits.

Deuja (2008) has conducted study entitled, **“A comparative study of the financial performance between Nepal SBI Bank Ltd. and Nepal Bangladesh Bank Ltd.”** The researcher’s main objective of study was to evaluate the trend of deposits and loan and advances of NSBL and NBBL and to evaluate the liquidity, profitability, capital structure, turnover and capital adequacy position of NSBL and NBBL.

Sharma (2009) **“Investment policy and re-payment of loan investment of joint venture bank in Nepal”** with objective of:

- To highlight the overall investment portfolio of listed bank.
- To analyze the liquidity, assets management efficiency profitability, risk and growth the portion of listed bank.
- To examine the fund mobilization and investment policy and payment of loan investment of listed bank through off balance sheet and on balance sheet activities.
- To analyze deposit utilization and its relationship with total investment and net profit of bank.

The research findings of the study are as followed:

- HBL seems very poor liquidity position among the four banks and NBBL has quite successful to maintain its liquidity positions among the four banks. From the analysis of

current assets of four banks we can say that except HBL all other banks have very less amount of current assets to meet its immediate each obligations.

- NBBL has high ratio of loan and advance to total working fund ration whereas SCBL has least ratio among the four banks and NIBL and HBL has average ratio.
- Return of loan and advance ratio of SCBL is best among the four banks. NIBL has also satisfactory return ratio but the HBL and NBBL has worst return ratio. High ratio indicates high earning capacity of the banks.
- From the analysis NBBL has high credit risk where as SCBL has least credit risk ratio among their banks.
- The purpose of computing coefficient of correlation between outside assets and net profit is to find out whether net profit is significantly correlated with respective total assets or not. From the analysis NIBL and HBL has moderate degree of correlation and SCBL has high degree of correlation, NBBL has low degree of correlation between outside assets and net profit.

## **2.9 Research Gap**

Investment in different sectors is made on the basis of the directives and circulars of Nepal Rastra Bank as well as the investment guidelines and policy of the concerned commercial bank. The directives of Nepal Rastra bank change over time. NRB makes necessary amendments in prevailing directives and circulars and communicates to commercial banks; commercial banks should follow these directives and circulars. Furthermore, their own investment guidelines and policies should be in line with NRB directives and circulars. So the up to dated study over the change of time frame is major concern for covers the more recent financial data, NRB circular and guidelines than that of studies previously conducted.

The optimum diversification of loan and advances reduced the default risk of credit. It is the major concern of stakeholders to know the portfolio behavior of the bank. This study puts its effort to find out the proportion to total loan and advances of the bank disbursed to different sectors of economy and analyses the diversification of its investment. Some comparative studies are previously done but in –depth study about the bank is not found. Hence, this study fulfills the prevailing research gap about the in depth analysis of the investment pattern pursued by the organization which is the major concern of public shareholders and other

stakeholders. So this study will be fruitful to those interested persons, parties, scholars, teachers businessman, civil society and government for academically as well as policy perspectives.

## **CHAPTER –III**

### **RESEARCH METHODOLOGY**

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. Research is the process of a systematic in-depth study or search of any particular topic, subject or area of investigation backed by the collection, compilation, presentation and interpretation of relevant details or data. Methodology refers to the various steps that are generally adopted by a researcher in studying his research problem along with logic behind it. So that research methodology is a systematic way of conducting the research in an effective and practical so that it can explain how the research is done.

Research methodology describes the methods and processes applied in the entire aspect of the study. This chapter indicates research design, population and sample procedure, and sources of data and analysis of data.

#### **3.1 Research Design**

Research design is an organized approach and not a collection of loose unrelated parts. It is an integrated system that guided the researcher in formulating, implementing and controlling the study. Research design in the plan, structure and strategy of investigations conceived so as to obtain answers to the research question and to control variances. The study is mainly based on secondary sources of data so descriptive and analytical research design has been used.

Descriptive Research aims at describing a particular state of affair or an incident. It does not provide any reason as such why, how, when and by whom a particular event happened. It does not consider any facts or findings. On the other hand an analytical research answers questions why, how, when and by whom the incident happened. It provides suitable reason. It is an in depth study

#### **3.2 Nature and Sources of Data**

This study conducted on the basis of primary and secondary data relating to “Investment”. To meet the objectives of the study primary data have been taken, analyzed and then conclusion drawn on the basis of the finding. Questionnaire was formulated, approved by the study guide, distributed to the customers at main branches of each selected bank under study and the secondary data include e.g. deposit, loan and advances and profit/loss that have been directly obtained from the balance sheet and the P/L account of concerned banks annual reports,

collected from number of institution and authorities like NRB budget speech, NRB published books, bank bulletin, and Nepal stock exchange Ltd. All the secondary data are observed, processed and tabulating in the time as per need and objective. Various data and information are collected from the economic journal, periodicals, bulletins magazines and other published and unpublished reports and documents from various sources.

### 3.3 Population and Sample

Population covers the whole or total of observation that have selected for the study & sample is the part of population which represents population with regards to the study. There are 31 commercial banks functioning till to date and most of their stock and traded actively in the stock market. Here for the study or for sample BOK and NIBL are taken in to account on the basis of Capital share, Net profit, Reserve P/E ratio which is better position than other's bank and both are non joint ventures banks, so effort is made to do the same, which have been consider as a sample of the study.

**Table 3.1**  
**List of Sample Companies (Commercial Banks)**

S.N	Name of commercial Banks	Year	Observation
1	Nepal Investment Bank	2007,2008,2009,2010,2011	5
2	Bank of Kathmandu	2007,2008,2009,2010,2011	5
<b>Total Observations =10</b>			

### 3.4 Analysis of Data

In this study various financial as well as statistical tools have been used to achieve the objective of study. The analysis of data is done according to the pattern of available. The various tools applied in the study are presented as follows:

#### 3.4.1 Financial Tools

Financial analysis is the process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items of the balance sheet. Financial tolls are used to examine the financial strength and weakness of the bank. In these study financial tools like ratio analysis has been used.



## **Ratio analysis**

An arithmetic relationship between two figures is known as ratio. It is completed by dividing one item of relationship with the other. Ratio simply means one number expresses in terms of another. Financial ratio is the mathematical relationship between two accounting figure. Ratio analysis is a part of whole process of analysis of financial statement of any business or industrial concern especially to take output and credit decisions. Thus ratio analysis is used to compare a firm's financial performance and status to that of other firms or to itself overtime. The qualitative judgment regarding financial performance of a firm can be done with the help of ratio analysis. Even though there are many ratios only those ratios have been covered in these studies which are related to investment operation of the bank. This study contains various ratio like *liquidity ratios* (current ratios, cash and bank balance to total deposit ratio, cash and bank balance to current assets ratio, investment on government securities to current assets ratio, loan and advances to current assets ratio), *asset management ratio* ( loan and advances to total deposit ratio , total investment to total deposits ratio, loan and advances to working fund ratio, investment on government securities to working fund ratio, investment on shares and debenture to total working fund ratio, loan loss ratio), *profitability ratios* (Return on loan and advances ratio), *risk ratio* (liquidity risk ratio, credit risk ratio , capital risk ratio), *growth ratios*.

### **3.4.2 Statistical Tools**

Some important statistical tools are used to achieve the objectives of this study. In this study statistical tool such standard deviation coefficient of variance least square liner trend and hypothesis testing has been used. They basic analysis is written in point below:

#### **a. Coefficient of Correlation Analysis**

The correlation coefficient determines the relationship between the two or more variables. In the case of highly correlated variable, the effect on the variable may have effect on other correlated variable. When two elements have zero correlation with each other they are unrelated in any way and have zero variance. Positive correlation implies positive covariance. For our convenience, we can say be nearer the value of  $r$  to  $=1$ , closer will be the relationship between the two variable and nearer the value of  $r$  to  $-1$ , less will be the relationship.

Correlation coefficient can be expressed as:

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

### **b. Trend analysis**

This topic analysis the trend of deposits loan and advances investment and net profit of selected banks from 2007 to 2011 and makes the forecast for the next five years.

### **c. Arithmetic Mean**

Arithmetic mean is the sum of all the observations divided by the number of observations. Arithmetic mean is calculated to find the mean of financial ratio. The arithmetic mean can be computed as:

$$A. M = \frac{\sum X}{n}$$

### **d. Standard Deviation**

The standard deviation is the absolute measure of dispersion in which the drawbacks present in other measures of dispersion are removed. It can be defined as the positive square root of the mean of the square of the deviations taken from the arithmetic mean. In this study S.D of different ratios are calculated. It is computed as:

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

### **e. Co-efficient of variation (C.V)**

The co-efficient of variation is the relative measure of dispersion based on the standard deviation. It is independent of unit. So, two distributions can betterly be compared with the help of C.V. for the variability. It is calculated as:

$$C. V = \frac{S. D}{Mean} \times 100$$

Less the C.V. more will be the uniformity; consistency etc. and more the C.V. less will be the uniformity, consistency etc.

### **f. Regression analysis**

Regression analysis is used to estimate the likely value of one variable from the known value of the other variable i.e. in regression analysis we established a kind of average irreversible functional relationship between the two variables. The cause and effect relationship clearly

indicated through regressions analysis than by correlation. In other words, regression analysis is a mathematical measure of the average relationship between two or more variables in terms of original units of data. There are two types of variables i.e. dependent variable and independent variable. The variable whose value is influenced or is to be predicated is called dependent variable whereas the variable which influences the value or is used for prediction is called independent variable. Thus regression analysis studies the statistical relationship between the variables. The main objective of regressions analysis is to predict or estimate the value of dependent variable corresponding to a given value of independent variables. While regression analysis has been developed to study and measure the statistical relationship between two variables only then the process is known as the simple regression analysis. Regression lines expresses in terms of mathematical relations are known as regression equations. It is the line which gives the best estimates for the value of Y for any specified values of X. Regression equation of Y on X is given by:

$$Y=a+bX.....i$$

Where,

Y=Dependent variable

X=Independent variable

a=Intercept of the line

b=slope of the line

The values of the constants ‘a’ and ‘b’ can be determined by solving two normal equations (applying principle of method of least squares).

$$\sum Y = na + b\sum X \dots\dots ii$$

$$\sum XY = a\sum X + b\sum X^2 \dots\dots\dots iii$$

## **CHAPTER IV**

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

This chapter covers presentation and analysis of all information about selected banks which also covers presentation and analysis of primary and secondary data and attempt has been made to analyze the financial performance of NIBL and BOK for its operational period of five years that is from 2007 to 2011. This chapter of thesis presents the data, facts, figures relating to different aspects of BOK and NIBL. These available data are tabulated analyzed and interpreted so that financial forecast of banks can be done easily. Hence the financial ratios have been taken for this. However there are many ratios but due to some sore coming and constraints. Only selected ratios participated private commercial banks. The chapter has been divided into two main sections. The first section of the chapter includes the presentation and analysis of data while the second section includes major findings of the study. Here, both

primary data and secondary data are analyzed. First primary data are analyzed and then secondary.

- Primary data analysis
- Secondary data analysis

#### 4.1 Primary Data Analysis:

To meet the objectives of the study primary data have been taken analyzed and then conclusion drawn on the basis of the finding, questionnaire was formulated by the study guide, distributed to the 40 clients including 25 male and 15 female who were available with 10.30am to 2.30pm at main branches of each banks under study. The results of primary data are:

#### 1. Do you know all the services provided by this bank?

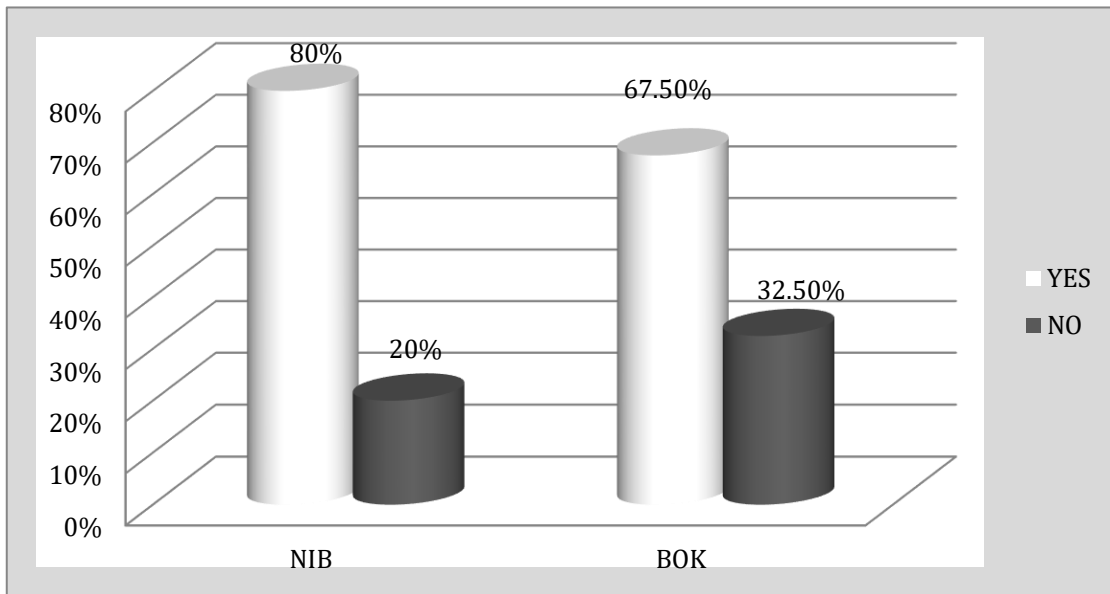
Data collection from this question is summarizing below:

**Table 4.1**

<b>Options</b>	<b>Banks</b>		<b>BOK</b>	
	<b>No. of People</b>	<b>Percentage</b>	<b>No. of People</b>	<b>Percentage</b>
<b>YES</b>	32	80%	27	67.5%
<b>NO</b>	8	20%	13	32.5%
<b>Total</b>	<b>40</b>	<b>100</b>	<b>40</b>	<b>100</b>

The tabulated result is shown in figure4.1

**Figure4.1**



The above table and figure no 4.1 shows 80% customers found aware about all the services provided by the NIBL which scores highest whereas BOK scores 67.5% only.

**2. Do you have opened deposit account at this bank? If yes why?**

**Table 4.2**

<b>Options</b>	<b>NIBL</b>		<b>BOK</b>	
	<b>No. of People</b>	<b>Percentage</b>	<b>No. of People</b>	<b>Percentage</b>
<b>YES</b>	22	55%	25	62.5%
<b>NO</b>	18	45%	15	37.5%
<b>Total</b>	<b>40</b>	<b>100</b>	<b>40</b>	<b>100</b>

Table 4.2 with fig 4.2 shows the percentage of customers present inside the bank at the time of data collection are having deposit account with bank or not. Those having the deposit accounts are asked as: if yes

**Table 4.3**

<b>Options</b>	<b>NIBL</b>		<b>BOK</b>	
	<b>No. of People</b>	<b>Percentage</b>	<b>No. of People</b>	<b>Percentage</b>
<b>Market Brand</b>	30	75%	20	50%
<b>Nearest</b>	4	10%	10	25%
<b>Others</b>	6	15%	10	25%
<b>Total</b>	<b>40</b>	<b>100</b>	<b>40</b>	<b>100</b>

The data collected and converted into percentage are shown in figure 4.3

**Figure 4.3**

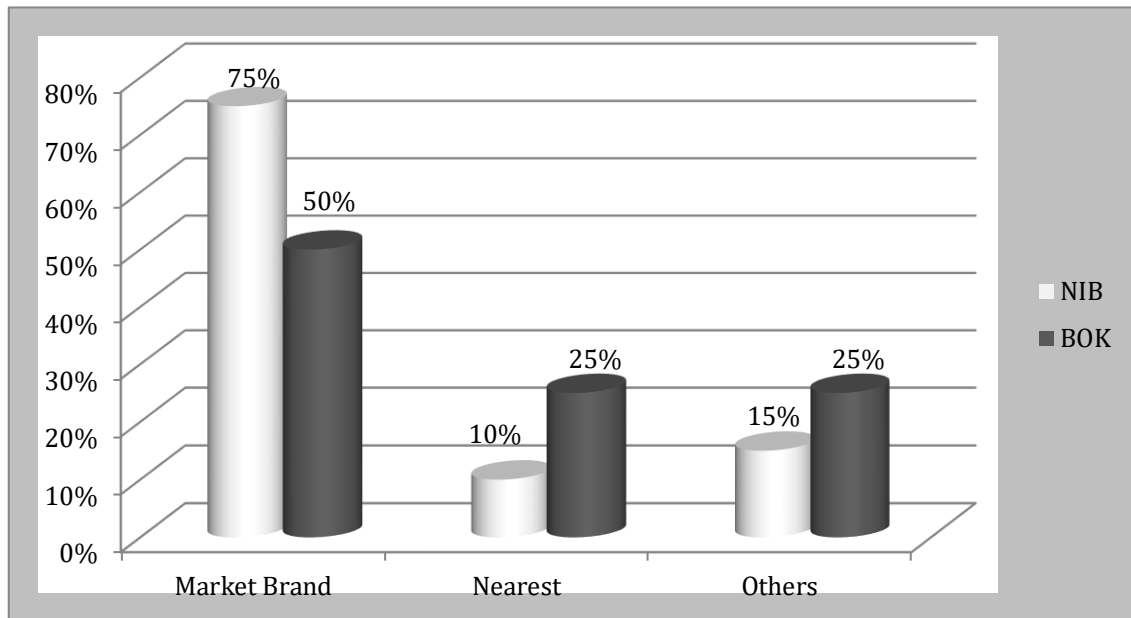


Table 4.2 with fig 4.2 shows 55% at NIBL and 62.5% at BOK related customers have found with deposit account with their respective banks. BOK scores high; it means 50% of them have opened due to its market brand. Similarly NIBL stands then the BOK.



**3. Service provided by the front line employees of this bank is,**

**Table4.4**

Options	NIBL		BOK	
	No. of People	Percentage	No. of People	Percentage
<b>Excellent</b>	10	25%	15	38%
<b>Very Good</b>	21	52%	10	25%
<b>Fair</b>	9	23%	15	37%
<b>Total</b>	<b>40</b>	<b>100</b>	<b>40</b>	<b>100</b>

The collected data are presented in figure 4.4

**Figure 4.4**

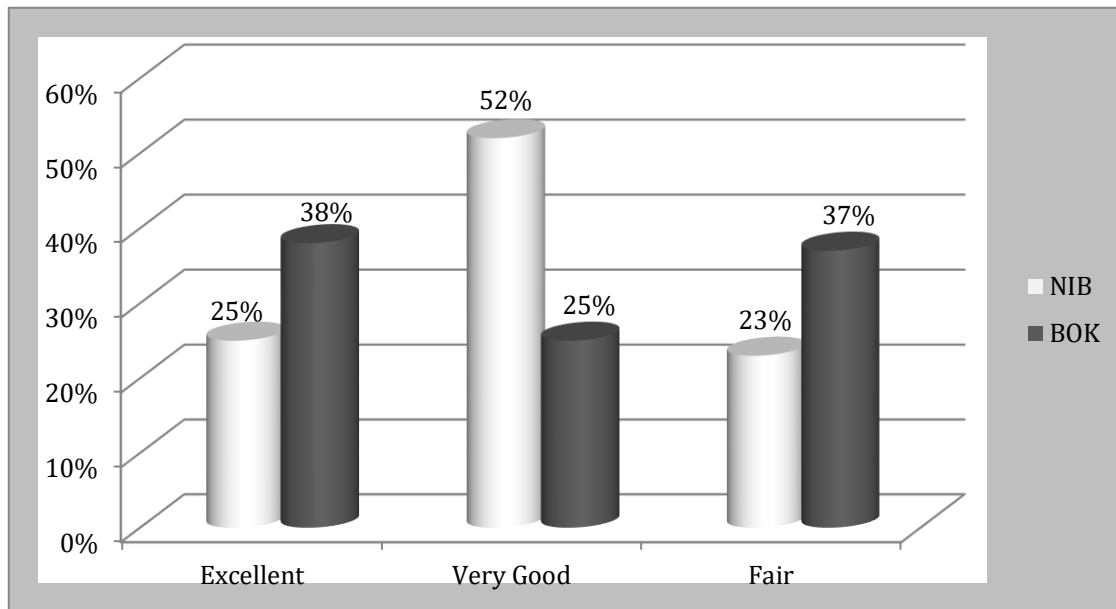


Table and Figure 4.4 shows majority of customers responds for service provided by the front line employees' found very good and excellent, it means all the banks under study have been maintaining their operations. Service provided by the employees depends more or less on motivation, job organization's management philosophy too. So, on the basis of data collection and analysis employees are found well motivated and satisfied with their jobs.

**4. Loan approval procedure applied by this bank is**

**Table4.5**

Options	NIBL		BOK	
	No. of People	Percentage	No. of People	Percentage
<b>Very Difficult</b>	10	25%	11	28%
<b>Difficult</b>	11	28%	15	37%
<b>No Experience</b>	19	47%	14	35%
<b>Total</b>	<b>40</b>	<b>100</b>	<b>40</b>	<b>100</b>

The data converted into percentage are shown in figure 4.5

**Figure 4.5**

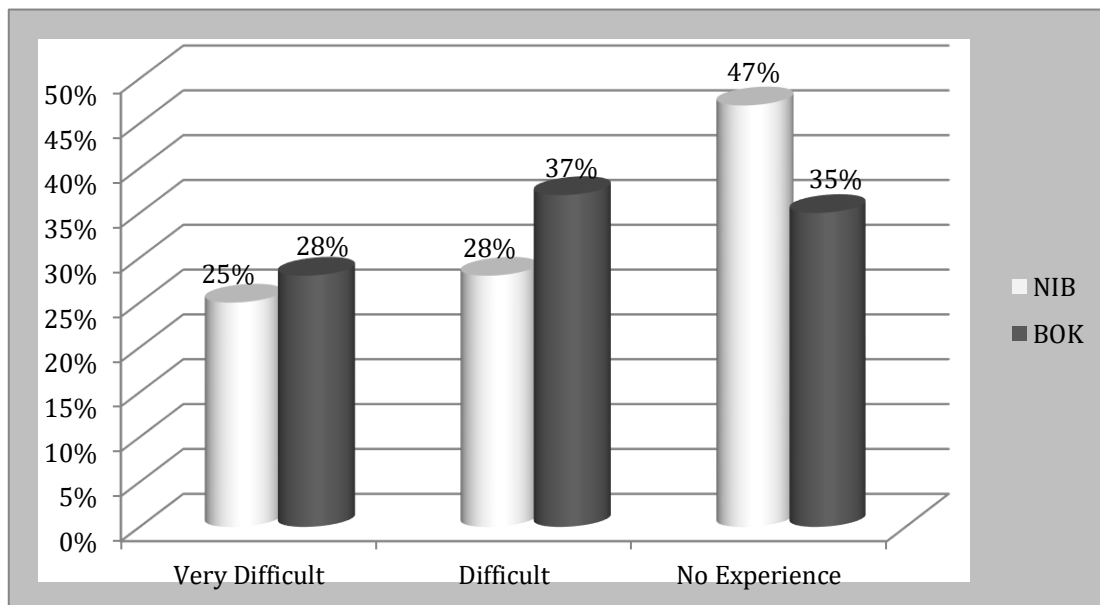


Table 4.5 with figure 4.5 reflects loan approval procedure applied by the banks under study found not easy. It reveals credit policies to banks by which NPL get controlled. However, majority of customers shows no experience of loan approval from these banks. Since, this question is formulated to analyse the risk assessment, credit policy and sensitivity to risk of banks. Loan approval procedures applied by banks work as an effective tool to stand a bank in a financial strength position.

**5. A bank's regular customer what would you like to suggest to its top management?**

Respondents views tabulated in table 4.6

**Table4.6**

<b>Options</b>	<b>NIBL</b>		<b>BOK</b>	
	<b>No. of People</b>	<b>Percentage</b>	<b>No. of People</b>	<b>Percentage</b>
<b>Extend Branches</b>	10	25%	11	28%
<b>Maintain Hospitality</b>	5	13%	3	8%
<b>Decrease Min. Bal.</b>	20	50%	6	14%
<b>Increase Deposit interest</b>	5	12%	20	50%
<b>Total</b>	<b>40</b>	<b>100</b>	<b>40</b>	<b>100</b>

Data of table 4.6 are presented by figure 4.6

**Figure 4.6**

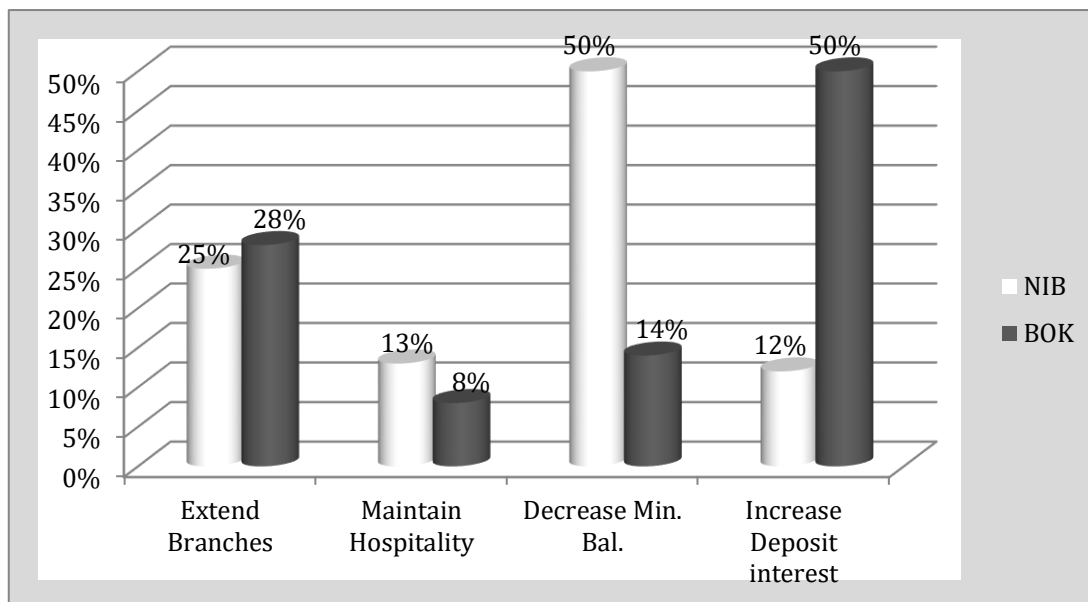


Table 4.6 with figure 4.6 shows that the customers most suggest to its top management on two options i.e. decrease minimum balance and increase deposit interest which has 50% and 50% with NIBL and BOK respectively.

#### **4.2) Secondary Data Analysis:**

## A) Financial Analysis of Commercial Bank

The secondary data which includes deposit, loan and advances and profit/loss that have been directly obtained from the balance sheet and the P/L account of concerned banks annual reports, collected from number of institution and authorities like NRB budget speech, NRB published books, bank bulletin, and Nepal stock exchange Ltd. All the secondary data are observed, processed and tabulating in the time as per need and objective. Various data and information are collected from the economic journal, periodicals, bulletins magazines and other published and unpublished reports and documents from various sources.

### 4.2.1 Liquidity Ratio

The liquidity ratios measure the ability of to meet its current obligations and reflect the current financial strength or solvency of as bank. These ratios are used to know the capacity of the concern to repay its short term liabilities. A commercial bank must maintain its satisfactory liquidity position to meet the credit need of the community. Commercial banks collect the fund from community in commitment to return their money demanded. So they must maintain sufficient liquidity position to fulfill that commitment of return of depositor's deposit, withdraw and convert non cash assets to cash to satisfy immediate needs without any loss to bank and consequent impact on long run profit. Liquidity ratios by showing the relationship between cash and other liquid assets to current liabilities provides a guide measure of liquidity without having to prepare cash budgets. The following ratios are evaluated an interpreted under liquidity ratio.

#### a) Cash and bank balance to the deposit ratio

**Table 4.7**

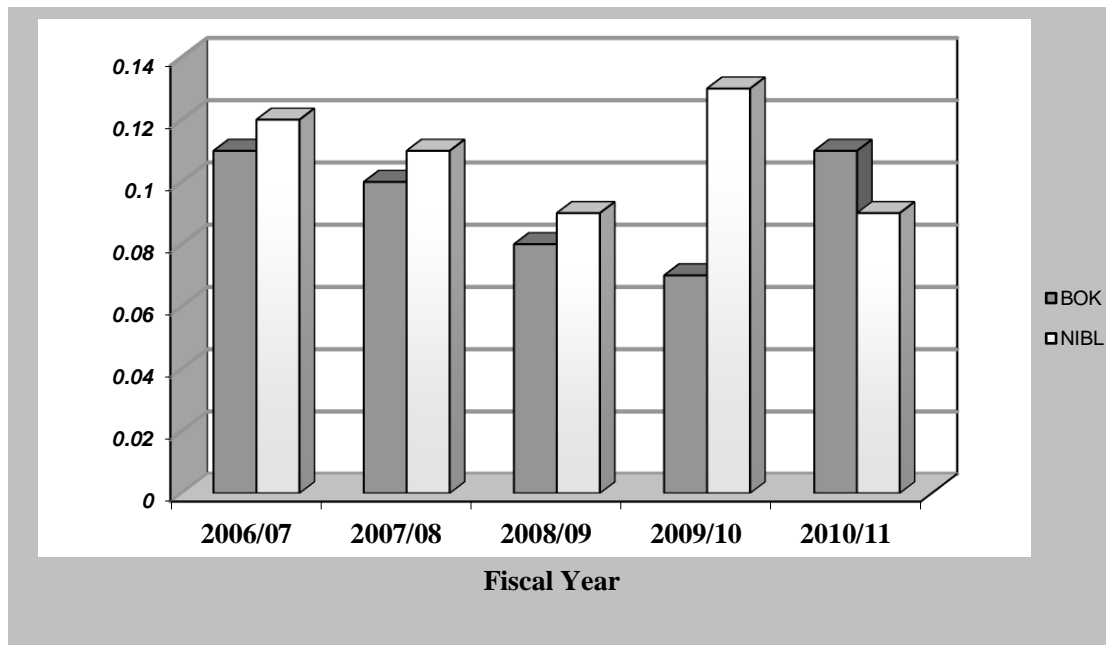
#### **Cash and bank balance to the deposit ratio**

<b>Banks</b>	<b>Fiscal Year</b>					<b>Mean</b>	<b>S.D</b>	<b>C.V</b>
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	0.11	0.10	0.08	0.07	0.11	<b>0.094</b>	<b>0.0003</b>	<b>0.32</b>
<b>NIBL</b>	0.12	0.11	0.09	0.13	0.09	<b>0.109</b>	<b>0.0003</b>	<b>0.28</b>

*(Source: Appendix No.1. a)*

**Figure 4.7**

#### **Cash and bank balance to the deposit ratio**



In table 4.7 and figure 4.7 shows the percentage of cash and bank balance to the deposit ratio of two banks has been analyzed and the decreasing trend in this regard. During the five – year period, NIBL has maintained the highest ratio than BOK. Hence, NIBL has the highest average too.

In average, NIBL has the highest cash and bank balance to total deposit ratio than BOK. It proves the liquidity position of NIBL is better in this regard. On the other hand, BOK has lowest mean ratio and its coefficient of variations is 9.44 and 0.11 respectively which is lower than NIBL. Hence, it can be explained that NIBL has better maintenance of its liquidity which indicates the high performance of the bank.

#### **b) Cash and bank balance to current assets ratio**

This ratio measures the proportion of most liquid assets i.e. cash and bank balance among the total current asset of bank. Higher ratio shows the bank’s ability to meet the demand for cash.

**Table 4.8**

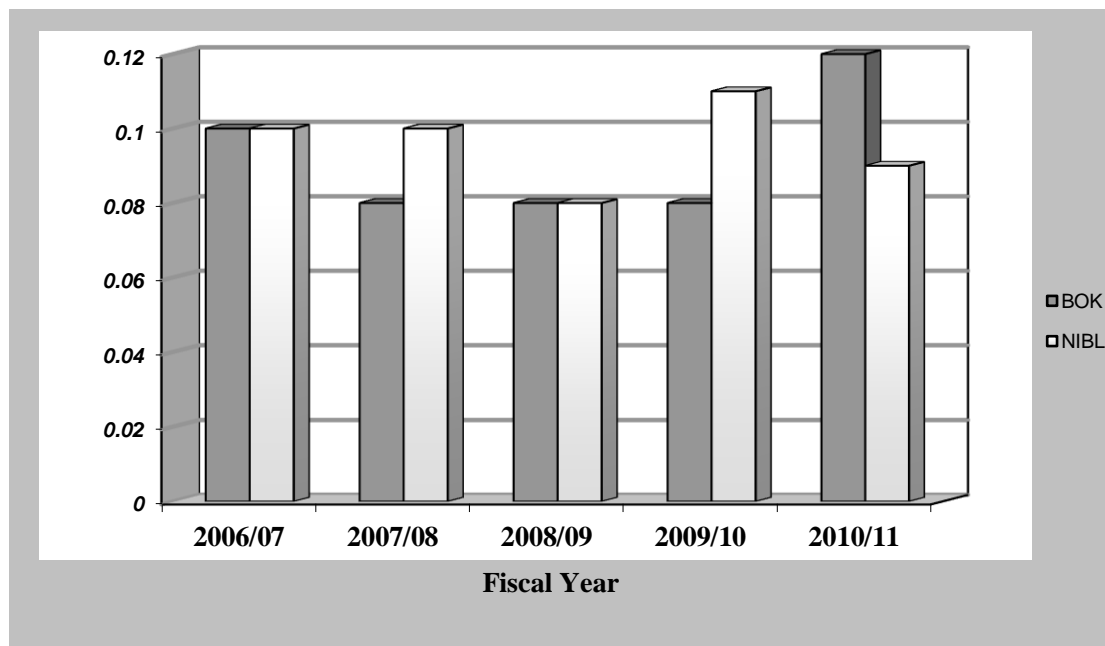
**Cash and bank balance to current assets ratio**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	0.10	0.08	0.08	0.08	0.12	<b>0.092</b>	<b>0.000256</b>	<b>0.28</b>
<b>NIBL</b>	0.10	0.10	0.08	0.11	0.09	<b>0.096</b>	<b>0.000104</b>	<b>0.11</b>

*(Source: Appendix No.1.b)*

**Figure 4.8**

**Cash and bank balance to current assets ratio**



The table 4.8 and figure 4.8 show that cash and bank balance to current asset ratios are in fluctuation trend during the 5 year period. NIBL has maintained a highest ratio of 0.11 in the F.Y 2008/09. Similarly, BOK has maintained the highest ratio of 0.12 in the F.Y 2009/10.

In average, NIBL has higher ratio than BOK. It supports the conclusion that NIBL has been successful in maintaining its higher cash and bank balance to current assets ratio in comparison to BOK. And also the coefficient of variation of ratio of NIBL is lower than that of NIBL i.e.  $0.11 > 0.15$ . so NIBL has higher consistency than BOK.

### c. Investment on government securities to Current Assets Ratio

The ratio examines portion of a commercial banks current assets which invested in different government securities i.e. treasury bills and government bonds. Commercial banks are interested to invest their collected fund on different securities issued by government to utilize their excess funds. Even governments securities are not so liquid as cash and bank balance of commercial bank; they can easily be sold in the market or can also be converted into cash in other ways. The ratio is computed as:

**Table 4.9**

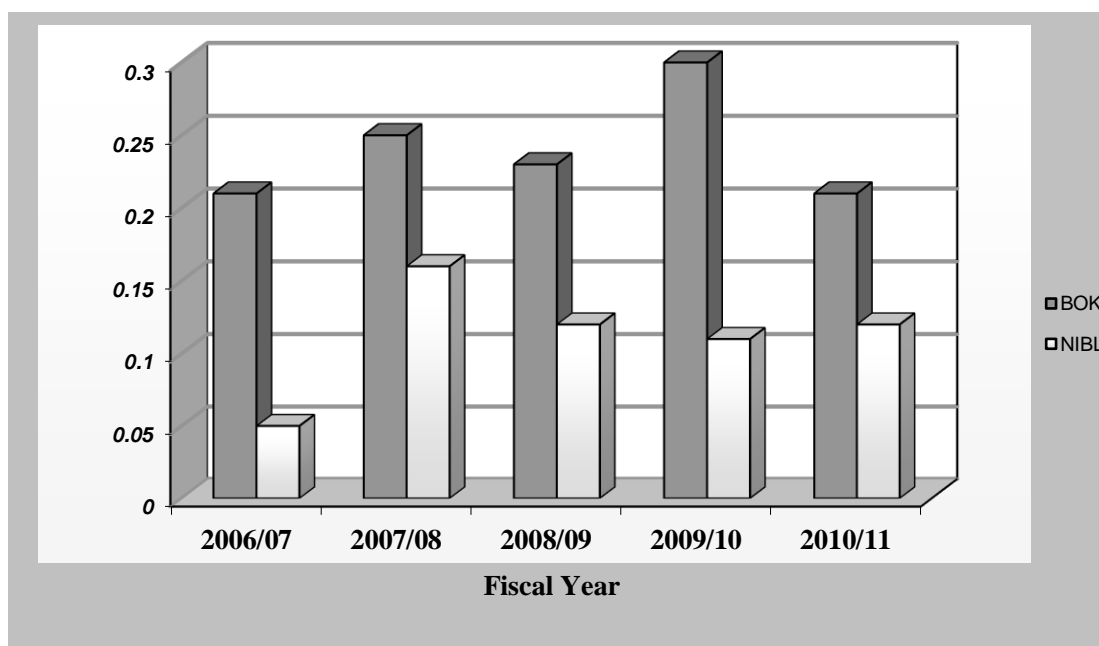
**Investment on Government Securities to Current Assets Ratio**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	0.21	0.25	0.23	0.3	0.21	<b>0.24</b>	<b>0.00112</b>	<b>0.0047</b>
<b>NIBL</b>	0.05	0.16	0.12	0.11	0.12	<b>0.11</b>	<b>0.0006</b>	<b>0.0054</b>

*(Source: Appendix No.1.c)*

**Figure 4.9**

**Investment on Government securities to current assets ratio**



The above table 4.9 and figure 4.9 reflects that investment in government securities to current asset ratio of BOK and NIBL has fluctuation trend. The mean ratio of BOK is higher than

NIBL. It means that BOK has invest it's as much as portion of its current assets as government securities than that of NIBL and the coefficient of variation of BOK is lower in comparison to the NIBL.

Lastly it can be conclude that it has invested it's more of portion assets as government securities than other banks and investment made is consistence of coefficient of variation reveals. But its liquidity portion is slightly poor than others banks in view point of investment on government.

#### **d. Loan and Advances to Current Assets Ratio**

Loan and advances include short and long term loan overdrafts and cash credit. Commercial banks should not keep its all collected funds as cash and banks balance in order to invest as loan and advances to the customers. If sufficient loan and advances cannot be granted, it should pay interest on those un-utilized deposits funds. Even high loan and advances may also effects to keep the bank in most liquid position because they can only be collected at the time of maturity. This, a bank must maintain its loan and advances on proper way.

**Table 4.10**  
**Loan and Advances to Current Assets Ratio**

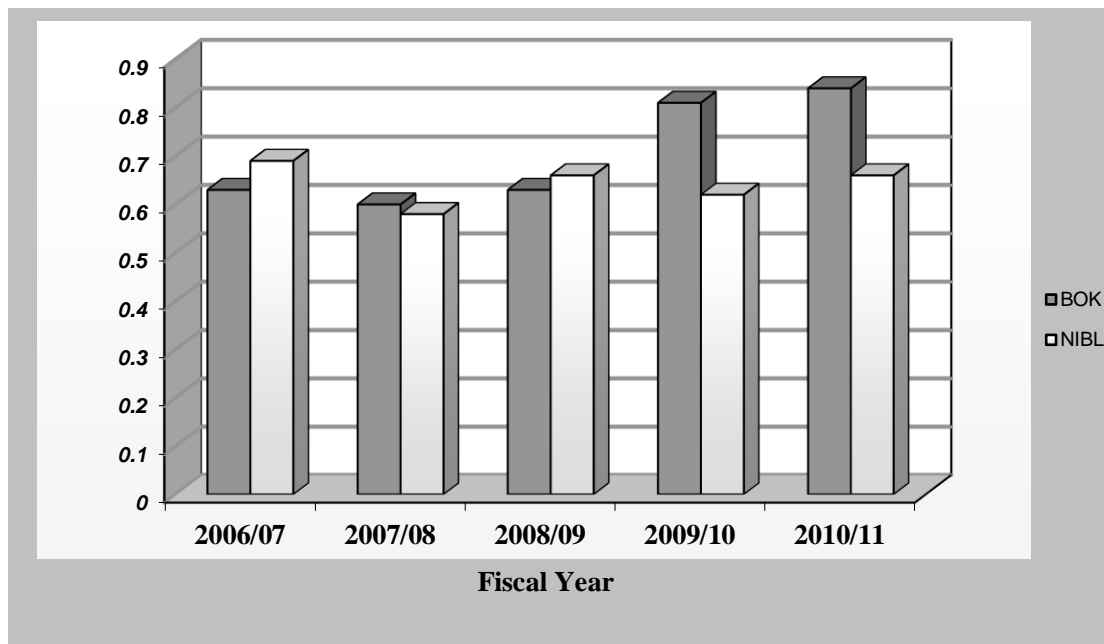
<b>Banks</b>	<b>Fiscal Year</b>					<b>Mean</b>	<b>S.D</b>	<b>C.V</b>
	2006/07	2007/08	2008/09	2010/10	2010/11			
<b>BOK</b>	0.63	0.60	0.63	0.81	0.84	<b>0.70</b>	<b>0.103</b>	<b>0.0147</b>
<b>NIBL</b>	0.69	0.58	0.66	0.62	0.66	<b>0.64</b>	<b>0.0014</b>	<b>0.0022</b>

*(Source: Appendix No.1.d)*



**Figure 4.10**

**Loan and Advances to Current Assets Ratio**



The table and figure shows the percentage of loan and advances ratio to current assets ratio position of BOK and NIBL. The loan and advances to current assets ratio of both banks are in fluctuation trend. The BOK has higher mean ratio than NIBL i.e.  $70.32 > 64.04$  and standard deviation too i.e.  $9.98 > 3.86$ .

It reflects that loan and advances to current assets ratios of the BOK has maintained a highest ratio of 0.84 in the FY 2010/11. Similarly NIBL has 0.69 in FY 2006/07. The coefficient of variation among ratio is lower in case of NIBL, which means uniformity of NIBL in comparison to BOK. So it can conclude that it is better to mobilize its funds as loan and advances on the other hand satisfactory than that of other banks from the view point of mean ratios.

#### **4.2.2 Assets Management Ratio**

Commercial bank must be managed its assets very well to satisfy its customers to earn high profit and for its own existence. It measures the efficiency of the bank.

##### **a. Loan and Advances to Total Deposits Ratio**

The ratio measures how successfully the banks are able to mobilize the total deposit on loan and advances for profit generation purpose. Higher the ratio indicates the better mobilization of

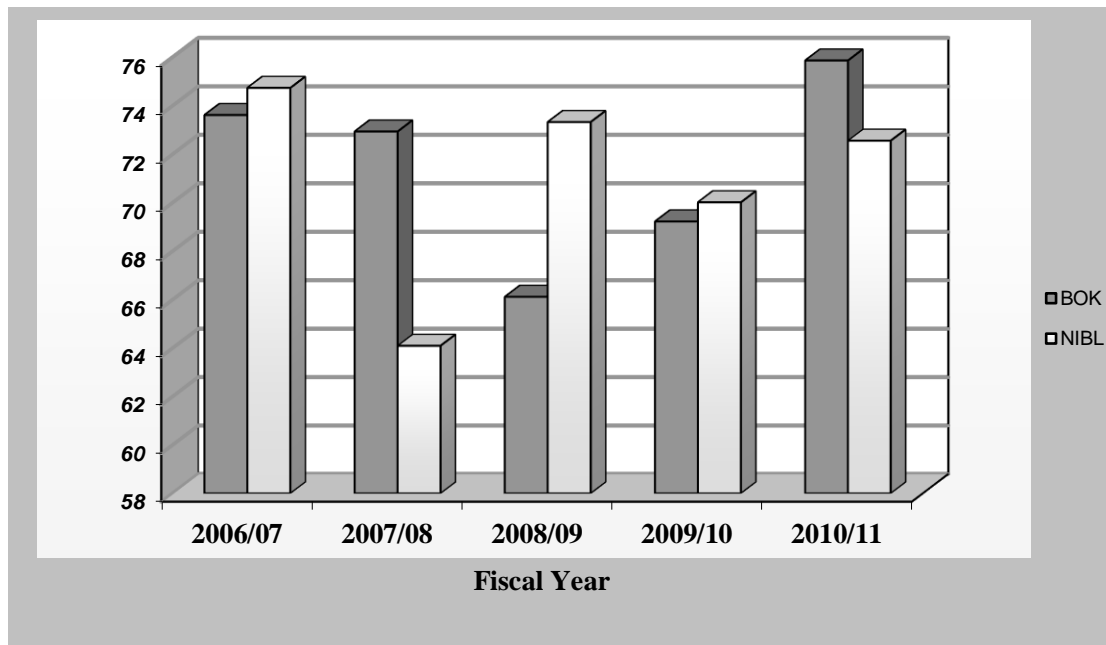
total deposits, but too high is not be better from its liquidity point of view. This table 4.10 reflects the percentage of loan and advances to total deposit ratios position of NIBL and BOK.

**Table 4.11**  
**Loan and Advances to Total deposit ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	73.62	72.94	66.12	69.23	75.87	<b>71.56</b>	<b>11.95</b>	<b>0.17</b>
<b>NIBL</b>	74.74	64.10	73.33	70.02	72.56	<b>70.95</b>	<b>14.08</b>	<b>0.20</b>

(Source: Appendix No.2.a)

**Figure 4.11**  
**Loan and Advances to Total deposit ratio**



From the above table 4.11 and figure 4.11 shows the relation of Loan and Advances to Total deposit ratio (%) of BOK and NIBL.

The ratio of BOK and NIBL have in increasing and decreasing trend where as BOK ratio is in decreasing trend for 2006/07 to 2007/08. In the case of BOK has maintained higher loan and advances to total deposit i.e. 75.87 in a year 2009/10, likewise NIBL has maintained higher ratio in a year 2006/06 i.e. 73.62. The mean value of BOK i.e. 71.56 is higher than NIBL i.e. 70.95. The CV of BOK and NIBL is same which indicate that loan and advances of it is consistent.

Lastly it can be concluded that BOK and NIBL both are in strong and better position regarding the mobilization of total deposits on loan and advances and acquiring higher profit. Higher ratio is not good from the view point of liquidity as the loan and advances are not a liquid as cash and bank balance.

### **i. Correlation between Deposit and Loan and Advances**

It measures the intensity or magnitudes or degree of relationship between the two variables. In the analysis, deposit is independent variable (X) and loan and advances are dependent variable (Y). The objectives of computing coefficients of correlation (r) between the two variables are to justify whether deposit is significantly used as loan and advances or not. The table 4.12 shows the value of 'r',  $r^2$ , P.Er and 6P.Er between deposit and loan and advance of NIBL in comparison with BOK.

**Table 4.12**  
**Correlation between Deposit and Loan and Advances**

<b>Banks</b>	<b>Evaluation criterions</b>			
	r	$r^2$	P.Er	6 P.Er
<b>BOK</b>	0.9342	0.8727	<b>0.0384</b>	<b>0.2304</b>
<b>NIBL</b>	0.9941	0.9882	<b>0.0036</b>	<b>0.0216</b>

*(Source: Appendix No.6.a &b)*

The table 4.12 shows the value of r,  $r^2$ , P.Er, and 6P.Er between deposit and loan and advances of BOK with comparison to NIBL from 2006/07 to 2007/08. In case of BOK, it is found that coefficient of correlation(r) between deposit and loan and advances is 0.9342. It shows the positive relationship between two variables. The value of coefficient of determination ( $r^2$ ) is 0.8727, which means 87.27% of the variation in the dependent variable (loan and advances), has been explained by the independent variable (deposit). Similarly, considering the value of r i.e. 0.9342 and comparing it with 6P.Er i.e. 0.2304, it can find, it is greater than the value of 6P.Er which reveals the value of r is significant or relationship between deposit and loan and advances.

In the case of NIBL, have positive correlation between deposit and loan and advances i.e. 0.9941 when it consider the value of coefficient of determination  $r^2$  i.e. 0.9882 of the variation in the dependent variable has been explained by the independent variable. Since the value of  $r^2$

of NIBL is higher than 6P.Er, so its value of r is significant. In other words there is significant relationship between deposit and loan and advances.

After analyzing, the conclusion can be drawn that in BOK and NIBL there is significant relationship between deposit and loan and advances because r is greater than 6P.Er. This indicates that NIBL has higher correlation between deposit and loan and advances as well as higher value of  $r^2$  than BOK. It can conclude that NIBL is successful to grant loan and advances to mobilize the collected deposits in a proper way than BOK.

**b. Total Investment to Total Deposit Ratio**

The commercial banks must mobilize its deposit fund by investing in different securities issued by government and other financial, non financial sectors. This ratio measures the extent to which the banks are capable to mobilize their deposits on investment in various securities. This ratio is computed by dividing total investment by total deposit ratio. The table 4.12 shows the total investment to total ratio of the banks NIBL and BOK.

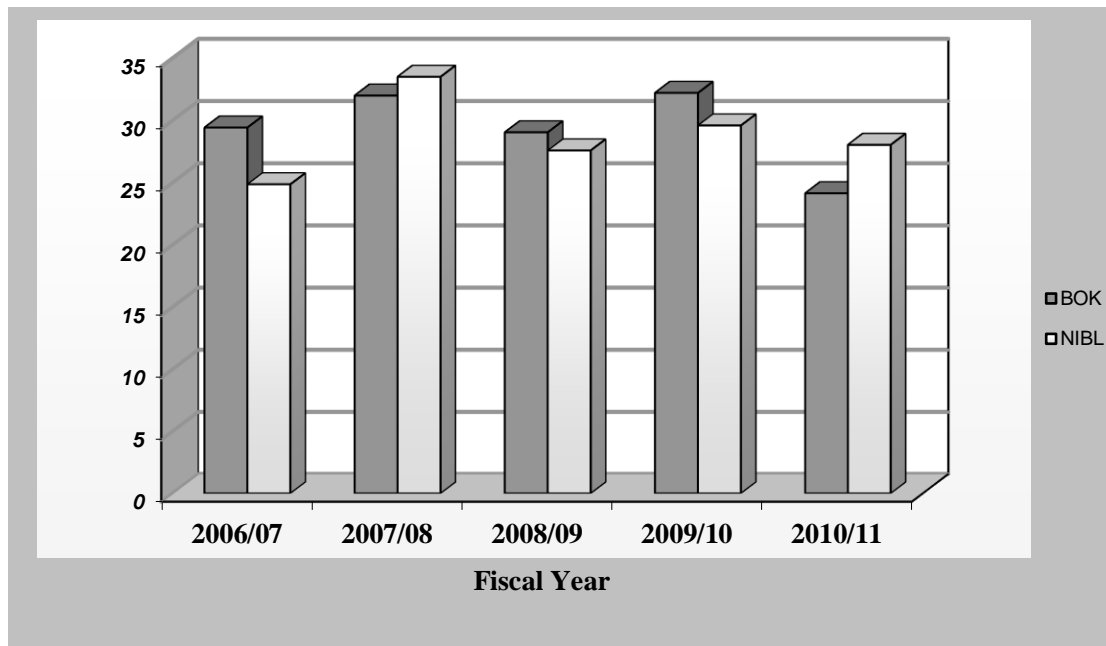
**Table 4.13**  
**Total Investment to Total Deposit Ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	29.43	32.00	29.05	32.22	24.15	<b>29.37</b>	<b>8.48</b>	<b>0.29</b>
<b>NIBL</b>	24.87	33.51	27.59	29.60	28.04	<b>28.72</b>	<b>8.05</b>	<b>0.28</b>

*(Source: Appendix No.2.b)*

**Figure 4.12**

**Total Investment to Total Deposit Ratio**



From the table 4.13 and figure 4.12, it is found that, total investment to total deposit ratio of both banks are in increasing and decreasing trend of in fluctuating trend during study period 2005/06 to 2008/10. The total investment to total deposit ratio of BOK and NIBL have highest ratio are 32.22 and 33.51 in 2009/10 and 2006/07 respectively.

In comparison with mean value, BOK has higher mean than NIBL i.e.  $29.37 > 28.72$ . But in case of the value of coefficient of variation of BOK and NIBL have same C.V. so it is clear that the investment patterns of both banks are in better position. The total investment to total deposit ratio of both banks are homogeneous because it has equal coefficient of variation.

**i. Relationship between Deposit and total Investment**

The table 4.13 shows the value of 'r',  $r^2$ , P.Er and 6P.Er between Deposit and total Investment of NIBL in comparison with BOK.

**Table 4.14**

### Correlation between Deposit and total Investment

Banks	Evaluation criteria			
	r	r <sup>2</sup>	P.Er	6 P.Er
<b>BOK</b>	0.8537	0.7288	<b>0.0818</b>	<b>0.4908</b>
<b>NIBL</b>	0.9828	0.9660	<b>0.0103</b>	<b>0.0618</b>

*(Source: Appendix No.6.c&d)*

The table 4.14 shows the value of r, r<sup>2</sup>, P.Er, and 6P.Er between deposit and Investment of BOK with comparison to NIBL from 2006/07 to 2007/08. In case of BOK, it is found that coefficient of correlation(r) between deposit and investment is 0.8537. It shows the positive relationship between two variables i.e. deposit, independent(X) and total investment, dependent variable(Y). Moreover, when it considers the value of coefficient of determination (r<sup>2</sup>) is 0.7288, which means 72.88% of the variation in the dependent variable, has been explained by the independent variable. Similarly, considering the value of r i.e. 0.8537 and comparing it with 6P.Er i.e. 0.4908, which is greater than the value of 6P.Er which reveals the value of r is significant or relationship between deposit and investment is significant.

In the case of NIBL, have positive correlation between deposit and investment i.e. 0.9828 it means NIBL has more positive relationship between deposit and investment than BOK when it consider the value of coefficient of determination r<sup>2</sup> i.e. 0.9660 of the variation in the dependent variable has been explained by the independent variable. Since the value of r<sup>2</sup> of NIBL is higher than 6P.Er, so its value of r is significant. In other words there is significant relationship between deposit and investment.

After analyzing, the conclusion can be drawn that in BOK and NIBL have significant relationship between deposit and investment because both bank's r is greater than 6P.Er. That means both banks able to follow the policy of maximizing the investment of their deposits. Lastly it can say that NIBL has followed the policy of maximizing the investment of their deposits or NIBL is successful in maximizing the investment of their deposit.

#### **c. Loan and Advances to Total Working Fund**

Loan and advances is The major components of the total working fund, which indicate the ability of banks to utilize its deposits in the form of loan and advances to earn high return. It is an appropriate level to generate profit. Total working fund is the total assets. It is composed up of current assets, fixed assets, miscellaneous assets and investment, loan and advance and interest receivable.

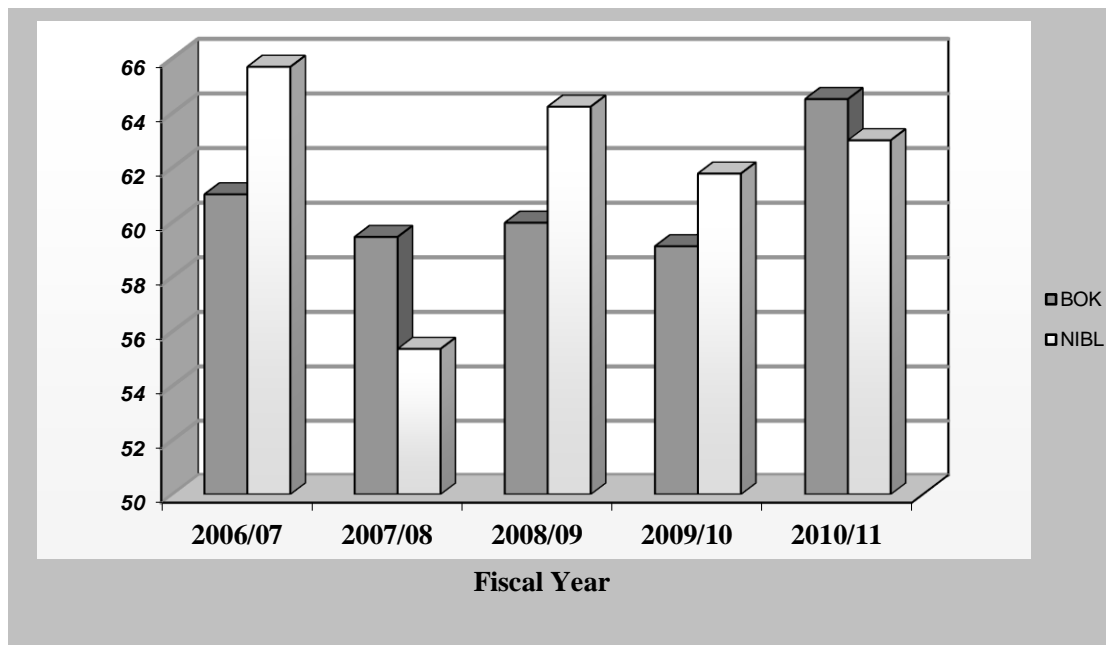
The table 4.14 shows the loan and advance to total working fund ratio of NIBL and BOK.

**Table 4.15**  
**Loan and Advances to Total Working Fund (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	61.02	59.46	59.98	59.12	64.51	<b>60.82</b>	<b>3.8</b>	<b>0.06</b>
<b>NIBL</b>	65.69	55.36	64.23	61.78	63.00	<b>62.01</b>	<b>12.73</b>	<b>0.02</b>

(Source: Appendix No.2.c)

**Figure 4.13**  
**Loan and Advances to Total Working Fund**



This reflects that loan and advances to working fund ratio of BOK and NIBL is fluctuation trend. The both bank have highest ratio 64.51 and 65.69 in 2009/10 and 2006/07 respectively. The mean value of NIBL has maintained average loan and advances to total working fund ratio than that of BOK. In other words NIBL has highest mean, standard deviation and C.V i.e.

62.01, 3.58 and 0.06 than BOK i.e. 60.82, 1.95 and 0.03. This regard, NIBL is in better position than BOK. The coefficient of variation of BOK is lower than NIBL which clears that loan and advances to total working fund ratio is less variable than NIBL.

#### **d. Investment on Government Securities to Total Working Funds Ratio**

The commercial banks should never use all the total deposits resources as loan and advances and other credit from security and liquidity point of view. So to some extent commercial bank seem to be interested to utilize their resources by purchasing government securities. This ratio reflects the relationship between the banks investment securities in comparison to the total working funds.

The table 4.15 shows the investment on government securities to total working fund ratio of NIBL and BOK.

**\Table 4.16**

#### **Investment on Government Securities to Total Working Funds Ratio (%)**

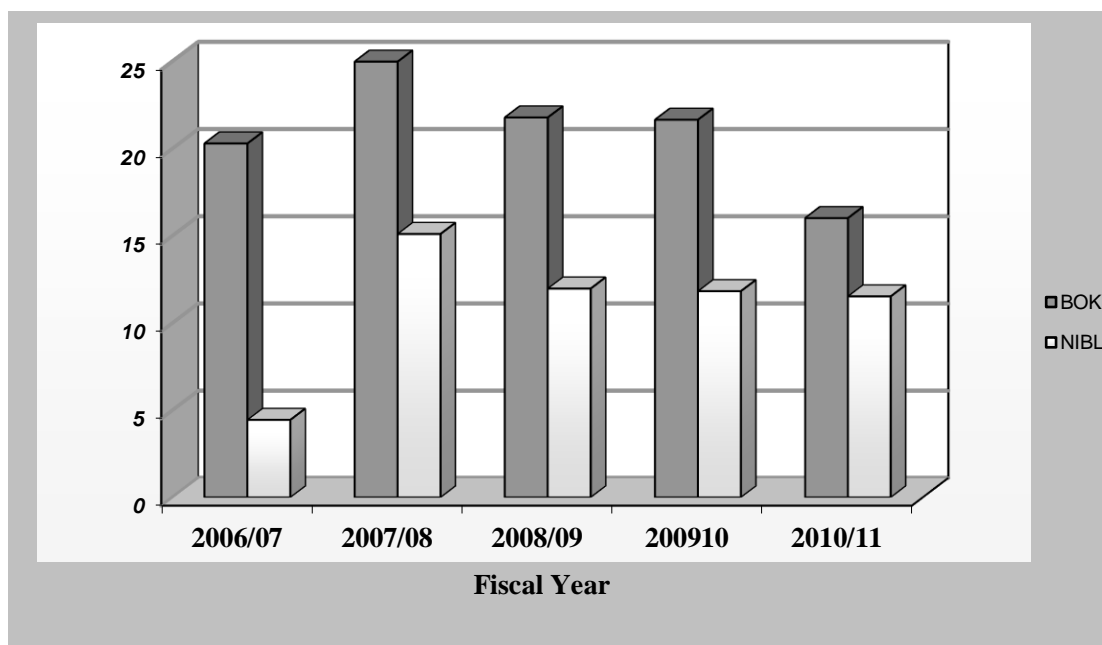
<b>Banks</b>	<b>Fiscal Year</b>					<b>Mean</b>	<b>S.D</b>	<b>C.V</b>
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	20.29	24.98	21.78	21.65	16.01	<b>20.94</b>	<b>8.45</b>	<b>0.40</b>
<b>NIBL</b>	4.44	15.10	11.97	11.82	11.52	<b>10.97</b>	<b>3.51</b>	<b>0.32</b>

*(Source: Appendix No2.d)*

**Figure 4.14**

#### **Investment on Government Securities to Total Working Funds Ratio**





The comparison of mean ratio of BOK with NIBL reveal that BOK is successful, to mobilize their working fund as investment in government securities. Similarly BOK is also variability between ratios during the study period.

The table 4.16 reflects that investment on government securities to total working fund ratio of both banks are in fluctuation trend. Likewise the coefficient of variation NIBL is higher than that of BOK i.e.  $0.32 > 0.14$  which means BOK has invest its more portion of working funds on government securities as than NIBL.

#### e. Investment on Shares and debentures to Total Working Fund Ratio

This ratio reflects the extent on which the banks are able to mobilize their total assets on purchase of share and debenture of other companies to generate income and utilize their excess fund. A higher ratio indicated more portion of investment of shares and debenture out of total working fund. The table 4.16 shows the Investment on Shares and debentures to Total Working Fund Ratio of NIBL and BOK.

**Table 4.17**

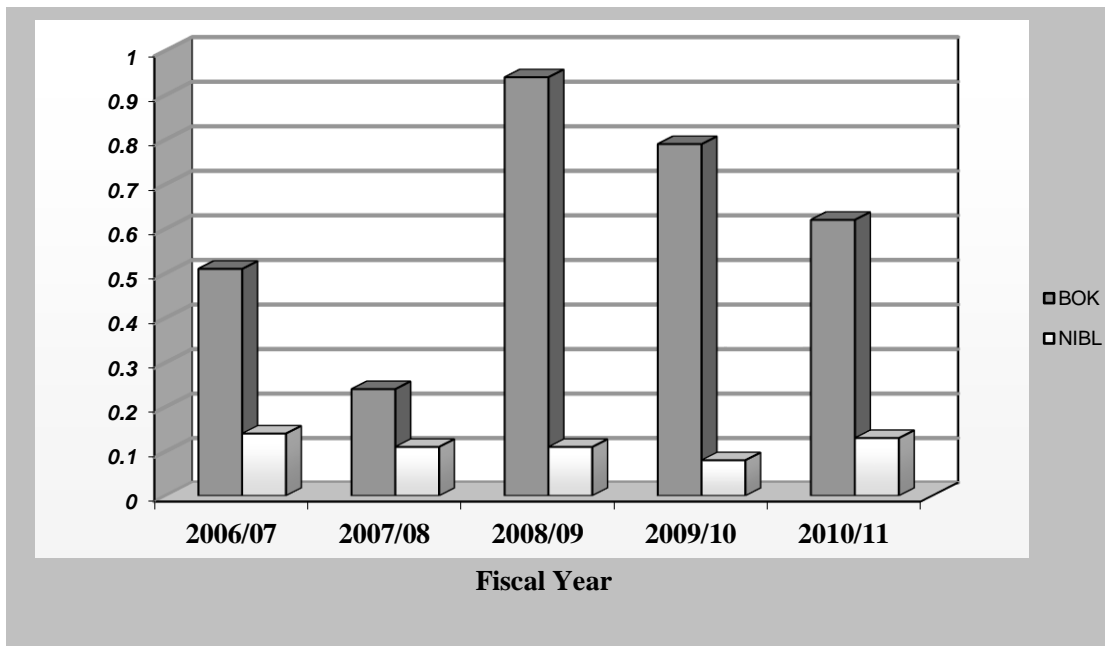
**Investment on Shares and debentures to Total Working Fund Ratio (%)**

Banks	Fiscal Year	Mean	S.D	C.V
-------	-------------	------	-----	-----

	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	0.51	0.24	0.94	0.79	0.62	<b>0.62</b>	<b>0.058</b>	<b>0.093</b>
<b>NIBL</b>	0.14	0.11	0.11	0.08	0.13	<b>0.11</b>	<b>0.00044</b>	<b>0.004</b>

(Source: Appendix No2.e)

**Figure 4.15**  
**Investment on Shares and debentures to Total Working Fund Ratio**



The table 4.17 and figure 4.15 depicts that BOK has fluctuation trend and NIBL has in decreasing trend in the study period. Bok has maintained highest ratio i.e. 0.94 during the 2008/09 year and NIBL has highest ratio i.e. 0.14 during the 2006/07 year. In an average, BOK

has maintained medium investment on shares and debentures to total working fund ratio than NIBL. The coefficient of variation of BOK his higher than that of NIBL which indicate that BOK is more variable and less consistent.

#### 4.2.3 Profitability Ratio

Profitability ratios are useful to measure the efficiency of operation of a firm in term of profit. Profit is the indicator of the financial performance of any firm. The following profitability ratios are related to study under this heading.

##### a. Return on Loan and Advances Ratio

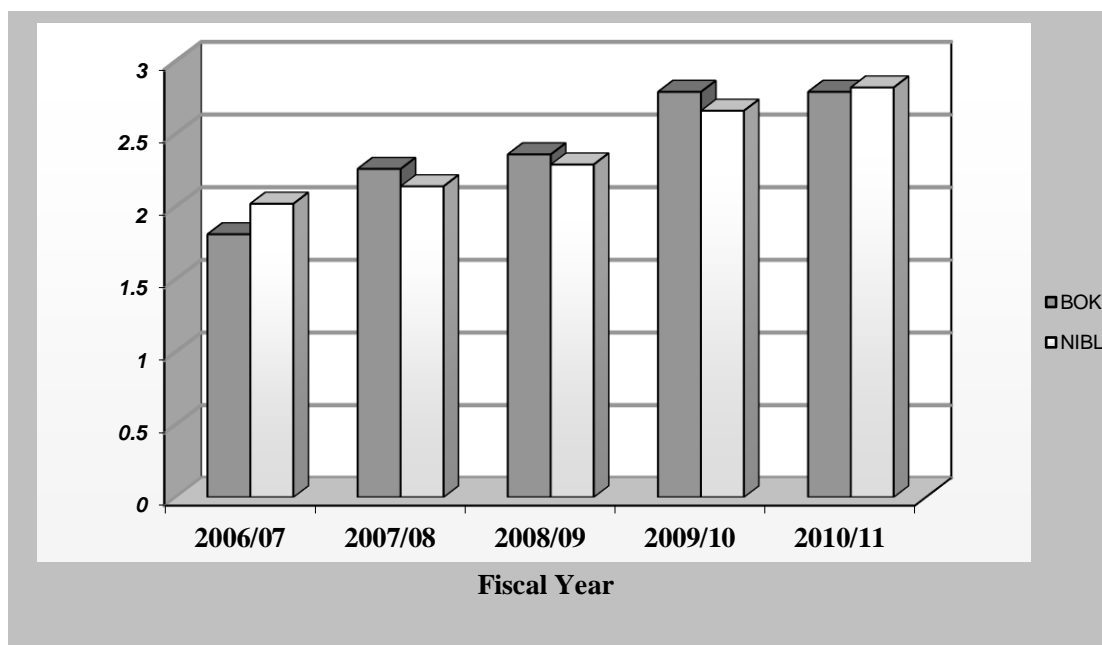
Return on loan and advances ratio measures the earning capacity of banks on its total deposits mobilized on loan and advances. In other words return on loan and advances ratio indicates how efficiently the banks have employed its resources in the firm of loan and advances.

**Table 4.18**  
**Return on Loan and Advances Ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	1.81	2.26	2.36	2.79	2.79	<b>2.40</b>	<b>0.134</b>	<b>0.056</b>
<b>NIBL</b>	2.02	2.14	2.29	2.66	2.82	<b>2.39</b>	<b>0.93</b>	<b>0.039</b>

*(Source: Appendix No3.a)*

**Figure 4.16**  
**Return on Loan and Advances Ratio**



The table 4.18 and figure 4.16 shows that returns on loan and advances ratio of BOK has increasing trend from 2006/07 to 2010/11 and also NIBL has increasing trend from 2003/04 to 2007/08 which are highest ratio of BOK and NIBL are 2.79 and 2.82 in the year of 2007/08 respectively. The mean of BOK is greater than NIBL i.e.  $2.40 > 2.39$ . The standard deviation of BOK is 0.37 which is highest than NIBL i.e. 0.31. Similarly the coefficient of variation of NIBL is less than BOK i.e.  $0.15 > 0.13$ . Thus it can be concluded that BOK and NIBL both banks are success in getting efficient return on loan and advances.

#### b. Return on Total Working Fund Ratio

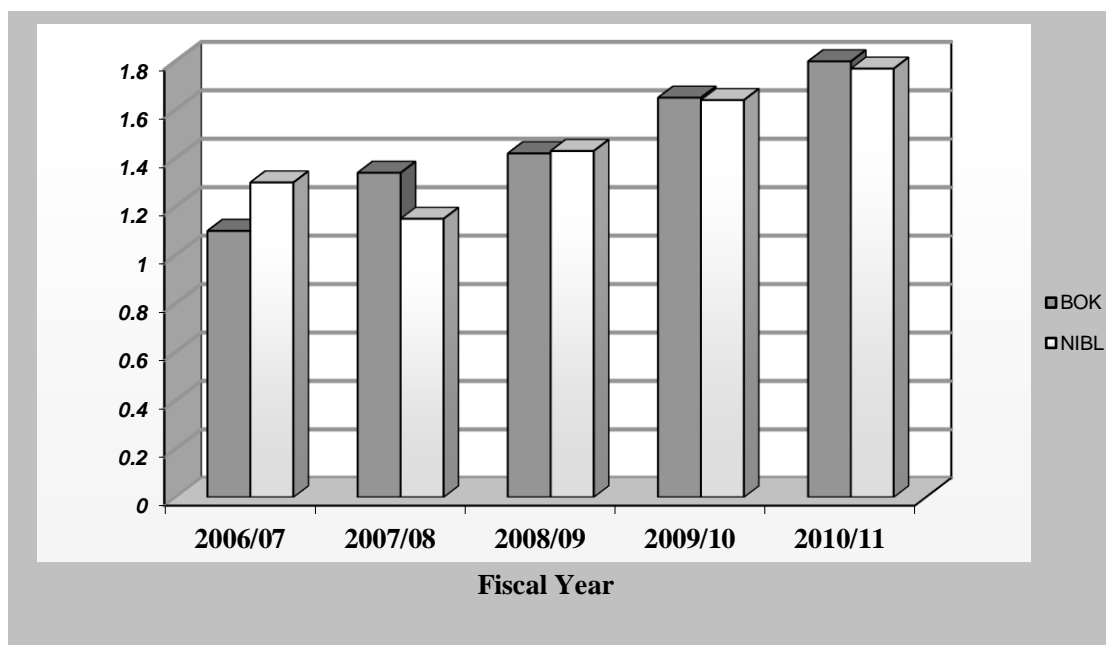
This ratio measures the profit earning capacity by mobilizing available resources (total assets). The table below shows the return on assets of NIBL and BOK.

**Table 4.19**  
**Return on Total Working Fund Ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	1.10	1.34	1.42	1.65	1.80	<b>1.46</b>	<b>0.059</b>	<b>0.04</b>
<b>NIBL</b>	1.30	1.15	1.43	1.64	1.77	<b>1.46</b>	<b>0.0502</b>	<b>0.034</b>

(Source: Appendix No3.b)

**Figure 4.17**  
**Return on Total Working Fund Ratio**



The table 4.19 and figure 4.17 reflects the mean, S.D and CV of BOK and NIBL from the FY 2006/07 to 2010/11. BOK has the increasing trend which indicates that its profitability ratio is consistent. It has highest profit ratio is 1.80 in the FY 2010/11 and minimum profit ratio is 1.10 and similarly NIBL has maximum profit ratio is 1.77 and minimum profit ratio is 1.15 in the

F.Y 2010/2011 and 2007/08 respectively. NIBL's profit ratio is also increasing trend so it is also better position as BOK.

The mean values of BOK and NIBL are equal i.e. 1.46 and CV of both banks are 0.16 and 0.15 respectively. The coefficient of variation of BOK is highest than NIBL which means the return on total working fund ratio of BOK is not stable and consistent in comparison to NIBL. Finally the analysis clears the profitability ratio with respect to financial resources investment of both banks are satisfaction.

### c. Total Interest Earned to Total outside Assets Ratio

It measures the interest earning capacity of the banks through efficient utilization of all the outside assets. Higher the ratio indicates better use of outside assets of a commercial bank. Total outside assets includes loan and advances, investment.

The table below exhibits total interest earned to total outside assets ratio of NIBL and BOK.

**Table 4.20**  
**Total Interest Earned to Total outside Assets Ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	7.81	6.98	7.13	6.75	6.03	<b>6.94</b>	<b>0.033</b>	<b>0.047</b>
<b>NIBL</b>	4.77	4.75	4.88	4.78	5.11	<b>4.86</b>	<b>0.0179</b>	<b>0.0036</b>

*(Source: Appendix No3.c)*

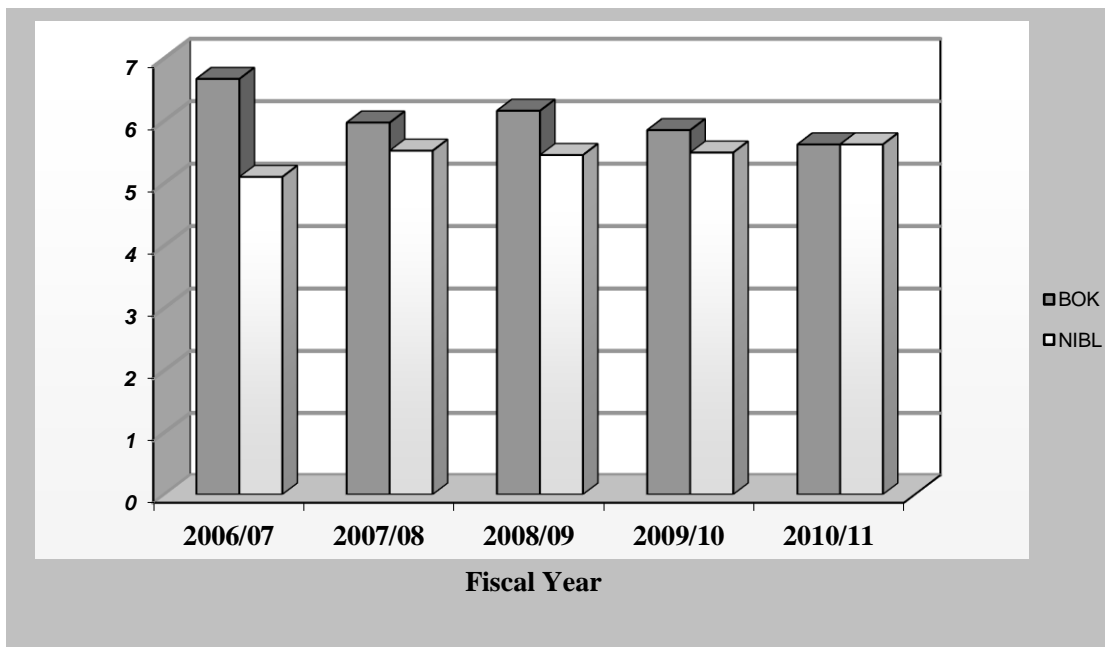
**Figure 4.18**  
**Total Interest Earned to Total outside Assets Ratio**



<b>BOK</b>	6.67	5.97	6.16	5.85	5.62	<b>6.05</b>	<b>0.13</b>	<b>0.02</b>
<b>NIBL</b>	5.10	5.52	5.45	5.49	5.62	<b>5.44</b>	<b>0.039</b>	<b>0.007</b>

(Source: Appendix No3.d)

**Figure 4.19**  
**Total Interest Earned to Total Working Fund Ratio**



The table 4.21 and figure 4.19 reveals that the ratio of BOK is decreasing trend, where the ratio of NIBL is increasing trend only decrease in 2008/09 one year and then the trend gone increase again. The BOK has maximum ratio is 6.67 and minimum ratio is 5.62 and NIBL has maximum and minimum ratios are 5.62 and 5.10 respectively.



The mean ratio of BOK is highest than NIBL i.e.  $6.05 > 5.44$  which means that BOK is better position than NIBL by mobilizing its working fund in profitability sector. The CV of NIBL is lower than BOK i.e.  $0.03 < 0.06$ .

#### 4.2.4 Risk Ratio

Risk taking is the prime business of banks investment management which increases effectiveness and profitability of the bank. These ratios, focus has been made to measure the level of risk inherent in the NIBL in comparison to the BOK.

##### a. Credit Risk Ratio

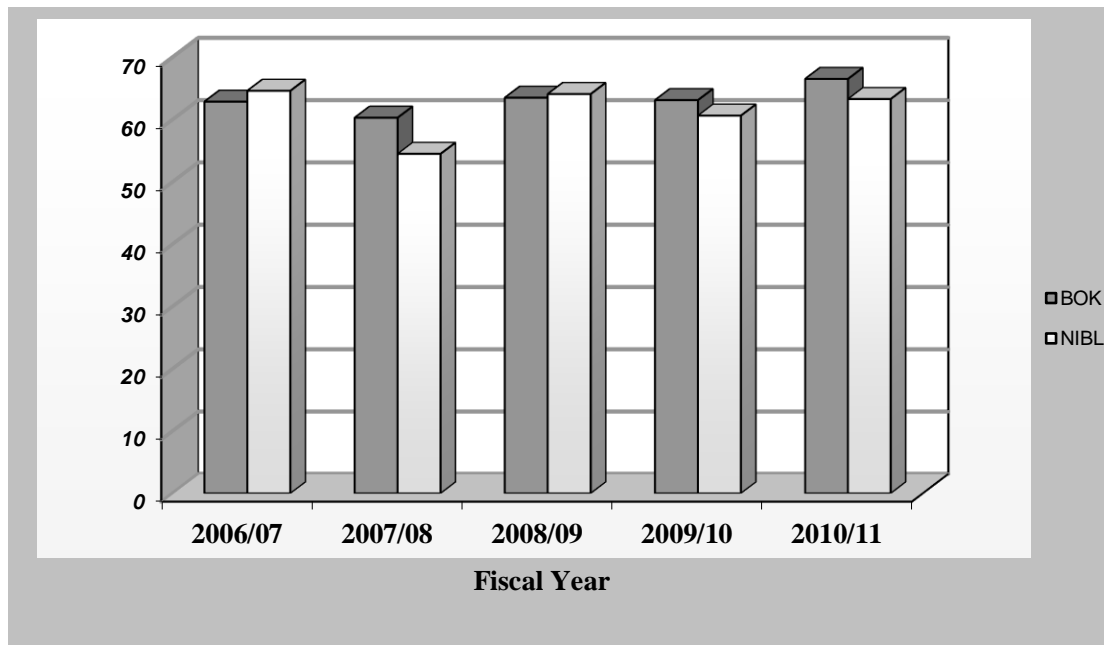
Bank utilized its collected funds in providing credit to different sectors while making investment. It is essential for a bank to examine the credit risk involved in the project. This ratio shows the proportion of non-performing assets in total loan and advances of the bank. Due to the unavailability of the relevant data the ratio is measure with the help of loan and advances to total assets.

**Table 4.22**  
**Credit Risk Ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	62.88	60.30	63.51	63.13	66.53	<b>63.27</b>	<b>3.93</b>	<b>0.06</b>
<b>NIBL</b>	64.62	54.50	64.10	60.64	63.30	<b>61.43</b>	<b>13.88</b>	<b>0.23</b>

*(Source: Appendix No4.a)*

**Figure 4.20**  
**Credit Risk Ratio**



The table 4.22 and figure 4.20 shows the percentage of credit risk ratio of BOK and NIBL. The credit risk ratio of BOK is fluctuation trend during the study period i.e. it has maintained maximum ratio of 66.53 and minimum ratio is 60.30. Similarly NIBL's credit ratio also increasing and decreasing trend which its ratio increase upto 64.62 and decrease upto 54.50. The mean of BOK is highest than NIBL i.e.  $63.17 > 61.43$  and CV of BOK is 0.03 which is less than NIBL i.e. 0.06 which indicate that BOK's credit policy is consistent than NIBL.

#### b. Liquidity Risk Ratio

The liquidity risk of the bank defines it liquidity need for deposit. A higher liquidity indicates less risk and less profitable bank and vice-versa. The ratio of cash and bank balance to total deposits is the indicator of the bank liquidity needed. The cash and bank balance are the most liquid assets and they are considered as bank liquidity sources and deposits as the liquidity needs.

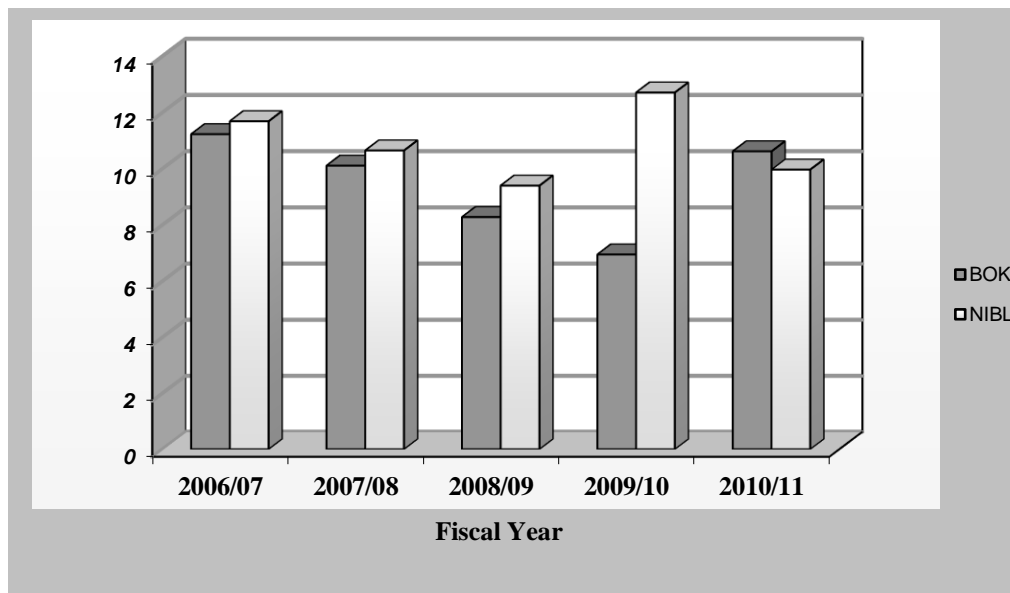
**Table 4.23**  
**Liquidity Risk Ratio (%)**

Banks	Fiscal Year	Mean	S.D	C.V
-------	-------------	------	-----	-----

	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	11.23	10.11	8.28	6.95	10.62	<b>9.44</b>	<b>2.52</b>	<b>0.267</b>
<b>NIBL</b>	11.69	10.65	9.40	12.71	9.97	<b>10.88</b>	<b>1.415</b>	<b>0.13</b>

(Source: Appendix No4.b)

**Figure 4.21**  
**Liquidity Risk Ratio**



In the table 4.23 and figure 4.21 shows the percentage of liquidity risk ratio of BOK and NIBL. This table reflects the liquidity risk ratio of BOK is decreasing trend with maximum ratio 11.23 and minimum ratio 6.95 during the FY 2006/07 and 2009/10 and the liquidity risk ratio of NIBL is fluctuation trend with maximum ratio 12.71 in 2006/07 and minimum ratio 9.40 in 2005/06.

While comparing the mean of BOK and NIBL, the mean of NIBL is greater than BOK i.e.  $10.88 > 9.44$  which indicates that average in compare to BOK. The coefficients of variance of both banks are 0.17 and 0.11. in comparison NIBL has less CV than BOK which means that liquidity risk ratio of its in consistent.

### **c. Capital Risk Ratio**

The capital risk ratio indicates how much assets value may decline by bank before the position deposition and other creditors is jeopardized. So a bank needs to maintain adequate capital in relation to the nature and condition of its assets, its deposits liabilities and other corporate

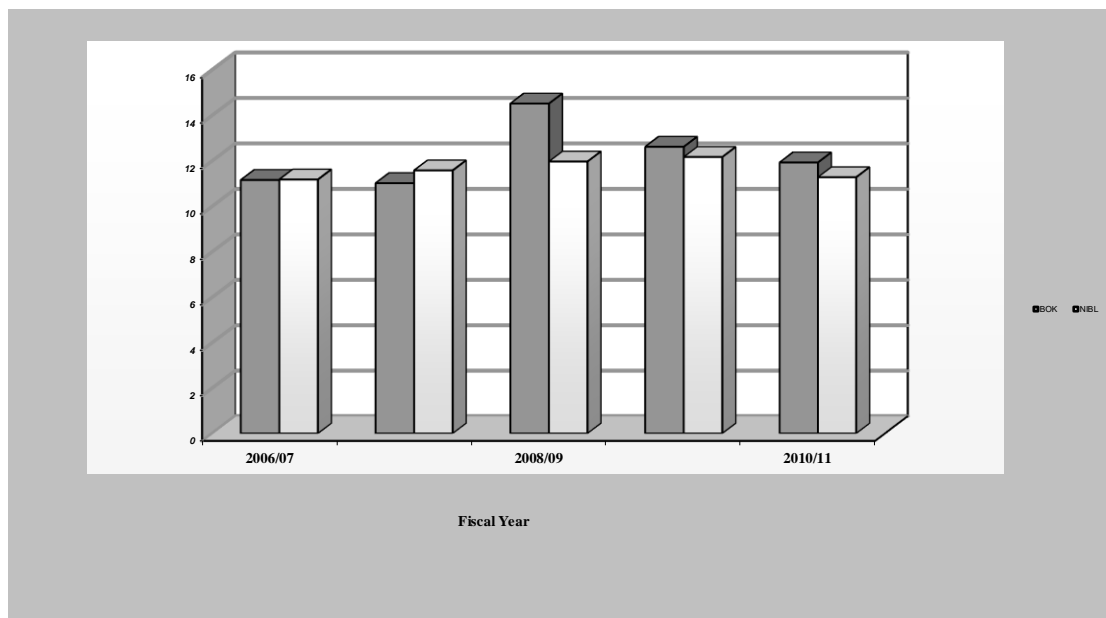
responsibilities. This ratio measures ability of bank to attract deposits and inter-bank funds. It also determines the level of profit. A bank can earn if a bank choose to take high capital risk.

**Table 4.24**  
**Capital Risk Ratio (%)**

Banks	Fiscal Year					Mean	S.D	C.V
	2006/07	2007/08	2008/09	2009/10	2010/11			
<b>BOK</b>	11.16	11.02	14.52	12.62	11.93	<b>12.25</b>	<b>1.60</b>	<b>0.13</b>
<b>NIBL</b>	11.18	11.58	11.97	12.17	11.28	<b>11.64</b>	<b>0.146</b>	<b>0.013</b>

(Source: Appendix No4.c)

**Figure 4.22**  
**Capital Risk Ratio**



The from the table 4.24 and figure 4.22, it is clearly seen that the percentage of capital risk ratio of BOK is increasing and decreasing trend and NIBL is increase at the FY 2009/10 then decrease from 12.17 to 11.28. The mean ratio of BOK and NIBL are 12.25 and 11.64 respectively and the mean ratio of BOK is highest than NIBL. The coefficient of variance of a BOK is greater than NIBL i.e.  $0.10 > 0.03$ .

The maximum and minimums capital risk ratios of BOK are 14.52 and 11.02 during the FY2009/10 and 2007/08 respectively and NIBL's maximum and minimum ratio are 12.17 and

11.18 during the FY 2009/10 and 2007/08 respectively. Thus it can be concluded that NIBL is stable and heterogeneous than BOK because it has less CV with comparison to BOK.

#### 4.2.5 Growth Ratio

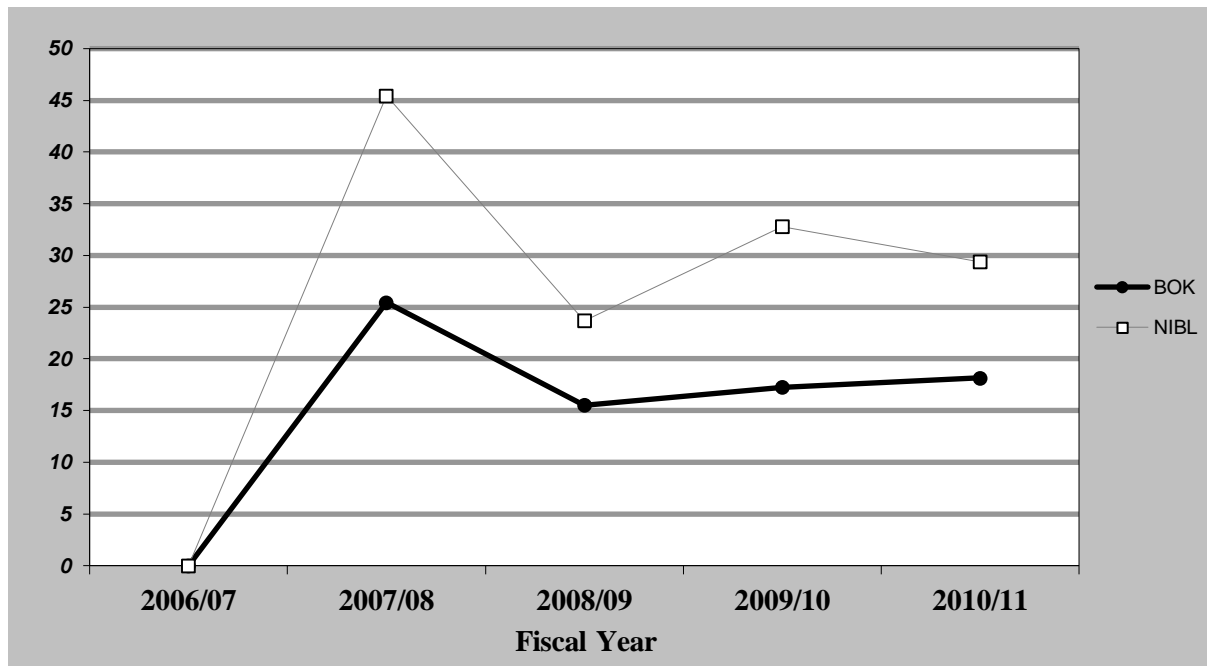
This section analysis the growth ratio of total deposit, total investment, loan and advances and net profit are calculated.

##### a. Growth Ratio of Total Deposit

**Table 4.25**  
**Growth Ratio of Total Deposit (%)**

<b>Banks</b>	<b>Fiscal Year</b>					<b>Mean Growth rate (%)</b>
	2006/07	2007/08	2008/09	2009/10	2010/11	
<b>BOK</b>	6170.71	7741.65	8942.75	10485	12388.93	
<b>Growth rate (%)</b>	-	25.46	15.51	17.25	18.16	<b>15.28</b>
<b>NIBL</b>	7922.75	11524.67	14254.58	18927.31	24488.86	
<b>Growth rate (%)</b>	-	45.46	23.69	32.78	29.38	<b>26.26</b>

**Figure 4.23**  
**Growth Ratio of Total Deposit (%)**



The comparative table 4.25 and figure 4.23 shows that the growth ratio of total deposit of BOK and NIBL. The highest growth rate of BOK and NIBL are 25.46 during the FY2007/08 and 32.78 during the FY 2009/10 respectively. In the other hand the minimum growth ratio of BOK and NIBL are 15.51 and 23.69 respectively.

From the mean growth ratio point of view, the performance of NIBL to collect greater deposit compared to BOK because the mean growth ratio of NIBL is greater than BOK i.e.  $26.26 > 15.28$ .

#### **b. Growth Ratio of Loan and Advances**

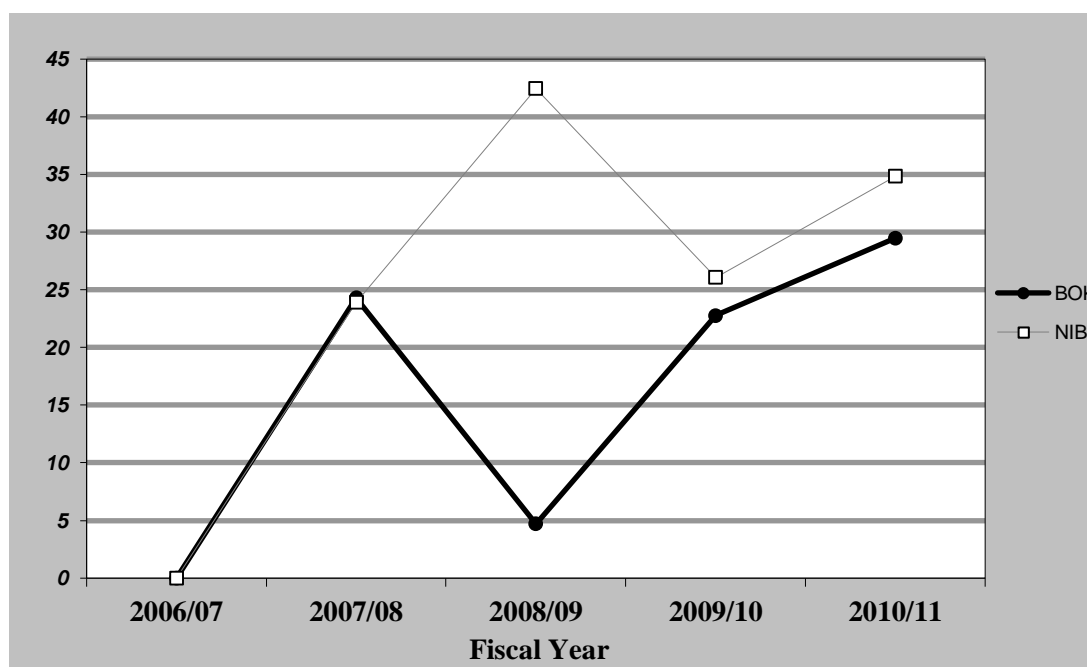
**Table 4.26**

**Growth Ratio of Loan and Advances (%)**

Banks	Fiscal Year					Mean Growth rate (%)
	2006/07	2007/08	2008/09	2009/10	2010/11	
<b>BOK</b>	4542.7	5646.69	5912.58	7259.08	9399.33	
<b>Growth rate (%)</b>	-	24.30	4.71	22.77	29.48	<b>16.25</b>
<b>NIBL</b>	5921.79	7338.57	10453.16	13178.15	17769.1	
<b>Growth rate (%)</b>	-	23.92	42.44	26.07	34.84	<b>25.45</b>

**Figure 4.24**

**Growth Ratio of Loan and Advances (%)**



The comparative table 4.26 and figure 4.24 shows that the growth ratio of loan and advance of BOK and NIBL. The highest growth rate of BOK and NIBL are 29.48 during the FY2010/11 and 42.44 during the FY 2008/09 respectively. In the other hand the minimum growth ratio of BOK and NIBL are 4.71 and 23.92 respectively.

From the mean growth ratio of loan and advance point of view, the performance of NIBL to grant greater loan and advance compared to BOK because the mean growth ratio of NIBL is greater than BOK i.e.  $25.45 > 16.25$ .

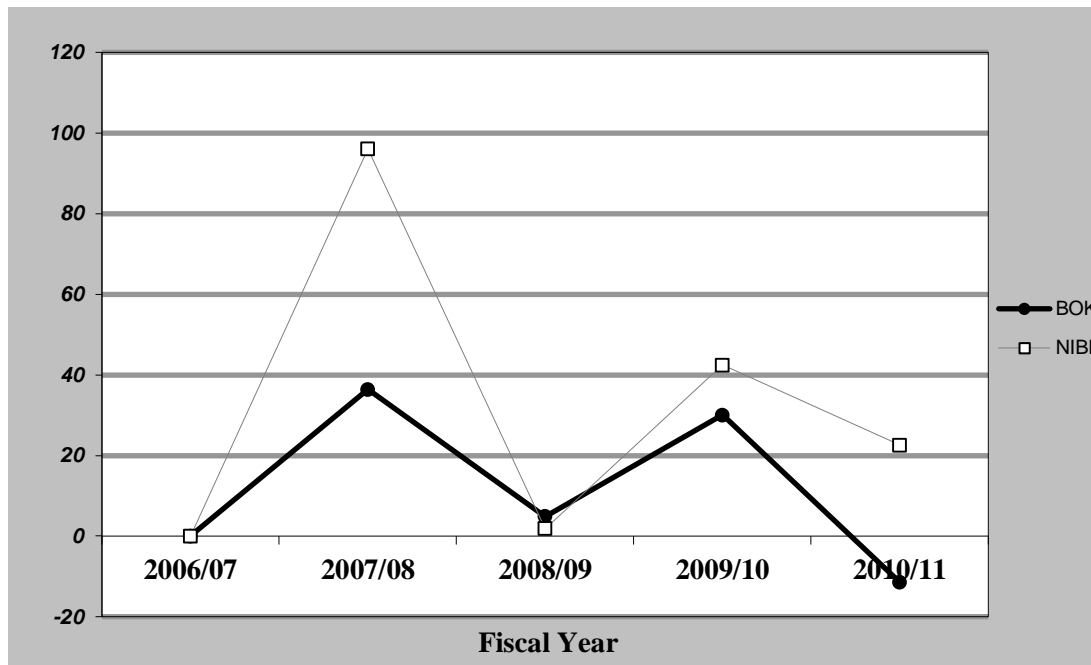
c. Growth Ratio of Total Investment

**Table 4.27**  
**Growth Ratio of Total Investment (%)**

<b>Banks</b>	<b>Fiscal Year</b>					<b>Mean Growth rate (%)</b>
	2006/07	2007/08	2008/09	2009/10	2010/11	
<b>BOK</b>	1816.15	2477.4	2598.25	3378.13	2992.43	
<b>Growth rate</b>	-	36.41	4.88	30.02	-11.42	<b>11.98</b>
<b>NIBL</b>	1970.27	3862.48	3934.19	5602.87	6868.65	
<b>Growth rate</b>	-	96.04	1.86	42.41	22.59	<b>32.58</b>

**Figure 4.25**  
**Growth Ratio of Total Investment (%)**





The comparative table 4.27 and figure 4.25 shows that the growth ratio of total investment of BOK and NIBL. The highest growth rate of BOK and NIBL are 36.41 during the FY2007/08 and 96.04 during the FY 2007/08 respectively. In the other hand the minimum growth of BOK and NIBL are 4.88 during the FY 2008/09 and 1.86 during the FY 2008/09 respectively.

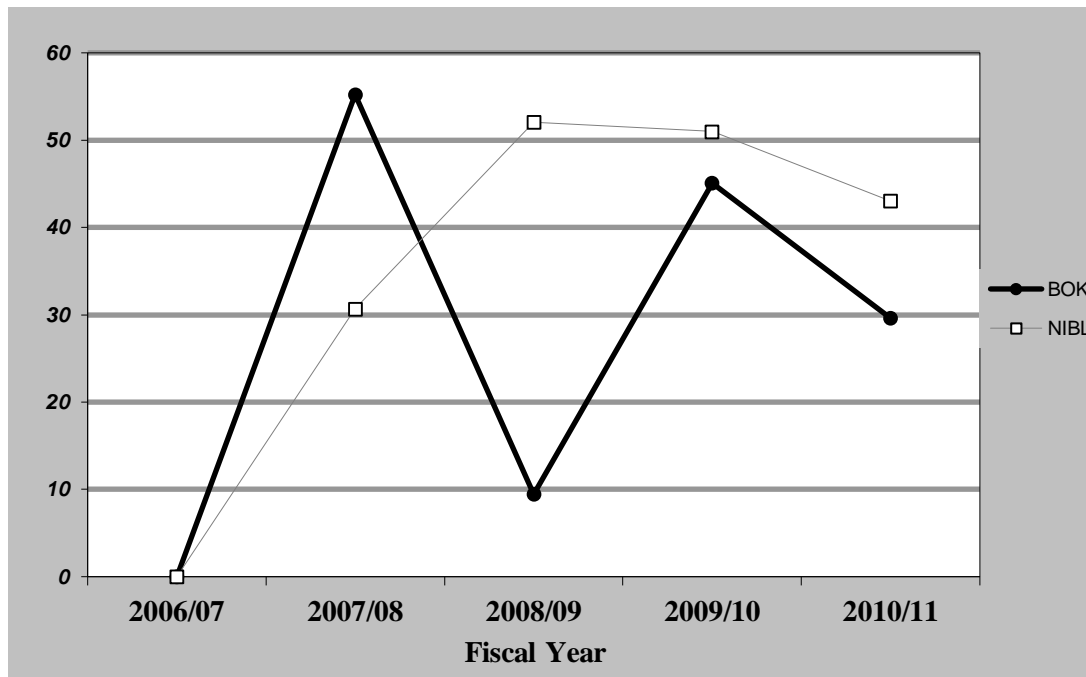
From the mean growth ratio of the total investment point of view, the performance of NIBL to investment their fund is greater investment compared to BOK because the mean growth ratio of NIBL is greater than BOK i.e.  $32.58 > 11.98$ .

#### d. Growth Ratio of Total Net Profit

**Table 4.28**  
**Growth Ratio of Net Profit (%)**

Banks	Fiscal Year					Mean Growth rate (%)
	2006/07	2007/08	2008/09	2009/10	2010/11	
<b>BOK</b>	82.13	127.48	139.52	202.44	262.39	
<b>Growth rate (%)</b>	-	55.22	9.44	45.10	29.61	<b>27.87</b>
<b>NIBL</b>	116.82	152.67	232.14	350.53	501.39	
<b>Growth rate (%)</b>	-	30.69	52.05	51	43.04	<b>35.36</b>

**Figure 4.26**  
**Growth Ratio of Net Profit (%)**



The comparative table 4.28 and figure 4.26 shows that the growth ratio of Net profit of BOK and NIBL. The highest growth ratio of BOK and NIBL are 55.22 during the FY2007/08 and 52.05 during the FY 2008/09 respectively. In the other hand the minimum growth of BOK and NIBL are 9.44 during the FY 2008/09 and 30.69 during the FY 2006/07 respectively.

From the mean growth ratio of the Net profit of both banks, it can conclude that the performance of NIBL to earn greater net profit compared to BOK because the mean growth ratio of NIBL is greater than BOK i.e.  $35.36 > 27.87$ .

#### 4.2.6 Trend Analysis

##### a. Trend Analysis of Total Deposit

Under this topic an efforts has been made to calculate the trend values of deposits of NIBL and BOK for five years from 2006/07 to 2010/11 and forecast for next five years from the 2011/12 to 20015/16.

**Table 4.29**  
**Trend Analysis of Total Deposit**

(Rs in Millions)

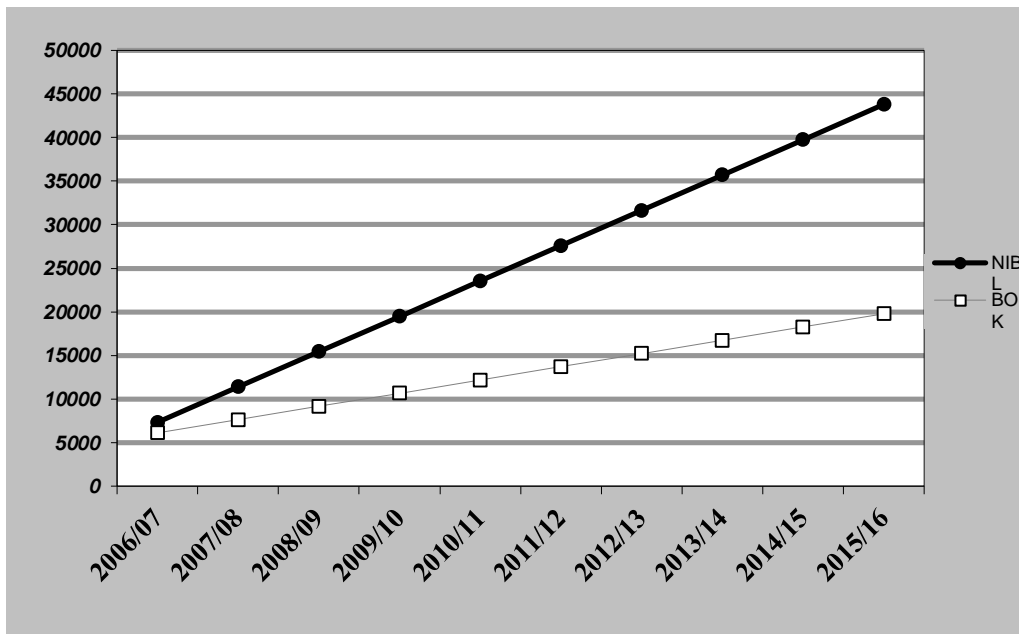
Fiscal Year	Trend Value of NIBL	Trend Value of BOK

2006/07	<b>7325.68</b>	<b>6109.85</b>
2007/08	<b>11379.16</b>	<b>7627.83</b>
2008/09	<b>15432.64</b>	<b>9145.81</b>
2009/10	<b>19486.12</b>	<b>10663.79</b>
2010/11	<b>23539.6</b>	<b>12181.77</b>
2011/12	<b>27593.08</b>	<b>13699.75</b>
2012/13	<b>31646.56</b>	<b>15217.73</b>
2013/14	<b>35700.04</b>	<b>16735.71</b>
2014/15	<b>39753.52</b>	<b>18253.69</b>
2015/16	<b>43807.00</b>	<b>19771.67</b>

(Source: Appendix No5.a&b)

Figure 4.27

Trend Analysis of Total Deposit



The table 4.29 and figure 4.27 shows the trend value of total deposit from 2006/07 to 2015/16 of two banks i.e. BOK and NIBL.

The total deposits of BOK and NIBL have in increasing trend. If all other things remain the same the total deposits of the NIBL will be higher deposit than BOK, under the study period. Same as the total deposit of the BOK will be 19771.67 in the FY 2015/16 and the total deposit of the NIBL will be 23539.6 in the FY the 2015/16.

By analyzing the above trend value, it is found the total deposit position collection of NIBL is better in comparison to BOK. The deposit position of NIBL and are increasing in the same proportion.

#### **b. Trend Analysis of Loan and Advances**

Here the trend values of loan and advances of NIBL and BOK have been calculated for five years from 2006/07 to 2010/11. The forecast for next five year up to 2015 have been done.

**Table 4.30**

**Trend Analysis of Loan and Advances**

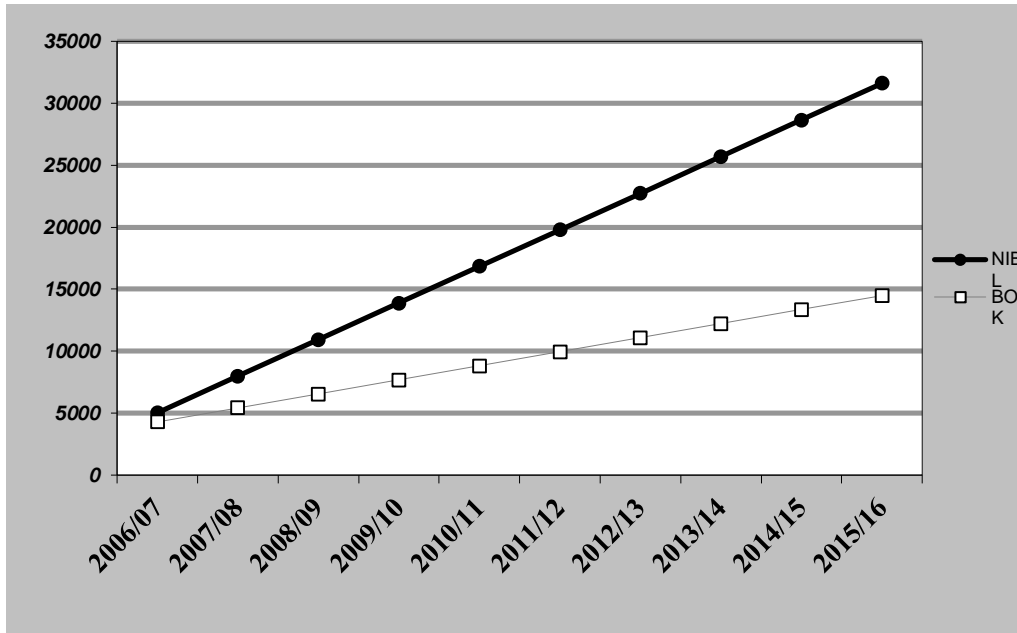
(Rs in Millions)

<b>Fiscal Year</b>	<b>Trend Value of NIBL</b>	<b>Trend Value of BOK</b>
2006/07	<b>5025.31</b>	<b>4286.94</b>
2007/08	<b>7978.73</b>	<b>5419.51</b>
2008/09	<b>10932.15</b>	<b>6552.08</b>
2009/10	<b>13885.57</b>	<b>7684.65</b>
2010/11	<b>16838.99</b>	<b>8817.22</b>
2011/12	<b>19792.41</b>	<b>9949.79</b>
2012/13	<b>22745.83</b>	<b>11082.36</b>
2013/14	<b>25699.25</b>	<b>12214.93</b>
2014/15	<b>28652.67</b>	<b>13347.5</b>
2015/16	<b>31606.09</b>	<b>14480.07</b>

*(Source: Appendix No5.c&d)*

**Figure 4.28**

**Trend Analysis of Loan and Advances**



The table 4.30 and figure 4.28 shows the trend value of total loan and advances from 2007 to 2016 of two banks i.e. BOK and NIBL.

The table 4.30 and figure 4.28 reveals that the trend value of Loan and advances of the NIBL and BOK have been in increasing trend. If other things remain same, total loan and advances of NIBL will be 31606.09 in 2015 and the total loan and advances of BOK will be 14480.07.

By analyzing the above trend value, it is found the total loan and advances position of NIBL is better in comparison to BOK.

### c. Trend analysis of Total Investment

In this topic, an effort has been made to calculate the trend values of total investment from the 2006/07 to 2010/11. The forecast for next five year up to 2016 have been done.

**Table 4.31**

### **Trend Analysis of Total Investment**

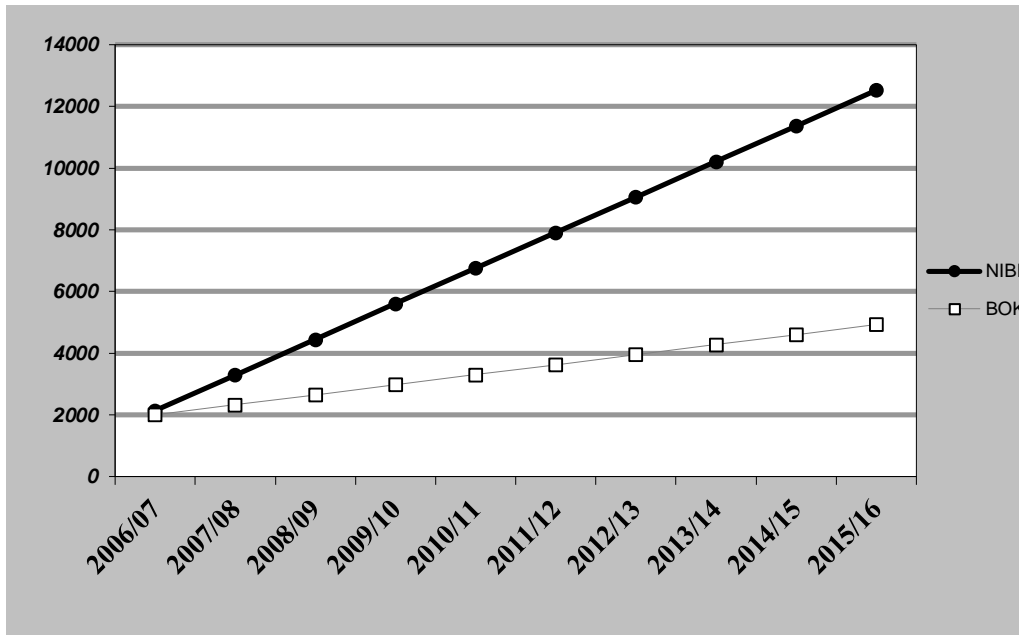
**(Rs in Millions)**

<b>Fiscal Year</b>	<b>Trend Value of NIBL</b>	<b>Trend Value of BOK</b>
2006/07	<b>2140.25</b>	<b>2001.81</b>
2007/08	<b>3293.97</b>	<b>2327.14</b>
2008/09	<b>4447.69</b>	<b>2652.47</b>
2009/10	<b>5601.41</b>	<b>2977.8</b>
2010/11	<b>6755.13</b>	<b>3303.13</b>
2011/12	<b>7908.85</b>	<b>3628.46</b>
2012/13	<b>9062.57</b>	<b>3953.79</b>
2013/14	<b>10216.29</b>	<b>4279.12</b>
2014/15	<b>11370.01</b>	<b>4604.45</b>
2015/16	<b>12523.73</b>	<b>4929.78</b>

*(Source: Appendix No5.e&f)*

**Figure 4.29**

**Trend Analysis of Total Investment**



The table 4.31 and figure 4.29 shows the trend value of total investment from 2007 to 2016 of two banks i.e. BOK and NIBL.

The table 4.31 and figure 4.29 reveals that the trend value of total investment of the NIBL and BOK have been in increasing trend. If other things remain same, total Investment of NIBL will be 12523.73 in 2015 and the total investment of BOK will be 4929.78.

By analyzing the above trend value, it is found the total investment position of NIBL is better in comparison to BOK.

**d. Trend Analysis of Net Profit**

Under this topic an efforts has been made to calculate the trend values of Net Profit of NIBL and BOK for five years from 2006/07 to 2010/11 and forecast for next five years from the 20011/12to 20015/16.



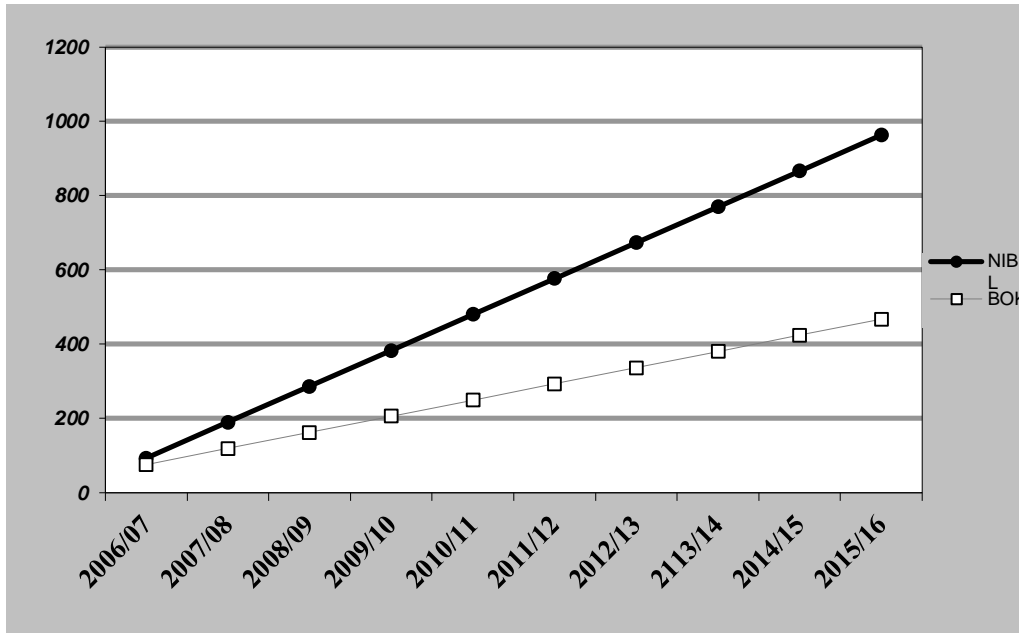
**Table 4.32**  
**Trend Analysis of Net Profit**

**(Rs in Millions)**

<b>Fiscal Year</b>	<b>Trend Value of NIBL</b>	<b>Trend Value of BOK</b>
2006/07	<b>93.31</b>	<b>75.69</b>
2007/08	<b>190.01</b>	<b>119.24</b>
2008/09	<b>286.71</b>	<b>162.79</b>
2009/10	<b>383.41</b>	<b>206.34</b>
2010/11	<b>480.11</b>	<b>249.89</b>
2011/12	<b>576.81</b>	<b>293.44</b>
2012/13	<b>673.51</b>	<b>336.99</b>
2013/14	<b>770.21</b>	<b>380.54</b>
2014/15	<b>866.91</b>	<b>424.09</b>
2015/16	<b>963.61</b>	<b>467.64</b>

*(Source: Appendix No5.g&h)*

**Figure 4.30**  
**Trend Analysis of Net Profit**



The table 4.32 and figure 4.30 shows the trend value of net profit from 2006 to 2015 of two banks i.e. BOK and NIBL.

The table 4.32 and figure 4.30 reveals that the trend value of net profit of the NIBL and BOK have been in increasing trend. If other things remain same, net profit of NIBL will be 963.61 in 2015 and the net profit of BOK will be 467.64.

By analyzing the above trend value, it is found the total investment position of NIBL is better in comparison to BOK.

#### 4.2.7 Correlation Coefficient Analysis

##### a. Coefficient of Correlation between outside Asset and Net profit

The table 4.33 shows the values of 'r',  $r^2$ , P.Er, 6P.Er between outside asset and net profit of NIBL and BOK.

**Table 4.33**

**Coefficient of Correlation between outside Asset and Net profit**

Banks	Evaluation criterions
-------	-----------------------

	r	r <sup>2</sup>	P.Er	6 P.Er
<b>NIBL</b>	0.9838	0.9679	<b>0.0097</b>	<b>0.0582</b>
<b>BOK</b>	0.9967	0.9934	<b>0.0020</b>	<b>0.0120</b>

(Source: Appendix No.6.e&f)

The table 4.33 shows the value of r, r<sup>2</sup>, P.Er, and 6P.Er between outside assets and net profit of BOK with comparison to NIBL from 2006/07 to 2010/11. In case of BOK, it is found that coefficient of correlation(r) between outside assets and net profit is 0.9967. It shows the positive relationship between two variables. The value of coefficient of determination (r<sup>2</sup>) is 0.9934, which means 99.34% of the variation in the dependent variable (net profit), has been explained by the independent variable (outside assets). Similarly, considering the value of r i.e. 0.9967 and comparing it with 6P.Er i.e. 0.0120, it can find, it is greater than the value of 6P.Er which reveals BOK is capable to earn net profit by mobilizing in total outside assets. In other words there is significant (positive) relationship between outside assets and net profit.

In the case of NIBL, have positive correlation between outside assets and net profit i.e. 0.9838 when it consider the value of coefficient of determination r<sup>2</sup> i.e. 0.9679 of the variation in the dependent variable has been explained by the independent variable. Since the value of r<sup>2</sup> i.e. 0.9679 of NIBL is higher than 6P.Er 0.0582 i.e., so its value of r is significant. In other words there is significant and positive relationship between outside assets and net profit.

After analyzing, the conclusion can be drawn that in BOK and NIBL there is significant relationship between deposit and loan and advances because r is greater than 6P.Er. This indicates that BOK has higher correlation between outside assets and net profit as well as higher value of r<sup>2</sup> than NIBL. It can conclude that BOK is successful to earn profit by mobilize their assets in a proper way than NIBL.

#### **b. Coefficient of Correlation between Deposit and Net Profit**

The table 4.36 shows the values of 'r', r<sup>2</sup>, P.Er, 6P.Er between Deposit and Net Profit of NIBL and BOK during the stuffy period.

**Table 4.34**

#### **Coefficient of Correlation between Deposit and Net Profit**

<b>Banks</b>	<b>Evaluation criterions</b>			
	r	r <sup>2</sup>	P.Er	6 P.Er

<b>NIBL</b>	0.9920	0.9841	<b>0.0048</b>	<b>0.0288</b>
<b>BOK</b>	0.99	0.9801	<b>0.0060</b>	<b>0.0360</b>

(Source: Appendix No.6.g&h)

The table 4.34 shows the value of  $r$ ,  $r^2$ , P.Er, and 6P.Er between deposit and net profit of BOK with comparison to NIBL from 2005/06 to 2009/10. In case of BOK, it is found that coefficient of correlation( $r$ ) between deposit and net profit is 0.9900. It shows the positive relationship between two variables i.e. deposit, independent(X) and net profit, dependent variable(Y). Moreover, when it considers the value of coefficient of determination ( $r^2$ ) is 0.9801, which means 98.01% of the variation in the dependent variable, has been explained by the independent variable. Similarly, considering the value of  $r$  i.e. 0.9900 and comparing it with 6P.Er i.e. 0.0360, which is greater than the value of 6P.Er which reveals the value of  $r$  is significant or relationship between deposit and net profit is positive relation and significant.

In the case of NIBL, have positive correlation between deposit and net profit i.e. 0.9920 it means NIBL has more positive relationship between deposit and net profit than BOK when it consider the value of coefficient of determination  $r^2$  i.e. 0.9841 of the variation in the dependent variable has been explained by the independent variable. Since the value of  $r^2$  i.e. 0.9841 of NIBL is higher than 6P.Er i.e. 0.0288, so its value of  $r$  is significant. In other words there is significant relationship between deposit and profit.

After analyzing, the conclusion can be drawn that in BOK and NIBL have significant relationship between deposit and Net profit because both bank's  $r$  is greater than 6P.Er. That means both banks able to follow the policy of profit maximization from their deposits. Lastly it can say that NIBL has followed the policy of profit maximizing from their deposits mobilization.

### c. Coefficient of Correlation between Deposit and Interest Earned

The table 4.37 shows the values of ' $r$ ',  $r^2$ , P.Er, 6P.Er between Deposit and Interest Earned of NIBL and BOK during the stuffy period.

**Table 4.35**

#### **Coefficient of Correlation between Deposit and Interest Earned**

<b>Banks</b>	<b>Evaluation criterions</b>			
	$r$	$r^2$	P.Er	6 P.Er

<b>NIBL</b>	0.9989	0.9978	<b>0.0007</b>	<b>0.0042</b>
<b>BOK</b>	0.9939	0.9878	<b>0.0037</b>	<b>0.0222</b>

*(Source: Appendix No.6.i&j)*

The coefficient of correlation  $r$  between deposit and interest earned in case of NIBL is 0.9989, which indicates a positive relationship between these variables. When deposits increase the interest earned subsequently increased but when it falls the interest earned also falls. The coefficient of determination  $r^2$  is 0.9978 which indicates that 99.78% of the variation of dependent variable has been explained by independent variable. Similarly considering the value of  $r$  and comparing with 6P.Er. i.e. 0.0042 it has been found that the value of  $r$  is greater than the value of 6P.Er. which shows that it has significant relationship between deposit and interest earned.

The coefficient of correlation  $r$  between two variables in case of BOK is 0.9939 which indicates that 99.39% of the variation of dependent variable has been explained by independent variables. Similarly considering the value of  $r$  and comparing with 6P.Er. i.e. 0.0222 it has been found that the value of  $r$  is greater than the value of 6P.Er. which shows that it has significant relationship between deposit and interest earned of BOK.

After above analysis it can be concluded that the relationship between deposit and interest earned in case of NIBL is highly significant with showing higher dependency. It has effectively mobilized deposits which has had a major role to play in its earnings; whereas other factors are responsible in the earnings of NIBL.

#### **d. Coefficient of Correlation between Total Working Fund and Net Profit**

The table 4.39 shows the values of ' $r$ ',  $r^2$ , P.Er, 6P.Er between Total Working Fund and Net Profit of NIBL and BOK during the study period.

**Table 4.36**

#### **Coefficient of Correlation between Working Fund and Net Profit**

<b>Banks</b>	<b>Evaluation criteria</b>
--------------	----------------------------

	r	r <sup>2</sup>	P.Er	6 P.Er
<b>NIBL</b>	0.9918	0.9837	<b>0.0049</b>	<b>0.0294</b>
<b>BOK</b>	0.9993	0.9986	<b>0.0004</b>	<b>0.0024</b>

*(Source: Appendix No.6.k&l)*

The coefficient of correlation r between working fund and net profit in case of NIBL is 0.9918, which indicates a positive relationship between these variables. When working fund increase the net profit subsequently increased and vice versa. The coefficient of determination r<sup>2</sup> is 0.9837 which indicate that 98.37% of the variation of dependent variable has been explained by independent variable. Similarly considering the value of r and comparing with 6P.Er. i.e. 0.0294 it has been found that the value of r is greater than the value of 6P.Er. which shows that it has significant relationship between working fund and net profit.

The coefficient of correlation r between two variables in case of BOK is 0.9993 which indicates that 99.93% of the variation of dependent variable has been explained by independent variables. Similarly considering the value of r and comparing with 6P.Er. i.e. 0.0024 it has been found that the value of r is greater than the value of 6P.Er. which shows that it has significant relationship between working fund and net profit of BOK.

After analysis the conclusion can be drawn that NIBL and BOK are significant relationship between these variable, which indicted that total working fund is significantly used to generate earnings.

### **4.3 Regression Analysis**

To find out the exact relationship between different variable simple regressions analysis has been done ad results of the analysis have been able.

**Table 4.37**

**Calculation of Regression Equation between Net Profits on Total Working Fund**

<b>Banks</b>	<b>Regression Equation</b>	<b>Value constant (a)</b>	<b>Regression coefficient (b)</b>
<b>NIBL</b>	<b>Y = -99.13 + 0.0210x</b>	<b>-99.13</b>	<b>0.021</b>
<b>BOK</b>	<b>Y = -111.88 + 0.0256x</b>	<b>-111.88</b>	<b>0.0256</b>

*(Source: Appendix No.7.a&b)*

The table shows the regression equation of net profit and total working fund BOK and NIBL. According to the table regression equation of net profit on total working fund i.e.

$Y = -99.13 + 0.0210x$  in NIBL where value of constant a i.e. -99.13 is negative and regression coefficient b i.e. 0.0210 which indicates the positive relationship exists between net profit and total working fund. In other word, one million increase in total working funds leads to average about 0.0210 million increase in net profit. The value of constant a indicates that if total working fund is 0 then the value of net profit is -99.13 million. So from analysis it shows that the net profit will be decrease and total working fund also decrease. On the other hand, the table regression equation of net profit on total working fund i.e.  $Y = -111.88 + 0.026x$  in BOK where value of constant a i.e. -111.88 is negative and regression coefficient b i.e. 0.026. Here the regression coefficient of b is positive in case of BOK which indicates that one million increase in total working fund lead to an average about 0.026 increases in net profit. According to the above table regression equation of net profit on total working fund regression coefficient is positive which reveals the positive relationship between net profit and total working fund.

The test of t statistics helps us to conclude that in all case the results are not statistically significant at 5% level of significance since the value of t is small than tabulated value.

**Table 4.38**

**Calculation of Regression Equation between Net Profits on Total Deposit**

<b>Banks</b>	<b>Regression Equation</b>	<b>Value constant (a)</b>	<b>Regression coefficient (b)</b>
<b>NIBL</b>	<b>Y = -101.00 + 0.0241x</b>	<b>-101.00</b>	<b>0.0241</b>
<b>BOK</b>	<b>Y = -101.52 + 0.0289x</b>	<b>-101.52</b>	<b>0.0289</b>

*(Source: Appendix No.7.c&d)*

The above table is the collection of major output of simple regression analysis of net profit on total deposit.

The regression equation of net profit Y dependent variable on total deposit X independent variable i.e.  $Y = -101.00 + 0.0241x$  in NIBL is positive i.e. 0.0241 which indicates the positive relationship exists between net profit and total deposit or it can be said that one million increase in total deposit leads to average 0.0241 million increase in net profit . Similarly, in case of BOK, the regression equation of net profit Y dependent variable on total deposit X independent variable i.e.  $Y = -101.52+0.0289x$ , the regression coefficient is positive or in other words one million increases in total deposit leads to average about 0.0289 million increase and total deposit also increase.

According to the above table regression equation of net profit on total working fund regression coefficient is positive which reveals the positive relationship between net profit and total working fund.

The test of t statistics helps us to conclude that in all case the results are not statistically significant at 5% level of significance since the value of t is small than tabulated value.

#### **4.5 Major Finding of the study**

1. The cash and bank balances to total deposit ratio of NIBL has decreasing trend. The main ratio of this bank is higher than BOK which indicates that its liquidity position is better to serve its customers deposits withdrawal demands. The C.V between the ratios is found to be 0.11 which shows that the ratios of NIBL aren't consistent and more variable. Similarly, the mean ratio of cash and bank balance to current assets of NIBL is higher than BOK i.e.



0.092>0.096. It states that liquidity position of NIBL is better in this regard. The C.V between them is 0.11 which means the ratios are seemed to be variable. NIBL is better position in maintaining its cash and bank balance to meet its daily requirement to make the payments on customers deposit withdrawal in comparison with BOK.

**2.** The mean ratio of investment on government securities to current asset of BOK is higher than NIBL i.e. 0.24>0.11. In the F.Y 2007/08 the bank has invested 29.81 of its fund in the government securities which maximum percentages during the study period. On the basis of C.V, the ratio of BOK i.e. 0.14 is less than NIBL i.e. 0.33 so the ratio of BOK are more volatile and consistent. Similarly, the loan and advances to current assets ratio of both banks has fluctuation trend. The mean ratio of BOK is higher than NIBL i.e. 0.70>0.64. So it can conclude that BOK is better to mobilize its funds as loan and advances on the other hand satisfactory than that of NIBL banks. The coefficient of variation among ratio is lower in case of NIBL, which means uniformity of NIBL in comparison to BOK.

**3.** The loans and advances to total deposit ratio of both banks are increasing and decreasing trend. The mean value of BOK i.e. 71.56 is higher than NIBL i.e. 70.95. The CV of BOK and NIBL is same which indicate that loan and advances of it is consistent. Similarly, the Investment to total deposit of both banks has in fluctuating trend during the study period. The mean ratio of total investment to total deposit of BOK is greater than NIBL i.e. 29.37>28.72. And the C.V of both banks are equal i.e. 0.10. So it is clear that the investment patterns of both banks are in better position. The total investment to total deposit ratio of both banks are homogeneous because it has equal coefficient of variation.

**4.** The loans and advances to total working fund of ratio of BOK are slightly lower than NIBL. The loan and advances to working fund ratio of BOK and NIBL are fluctuation trend. The both bank have highest ratio 64.51 and 65.69 in 2007/08 and 2003/04 respectively. The mean value of NIBL has highest ratio than BOK i.e. 62.01>60.82. This regard, NIBL is in better position than BOK. The coefficient of variation of BOK is lower than NIBL which clears that loan and advances to total working fund ratio is less variable than NIBL. Similarly, in case of investment on government securities to total working fund mean ratio, BOK is higher than that of NIBL i.e. 20.94>10.97 which means BOK has invest its more portion of working funds on government securities as than NIBL.

**5.** The investment on shares and debenture to total working fund ratios of BOK is fluctuation trend and NIBL has in decreasing trend in the study period. BOK has maintained highest ratio

i.e. 0.94 during the 2005/06 year and NIBL has highest ratio i.e. 0.14 during the 2003/04 year. In an average, BOK has maintained medium investment on shares and debentures to total working fund ratio than NIBL. The coefficient of variation of BOK his higher than that of NIBL which indicate that BOK is more variable and less consistent. Similarly, the mean ratio of return on loans and advances ratio of BOK is higher than NIBL i.e.  $2.40 > 2.39$  and the coefficient of variation of BOK is higher than NIBL i.e.  $0.15 > 0.13$  which indicters that the BOK is less variable but the mean ratio suggests that the earning capacity of the bank loan and advances is satisfactory.

**6.** Return on total working fund ratios of both banks are increasing trend during the study period. The mean values of BOK and NIBL are equal i.e. 1.46 and CV of both banks are 0.16 and 0.15 respectively. The coefficient of variation of BOK is highest than NIBL which means the return on total working fund ratio of BOK is not stable and consistent in comparison to NIBL. Finally the analysis clears the profitability ratio with respect to financial resources investment of both banks are satisfaction. Similarly, the mean ratio of total interest earned to total outside assets of NIBL is lower than BOK i.e.  $4.86 < 6.94$ . The C.V of the total interest earned to total outside assets of NIBL is lowest i.e.  $0.03 > 0.08$  indicates that the ratio satisfactory consistent during the study period. The mean ratio and CV of BOK is highest than NIBL. This reflects that earned to total outside assets of BOK is satisfactory in compared to NIBL which can conclude that BOK has better position with respect to the income earned from the total outside assets.

**7.** The ratio of BOK is decreasing trend, where the ratio of NIBL is increasing trend. The BOK has maximum ratio is 6.67 and minimum ratio is 5.62 and NIBL has maximum and minimum ratios are 5.62 and 5.10 respectively. The mean ratio of BOK is highest than NIBL i.e.  $6.05 > 5.44$  which means that BOK is better position than NIBL by mobilizing its working fund in profitability sector. The CV of NIBL is lower than BOK i.e.  $0.03 < 0.06$ . Similarly, the Credit risk ratios of both banks are fluctuating trend. The mean of BOK is highest than NIBL i.e.  $63.17 > 61.43$  and CV of BOK is 0.03 which is less than NIBL i.e. 0.06 which indicate that BOK's credit policy is consistent than NIBL.

**8.** Liquidity risk ratio of BOK is decreasing trend and NIBL is fluctuation trend. While comparing the mean of BOK and NIBL, the mean NIBL is greater than BOK i.e.  $10.88 > 9.44$  which indicates that average in compare to BOK. The coefficients of variance of both banks are 0.17 and 0.11. In comparison NIBL has less CV than BOK which means that liquidity risk

ratio of it's in consistent. Similarly, the mean ratio of BOK and NIBL banks are 12.25 and 11.64 respectively and the mean ratio of BOK is highest than NIBL. The coefficient of variance of a BOK is also greater than NIBL i.e.  $0.10 > 0.03$ . Thus it can be concluded that NIBL is stable and heterogeneous than BOK because it has less CV with comparison to BOK.

**9.** The analysis of the growth ratio of total deposits, total loan and advances, total investment and net profit of BOK and NIBL are fluctuation trend during the study period. The maximum growth rate of total deposits, total loan and advances, total investment and net profit of BOK and NIBL are 25.46 and 29.48, 45.46 and 42.44, 36.41 and 96.04, 55.22 and 52.05 respectively during the study period. From the point view of mean ratio of total deposits, total loan and advances, total investment and net profit of BOK and NIBL, NIBL has highest mean ratio than BOK so it can say that NIBL's growth is better than BOK. Similarly, the trend analysis of total deposits, total loan and advances, total investment and net profit of BOK and NIBL are increase trend during the study period. From the trend analysis it is forecasted that total deposits, total loan and advances, total investment and net profit of NIBL and BOK in the F.Y 2013 are 43807.00 and 19771.67, 31606.09 and 14480.07, 12523.73 and 4929.78, 963.61 and 467.64 respectively during the study period. From the trend analysis of NIBL and BOK, it is clear that NIBL has better position than BOK. In other words, NIBL success in collecting higher deposit, to grant higher loan and advances, to invest higher portion of its fund and to earn highest net profit than BOK.

**10.** The coefficient of Correlation  $r$  between deposits and loan and advance of NIBL is 0.9941 which is highest than BOK. Its 6 P.Er i.e. 0.0216 since  $r > 6$  P.Er and  $r$  is positive which is near to 1 so there is very strong positive correlation between deposits and loan and advances during the study. It indicates that NIBL is successful in maximizing the loan and advances of their deposit. Similarly, the coefficient of Correlation  $r$  between deposits and total investment of NIBL is 0.9941 which is highest than BOK i.e. 0.8537. Its 6 P.Er i.e. 0.0618 since  $r > 6$  P.Er and  $r$  is positive which is near to 1 so there is very strong positive correlation between deposits and total investment during the study. It indicates that NIBL is successful in maximizing the investment of their deposit.

**11.** The coefficient of Correlation  $r$  between total outside assets and net profit of BOK is 0.9967 which is highest than NIBL i.e. 0.9838. Its 6 P.Er i.e. 0.0120 since  $r > 6$  P.Er and  $r$  is positive which is near to 1 so there is very strong positive correlation between total outside assets and net profit during the study. It indicates that BOK is capable to earn net profit by

mobilizing its total outside assets in comparison to NIBL. Loan and advances is the main earning assets of the bank, but here the fluctuation of loan and advance is significant to net profit of BOK and NIBL. Similarly, the The coefficient of Correlation  $r$  between Deposit and net profit of NIBL is 0.9920 which is highest than BOK i.e. 0.99. Its 6 P.Er i.e. 0.0288 since  $r > 6$  P.Er and  $r$  is positive which is near to 1 so there is very perfect positive correlation between deposit and net profit during the study. It indicates that NIBL is capable to earn net profit by mobilizing its total deposit in comparison to NIBL which means it is significant.

**12.** The coefficient of Correlation  $r$  between Deposit interest earned of NIBL is 0.9989 which is highest than BOK i.e. 0.9939. Its 6 P.Er i.e. 0.0042. Since  $r > 6$  P.Er it is positively and significantly relationship between these variables. So NIBL has effectively mobilization of deposits which has had major role to play in its earning in compared with BOK. Similarly, the coefficient of correlation  $r$  between total working fund and net profit of the BOK is 0.9993 which is highest than NIBL. Its 6 P.Er. is 0.0024. Since  $r > 6$  P.Er. and  $r$  is positive which means there is positive correlation between total working fund and net profit during the study period.

**13.** The regression of net profit on total working fund is positive in case of NIBL and BOK which indicates on million increases in total working fund leads to average 0.0210 and 0.0256 increase in net profit of BOK and NIBL respectively. Similarly, the regression of net profit on deposit is positive in case of BOK and NIBL which indicates on million increases in total deposit leads to average 0.0289 and 0.0241 increase in net profit of BOK and NIBL respectively.

# **CHAPTER – V**

## **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Summary**

Commercial banks are major financial institution, which occupy quite an important place in the framework of every economy because they provide capital for the development of industry trade and business and other resources deflect sectors investing the saving collected as deposit commercial banks, by playing active role have changed the economic structure of the world. Commercial banks have its own role and contribution in the economic development; it maintains economic confidence of various segments and extends credit to people. The banking sector has to play developmental role to boost the economic development; it maintains economic confidence of various segments and extends credit to people. The banking sector has to play developmental role to boost the economy by adopting the growth oriented investment policy and building up the financial structure for future economic development formulation of sound investment policies and planned effort pushed forward the force of economic growth.

Investment is one of the most important functions of a commercial bank and the composition of loan and advances directly affects the performance and profitability of the bank. There is intense competition in banking business with limited market and less investment opportunities available. Every bank is facing the problem of liquidity and default loan and there is always possibility of a certain portion of the loan and advances turning in non-performing loan. Currently, there are 31 commercial banks till date. For the study two banks, NIBL and BOK is taken as a sample since both the banks have good deposits and investment strategies and both the banks are old and non-joint venture banks. The objective of this study is to evaluate the investment pattern adopted by NIBL and BOK.

A study of the liquidity position, loan and advances, profitability, deposits position of the commercial banks are analyzed and the banks investment strength, investment efficiency and its contribution in total profitability has been measured. In this study, “the financial tools – ratio analysis viz liquidity ratio, asset management ratios, risk ratio, growth ratio and profitability ratios are calculated to find out the lending strength of the commercial banks. Also statistical tools like mean, standard deviation, C.V., coefficient of correlation and trend analysis.

The data used in this research is secondary nature and extracted from the annual reports of the concerned banks and website of Nepal Rastra Bank and Nepal stock exchange. The financial statements of five years (2005/06 to 2009/10) were selected for the study purpose. The analysis of investment strength in relative terms the ratio remained almost constant in the study period of all the two banks. BOK has slightly less than NIBL. Similarly NIBL is most successful in collecting cheaper funds and its major portion of deposits consists of non interest bearing deposits. The cost of deposits is the major expense of a bank. NIBL is properly utilizing the collected deposits (funds) in terms of loan and advances and investments. There are no idle deposits and hence maximum utilization of funds in loan and advances and investments. Similarly BOK is also successful in converting liability into assets, in terms of investment made, from shareholders equity; it has successfully generated proportionately higher volume of loans and advances.

Both the banks are fluctuating in loan and advances and total deposit ratio and increasing trend in total investment and to total deposit. The commercial bank has been following NRB directives in terms of loan loss provision and loan classification as the figures are revealed in the appropriate heading in their annual reports.

## **5.2 Conclusion**

On the basis of analysis and major finding of eh fourth chapter, following conclusion can be made:

The liquidity position of NIBL is comparatively better than of BOK. BOK has highest investment on government securities to current assets ratio and also BOK has highest Loan and Advances to Current Assets Ratio than NIBL.

Through the assets management ratio, BOK has stronger investment policy towards loan and advances to total deposit, investment to total deposit but weaker in to loan and advance to total working fund. Investment on government securities to total working fund, Investment on Shares and debentures to total working fund ratio of BOK has highest mean ratio which means BOK is better position in its assets management than NIBL. In analysis of profitability returns on loan and advances and return on total working fund of both banks is same and Total Interest Earned to Total outside Assets Ratio and Total Interest Earned to Total Working Fund Ratio of BOK is better position because in average BOK have highest than NIBL.

Through risk ratio of credit risk ratio, the mean of BOK is highest than NIBL and CV of BOK is less than NIBL which indicate that BOK's credit policy is consistent than NIBL. In case of liquidity ratio, the mean NIBL is greater than BOK and the coefficients of NIBL has less CV than BOK which means that liquidity risk ratio of its in consistent and capital risk ratio of both bank, the mean ratio of BOK is highest than NIBL. And also the coefficient of variance of a BOK is greater than NIBL. Thus it can be concluded that NIBL is stable and heterogeneous than BOK.

From the growth ratio analysis, both banks have fluctuation trend in total deposit, loan and advance, total investment and net profit but in case of trend analysis, both banks have increasing trend in total deposit, loan and advance total investment and net profit. In conclusion the growth ratio and trend analysis of NIBL is better and progressing position than BOK.

From the coefficient of correlation between deposit and loan and advances, coefficient of correlation between deposit and investment, coefficient of correlation between deposit and net profit and coefficient of correlation between deposit and interest earned, there is highly significant relationship in case of NIBL but in case of coefficient of correlation between outside asset and net profit, coefficient of correlation between working fund and net profit, there is highly significant relationship in case of BOK. In conclusion NIBL is better position than BOK.

The analysis of Hypothesizes, there is only two test of hypothesis i.e. investment on government securities and current assets ratio and total interest earned to total outside assets have significance different and all rest test of hypothesis have no significance difference.

Through the analysis and finding it can conclude that NIBL has better investment policy, liquidity position, loans advances profitability ratio, and growth rate is also good. Similarly, investment position of NIBL is not good enough but it has better risk ratio. Averagely BOK has also better position in asset management ratio.

### 5.3 Recommendation

After going over the analysis and findings, following recommendations are made in order to overcome the weakness and inefficiency and make better policy on utilization and investment.

- NIBL has maintained the ratio of cash and bank balance to total deposit lower than that of BOK. It is recommended to increase cash and bank balance to meet current obligations and loan demand.
- The study reveals that NIBL has not invested more funds in government securities and so is recommended to invest more funds in this sector and not making them idle because govt. securities are the less risky assets.
- The assets management ratio NIBL is lower than BOK which indicates it has not properly used its fund in earning sector. Hence, NIBL is recommended to follow liberal policy.
- Profitability ratios of banks are not satisfactory, if resources held idle bank have to beared more cost and result would be lower profit margin. So portfolio condition of bank should be regularly revised from time to time. It should always try to maintain the equilibrium in the portfolio condition of the bank. The bank should use its funds in more portfolio sectors. It should utilize its risky assets and shareholders fund and it should reduce its express and should try to collect cheaper fund being more profitability. The profitability position on BOK is greater than NIBL. So, it is recommended that NIBL should properly utilized its loan and advances investment should be done on less risky asset decrease the expenses by controlling their operation expenses. So it can earn more profit.
- Since the risk increase effectiveness and profitability of bank, the credit risk and capital risk ratio taken by NIBL is lower than that of NIBL and its consistency is unstable which may result in loss. The bank should not take high risk, NIBL should carefully analyze in above risk to achieve higher returns.
- Coefficient of correlation between outside asset and net profit of both banks are highly positive, however NIBL has higher coefficient of correlation than that of BOK. It shows that there is highly positive relationship between these two variables of both banks. But NIBL is less capable to earn profit by mobilizing its total outsides assets then NIBL. So NIBL should innovate new strategy changing its current policy for more utilizing its outside assets to earn more profit to compete with the NIBL.



- The commercial banks i.e. NIBL and BOK should go for some new areas of investment like hydro electricity and infrastructure development of the economy as well as bank's operation.
- NIBL and BOK should target their business segment on the middle family. For this they have to keep the affordable minimum balance to open the account. So that they can earn more customer and generate more deposit amount.
- Both banks should support the social welfare event to promote the business. The bank should formulate new strategies of serving customers in more convenient way.
- It is found that at time bank focuses much of its attention to one sector leaving other sector untouched, so it is recommended to touch all the sectors and balance it effectively as to have the optimal performance of the bank.

In the light of growing completion in the banking sector the business of the bank is customer oriented. It should strengthen and active its marketing function, as it is an effective tool of attracting and retaining customers. The bank should develop on "Innovative approach to bank marketing and formulate new strategies of serving customers in more convenient way."

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## Appendix -1

### Liquidity Ratio

#### a. Cash and bank balance to the Deposit ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Cash & bank balance	Total deposit	Ratio	Cash & bank balance	Total deposit	Ratio
2006/07	926.53	7922.75	0.12	692.71	6170.71	0.11
2007/08	1226.92	11524.67	0.11	782.85	7741.65	0.10
2008/09	1340.48	14254.58	0.09	740.52	8942.75	0.08
2009/10	2406.57	18927.31	0.13	728.7	10485	0.07
2010/12	2441.53	24488.86	0.09	1315.91	12388.93	0.11

#### b. Cash and bank balance to Current assets ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Cash & bank balance	Current assets	Ratio	Cash & bank balance	Current assets	Ratio
2006/07	926.53	8593.56	0.10	629.71	7224.66	0.10
2007/08	1226.92	12737.97	0.10	782.85	9364.43	0.08
2008/09	1340.48	15867.83	0.08	740.52	9310.27	0.08
2009/10	2406.57	21186.54	0.11	728.7	8919.06	0.08
2010/11	2441.53	27079.26	0.09	1315.91	11256.82	0.12

#### c. Investment on Government securities to Current assets ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Investment on Govt. Securities	Current Assets	Ratio	Investment on Govt. Securities	Current Assets	Ratio
2006/07	400.00	8593.56	0.05	1510.71	7224.66	0.21
2007/08	2001.10	12737.97	0.16	2371.77	9364.43	0.25
2008/09	1948.50	15867.83	0.12	2146.62	9310.27	0.23
2009/10	2522.30	21186.54	0.11	2658.37	8919.06	0.30
2010/11	3256.40	27079.26	0.12	2332.04	11256.82	0.21



**d. Loan and Advances to Current Assets Ratio**

(Rs. In millions)

<b>Fiscal Year</b>	<b>NIBL</b>			<b>BOK</b>		
	<b>Loan and Advances</b>	<b>Current Assets</b>	<b>Ratio</b>	<b>Loan and Advances</b>	<b>Current Assets</b>	<b>Ratio</b>
<b>2006/07</b>	5921.79	8593.56	0.69	4542.7	7224.66	0.63
<b>2007/08</b>	7338.57	12737.97	0.58	5646.69	9364.43	0.60
<b>2008/09</b>	10453.16	15867.83	0.66	5912.58	9310.27	0.63
<b>2009/10</b>	13178.15	21186.54	0.62	7259.08	8919.06	0.81
<b>2010/11</b>	17769.10	27079.26	0.66	9399.33	11256.82	0.84

## Assets Management Ratio

### a. Loan and Advances to Total Deposit ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Loan and Advances	Total Deposit	Ratio (%)	Loan and Advances	Total Deposit	Ratio (%)
2006/07	5921.79	7922.75	74.74	452.7	6170.71	73.62
2007/08	7338.57	11524.67	64.10	5646.69	7741.65	72.94
2008/09	10453.16	14254.58	73.33	5912.58	8942.75	66.12
2009/10	13178.15	18927.31	70.02	7259.08	10485	69.23
2010/11	17769.10	24488.86	72.56	9399.33	12388.93	75.87

### b. Total Investment to Total Deposit Ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Total Investment	Total Deposit	Ratio (%)	Total Investment	Total Deposit	Ratio (%)
2006/07	1970.27	7922.75	24.87	1816.15	6170.71	29.43
2007/08	3862.48	11524.67	33.51	2477.4	7741.65	32.00
2008/09	3934.19	14254.58	27.59	2598.25	8942.75	29.05
2009/10	5602.87	18927.31	29.60	3378.13	10485	32.22
2010/11	6868.65	24488.86	28.04	2992.43	12388.93	24.15

### c. Loan and Advances to Total Working Fund

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Loan and Advances	Working Fund	Ratio (%)	Loan and Advances	Working Fund	Ratio (%)
2006/07	5921.79	9014.24	65.69	4542.7	7444.82	61.02
2007/08	7338.57	13255.50	55.36	5646.69	9496.34	59.46
2008/09	10453.16	16274.06	64.23	5912.58	9857.13	59.98
2009/10	13178.15	21330.13	61.78	7259.08	12278.3	59.12
2010/11	17769.10	28183.73	63.00	9399.32	14570.09	64.51

### d. Investment on Government Securities to Total Working Funds Ratio



(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Investment on Govt. Securities	Working Fund	Ratio (%)	Investment on Govt. Securities	Working Fund	Ratio (%)
2006/07	400.00	9014.24	4.44	1510.71	7444.82	20.29
2007/08	2001.10	13255.50	15.10	2371.77	9496.34	24.98
2008/09	1948.50	16274.06	11.97	2146.62	9857.13	21.78
2009/10	2522.30	21330.13	11.82	2658.37	12278.30	21.65
2010/11	3256.40	28183.73	11.55	2332.04	14570.09	16.01

**e. Investment on Shares and debentures to Total Working Fund Ratio**

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Investment on Shares and debentures	Working Fund	Ratio (%)	Investment on Shares and debentures	Working Fund	Ratio (%)
2006/07	12.89	9014.24	0.14	38.01	7444.82	0.51
2007/08	13.89	13255.50	0.11	22.81	9496.34	0.24
2008/09	17.74	16274.06	0.11	93.02	9857.13	0.94
2009/10	17.74	21330.13	0.08	96.87	12278.3	0.79
2010/11	35.25	28183.73	0.13	90.17	14570.09	0.62

## Appendix -3

### Profitability Ratio

#### a. Return on Loan and Advances Ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Net Profit	Loan and Advances	Ratio (%)	Net Profit	Loan and Advances	Ratio (%)
<b>2006/07</b>	116.82	5921.79	2.02	82.13	4542.70	1.81
<b>2007/08</b>	152.67	7338.57	2.14	127.48	5646.69	2.26
<b>2008/09</b>	232.14	10453.16	2.29	139.52	5912.58	2.36
<b>2009/10</b>	350.53	137178.15	2.66	202.44	7259.08	2.79
<b>2010/11</b>	501.39	17769.10	2.82	262.39	9399.32	2.79

#### b. Return on Total Working Fund Ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Net Profit	Working Fund	Ratio (%)	Net Profit	Working Fund	Ratio (%)
<b>2006/07</b>	116.82	9014.24	1.30	82.13	7444.82	1.10
<b>2007/08</b>	152.67	13255.50	1.15	127.48	9496.34	1.34
<b>2008/09</b>	232.14	16274.06	1.43	139.52	9857.13	1.42
<b>2009/10</b>	350.53	21330.13	1.64	202.44	12278.3	1.65
<b>2010/11</b>	501.39	28183.73	1.77	262.39	14570.09	1.80

#### c. Total Interest Earned to Total outside Assets Ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Total Interest Earned	Total outside Assets	Ratio (%)	Total Interest Earned	Total outside Assets	Ratio (%)
<b>2006/07</b>	459.51	9627.99	4.77	469.81	6358.85	7.81
<b>2007/08</b>	731.40	15387.15	4.75	567.09	8124.09	6.98
<b>2008/09</b>	886.80	18188.77	4.88	607.09	8510.83	7.13
<b>2009/10</b>	1172.74	24530.19	4.78	718.12	10633.80	6.75
<b>2010/11</b>	1584.98	30994.53	5.11	819.01	13588.10	6.03

**d. Total Interest Earned to Total Working Fund Ratio**

(Rs. In millions)

<b>Fiscal Year</b>	<b>NIBL</b>			<b>BOK</b>		
	<b>Interest Earned</b>	<b>Working Fund</b>	<b>Ratio (%)</b>	<b>Interest Earned</b>	<b>Working Fund</b>	<b>Ratio (%)</b>
<b>2006/07</b>	459.51	9014.24	5.10	496.81	7444.82	6.67
<b>2007/08</b>	731.40	13255.50	5.52	567.09	9496.34	5.97
<b>2008/09</b>	886.80	16274.06	5.45	607.09	9857.13	6.16
<b>2009/10</b>	1172.74	21330.13	5.49	718.12	12278.3	5.85
<b>2010/11</b>	1584.98	28183.73	5.62	819.01	14570.09	5.62

## Appendix -4

### Risk Ratio

#### a. Credit Risk Ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Loan & advances	Total Assets	Ratio (%)	Loan & advances	Total Assets	Ratio (%)
2006/07	5921.79	9163.89	64.62	4542.70	7224.66	62.88
2007/08	7338.57	13463.94	54.50	5646.69	9364.43	60.30
2008/09	10453.16	16390.65	64.10	5912.58	9310.27	63.51
2009/10	137178.15	21732.08	60.64	7259.08	11498.66	63.13
2010/11	17769.10	28073.52	63.30	9694.00	14570.10	66.53

#### b. Liquidity Risk Ratio

(Rs. In millions)

Fiscal Year	NIBL			BOK		
	Cash & Bank Balance	Total Deposit	Ratio (%)	Cash & Bank Balance	Total Deposit	Ratio (%)
2006/07	936.53	7922.75	11.69	692.71	6170.71	11.23
2007/08	1226.92	11524.67	10.65	782.85	7741.65	10.11
2008/09	1340.48	14254.58	9.40	740.52	8942.75	8.28
2009/10	2406.57	18927.31	12.71	728.70	10485.00	6.95
2010/11	2441.53	24488.86	9.97	1315.91	12388.93	10.62

**c. Capital Risk Ratio**

(Rs. In millions)

<b>Fiscal Year</b>	<b>NIBL</b>			<b>BOK</b>		
	<b>Capital</b>	<b>Risk weight Assets</b>	<b>Ratio (%)</b>	<b>Capital</b>	<b>Risk weight Assets</b>	<b>Ratio (%)</b>
<b>2006/07</b>	1099.78	9837	11.18	510.67	4575.94	11.16
<b>2007/08</b>	1578.70	13633	11.58	510.31	4630.74	11.02
<b>2008/09</b>	2093.79	17492	11.97	629.06	4332.40	14.52
<b>2009/10</b>	2852.16	23436	12.17	806.98	6394.49	12.62
<b>2010/11</b>	3889.80	34484	11.28	751.70	6300.94	11.93

**Appendix-5**

**Trend Analysis**

### a. Trend Analysis of Total Deposit of NIBL

(Rs. In millions)

Fiscal Year(t)	Total Deposit(Y)	X=t-2009	X <sup>2</sup>	XY	Y <sub>c</sub> =a+bx
2007	7922.75	-2	4	-15845.54	<b>7325.68</b>
2008	11524.67	-1	1	-11524.68	<b>11379.16</b>
2009	14254.58	0	0	0	<b>15432.64</b>
2010	18927.31	1	1	18927.31	<b>19486.12</b>
2011	24488.86	2	4	48977.72	<b>23539.6</b>
<b>Total</b>	<b>77118.20</b>		<b>10</b>	<b>40534.81</b>	

$$a = \frac{\sum Y}{n} = \frac{77118.20}{5} = 15423.64$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{40534.81}{10} = 4053.481$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e. Y<sub>c</sub>=a+bx

$$Y_c = 15432.64 + 4053.48x$$

Project trend values of total deposit for next 5 years.

T	X=t-2009	Y <sub>c</sub> =a+bx
2012	3	<b>27593.08</b>
2013	4	<b>31646.56</b>
2014	5	<b>35700.04</b>
2015	6	<b>39753.52</b>
2016	7	<b>43807.00</b>

### b. Trend Analysis of Total Deposit of BOK

(Rs. In millions)

Fiscal Year(t)	Total Deposit(Y)	X=t-2009	X <sup>2</sup>	XY	Y <sub>c</sub> =a+bx
2007	6170.71	-2	4	-12341.42	<b>6109.85</b>
2008	7741.65	-1	1	-7741.65	<b>7627.83</b>
2009	8942.75	0	0	0.00	<b>9145.81</b>
2010	10485	1	1	10485.00	<b>10663.79</b>
2011	12388.93	2	4	24777.86	<b>12181.77</b>

<b>Total</b>	<b>45729.04</b>		<b>10</b>	<b>15179.79</b>	
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$$a = \frac{\sum Y}{n} = \frac{45729.04}{5} = 9145.81$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{15179.79}{10} = 1517.98$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e.  $Y_c = a + bx$

$$Y_c = 9145.81 + 1517.98x$$

Project trend values of total deposit for next 5 years.

<b>Fiscal Year</b>	<b>X=t-2009</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2012</b>	3	<b>13699.75</b>
<b>2013</b>	4	<b>15217.73</b>
<b>2014</b>	5	<b>16735.71</b>
<b>2015</b>	6	<b>18253.69</b>
<b>2016</b>	7	<b>19771.67</b>

### c. Trend Analysis of Loan and Advances of NIBL

(Rs. In millions)

<b>Fiscal Year(t)</b>	<b>Loan &amp; Advance(Y)</b>	<b>X=t-2009</b>	<b>X<sup>2</sup></b>	<b>XY</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2007</b>	5921.79	-2	4	-11843.58	<b>5025.31</b>
<b>2008</b>	7338.57	-1	1	-7338.57	<b>7978.73</b>
<b>2009</b>	10453.16	0	0	0	<b>10932.15</b>
<b>2010</b>	13178.15	1	1	13178.15	<b>13885.57</b>
<b>2011</b>	17769.10	2	4	35538.2	<b>16838.99</b>
<b>Total</b>	<b>54660.77</b>		<b>10</b>	<b>29534.2</b>	

$$a = \frac{\sum Y}{n} = \frac{54660.77}{5} = 10932.154$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{29534.2}{10} = 2953.42$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e.  $Y_c = a + bx$

$$Y_c = 10932.15 + 2953.42x$$

Project trend values of total deposit for next 5 years.

<b>Fiscal Year(t)</b>	<b>X=t-2009</b>	<b>Y<sub>c</sub>=a+bx</b>
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<b>2012</b>	3	<b>19792.41</b>
<b>2013</b>	4	<b>22745.83</b>
<b>2014</b>	5	<b>25699.25</b>
<b>2015</b>	6	<b>28652.67</b>
<b>2016</b>	7	<b>31606.09</b>

**d. Trend Analysis of Loan and Advances of BOK**

(Rs. In millions)

<b>Fiscal Year(t)</b>	<b>Loan &amp; Advance(Y)</b>	<b>X=t-2009</b>	<b>X<sup>2</sup></b>	<b>XY</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2007</b>	4542.70	-2	4	-9085.40	<b>4286.94</b>
<b>2008</b>	5646.69	-1	1	-5646.69	<b>5419.51</b>
<b>2009</b>	5912.58	0	0	0.00	<b>6552.08</b>
<b>2010</b>	7259.08	1	1	7259.08	<b>7684.65</b>
<b>2011</b>	9399.33	2	4	18798.66	<b>8817.22</b>
<b>Total</b>	<b>32760.38</b>		<b>10</b>	<b>11325.65</b>	

$$a = \frac{\sum Y}{n} = \frac{32760.38}{5} = 6552.076$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{11325.65}{10} = 1132.565$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e. Y<sub>c</sub>=a+bx

$$Y_c = 6552.08 + 1132.57x$$

Project trend values of total deposit for next 5 years.

<b>Fiscal Year(t)</b>	<b>X=t-2009</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2012</b>	3	<b>9949.79</b>
<b>2013</b>	4	<b>11082.36</b>
<b>2014</b>	5	<b>12214.93</b>
<b>2015</b>	6	<b>13347.5</b>
<b>2016</b>	7	<b>14480.07</b>

**e. Trend Analysis of Total Investment of NIBL**

(Rs. In millions)



<b>Fiscal Year(t)</b>	<b>Total Investment (Y)</b>	<b>X=t-2009</b>	<b>X<sup>2</sup></b>	<b>XY</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2007</b>	1970.27	-2	4	-39340.54	<b>2140.25</b>
<b>2008</b>	3862.48	-1	1	-3862.48	<b>3293.97</b>
<b>2009</b>	3934.19	0	0	0	<b>4447.69</b>
<b>2010</b>	5602.87	1	1	5602.87	<b>5601.41</b>
<b>2011</b>	6868.65	2	4	13737.3	<b>6755.13</b>
<b>Total</b>	<b>22238.46</b>		<b>10</b>	<b>11537.15</b>	

$$a = \frac{\sum Y}{n} = \frac{22238.46}{5} = 4447.692$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{11537.15}{10} = 1153.715$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e. Y<sub>c</sub>=a+bx

$$Y_c = 4447.69 + 1153.72x$$

Project trend values of total deposit for next 5 years.

<b>F.Y(t)</b>	<b>X=t-2009</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2012</b>	3	<b>7908.85</b>
<b>2013</b>	4	<b>9062.57</b>
<b>2014</b>	5	<b>10216.29</b>
<b>2015</b>	6	<b>11370.01</b>
<b>2016</b>	7	<b>12523.73</b>

#### f. Trend Analysis of Total Investment of BOK

(Rs. In millions)

<b>Fiscal</b>	<b>Total Investment</b>	<b>X=t-2009</b>	<b>X<sup>2</sup></b>	<b>XY</b>	<b>Y<sub>c</sub>=a+bx</b>
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Year(t)	(Y)				
<b>2007</b>	1816.15	-2	4	-3632.30	<b>2001.81</b>
<b>2008</b>	2477.40	-1	1	-2477.40	<b>2327.14</b>
<b>2009</b>	2598.25	0	0	0.00	<b>2652.47</b>
<b>2010</b>	3378.13	1	1	3378.13	<b>2977.8</b>
<b>2011</b>	2992.43	2	4	5984.86	<b>3303.13</b>
<b>Total</b>	<b>13262.36</b>		<b>10</b>	<b>3253.29</b>	

$$a = \frac{\sum Y}{n} = \frac{13262.36}{5} = 2652.472$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{3253.29}{10} = 325.329$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e.  $Y_c = a + bx$

$$Y_c = 2652.47 + 325.33x$$

Project trend values of total deposit for next 5 years.

Fiscal Year(t)	X=t-2009	$Y_c = a + bx$
<b>2010</b>	3	<b>3628.46</b>
<b>2011</b>	4	<b>3953.79</b>
<b>2012</b>	5	<b>4279.12</b>
<b>2013</b>	6	<b>4604.45</b>
<b>2014</b>	7	<b>4929.78</b>

#### g. Trend Analysis of Net Profit of NIBL

(Rs. In millions)

Fiscal Year(t)	Net Profit (Y)	X=t-2009	X <sup>2</sup>	XY	$Y_c = a + bx$
<b>2007</b>	116.82	-2	4	-233.64	<b>93.31</b>
<b>2008</b>	152.67	-1	1	-152.67	<b>190.01</b>
<b>2009</b>	312.15	0	0	0	<b>286.71</b>

<b>2010</b>	350.54	1	1	350.54	<b>383.41</b>
<b>2011</b>	501.39	2	4	1002.78	<b>480.11</b>
<b>Total</b>	<b>1433.57</b>		<b>10</b>	<b>967.01</b>	

$$a = \frac{\sum Y}{n} = \frac{1433.57}{5} = 286.714$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{967.01}{10} = 96.701$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e.  $Y_c = a + bx$

$$Y_c = 286.71 + 96.70x$$

Project trend values of total deposit for next 5 years.

<b>Fiscal Year(t)</b>	<b>X=t-2009</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2012</b>	3	<b>576.81</b>
<b>2013</b>	4	<b>673.51</b>
<b>2014</b>	5	<b>770.21</b>
<b>2015</b>	6	<b>866.91</b>
<b>2016</b>	7	<b>963.61</b>

#### **h. Trend Analysis of Net Profit of BOK**

(Rs. In millions)

<b>Fiscal Year(t)</b>	<b>Net Profit (Y)</b>	<b>X=t-2009</b>	<b>X<sup>2</sup></b>	<b>XY</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2007</b>	82.13	-2	4	-164.26	<b>75.69</b>
<b>2008</b>	127.48	-1	1	-127.48	<b>119.24</b>
<b>2009</b>	139.52	0	0	0.00	<b>162.79</b>
<b>2010</b>	202.44	1	1	202.44	<b>206.34</b>
<b>2011</b>	262.39	2	4	524.78	<b>249.89</b>
<b>Total</b>	<b>813.96</b>		<b>10</b>	<b>435.48</b>	

$$a = \frac{\sum Y}{n} = \frac{813.96}{5} = 162.792$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{435.48}{10} = 43.548$$

Putting the value of a and b in the equation of N<sup>th</sup> straight trend line i.e.  $Y_c = a + bx$

$$Y_c = 162.79 + 43.55x$$

Project trend values of total deposit for next 5 years.

<b>Fiscal Year(t)</b>	<b>X=t-2007</b>	<b>Y<sub>c</sub>=a+bx</b>
<b>2010</b>	3	<b>293.44</b>
<b>2011</b>	4	<b>336.99</b>
<b>2012</b>	5	<b>380.54</b>
<b>2013</b>	6	<b>424.09</b>
<b>2014</b>	7	<b>467.64</b>

## Appendix-6

### Coefficient of Correlation Analysis

#### a. Coefficient of Correlation between Deposit and Loan and Advances of NIBL

(Rs. In millions)

<b>Fiscal Year</b>	<b>Deposit (x)</b>	<b>Loan &amp; Advances (y)</b>	<b>X = x - <math>\bar{x}</math></b>	<b>X<sup>2</sup></b>	<b>Y = y - <math>\bar{y}</math></b>	<b>Y<sup>2</sup></b>	<b>XY</b>
<b>2007</b>	7922.75	5921.79	-7500.88	56263260.78	-5010.36	25103747.41	37582159.16
<b>2008</b>	11524.67	7338.57	-3898.96	15201920.27	-3893.58	12913845.97	14011254.65
<b>2009</b>	14254.58	10453.16	-1169.05	1366687.20	-478.99	229435.25	559969.85
<b>2010</b>	18927.31	137178.15	3503.68	12275745.51	2246.00	5044498.03	7869242.28
<b>2011</b>	24488.86	17769.10	9065.23	82178322.43	6836.95	46743830.61	61978460.64
<b>Total</b>	<b>77118.17</b>	<b>54660.77</b>		<b>167285936.2</b>		<b>90035357.27</b>	<b>122001086.6</b>
<b>Mean</b>	<b>15423.63</b>	<b>10932.15</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum x}{n} = \frac{77118.17}{5} = 15423.63$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{54660.77}{5} = 10932.15$$

**Coefficient of Correlation (r):** 
$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{122001086.6}{\sqrt{167285936.2 \times 90035357.27}} = 0.9941$$

**Coefficient of Determination (r<sup>2</sup>) = (0.9941)<sup>2</sup> = 0.9882**

**Probable(P. Er) = 0.6745 x  $\frac{1 - r^2}{\sqrt{n}}$  = 0.6745 x  $\frac{1 - 0.9882}{\sqrt{5}}$  = 0.0036**

**6P. Er = 6 x 0.0036 = 0.0216**

**b. Coefficient of Correlation between Deposit and Loan and Advances of BOK**

(Rs. In millions)

Fiscal Year	Deposit (x)	Loan & Advances (y)	X = x - $\bar{x}$	X <sup>2</sup>	Y = y - $\bar{y}$	Y <sup>2</sup>	XY
2007	6170.71	452.7	-2975.10	8851220.01	-5281.38	27892974.70	15712633.64
2008	7741.65	5646.69	-1404.16	1971665.31	-87.39	7637.01	122709.54
2009	8942.75	5912.58	-203.06	41233.36	178.50	31862.25	-36246.21
2010	10485	7259.08	1339.19	1793429.86	1525.00	2325625.00	2042264.75
2011	12388.93	9399.33	3243.12	10517827.33	3665.25	13434057.56	11886845.58
<b>Total</b>	<b>45729.04</b>	<b>28670.38</b>		<b>23175375.87</b>		<b>43692156.53</b>	<b>29728207.30</b>
<b>Mean</b>	<b>9145.81</b>	<b>5734.08</b>					

**Mean( $\bar{x}$ ) =  $\frac{\sum X}{n} = \frac{45729.04}{5} = 9145.81$**

**Mean( $\bar{y}$ ) =  $\frac{\sum y}{n} = \frac{28670.38}{5} = 5734.08$**

**Coefficient of Correlation (r):** 
$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{29728207.30}{\sqrt{23175375.87 \times 43692156.53}} = 0.9342$$

**Coefficient of Determination (  $r^2$  ) =  $(0.9342)^2 = 0.8727$**

**Probable (P. Er) =  $0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.8727}{\sqrt{5}} = 0.0384$**

**6P. Er =  $6 \times 0.0384 = 0.2304$**

**c. Coefficient of Correlation between Deposit and Investment of NIBL**

(Rs. In millions)

Fiscal Year	Deposit (x)	Investment (y)	X = x - $\bar{x}$	X <sup>2</sup>	Y = y - $\bar{y}$	Y <sup>2</sup>	XY
2007	7922.75	1970.27	-7500.88	56263200.77	-2477.42	6137609.86	18582830.13
2008	11524.67	3862.48	-3898.96	15201889.08	-585.21	342470.74	2281710.38
2009	14254.58	3934.19	-1169.05	1366677.90	-513.5	263682.25	600307.18
2010	18927.31	5602.87	3503.68	12275773.54	1155.18	1334440.83	4047381.06
2011	24488.86	6868.65	9065.23	82178394.95	2420.96	5861047.32	21946559.22
<b>Total</b>	<b>77118.17</b>	<b>22238.46</b>		<b>167285936.25</b>		<b>13939251.00</b>	<b>47458787.97</b>
<b>Mean</b>	<b>15423.634</b>	<b>4447.692</b>					

**Mean( $\bar{x}$ ) =  $\frac{\sum X}{n} = \frac{77118.17}{5} = 15423.63$**

**Mean( $\bar{y}$ ) =  $\frac{\sum y}{n} = \frac{22238.46}{5} = 4447.69$**

**Coefficient of Correlation (r):**

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{47458787.97}{\sqrt{167285936.25 \times 13939251.00}}$$

= 0.9828

**Coefficient of Determination (  $r^2$  ) =  $(0.9828)^2 = 0.9660$**

**Probable (P. Er) =  $0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9660}{\sqrt{5}} = 0.0103$**

$$6P. Er = 6 \times 0.0103 = 0.0618$$

**d. Coefficient of Correlation between Deposit and Investment of BOK**

(Rs. In millions)

Fiscal Year	Deposit (x)	Investment (y)	$X = x - \bar{x}$	$X^2$	$Y = y - \bar{y}$	$Y^2$	XY
2007	6170.71	1816.15	-2975.1	8851220.01	-836.32	699431.14	2488135.63
2008	7741.65	2477.4	-1404.16	1971665.31	-175.07	30649.50	245826.29
2009	8942.75	2598.25	-203.06	41233.36	-54.22	2939.81	11009.91
2010	10485	3378.13	1339.19	1793429.86	725.66	526582.44	971796.62
2011	12388.93	2992.43	3243.12	10517827.33	339.96	115572.80	1102531.08
<b>Total</b>	<b>45729.04</b>	<b>13262.36</b>		<b>23175375.87</b>		<b>1375175.69</b>	<b>4819299.53</b>
<b>Mean</b>	<b>9145.81</b>	<b>2652.47</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{45729.04}{5} = 9145.81$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{13262.36}{5} = 2652.47$$

**Coefficient of Correlation (r):**

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{4819299.53}{\sqrt{23175375.87 \times 1375175.69}}$$

$$= 0.8537$$

$$\text{Coefficient of Determination } (r^2) = (0.8537)^2 = 0.7288$$

$$\text{Probable } (P. Er) = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.7288}{\sqrt{5}} = 0.0818$$

$$6P. Er = 6 \times 0.0818 = 0.4908$$

**e. Coefficient of Correlation between outside Asset and Net profit of NIBL**

(Rs. In millions)

Fiscal Year	outside Asset (x)	Net profit (y)	X = x - $\bar{x}$	X <sup>2</sup>	Y = y - $\bar{y}$	Y <sup>2</sup>	XY
2007	9627.99	116.82	-10117.74	102368662.71	-153.89	23682.13	1557019.01
2008	15387.15	152.67	-4358.58	18997219.62	-118.04	13933.44	514486.78
2009	18188.77	232.14	-1556.96	2424124.44	-38.57	1487.64	60051.95
2010	24530.19	350.53	4784.46	22891057.49	79.82	6371.23	381895.60
2011	30994.53	501.39	11248.80	126535501.44	230.68	53213.26	2594873.18
<b>Total</b>	<b>98728.63</b>	<b>1353.55</b>		<b>273216565.70</b>		<b>98687.71</b>	<b>5108326.52</b>
<b>Mean</b>	<b>19745.73</b>	<b>270.71</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{98728.63}{5} = 19745.73$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{1353.55}{5} = 270.71$$

Coefficient of Correlation (r):

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{5108326.52}{\sqrt{273216565.70 \times 98687.71}} = 0.9838$$

Coefficient of Determination ( $r^2$ ) =  $(0.9838)^2 = 0.9679$

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9679}{\sqrt{5}} = 0.0097$$

$$6\text{P. Er} = 6 \times 0.0097 = 0.0582$$



**f. Coefficient of Correlation between outside Asset and Net profit of BOK**

(Rs. In millions)

Fiscal Year	outside Asset (x)	Net profit (y)	X = x - $\bar{x}$	X <sup>2</sup>	Y = y - $\bar{y}$	Y <sup>2</sup>	XY
2007	6358.85	82.13	-3084.28	9512783.12	-80.66	6506.04	248778.02
2008	8124.09	127.48	-1319.04	1739866.52	-35.31	1246.80	46575.30
2009	8510.83	139.52	-932.30	869183.29	-23.27	541.49	21694.62
2010	10633.80	202.44	1190.67	1417695.05	39.65	1572.12	47210.07
2011	13588.10	262.39	4144.97	17180776.30	99.60	9920.16	412839.01
<b>Total</b>	<b>47215.67</b>	<b>813.96</b>		<b>30720304.28</b>		<b>19786.61</b>	<b>777097.03</b>
<b>Mean</b>	<b>9443.134</b>	<b>162.79</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{47215.67}{5} = 9443.134$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{813.96}{5} = 162.79$$

Coefficient of Correlation (r):

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{777097.03}{\sqrt{30720304.28 \times 19786.61}}$$

$$= 0.9967$$

$$\text{Coefficient of Determination ( } r^2 \text{ )} = (0.9967)^2 = 0.9934$$

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9934}{\sqrt{5}} = 0.0020$$

$$6\text{P. Er} = 6 \times 0.0020 = 0.0120$$

### g. Coefficient of Correlation between Deposit and Net Profit of NIBL

(Rs. In millions)

Fiscal Year	Deposit (x)	Net profit (y)	$X = x - \bar{x}$	$X^2$	$Y = y - \bar{y}$	$Y^2$	XY
2007	7922.75	116.82	-7500.88	56263200.77	-153.89	23682.13	1154310.42
2008	11524.67	152.67	-3898.96	15201889.08	-118.04	13933.44	460233.24
2009	14254.58	232.14	-1169.05	1366677.90	-38.57	1487.64	45090.26
2010	18927.31	350.53	3503.68	12275773.54	79.82	6371.23	279663.74
2011	24488.86	501.39	9065.23	82178394.95	230.68	53213.26	2091167.26
<b>Total</b>	<b>77118.17</b>	<b>1353.55</b>		<b>167285936.25</b>		<b>98687.71</b>	<b>4030464.91</b>
<b>Mean</b>	<b>15423.63</b>	<b>270.71</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{77118.17}{5} = 15423.63$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{1353.55}{5} = 270.71$$

$$\text{Coefficient of Correlation (r):} \quad r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{4030464.91}{\sqrt{167285936.25 \times 98687.71}}$$

$$= 0.9920$$

$$\text{Coefficient of Determination ( } r^2 \text{ )} = (0.9920)^2 = 0.9841$$

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9841}{\sqrt{5}} = 0.0048$$

$$6P. Er = 6 \times 0.0048 = 0.0288$$

### h. Coefficient of Correlation between Deposit and Net Profit of BOK

(Rs. In millions)

Fiscal Year	Deposit (x)	Net profit (y)	$X = x - \bar{x}$	$X^2$	$Y = y - \bar{y}$	$Y^2$	XY
2007	6170.71	82.13	-2975.10	8851220.01	-80.66	6506.04	239971.57
2008	7741.65	127.48	-1404.16	1971665.31	-35.31	1246.80	49580.89
2009	8942.75	139.52	-203.06	41233.36	-23.27	541.49	4725.21
2010	10485	202.44	1339.19	1793429.86	39.65	1572.12	53098.88
2011	12388.93	262.39	3243.12	10517827.33	99.60	9920.16	323014.75
<b>Total</b>	<b>45729.04</b>	<b>813.96</b>		<b>23175375.87</b>		<b>19786.61</b>	<b>670391.30</b>
<b>Mean</b>	<b>9145.81</b>	<b>162.79</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{45729.04}{5} = 9145.81$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{813.96}{5} = 162.79$$

$$\text{Coefficient of Correlation (r):} \quad r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{670391.30}{\sqrt{23175375.87 \times 19786.61}}$$

$$=0.99$$

Coefficient of Determination ( $r^2$ ) =  $(0.99)^2 = 0.9801$

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9801}{\sqrt{5}} = 0.0060$$

$$6P. Er = 6 \times 0.0060 = 0.0360$$

### i. Coefficient of Correlation between Deposit and Interest Earned of NIBL

(Rs. In millions)

Fiscal Year	Deposit (x)	Interest Earned (y)	$X = x - \bar{x}$	$X^2$	$Y = y - \bar{y}$	$Y^2$	XY
2007	7922.75	459.51	-7500.88	56263200.77	-507.58	257637.46	3807296.67
2008	11524.67	731.40	-3898.96	15201889.08	-235.69	55549.78	918945.88
2009	14254.58	886.80	-1169.05	1366677.90	-80.29	6446.48	93863.02
2010	18927.31	1172.74	3503.68	12275773.54	205.65	42291.92	720531.79
2011	24488.86	1584.98	9065.23	82178394.95	617.89	381788.05	5601314.96
<b>Total</b>	<b>77118.17</b>	<b>4835.43</b>		<b>167285936.25</b>		<b>743713.69</b>	<b>11141952.33</b>
<b>Mean</b>	<b>15423.63</b>	<b>967.09</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{77118.17}{5} = 15423.63$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{4835.43}{5} = 967.09$$

$$\text{Coefficient of Correlation (r):} \quad r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{11141952.33}{\sqrt{167285936.25 \times 743713.69}} = 0.9989$$

Coefficient of Determination ( $r^2$ ) =  $(0.9989)^2 = 0.9978$

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9978}{\sqrt{5}} = 0.0007$$

$$6P. Er = 6 \times 0.0007 = 0.0042$$

### j. Coefficient of Correlation between Deposit and Interest Earned of BOK

(Rs. In millions)

Fiscal Year	Deposit (x)	Interest Earned (y)	$X = x - \bar{x}$	$X^2$	$Y = y - \bar{y}$	$Y^2$	XY
2007	6170.71	496.81	-2975.1	8851220.01	-144.81	20969.94	430824.23
2008	7741.65	567.09	-1404.16	1971665.31	-74.53	5554.72	104652.04
2009	8942.75	607.09	-203.06	41233.36	-34.53	1192.32	7011.66
2010	10485.00	718.12	1339.19	1793429.86	76.5	5852.25	102448.04
2011	12388.93	819.01	3243.12	10517827.3	177.39	31467.21	575297.06

				3			
<b>Total</b>	<b>45729.04</b>	<b>3208.12</b>		<b>23175375.8</b>		<b>65036.44</b>	<b>1220233.03</b>
<b>Mean</b>	<b>9145.81</b>	<b>641.62</b>		<b>7</b>			

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{45729.04}{5} = 9145.81$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{3208.12}{5} = 641.62$$

**Coefficient of Correlation (r):**

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{1220233.03}{\sqrt{23175375.87 \times 65036.44}}$$

$$= 0.9939$$

**Coefficient of Determination (r<sup>2</sup>) = (0.9939)<sup>2</sup> = 0.9878**

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9878}{\sqrt{5}} = 0.0037$$

**6P. Er = 6 x 0.0037 = 0.0222**

**k. Coefficient of Correlation between Working Fund and Net Profit of NIBL**

(Rs. In millions)

Fiscal Year	Working Fund (x)	Net Profit (y)	X = x - $\bar{x}$	X <sup>2</sup>	Y = y - $\bar{y}$	Y <sup>2</sup>	XY
2007	9014.24	116.82	-8597.29	73913395.34	-153.89	23682.13	1323036.96
2008	13255.50	152.67	-4356.03	18974997.36	-118.04	13933.44	514185.78
2009	16274.06	232.14	-1337.47	1788826.00	-38.57	1487.64	51586.22
2010	21330.13	350.53	3718.60	13827985.96	79.82	6371.23	296818.65
2011	28183.73	501.39	10572.20	111771412.8 4	230.68	53213.26	2438795.10
<b>Total</b>	<b>88057.66</b>	<b>1353.55</b>		<b>220276617.5 1</b>		<b>98687.71</b>	<b>4624422.71</b>
<b>Mean</b>	<b>17611.53</b>	<b>270.71</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{88057.66}{5} = 17611.53$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{1353.55}{5} = 270.71$$

**Coefficient of Correlation (r):** 
$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{4624422.71}{\sqrt{220276617.51 \times 98687.71}} = 0.9918$$

**Coefficient of Determination (r<sup>2</sup>) = (0.9918)<sup>2</sup> = 0.9837**

**Probable (P. Er) = 0.6745 x  $\frac{1 - r^2}{\sqrt{n}}$  = 0.6745 x  $\frac{1 - 0.9837}{\sqrt{5}}$  = 0.0049**

**6P. Er = 6 x 0.0049 = 0.0294**

## L. Coefficient of Correlation between Working Fund and Net Profit of BOK

(Rs. In millions)

Fiscal Year	Working Fund (x)	Net Profit (y)	X = x - $\bar{x}$	X <sup>2</sup>	Y = y - $\bar{y}$	Y <sup>2</sup>	XY
2007	7444.82	82.13	-3284.52	10788071.63	-80.66	6506.04	264929.38
2008	9496.34	127.48	-1233	1520289.00	-35.31	1246.80	43537.23
2009	9857.13	139.52	-872.21	760750.28	-23.27	541.49	20296.33
2010	12278.3	202.44	1548.96	2399277.08	39.65	1572.12	61416.26
2011	14570.09	262.39	3840.75	14751360.56	99.60	9920.16	382538.70
<b>Total</b>	<b>53646.68</b>	<b>813.96</b>		<b>30219748.56</b>		<b>19786.61</b>	<b>772717.90</b>
<b>Mean</b>	<b>10729.34</b>	<b>162.79</b>					

$$\text{Mean}(\bar{x}) = \frac{\sum X}{n} = \frac{53646.68}{5} = 10729.34$$

$$\text{Mean}(\bar{y}) = \frac{\sum y}{n} = \frac{813.96}{5} = 162.79$$

**Coefficient of Correlation (r):**

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

$$r = \frac{772717.90}{\sqrt{30219748.56 \times 19786.61}}$$

$$= 0.9993$$

$$\text{Coefficient of Determination ( } r^2 \text{ )} = (0.9993)^2 = 0.9986$$

$$\text{Probable (P. Er)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9986}{\sqrt{5}} = 0.0004$$

$$6\text{P. Er} = 6 \times 0.0004 = 0.0024$$

## Appendix-7 Regression Analysis

**a. Calculation of Regression Equation between Net Profits on Total Working Fund of NIBL**

(Rs. In millions)

<b>Fiscal Year</b>	<b>Working Fund(X)</b>	<b>Net Profit(Y)</b>	<b>X<sup>2</sup></b>	<b>Y<sup>2</sup></b>	<b>XY</b>
<b>2007</b>	9014.24	116.82	81256522.78	13646.91	1053043.52
<b>2008</b>	13255.50	152.67	175708280.30	23308.13	2023717.19
<b>2009</b>	16274.06	232.14	264845028.90	53888.98	3777860.29
<b>2010</b>	21330.13	350.53	454974445.80	122871.28	7476850.47
<b>2011</b>	28183.73	501.39	794322636.70	251391.93	14131040.38
<b>Total</b>	<b>88057.66</b>	<b>1353.55</b>	<b>1771106914</b>	<b>465107.23</b>	<b>28462511.8</b>

X= independent variable

Y=dependent variable

Let the regression equation of Y on X is

$$Y = a + bx \dots \dots \dots \text{equation (i)}$$

To find the value of a and b we have two normal equation

$$\sum y = na + b \sum x \dots \dots \dots \text{equation (ii)}$$

$$\sum xy = a \sum x + b \sum x^2 \dots \dots \dots \text{equation (iii)}$$

$$\sum y = 1353.55, \sum x = 88057.66, \sum x^2 = 1771106914, \sum xy = 28462511.8$$

Substitution the value of n,  $\sum x$ ,  $\sum y$ ,  $\sum x^2$ ,  $\sum xy$  in equation (ii) and equation (iii) we get,

$$1353.55 = 5a + 88057.66 b \dots \dots \dots \text{equation (iv)}$$

$$28462511.80 = 88057.66 a + 1771106914b \dots \dots \dots \text{equation (v)}$$

Now multiplying equation (iv) by 88057.66 and equation (v) by 5 then subtracting (v) we get,

$$119190445.69 = 440288.3a + 7754151484.68b$$

$$142312559.00 = 440288.3a + 8855534570.00b$$

$$-23122113.31 = 0 + -1101383085.32b$$

$$b = (-23122113.31 / -1101383085.32) = \mathbf{0.0210}$$

Putting the value of b in equation (iv) then we get

$$1353.55 = 5a + 0.0210 \times 88057.66$$

$$a = (1353.55 - 1849.21) / 5 = \mathbf{-99.13}$$

Putting the value of a and b in equation (i)

$$\mathbf{Y = -99.13 + 0.0210x}$$

**b. Calculation of Regression Equation between Net Profits on Total Working Fund of BOK**

(Rs. In millions)

Fiscal Year	Working Fund(X)	Net Profit(Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
2007	7444.82	82.13	55425344.83	6745.34	611443.07
2008	9496.34	127.48	90180473.40	16251.15	1210593.42
2009	9857.13	139.52	97163011.84	19465.83	1375266.78
2010	12278.3	202.44	150756650.89	40981.95	2485619.05
2011	14570.09	262.39	212287522.61	68848.51	3823045.92
<b>Total</b>	<b>53646.68</b>	<b>813.96</b>	<b>605813003.56</b>	<b>152292.78</b>	<b>9505968.23</b>

X= independent variable

Y=dependent variable

Let the regression equation of Y on X is

$$Y = a + bx \dots \dots \dots \text{equation (i)}$$

To find the value of a and b we have two normal equation

$$\sum y = na + b \sum x \dots \dots \dots \text{equation (ii)}$$

$$\sum xy = a \sum x + b \sum x^2 \dots \dots \dots \text{equation (iii)}$$

$$\sum y = \mathbf{813.96}, \sum x = \mathbf{53646.68}, \sum x^2 = \mathbf{605813003.56}, \sum xy = \mathbf{9505968.23}$$

Substitution the value of n,  $\sum x$ ,  $\sum y$ ,  $\sum x^2$ ,  $\sum xy$  in equation (ii) and equation (iii) we get,

$$813.96 = 5a + b53646.68 \dots \dots \dots \text{equation (iv)}$$

$$9505968.23 = 53646.68a + 605813003.56b \dots \dots \dots \text{equation (v)}$$

Now multiplying equation (iv) by 53646.68 and equation (v) by 5 then subtracting (v) we get,



$$43666251.65 = 268233.40 a + 2877966275.02b$$

$$47529841.15 = 268233.40a + 3029065017.80b$$

$$-3863589.50 = 0 + -151098742.78b$$

$$b = (-3863589.5 / -151098742.78) = \mathbf{0.0256}$$

Putting the value of b in equation (iv) then we get

$$813.96 = 5a + 0.0256 \times 53646.68$$

$$a = (813.96 - 1373.36) / 5 = \mathbf{-111.88}$$

Putting the value of a and b in equation (i)

$$Y = \mathbf{-111.88 + 0.0256x}$$

### c. Calculation of Regression Equation between Net Profits on Total Deposit of NIBL

(Rs. In millions)

Fiscal Year	Deposit (X)	Net Profit(Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
2007	7922.75	116.82	62769967.56	13646.91	925535.66
2008	11524.67	152.67	132818018.61	23308.13	1759471.37
2009	14254.58	232.14	203193050.98	53888.98	3309058.20
2010	18927.31	350.53	358243063.84	122871.28	6634589.97
2011	24488.86	501.39	599704264.10	251391.93	12278469.52
<b>Total</b>	<b>77118.17</b>	<b>1353.55</b>	<b>1356728365.08</b>	<b>465107.23</b>	<b>24907124.71</b>

X= independent variable

Y=dependent variable

Let the regression equation of Y on X is

$$Y = a + bx \dots \dots \dots \text{equation (i)}$$

To find the value of a and b we have two normal equation

$$\sum y = na + b \sum x \dots \dots \dots \text{equation (ii)}$$

$$\sum xy = a \sum x + b \sum x^2 \dots \dots \dots \text{equation (iii)}$$

$$\Sigma y = 1353.55, \Sigma x = 77118.17, \Sigma x^2 = 1356728365.08, \Sigma xy = 24907124.71$$

Substitution the value of n,  $\Sigma x$ ,  $\Sigma y$ ,  $\Sigma x^2$ ,  $\Sigma xy$  in equation (ii) and equation (iii) we get,

$$1353.55 = 5a + 77118.17b \dots \dots \dots \text{equation (iv)}$$

$$24907124.71 = 77118.17a + 1356728365.08b \dots \dots \dots \text{equation (v)}$$

Now multiplying equation (iv) by 77118.17 and equation (v) by 5 then subtracting (v) we get,

$$104383299.00 = 385590.85a + 5947212144.15b$$

$$\underline{124535623.55 = 385590.85a + 6783641825.40b}$$

$$-20152324.55 = 0 + -836429681.25b$$

$$b = (-20152324.55 / -836429681.25) = \mathbf{0.0241}$$

Putting the value of b in equation (iv) then we get

$$1353.55 = 5a + 0.0241 \times 77118.17b$$

$$a = (1353.55 - 1858.55) / 5 = \mathbf{-101.00}$$

$$\mathbf{Y = -101.00 + 0.0241x}$$

**d. Calculation of Regression Equation between Net Profits on Total Deposit of BOK**

(Rs. In millions)

Fiscal Year	Deposit (X)	Net Profit(Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
2007	6170.71	82.13	38077661.90	6745.34	506800.41
2008	7741.65	127.48	59933144.72	16251.15	986905.54
2009	8942.75	139.52	79972777.56	19465.83	1247692.48
2010	10485.00	202.44	109935225.00	40981.95	2122583.40
2011	12388.93	262.39	153485586.54	68848.51	3250731.34
<b>Total</b>	<b>45729.04</b>	<b>813.96</b>	<b>441404395.73</b>	<b>152292.78</b>	<b>8114713.18</b>

X= independent variable

Y=dependent variable

Let the regression equation of Y on X is

$$Y = a + bx \dots \dots \dots \text{equation (i)}$$

To find the value of a and b we have two normal equation

$$\sum y = na + b \sum x \dots \dots \dots \text{equation (ii)}$$

$$\sum xy = a \sum x + b \sum x^2 \dots \dots \dots \text{equation (iii)}$$

$$\sum y = 813.96, \sum x = 45729.04, \sum x^2 = 441404395.73, \sum xy = 8114713.18$$

Substitution the value of n,  $\sum x$ ,  $\sum y$ ,  $\sum x^2$ ,  $\sum xy$  in equation (ii) and equation (iii) we get,

$$813.96 = 5a + 45729.04b \dots \dots \dots \text{equation (iv)}$$

$$8114713.18 = 45729.04a + 441404395.73b \dots \dots \dots \text{equation (v)}$$

Now multiplying equation (iv) by 45729.04 and equation (v) by 5 then subtracting (v) we get,

$$37221609.40 = 228645.20a + 2091145099.32b$$

$$\underline{40573565.90 = 228645.20a + 2207021978.65b}$$

$$-3351956.50 = 0 + -115876879.33b$$

$$b = (-3351956.50 / -115876879.33) = \mathbf{0.0289}$$

Putting the value of b in equation (iv) then we get

$$813.96 = 6a + 0.0289 \times 45729.04$$

$$a = (813.96 - 1321.57) / 5 = \mathbf{-101.52}$$

Putting the value of a and b in equation in (i)

$$\mathbf{Y = -101.52 + 0.0289x}$$

## **Appendix-8**

### **Primary Data Analysis Questionnaires for respondents**

Valued respondents I would like request you all to fill up the questionnaires provided to you. Your valued responses will help me to complete my research work.

**Name:**

**Gender:**

**Age:**

**Education:**

**Address:**

Please tick ( ) in the following questions

#### **1. Do you know all the services provided by this bank?**

- i. Yes ( )
- ii. No ( )

#### **2. Do you have opened deposit account at this bank? If yes why?**

- i. Yes ( )
- ii. No ( )

**Because of**

- i. Market Brand ( )
- ii. Nearest ( )
- iii. Others ( )

**3. What you think about Services provided by the front line employees of this bank?**

- i. Excellent ( )
- ii. Very Good ( )
- iii. Fair ( )

**4. Is it easy or difficult in loan approval procedure applied by this bank?**

- i. Very Difficult ( )
- ii. Difficult ( )
- iii. No Experience ( )

**5. A bank's regular customer what would you like to suggest to its top management?**

- i. Extend Branches ( )
- ii. Maintain Hospitality ( )
- iii. Decrease Minimum Balance ( )
- iv. Increase in Deposit interest ( )