CHAPTER-I

INTRODUCTION

1.1 Background of the Study

It is obvious that economic development is impossible without the development of different sectors like Agriculture, Industry, and Trade of the country. So, development of their sectors needs a regular supply of financial resources. In developing countries there is always shortage of the capital for the development activities it is not possible to handle and develop all the sector by the government alone at a time private people also can not undertake large business because per capital income of the people is very low while their propensity to consume is very high. Due to low income their saving is very low and capital for motion is very low. So, their saving is not sufficient for carrying on development works.

"Economic development demands trans formation of saving or investable resources into the actual investment. It is the financial institution that transfer funds form surplus spending units to deficit units" (Nepal Rastra Bank, 1996:43).

The proper mobilization and utilization of domestic resources is one of the key factors in the economic development of a country. Similarly, integrated and speedy development of the country is only possible when competitive and reliable banking services are reached and operated to every corner of the country. It has been well established that the economic activities of any country can hardly be carried without the assistance and support of financial institutions. Financial institutions have catalytic role in the process of economic development. The investment policy of financial institution, especially banks has long term impact not only on their growth and sustainability but also on the economic development of the country.

Successful formulation and effective implementation of investment policy is the prime requisite for the successful performance of banks and other financial institutions. Good investment policy has a positive impact on economic development of the country and vice-versa.

Capital formation is one of the important factors in economic development. The capital formation leads to increase in the size of the national output, income, and employment, solving the problem of inflation and balance of payment and making the economy free from the burden of foreign debt. Domestic capital formation helps in making a country self-sustainable. Profit made by business community constituted the major part of the saving of the community and what was saved was assumed to be invested.

The initial step investing policy involves is determining the investment objectives and the amount if one's investing able fund. Investment is always related with risks and returns. Making money alone cannot be an appropriate objective. It is appropriate to state that the objective is to make a lot of money by recognizing the possible losses. Therefore, investment objective should be stated in terms of both risks and returns setting a clear investment policy also involve the identification of the potential categories of financial assets for consideration in the ultimate portfolio. The identification of assets depends upon many things such as investment objectives investable fund, tax consideration etc.

Investment is a very risky job for a purposeful, safe and profitable investment. Bank must follow sound investment policy. The fundamental principle of investment must be followed thoroughly for profitable investment policy should ensure maximum amount of investment to all sectors with proper utilization. There is high liquidity in the amount and it seems no profitable place to invert there days. Investment policy provides the bank several inputs

through which they can handle their investment operation efficiently ensuring the maximum return with minimum risk, which ultimately leads the bank to the path of success to achieve its organizational objectives of shareholder wealth maximization.

Investment operation of commercial banks is very risky on for this, commercial banks have to pay due consideration while formulating investment policy. A healthy development of any commercial bank depends upon its investment policy. A good investment policy attracts both borrowers and lenders which help to increase the volume and quality of deposits, loans and investment.

1.1. a) Evolution of Bank

The evolution of bank is not a non-phenomenon. There was crude firm of banking even in an ancient Vedic era. The terms banking such as deposits, pledge, policy of loan, interest rates etc can be found in the "Mansumiriti".

The Roman Empire collapses in the last of 15^{th} century and consequently, commercial banking transactions were because of revival of commercial and other trading activities in European countries. According to the opinion of great economist Geoffrey Crowther, following community groups are the ancestors of modern banking:

1 The Merchant Trader
2 The Goldsmith
3 The Money Lenders

History tells us that it was the merchant banker who first evolved the system of banking by trading in commodities then money. Their trading activities required the remittance of money form one place to another for which they issued different documents as the near substitutes of money, called draft or hund is in modern days.

The next stage in the growth of banking was the goldsmiths; the business of goldsmiths was such that they had to take deposits such as bullion, money and ornaments for the security form theft. This makes possible to the goldsmiths to charge something for taking care of the money, bullion and jewellery. On the other hand, as the evidence of receiving valuables, they used to issue a receipt to the depositors. As those receipts are good for payment equipment to the amount mentioned, it become like the modern cheques, as a medium of exchange and a means of payments.

Finally, money lenders in the early age had contributed in the growth of banking to a larger extends. They used to advance the coins on loan by charging interest. As a safe guard they used to keep some money in the reserve. Therefore goldsmiths and money lenders became bankers who started performing the two functions of bank i.e. accepting deposit and providing loans and advances. "The bank of Venice" of Italy was established in 1157 A.D. as the first banking institution in the world. The second banking institution namely "The bank of Barcelona" of Spain was established in 1401 A.D. Its function is to exchange money, receive deposits and discount bill of exchange, both for their own citizens and for the foreigner. During 1407 A.D. "The Bank of Genon" was established in 1609 A.D. "The Bank of England" was incorporated in 1694 A.D. as a joint stock bank and later on the 1844 A.D. it becomes a first central bank in the world.

1.1. b) Commercial Banks and Investment policy

Commercial Bank is an entity, which accepts deposits and makes short-term loans to business enterprises, regardless of the scope of its other services (American Institution of Banking, 1972; 345-346).

Commercial banks are major financial institutions, which occupy quite an important place in the framework of every economy. Commercial banks

render numerous services to their customer in view of facilitation their economic and social life. All the economic activities of each and every country are greatly influenced by the commercial banking business of that country. Commercial banks, by playing active roles, have changed the economic structure of the world. Thus, commercial banks have become the heart of financial system.

Commercial bank deals with people's money. They have to find ways of keeping their assets liquid so that they could meet the demand of their customers. In their anxiety to make profit, the banks can't afford to lock up their funds in assets that are not easily realizable. The depositor's confidence could be secured only if the bank is able to meet the demand for cash promptly and fully. The banker has to keep adequate cash for this purpose. Cash is an idle asset and hence the banker cannot afford to keep a large portion of his assets in the bank. Therefore the banker has to distribute his assets in such a way that he can have adequate profits without sacrificing liquidity.

Commercial banks must mobilize its deposits and other funds to profitable, secured, stable and marketable sector. Then only it can earn more profit as well as it should be secured and can be converted into cash whenever needed. But, commercial banks have to pay due consideration while formulating investment policy regarding loan and investment. Investment policy is one facet of the overall spectrum of policies that guides bank's investment operations. A healthy development of any bank depends heavily upon its investment policy. A sound and viable investment policy attracts both borrowers and lenders, which helps to increase the volume and quality of deposits loan and investment. Commercial bank should be careful while performing the credit creation function. The banks should never invest its funds in those securities, which are subject to too much depreciation and

fluctuations because a little difference may cause a great loss. It must not invest its funds into speculative businessman who may be bankrupt at once who may earn millions in a minute.

Commercial banks must follow the rules and regulations as well as different directions issued by the central bank, ministry of finance, ministry of law and other regulatory bodies while mobilizing its funds. So, the bank should invest its funds in legal securities only. Dina McNaughton in her research paper 'Banking Institutions in Developing Market's states that, investment policy should incorporate several elements such as regulatory environment, the availability of funds, the selection of risk, loan portfolio balance and term structure of the liabilities (McNaughton; 1994: 19). Thus, commercial banks should incorporate several elements while making investment policy. The loan provided by commercial bank is guided by several principles such as length of time, their purpose, profitability, safety etc. These fundamental principles of commercial bank's investment are fully considered while making investment decision.

1.1. Introduction of Sample Banks.

1. NABIL Bank Limited

NABIL Bank Limited is newly named of pervious Arab Bank Limited NABIL, the first joint venture bank of Nepal was established in 1984 A.D. under the company Act, 1964 A.D. It is joint venture with the Dubai Bank Limited owned 50% equity partner which was transferred to Emirates Bank International Limited Dubai (EBIL). Later in EBIL sold its entire stock to National Bank Limited Bangladesh (NBL).

The current structure of equity with four parties. The National Bank Limited, Bangladesh is having 50% of share, Nepal industrial development corporation (NIDC) is the holder of 10% share, Rastrya Beema Sansthan as 9.66%, Nepal

stock exchange (NEPSE) as 0.34% and General Public shares of 30% being a largest equity holder National Bank Limited, Bangladesh(NBLB) is managing the bank in accordance with the technical service agreement signed between NBLB and the NABIL Bank on June 1995 A.D. the bank expanded its banking service towards the different regional and parts of the country by expanding its branches.

ii) Bank of Kathmandu

Bank of Kathmandu Limited (BOK) was in corporate in 1993. After the restoration of democracy in 1990, under the company act 1964. SIAM commercial bank of Thailand was the joint venture partner of BOK. Nepalese managers, from the very beginning till the date is managing this Bank. In very competitive and small market of Nepalese commercial bank, BOK is struggling for the betterment? The SIAM commercial Bank Limited is holdings to the Nepalese citizens in 1998 after the Nepalese public hold 97.72% of the equity share of BOK is regarded as the bank of Nepalese.

1.2 Statement of Problem

Mushrooming of private sector banks is the present situation of Nepalese financial sector. The fast growth of such organization has contributed the prorate increment in collection deposits and their investment. They collect adequate amount from the mass, however they could not find or locate new investment sectors required to mobilize their funds on the changing context of Nepal. Only few commercial banks are getting regular profits. Most of them are unable to satisfy their shareholders and customers in earning profit and ensuring their safe deposit. Some banks are incurring clients or adequate deposits but they cannot find profitable sectors or opportunities to invest the deposit collections. They have always feared with high degree of risk and uncertainty.

There are various problems in resource mobilization by financial institution in Nepal. The most important problem is poor investment climate prevailing in Nepal due to heavy regulatory procedure, uncertain government policy, NRB's stringent directives, unsecured social environment etc. Lack of sound investment policy is another reason for a commercial bank not to properly utilizing its deposits that is making loan and advances or lending for a profitable project. This condition may lead the commercial bank to the position of liquidation.

Commercial banks invest their funds in limited areas to achieve highest amount of profit. They are found to be more interested in investment in less risky and highly liquid sectors like in T-Bills, development bonds and retail and consumer lending. There are obvious hesitations to invest on long term project and in venture capital investment. So, many of them follow conservative and un-efficiency investment policy. As with everything in Nepal, every commercial bank has an investment in the same sectors. They are in consumer lending, tourism, garments and in trading sector. They are the major sector. But given the current situation of the country, it is not up to them to decide which sector they want to go into. The main factor for success of any organization is the security situation. Once the security situation stabilizes, then only commercial bank consider rationally as to where they should to invest and grow. So, security problem is the burning problem for every commercial bank to invest their fund in our any sector.

Many of Nepalese commercial banks have not formulated their investment policy in an organized manner. Majority of them mainly rely upon instruction and guideline of Nepal Rastra Bank. They don't have clear view towards investment policy. Furthermore, the implementation of policy formulation and absence of strong commitments towards its proper implementation has caused many problems to commercial banks.

The compared problems specially related to investment functions of the commercial banks have been presented briefly as under:

a) Is NABIL Bank's investment policy more effective and efficient then that BOK?

b) Is NABIL Bank's investment Strategy successful to utilize its available fund in comparison to the BOK?

c) Are they maintaining sufficient liquidity, profitability and risk position?

d) What is the relationship of investment on loan and advances with total deposit and total net profit?

e) Does the investment decision affect the total earning of the commercial banks?

1.3 Objectives of the Study.

The general objective of the study is:

a) To analyze the investment policy of the sampled objectives are as.

b) To analyze the utilization of available fund of NABIL Bank and BOK.

c) To evaluate the liquidity, profitability and risk position of NABIL bank and BOK.

d) To analyze the empirical relationship between deposit, loan and advances, investment, net profit and compare them between NABIL and BOK Bank.

1.4 Focus and Significance of the Study.

The main focus of the study is to highlight the investment policies of commercial banks expecting that the study can be bridge the gap between deposit and investment policies. On the other hand, the study would provide information to management of the bank that would help them to take collective action. Further from the study, the shareholder would get information to make decision while making investment on shares of various banks.

Having completed the basis analysis required for the study, the researcher must point out the mistakes and errors and also correct them by giving suitable suggestion for further improvement. Since the researcher has the banking experience of about four years which has also includes working in the "Assets Liability Management Committee (ALCO)"of a commercial bank, the recommendations prescribe herewith will have more practical touch. Therefore, this summarizes and recommended tasks of the researcher of the study would be meaningful to the top management of the bank to initiate the action and achieve the desire result.

In the context of Nepal there is less availability of research work, journals and article in investment policy of commercial banks as well as other financial institution. As it is a well known fact that the success and prosperity of the bank relies heavily upon the successful investment of collected resource to the important sector of economy. Successful formulation and effective implementation of investment policy is the prime requisite for the successful performance of commercial banks.

There are various problems in effective investment of commercial banks of Nepal, which affect their performance to a greater extent. Performance of commercial banks does not seem so satisfactory in terms of utilizing its resource efficiently in productive sectors. Hence the main significance of this study of investment portfolio analysis of Nepalese commercial banks is to help how to minimize risk on investment and maximize return through portfolio analysis, portfolio management, credit management and effect on investment decision on earning will strive to disclose the internal weakness of the banks and furnish the ideas for improvement. Therefore, the researcher has undertaken this study to analyze the existing investment portfolio of Nepalese commercial banks with reference to NABIL and BOK Bank and point out the various weaknesses of

defects inherent in it and provide package of suggestions for its improvement.

1.5 Limitations of the Study

This study is simply a partial study for the fulfillment of MBS degree, which has to be finished within limited period. Hence, this study is not far from several limitations of its own kind, which weaken the scope of the study to some extent.

Some of such limitations are as follows:

a. The study is mainly based on secondary data collected from different sources.
b. The study period will be covered for only five fiscal year i.e. from 2001/02 to 2006/07.
c. Out of the numerous affecting factors, this study concentrates only on those factors, which are related with investment policy, and available in the form required for analyzing the different issues.
d. Due to wide range of data deficiencies only simple technique has been used for the analysis of the data.
e. The study deals with only two commercial banks and data related to other commercial banks have not been accounted.
f. Detailed data related to sector investment of NABIL Bank is not available. So, analysis is done on the basis of best available information.

1.6 Organization of the Study

The study contains following five chapters:-

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, objectives of the study, statement of the problem, focus & signification of the study, limitations of the study and chapter plan.

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 followed in conduction this study and material used as each steps which included research design, population and sample, data analysis and tools, ratio analysis profitability ratio, risk ratio, growth ratio etc.

Forth chapter 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.

CHAPTER –II

2. REVIEW OF LITERATURE

In this chapter focus has been made on the review of literature that is relevant to the investment policy of commercials banks. Review of literature is basically a stock taking of available literature in the field of research. Every possible effort has been made to gap knowledge and information that is available from libraries, document collection centers, other information magazine bureaus and concerned commercial banks. This chapter helps to take adequate feed back to broaden the information bare and input to the study. The first section of the chapter implies the conceptual framework of the study and the second section implies the review of previous studies. Therefore this chapter has its own important in this study.

2.1 Conceptual Framework Review

A commercial bank is business organization that receives and holds deposit of fund from others, makes loan or extend credits transfer fund by written order of deposits (Grolier incorporate, 1984)

Commercial bank Act of Nepal (1974) has defined commercial banks in following way "commercial banks means a bank which operates currency, exchange transaction, accepts deposit, provided loan and perform dealing relating to commerce and other than those banks which have been specified for the co-operative, agriculture, and industry of likely other special objectives. The commercial banks are established under the commercial banks Act, 1974 in Nepal that has been amended regularly. It has been amended for six times till today. Now commercial bank Act 1992 is active.

The main function of commercial bank is the accumulation to the temporary idle money of general public for trade and commerce. It main functions are accept deposit and grants loan, exchange and purchase and discount bill for

promissory notes exchange foreign currency to provide loan, agency function .Overseas trading services and information and other services. Commercial banks earn profit by proper mobilization of their resources. Many commercials banks have been established to provide a suitable service according to their customers.

Jack C. Francis (1983), states "Investing involves making a current commitment of funds in order to obtain and uncertain future return. It is a risky business that demands information. To process information effectively and select the best investment requires goals that are clearing cut and realistic."

Gitman,L.J &Joehnk(1990), "Investment is any vehicle into which funds can place with the expectation that will present or increase in value and generate positives returns."

Charles P. Jones (1991), has defined that, "Investment as 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. This is the sum of current income and present value of all income."

Dr. Preeti Sing (1992), has defined investment in this way, "Investment is the employment of funds with the aim of achieving additional income of growth in value."

John M. Cheney and Edward A. Moses (1998), said that, "The investment objectives are to increases systematically the individual wealth, defined as assets minus liabilities. The higher the level of desired wealth the higher must be received. An investor seeking higher return must be willing to face higher level of risk."

William F. Shape and Alexander J. Gordon(1998), define investment in this way, "Investment in its broadcast sense means sacrifice of certain present value for (possible uncertain) future value."

2.1.1 Feature of the Sound Lending and Investment Policy

The income and profit of the banks depends upon its lending procedures, lending policy and investments of its funds in different securities. In many causes a sound lending and investment policy is not only pre-requisite for the promotion of commercial saving of backward country like Nepal.

Shakespeare Vaidya (1996), has highlighted about the need of the bank its origin the meaning of the bank mechanism controlling the bank operation loan management and capital management. Investment policy of commercial bank, Mr. Vaidhya express that "Every bank board of directors generally formulates an investment policy statement in order to define the objectives of the banks liquidity management and investment portfolio". It means that the bank must formulate the guideline to invest its deposit and capital in various forms of earning assets. Allocation of deposit in different sector areas also knows as portfolio management. In other words we can say that do not take risk by putting all eggs in one basket alone misguide policies can cause the bank to suffer to a lot. Therefore the bank must formulated sound investment policies to protect the public funds. Regarding the investment policies of commercials banks there are basically five basic principles the bank follow while providing the loans. They are as follows.

Liquidity

Liquidity is the ability of a firm to satisfy its short term obligations when they become due for payment. People deposit money at the bank in different account with confidence that the bank will repay their money when they need. To maintain such confidence of the depositors, the bank must keep this point in mind. While investing its excess fund in different securities, so that it can meet current or short term obligation when they because due for payment.

Profitability

A commercial bank can maximize its volume of wealth through maximization of return on their investment in lending. So, they must invest their fund where they can gain maximum profit. The profit of commercial banks depends on the interest rate, volume of loan, its time period and nature of investment in different securities.

Safety and Security

The bank should never invest its funds in those securities which are too volatile i.e. which are subject to too much depreciation and fluctuations because a little difference may cause a great loss. It much not invest its fund into speculative businessman who may be bankrupt at once and who may earn million in a minute also. Security means adequate collateral having good value which can be easily sold off it required at any point of time. The bank should accept that type of securities, which are commercial durable and marketable having fair market value for this purpose 'MAST' should be applied while reaching an investment decision where MAST stands for

M= Marketability.

A= Ascertain ability.

S= Stability.

T= Transferability.

Bank deals with customer is money so it must take care the belonging of public the risk and return involved must be analysis thoroughly so that depositors money is advance safety where the risk of followed while we arrive in decision regarding the advances of fund. The three 'C' stand for

Character

Capacity

Capital

Suitability

Banks should always know that why a customers need loan because if the borrower misuse the loan granted by bank he will never be able to repay loan. In order to avoid such circumstance advances should be allowed to select the suitable borrowers and it should demand all the essential detailed information about the scheme of the project in which the bank is lending for. Bank must keep in mind the overall development plans of the nation and the credit policy of the concern authority i.e. central bank.

Purpose of Loan

From the view print of security a banker should always be known that why a customer is in need of loan. If a borrower misuses the loan granted by the bank it can never repay and bank will process heavy bad debts. Therefore in order to avoid this situation each and every bank should demand examine all the essential detailed activities, before lending.

Diversification

"A bank should not lay all its eggs on the same basket". This saying is very important to the bank and it should always be careful not to grant loan in only one sector. To minimize risk, a bank must diversify its investment on different sectors. Diversification of loan helps to sustain loss according to the law of average because if securities of a company deprived, there may be appreciation in the securities of other companies. In this way the loss can be minimized or recovered.

National Interest

In addition to its own profitability the bank should also consider the national interest. Even though the bank cannot get maximum return from such investment it should carry out its obligation towards the society and the country. The bank is required to invest on such sectors as per the government and Nepal Rastra Bank's instruction. Investment on government bonds,

priority and deprived sector lending are the examples of such investments.

Legality

Illegal securities will bring out many problems for the investor. A commercial bank must follow the rules and regulations as well as different directives issued by the central bank (Nepal Rastra Bank), Ministry of finance, Ministry of law and other relevant authorities while mobilizing its funds.

2.1.2. Invest Management Functions

Every investment is not risk free so the investment must be made in such a way so that the risk is diversified. According to this book the investment can be made on securities such as treasury bins long term bond common stocks. The focuses of supply and demand inter act to determine a security market price. A security market is a mechanism for bringing together buyers and sellers of financial assets in order to facilitate trading. The investment decision has go through the following process. (Sharpe, Alexander & Bailey,1999).

a. Set Investment Process

Setting the investment policy involves determine the investors objective and amount of wealth tax consideration etc because there is a positive relationship between risk and return for deniable investment.

b. Portfolio Construction

Portfolio construction involves identifying those specific assets in which to invest and what proportion the investors wealth portfolio construction involves the diversification which minimizes the risk.

c. Portfolio Revision

The revision of portfolio is done from time to time. Due to changing partner of risk the portfolio revision are done to minimize the risk.

d. Security Analysis

Security analysis involves examines the number of securities. The purpose of analysis is to check whether the securities are missing priced. Technical analysis, the analysis conducted on the basis of past history to predict future trend and fundamental analysis that calculates the intrinsic values of share are conducted. Fundamental analysis, tries to identify the real or true value of financial assets.

e. Portfolio Performance Evaluation

It determines performance of portfolio periodically regarding the return earned and risk experienced by the investor. The performance should be evaluated not only in the terms if the returns but also the risks experienced. To evaluate the performance appropriate measures and standards are needed.

2.1.3 An overview on NRB Rules Regarding Investment of a Commercial Bank.

Nepal Rastra Bank established in 2013 B.S. is the central bank of Nepal. It's determining role in economic plans and implementation in the country is major. The main objective of the Nepal Rastra bank is to manage the economic financial transaction over the country. Systematically allocation management and implementation of economic factors over the state is governed by Nepal Rastra Bank, as a central bank. All the economic plans programs policy strategies, implementation evaluation made by government are performed under the direction of NRB. So, NRs is bank of government works for the welfare of nation, similarly NRB directs the banks and other financial institutions too. Plans police, directions rules regulations form NRB are major subject to run the commercial banks. Every step of the commercial banks is always observed by NRB, as a represential of the Nepalese government. To allocate and mobilized the deposit collected by commercial banks in different sectors of the different areas of the nation, the NRB as a

central bank, formulates fundamental rules regulations, directives polices etc. in fact, NRB controls the over the overall activities made by the commercial banks as well as establishment or operation or dissolution of banks. For so NRB has formulated commercial banks act 2031 for the establishment and operation of commercial banks. Hence, the directions rules regulations directed by NRB terms of investment by commercial banks are briefly mentioned below (NRB rules 2061).

i) Establishment of New Commercial Bank

NRB has enhanced liberal policy of establishment new commercial banks in Nepal. For such objectives NRB has regulated the following directions

- A minimum of Rs 2000 million of paid up capital is required for opening a new bank inside the Kathmandu valley.
- Similarly as per direction by NRB, Rs 120 million necessary for starting bank business out of Kathmandu.
- In the same way Rs 50 million paid up capital are necessary for opening centre office of bank out of Kathmandu.
- Commonly for establishing the commercial bank in rural areas, NRB has directed Rs 30 million as compulsory paid up capital.
- The investors can invest his/her fund up to 10% of the paid up capital of each and 15% of paid up capital of all banks in average.
- Basically the commercial bank can be invested maximum up to 70% of total paid up capital if the bank is promoted by domestic investors and 30% of paid up capital should be as liquidity margin for repayment for certain deposit.
- Individually, firm or company or groups or company can invest up to 110% of paid up capital.
- For joint venture bank foreign investors can invest minimum 40% of paid up capital and 50% as maximum, such bank should manage 30%

of paid up capital as floatation for general public.

- Applications for the establishment of new banks are to be adopted with in the stipulated time fixed by NRB.

ii) Investment on Priority Sectors

NRB has pointed priority sectors as agriculture sector, cottage and small industry sectors service oriental sector co-operative sector etc, in which the commercial bank must invest 12% or their total deposits. This prevision is totally based on the objective for up lifting life style of people in remote and village area.

iii) Investment in Co-Operative sector (Deprived sectors)

The co-operative institution, rural development banks, etc which are licensed by NRs are also to be compulsory investment by commercial banks in certain ratio determined to each JVBs. As per such regulation JVB have to invest 3% of total outstanding credit to for co-operative sectors.

Table 2.1

Investment in Deprived Sectors

S.N	Name of the Banks	Total outstanding loan to invest in Deprived sector
1.	Nepal Bank Ltd	5.03
2.	Rastriya Banijya Bank	3.78
3.	NABNIL Bank Limited	2.80
4.	Nepal Investment Bank Ltd	2.57
5.	Standard Chartered Bank	2.93
6.	Himalayan Bank Ltd	3.05
7.	Nepal SBI Bank Ltd	3.09
8.	Nepal Bangladesh Bank	4.34
9.	Everest Bank Ltd	2.84
10.	BOK Ltd	5.73
11.	NCC Bank Ltd	3.25
12.	Lumbini Bank Ltd	2.62

13.	Nepal Industrial and Commercial Bank	3.29
14.	Machhapuchhre Bank	2.89
15.	Kumari Bank Ltd	2.34
16.	Laxmi Bank Ltd	1.83
17.	Siddhartha Bank Ltd	1.48
18.	Citizen bank Ltd	3.06
19.	Global Bank Ltd	3.24
20.	Bank of Asia Nepal Ltd	2.21
21.	Prime Bank Ltd	3.02
22.	Agriculture Development Bank Ltd	0.00

iv) Direction for Raising Fund

The commercial banks are directed to raise the capital fund at minimum level of 500 million for this commercial banks can include paid up capital and reserve deduction net loss for meeting such requirement.

v) Directive for single Borrower Credit

NRB has barred the single borrower credit limit as 35% in the case of fund based credit and 50% in the case of non fund based credit, such as letter of credit acceptance letter etc.

vi) Credit for shareholders

The individual or group who holds more than 1% of shares of the commercial bank can't borrow from some bank under the directions from NRB-2062 B.S.

vii) Fluctuation in interest

The agreement can be made between bank and customers for making change in bank loan interest rate up to 0.50% is now cancelled by NRB, to be effective from 2062/63 B.S.

viii) Regulation for expansion of commercial banks

- For opening of a branch with in the area of Kathmandu Bhaktapur, Lalitpur, Pokhara, Birgunj, Biratnagar, Butwal Nepalgunj and Narayanghat, join venture banks need to open

firstly at least two branches in adjoining semi urban area and secondary at least one branched in rural area not adjoining to any municipalities.

- Banks are not required to open their new branch in semi urban or rural areas if they open new branch outside the seven municipalities given in (a).

ix) Direction for extension counter of joint venture banks

- Commercial banks can't open extension in metropolitan and semi metropolitan area expect during trade, fairs festivals ceremonies celebration etc as a directed by NRB such extensions must be converted as a branch with in two years otherwise must be closed.
- The extension opened can accept deposit and make payment as well as exchange of foreign currencies after the reemission from NRB.
- If the extension is opened in the areas of Royal place hospitals, foreign diplomatic offices industries those extensions are not allowed to operate as a branch as mentioned in (11)

2.2 Review of Related Studies

2.2.1 Review of Books

Baidya, Shakespeare (1967), has given his view on sound investment policy. He has said that "A sound investment policy of a bank is such that its funds are distributed of different types of assets with good profitability on the one hand and provides maximum safety and security to the depositors and bank on the other hand, moreover risk in banking sectors trends to be concentrated in the loan portfolio when a book gets into serious financial trouble its problem usually spring from significant amounts of loan that have become

uncollectable due mismanagement illegal manipulation of loan misguided lending policy or unexpected economic down turn. So the bank investment policy must be such that it is sound & prudent in order to protect public funds" **Chandra L.V. (1973),** says in this regard. "A banker seeks optimum combination of earning liquidity and safety, while formulation investment policy".

Emphasizing the important of investment policy H.D. Crosse puts the importance of investment policy in this study. Lending is essence of commercial banking consequently the formulation and the implementation of sound policies are among the most important responsibilities of bank directors and management well conceives lending function effectively and minimize the risk in the rent in any extension of credit the formulate of sound lending policies for all bank should have adequate and care full consideration over community needs size of loan portfolio, character of loan, credit worthless of borrower and assets fledged to security borrowing interest rate.

Bhalla, V.K. (1983), has given the basic concept of investment in three points. They are as follows:

Economic investment that is an economic definition of investment. Investment is a more general extended sense which is used by "the man of the street."

The sense in which are going to be very much interested namely financial investment. "Banks are those institutions which accept deposit from the public and turn provides credit to trade, business and industry that directly makes remarkable impact on the economic development of a country. Hence sound investment policy or a bank is another secret of a successful bank. To collect fund and utilize it in a good investment is a very risk job. Various people have given their view regarding the investment policy of CBS which has been written below."

The investment policy of the bank helps the investment operation of the bank

to be efficient and profitable by minimizing the inherent risk.

Baxley, James B. (1987), express his views as "Investment policy fixes responsibilities for the investment deposition of the bank assets in terms allocating funds for investment and loan and establishing responsibility for day to day management of these assets."

Singh, S .P. and Singh (1983), the investment policy of banks are conditioned to great extend by the national policy frame works every bankers has to apply his own judgment for arriving at a credit decision, keeping of course, his banker's credit policy also in hand".

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. But this higher degree of freedom in the field of credit management is also accomplished greater risk. Particularly during recent years, the credit function has become more complex."

Shrestha, Dr. Sunity (1995), explain in her book i.e. "Portfolio behavior of commercial banks in Nepal." Said that "The commercial banks fulfill the credit needs of various sector of the economy including agriculture, industry, commercial and social service sector. The lending policy of commercial banks is based on the profit maximizing of the institution as well as the economic enhancement of the country."

Frank K. Reilly(1999), defines, "An investment may be define as the current commitment of funds for a period of time to derived 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 involve 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 involve 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 caution 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 policy of a bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk.

2.3 Review of Articles

Shrestha Dr. Sunity (2055) in her article, "Lending operation of commercial banks of Nepal and its impact on GDP "it has presented with the objectives to make an analysis of contributions of commercial banks lending to the gross domestic product (GDP) of Nepal. She has set hypothesis that there has been positive impact of lending of commercial banks to the GDP. In research methodology she has considered GDP as the dependent variable and various sectors of lending viz. Agriculture industrial commercial, service and general and social sectors as independent variables. A multiple regression technique has been applied it analyze the contribution.

The multiple analyses have shown that all the variable except service lending has positive impact on GDP. In conclusion she has accepted the hypothesis i.e. there has been positive impact by the kinding of commercial bank in various sector economy, except service sector investment ,like wise Sunity Shrestha has analyzed in her" financial performance of commercial banks using both descriptive and diagnostic approach," in her studies, she has concluded the following points.

-The structure of commercial banks shows that bank invest on the average 75% of their total deposit on the government securities and the resources.

-The analysis of resources position of commercial banks showed quit high

percentage of deposit as cash revenue.

-The debt equity ratio of commercial banks is more than 100% in the most of the time period under study period. It leads to conclude that the commercial banks are highly leveraged and highly risk. Joint venture banks had higher capital adequacy ratio but has been dealing every day.

-Income of analysis of the management achievement foreign banks have comparatively higher total management achievement index.

Thus comparing all the banks through the time period financial condition and performance are better in joint venture banks those local banks.

Pradhan, K. (1999), has pointed out of some major issue on local commercials banks in comparison of recently established joint venture banks through his article, "Nepal Banijya Bank, Upalabdi Tatha Chunauti." The study deals with the whole CBS system of Nepal in respect of their performance and profitability. Some of his finding relevant to his study is summarized below.

-The deposit collection rate of local banks is very poor in comparison to joint venture banks.

-The pattern 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 in local banks.

Bista, Bhagat (2001), in his article, "Issue in banking reform" write that "the banks are main vehicle in transferring currency form one country to another commercial bank deal heavily in foreign exchange transactions."

Moriss, F. (1980), in his discussion paper, "Latin America's banking system has concluded that the most of the bank concentrate on compliance with central bank rules on reserve requirements credit allocation and interest rate. While analyzing loan portfolio quality, operating efficiency and soundness investment management has largely been overload.

He further adds that mismanagement financial institution has inadequate and overoptimistic loan appraisal tax loan recovery, high risk diversification of lending and investment high risk concentration, connected and insider lending loan mismatching. This has led many banks of developing countries to the failure in 1980's.

Barjacharya Badhi B. (2047), in his article "Monetary policy and deposit mobilization in Nepal." Domestic saving is one of the prime objectives of the monetary policy in Nepal and commercial banks resources in the form of deposit of private sector and providing credit to the investor in different sector of the economy.

Sharma, Bhaskar (2000), in his article, "Banking the future of completion has said, "Due to the bank of the investment revenues bank are tempted to invest without proper credit appraisal and on personal guarantee, whose negative side effects would show colors only after 4 or 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 fall rain in the urban area."

Shrestha Ramesh Lal.(2055), in his article "A study on deposit and credits of commercial bank in Nepal" concluded that the credit deposit ratio would be 51 .30% other things remaining the same in 2004 A.D 3 much was the lowest under the period of review. So he had strongly recommended that the commercial bank should try to give more credit entering new field as far as possible. Otherwise they might be able to absorb even its total expenses.

Charles J. Hardlock and Chirstopher M. 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 escapes that this information benefit will be weighed against the verity of contracting costs in a firms ultimate financing choice since they expect that these firms are the most likely to be undervalued, these financing 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 the find that firms with public debt outstanding tend to exhibit a relatively low sensitivity of bank loan likelihood to these variables. .since they accept that the contracting cost of bank debt information benefits of bank debt against the contracting costs.

The result suggest that for firms with public securities market for the firms to cross the threshold where the information benefits of bank debt finance outweigh the relatives contracting costs. Agricultural projects center has submitted in their report on where "ongoing 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 ideal funds estimate at Rs.3226 million in 1984/85 lying with them. The investment of commercial banks in the priority sectors areas seems justified. To generate intensive for commercial banks, it has necessary to raise the interest rate which would sufficiently cover up the cost leading leave some profit margin as well. As the indirect cost of borrowing small loan between two to three thousand rupees is six percentages some active measure could be taken to dower this rate to compensate the small borrows for the proposed rise in the rate of interest.

Sharma M.P. and Bhatt M.P (2002). in their article "priority sector" has present "the commercial bank 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 conductive to their investment in future. In our society where ignorance and literacy is in wide scale, it is necessary that the bank 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 additions productive employment opportunities there by increasing production and the general living standard of rural poor. But the success of the program largel depends upon the integrated operation with other programs designs for rural development. Further they argue that various programmers VIZ. Rural development land reform SAJHA, Back to the village national Champaign. Adult literacy etc. Could not materials their objective despite their some theoretically philosophy and good objectives."

Sharma, Murari R. (1988), in his article "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

2.4 Review of Dissertations

Many researchers have published their research article about the investment policy in Nepal. There are many there that have been conducted by students regarding the various in order to achieve aspect of commercial bank and financial institution in order to achieves their goal effectively some of there as supposed to be relevant for the study are presented below

Pradhan, N.M. (1980), in his study entitled "A study on investment of Nepal Bank ltd" Has emphasized that there is a greater relationship between loans and advances. He concluded that though loan advance as well as deposits are increasing trend, increases in loan advices due to the increase in the interest .His recommendation was to grant loans and advances without its length process. He has suggested enhancing banking transition up to rural sector of the kingdom.

Silwal, U.B. (1980), has conducted a study on "Lending policy of commercial bank in Nepal" with the objective of

. To analyze the role of commercial bank in its historical prospective.

.To identify to major weakness of lending policy of the commercial banks.

. To show the relationship between deposits, loans and advances.

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

- By paying higher interest rate the banks are increasing deposits, which in run create saving habits of the general people. Then the banks will be able to utilize there idle funds in productive channels. This type of business of commercial banks is relay a necessary one in an agriculture country like Nepal, where public investment has limited capacity.
- Effectiveness of lending policy is directly based upon a sounding banking system. But to geographical variation, transportation and other regional disparities, it is very difficult to expand braches in different rural area. So it can be said that commercial banks in Nepal are not plying an active role to utilize their sources collected from different sectors

Joshi, Jit Bahadur. (1982), in his study entitled "lending policy of commercial banks in Nepal" concluded that commercial banks have collected many resources from people but they are far behind in their utilization.

Commercial bank in Nepal are still lazy to play in active role to utilize their resources collected from different sector in accordance with the need of the economy.

Pokhrel, I. (1983), conducted a study on "investment patron and policy of Rastriya Banijya bank" with the objectives of:

- To review the present investment policy of "Rastriya Banijya bank".
- To examine whether the bank has been fully utilize the deposit mobilized or not.
- To established the relationship between deposit loan and advances and the effect on them by the change of interest rate.
- To recommend for the investment in the investment policy.

The research was conducted mainly on the basis of secondary data interview technique has also been use to collect information on the investment policy of the bank. The research findings of the study are concluded as.

- From the study of investment pattern of "Rastriya Banijya bank" it is obverse that the investment is mainly towards the security of gold and silver.
- From the study it has been revealed that there has never been clear and specific investment policy. In fact the bank is running its business without have any definite direction except follow the directives used by the Rastra bank from time to time in some specific matters.
- The effect of change in interest rate has neither contributed to raise deposit nor has been favorable in investment extension.
- The deposit raised by the bank is not properly utilized. This also reflected the lack of definite policy of the "Rastriya Banijya bank."

Bohara, Bhoj Raj. (1992), in his study entitled "A comparative study on the financial performance of Nepal Arab bank ltd and Nepal Indosuez banks ltd" had made 'endeavor to examine the comparative finance performance of

NABIL and NIBL in form of their liquidity activity profitability along with other parameters. He has concluded that bank performance can not be judged solely in term of profit as it may have earned profit by maintaining adequate liquidity and safety position. But it also be evaluated on the ground of the contribution it has made to the community Government and national economy of on the social and national priority discharged by banks .This means the bank should come forward with national priority tasks i.e. more deposit collection resources mobilization. The tasks are possible when they expand branches more employment opportunities services to more customers developing skills and expertise in local satisfaction on profit earning and exchange of autonomy provide by them. The accountability can be discharge by following their rules regulations directives and priorities.

Adhikari, Dev Raj. (1993), in his study entitled "Evaluating the financial performs of Nepal bank ltd." conclude that the NBL could not care fully utilize the resources on high yielding investment portfolio to minimize returns. Operational efficiency of the bank is indicated by the operational loss has been unsatisfactory. So that bank would manage its investment by using portfolio method.

Pradhan, Radhe Shyam. (1994), in his research, "financial management practices in Nepal" has studied about major feature of financial management practices in Nepal. To address his issue a survey of 78 enterprises was carried out by distributing a multiple questionnaires. This contained questions on various aspects of financial management practice in Nepal.

The fund that among the several financial function, the most important finance function appeared to be working capital management. While the least important one appeared to be maintaining good relations with stock holder. The finding reveals that banks and retained earnings are the two most widely used financing sources. most enterprise do not borrow one bank loans, less

than one year are more popular in public sector where as bank loans of 1-5 years are more popular in private sector. In periods of tight money, the majority of private sector enterprises fell that banks will treat all firms equally while public sector does not feel. So, similarly he concluded that the majority of enterprises in traded sector find that the same is one higher side.

Ojha, Kamal. (1997), has drown her conclusion in her study entitled, "A study on priority sector investment in commercial bank (with special reference to RBB)" that the bank was unable to meet requirement of 12% lending in the priority sector under Nepal Rastra bank directives. During her study period, she further fund low interest rate in priority sector but increasing trend of overdue and its miss utilization. She has recommended importing supervision. Evaluating borrowers paying capacity and reducing the overdue through integrated program of priority sector loan.

Tuladhar, Upendra. (1999), has conducted his study entitled, "A study on investment policy of Nepal Grindlays bank ltd. In comparison to other joint venture banks (NABIL and HBL).” the researchers main objective of study was to fund mobilization and investment policy with respect to fee based off balance sheet transaction and fund based on balance sheet transaction and to evaluate the growth ratios of loan and advances and total investment with respective growth rate of total deposit and net profit .

Trough his research Mr. Tuladhar has found that NGBL has successful to maintain the best way both liquidity position and their consistency, among three banks i.e. NGBL, NABIL and HBL. HBL has successfully managed assets to generate income. Income from loan and advances and total investment is the main income sources of NGBL and it can affect the banks net profit. the researcher had conducted that joint venture banks of Nepal are not effectively informative to their clients and joint venture banks have given first priority stricken and deprived sectors are given second priority. The

reason behind not providing banking facilities to the rural area is these banks are profit oriented only.

Khadka, Raja Ram. (2000), "A study on investment policy of NABIL in comparison to other joint venture banks of Nepal," had found that liquidity position of NABIL was worse than that of NGBL and NIBL had more portion current assets as loan and advances but loss portion as investment on government securities. NABIL was comparatively less successful in on balance sheet operations as well as off balance sheet operation than that of other JVBS profitability position of NABIL was comparatively not better than that of other banks. NABIL was more successful in deposit mobilization but failure to maintain high growth rate of profit in compare to NGBL and NIBL. He had suggested the JVBS to be careful in increasing profit in real sense to maintain the confidence of shareholders depositors and customer. He had strongly recommended NABIL to utilize its risks assets and shareholders fund to gain highest profit margin and reduce its expenses and collect cheaper fund for more profitability. He had recommended investing its fund in different sector of investment and administering various deposits schemes to collect fund such as cumulative deposit scheme, price bond scheme, gift cheque scheme, house building deposit scheme etc. He had recommended following liberal lending policy and investment more percentage of total deposit as loan and advances.

Laudari, Shiba Raj. (2001), has conducted his study entitled, "A study on investment policy of Nepal Indosuez Bank Ltd, in comparison of Nepal state bank of India bank ltd." The researcher main objective of study was to examine the liquidity assets management and profitability position and investment policy of NIBL in comparison to NSBI to study the growth ratios of loan and advances and investment to total deposits and net profit of NIBL in comparison to NSBI.

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 NSBI. 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 NABIL, not only did NIBL a better performance in:

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

Pant, Uttam Raj. (2003), in his thesis paper. "A study of commercial bank deposit and its utilization 40 had made as 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, Sundar. (2004), has conducted his study entitled. "A comparative study of the finance performance between Nepal state bank of India Bank Ltd and Nepal Bangladesh Bank." The researcher's main objective of study was to evaluate the trend of deposits and loan and advances of NSBI and NBBL and to evaluate the liquidity, Profitability capital structure turn over and capital adequacy position of NSBI and NBBL.

Through his research Mr. Deuja has found that the cash and bank balance to current deposit to NABIL are higher while fixed deposit to total deposit, loan

and advances to current assets of NBBL are higher and NBBL has better turnover then NABIL in terms of loan and advances to total deposits ratio and loan and advances to fixed deposit ratio where as the loan and advances ratio is better than NBBL. Further NBBL has better utilization of resources in income generating activity than NSBI. Through return on total assets and return on total deposit is better of NSBI than NBBL they are on decreasing trend while interest earned to total assets and return on net worth of NBBL is better than NSBI. As per Mr. Deuja both banks are highly leveraged.

2.5 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 NRB change over time. NRB makes necessary amendments in prevailing directives and circular and communicates to commercial banks. Commercial banks should follow their directives and circular furthermost their own investment guidelines and polices 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 the researcher and concerned organization as well as industry as a whole. This study covers the more recent financial data NRB circulars 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 stake holders 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.

No case study has yet been conducted about the investment policy of NSBI some comparative studies are previously done but in dept study about the bank is not found. Investment function is the major function of the commercial

bank. NSBI is one of a leading joint venture commercial bank. NSBI is one of a leading joint venture commercial bank of the country having huge market share its investment activities has significant impact on the national economy. Hence, this study full fills the prevailing research gap about the in depth analysis of the investment policy pursued by the organization, which is the major concern of public shareholders and other stock holders.

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

CHAPTER-III

RESEARCH METHODOLOGY

The chapter is related to the research methodology. Research methodology describes the method and process applied in the entire aspect of the study. It is preferable to call this study an in depth analysis of the investor policy. This study basically helps to conclude the real position of NABIL Bank and Bank of Kathmandu. This chapter includes research design, Population and sample, nature and sources of data, analysis of data etc.

3.1Reasearch Design

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

3.2Nature and Sources of Data

This study conducted on the basis of secondary data relating to "Investment" e.g. deposit, loan and advanced and profit/loss that have been directly obtained from the balance sheet and the P/L A/C of concerned banks annual reports ,collected from number of institution and authorities like Nepal Rastra Bank budget speech, Nepal Rastra Bank publication ,Bank bulletin, Newspaper ,Previous studies, security exchange board, Nepal stock exchange Ltd. All the secondary data are observed, processed and tabulating in the time as per need and objectives. Various data and information are collected from the economic journal, periodicals, bulletins, magazine and other published and unpublished reports and documents from various sources.

3.3 Population and Sample

There are altogether 25 commercial banks(domestic commercial banks and joint venture banks) functioning till to date and most of their stock and traded activity in the stock market. Here for the study or for sample NABIL bank limited and Bank of Kathmandu limited are taken into account. since till no one has done the study research study on the investment policy on the concerned commercial banks. So effort is made to do the same, which have been consider as a population of the study

Table 3.1 List and Period of sample commercial banks

S.N	Name of commercial banks	Years	Observations
1.	NABIL	2002,03,04,05,06,07	6
2.	BOK	2002,03,04,05,06,07	6
	Total observation		12

3.4 Analysis of Data

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

3.4.1 Financial Tools

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

Ratio Analysis

Ratio analysis is a tool of scanning the financial statement of the firm. "Ratio means the numerical or quantitative relationship between two items or

variable. It can be expressed as percentage, Fraction or a stated comparison between numbers." (I.M. Panday, 1992; 104).Ratio analysis is the relationship between two accounting figures expressed mathematically. It is computed by dividing one item of relationship with the other. Management itself can use these parameters to improve the organization's performance in future by knowing the strengths and weakness for exploiting maximum benefits and to repair the weakness to meet the challenges.

Even though there are many ratios, only those financial ratios are calculated and analyzed which are related in this study. They are as follows:

a. Liquidity Ratios: Liquidity ratios measure the firm's ability to meet its current obligations. It is the measurement of time within which a bank's assets can be converted into cash to meet deposit withdrawal and other current obligations. A bank should ensure that it does not suffer from lack of liquidity and also it does not have excess liquidity. Both conditions of liquidity are not in favorable to the bank.

The following ratios are evaluated under liquidity ratios

i) Current Ratio

A ratio between assets and current liabilities is known as current ratio. Its shows the relationship between current assets and current liabilities. Current assets are those assets, which can be converted into cash within short period of time, normally not exceeding one year. Current liabilities are those obligations which are payable within a short period normally not exceeding one year.

Mathematically it is represented as:

$$\text{Current Ratio} = \frac{TotalCurrentAssets}{TotalCurrentLiabilities}$$

Higher the current ratio better is the liquidity position. The traditional standard of current ratio is2:1 but accurate standard depends in circumstances in case of seasonal business.

This ratio measures the bank's short-term solvency i.e. its ability to meet short-term obligations. As a measure of creditors versus current assets it indicates each rupee of current assets available for each rupees of current liability.

ii) Cash and Bank Balance to Total Deposit Ratio (Cash Reserve Ratio)

Cash and bank balance are the most liquid current assets. This ratio measures the percentage of most liquid fund with the bank to make immediate payment to the depositor. This ratio is calculated by dividing the cash and bank balance by the amount of total deposits. Mathematically it is expressed as,

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

Hence, cash and bank balance includes cash at vault (Including local and forging currencies). Balance with other banks at Nostro Account is including current deposits, saving deposits, fixed deposits, money at call and short notice and other deposits.

i) Cash and Bank Balance to Current Assets Ratio

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

This ratio is calculated by dividing cash and bank balance by current assets.

Mathematically it is expressed as.

$$\text{Cash and bank balance to current assets ratio} = \frac{\text{Cash and Bank Balance}}{\text{Current Assets}}$$

ii) Investment on Government Securities to Current Assets Ratio

Investment on government securities includes treasury bills and development bonds etc. This ratio is calculated to find out the percentage of current assets invested in government securities.

This ratio is calculated by dividing investment made on government made on

government securities by current assets.

Mathematically it is expressed as,

Investment on government securities to current assets ratio

$$= \frac{\text{Investment on Government Securities}}{\text{Current Assets}}$$

iii) Assets Management Ratio (Activity Ratios)

Activity ratios are employed to evaluate the efficiency with which the firm manages and utilizes its assets. These ratios are also called turnover ratios because they indicate the speed with assets are being converted into sales. Assets management ratio measures how efficiently the bank manages the resources at its command.

The following ratios are used under this asset management ratio.

i) Loan and Advances to Total Deposit Ratio

This ratio is calculated to find out that which banks are able to utilizing their total deposits on loan and advances for profit generation purpose. This ratio can be obtained by dividing loan and advances by total deposits; this can be stated as below:

Loan and Advances to Total Deposit Ratio = $\frac{\text{Loan and Advances}}{\text{Total Deposit}}$

ii) Total Investment to Total Deposit Ratio

This ratio implies the utilization of firm's deposit on investment in government securities and share/debentures of other companies and banks.

This ratio can be calculated by dividing total investment by total deposit. This can be stated as.

Total Investment to Total Deposit Ratio = $\frac{\text{Total Investment}}{\text{Total Deposit}}$

Hence, total investment consists of investment on government securities, treasury bills, investment on debenture and bonds, share in subsidiary companies and other investment.

iii) Loan and Advances to Working Fund Ratio

Loan and advance indicates the ability of any banks to canalize its deposits in the form of loan and advances to earn high return. This ratio is computed by dividing loan and advances by total working fund; this can be stated as,

$$\text{Loan and Advances to Working Fund Ratio} = \frac{\text{Loan and Advances}}{\text{Working Fund}}$$

Where,

Total working fund consists of current assets, net fixed assets, loan to development banks and other miscellaneous assets.

iv) Investment on Government Securities to Total Working Fund Ratio

This ratio shows that banks investment on government on government securities in comparison to the total working fund.

This ratio is calculated by dividing investment on government securities by total working fund, this can be stated as,

Investment on Government Securities to Total Working Fund Ratio

$$= \frac{\text{Intrest on Govt.Securities}}{\text{Working Fund}}$$

Hence, Investment on government securities includes treasury bills and development bonds etc.

v) Investment of Share and Debentures to Total Working Fund Ratio

This ratio shows the banks investment in share and debenture of the subsidiary and other companies.

This ratio can be computed by dividing investment on shares and debentures by total working fund; this can be started as

Investment of Share and Debentures to Total Working Fund Ratio

$$= \frac{\text{Investment on Share and Debentures}}{\text{Working Fund}}$$

Where, numerator includes investment on debentures/ bonds and shares of the other companies.

D) Profitability Ratios

Profit is the difference between revenues and expenses over a period of time. A company should earn profit to survive and grow over a long period of time, and it will have no future if it fails to make sufficient profits in longer run. Therefore, the finance manager should continuously evaluate the efficiency of its company in terms of profits. The profitable ratios are calculated to measure the operating efficiency of a company. It is the indicator of the financial performance of any institution. This implies that higher the profitability ratio, better the financial performance of the bank and vice versa.

The following ratios are taken into account under this heading.

b. Return on Total Working Fund Ratio

This ratio measures the overall profitability of all working funds i.e. total assets. A firm has to earn satisfactory return on assets or working fund for its survival. This ratio is calculated by dividing net profit by total working fund.

This can be expressed as below:

$$\text{Return on Total Working Fund Ratio} = \frac{Net\ \text{Pr}ofit}{WorkingFundRatio}$$

ii) Return on Loans & Advance Ratio

This ratio indicates how efficiently the bank has employed its resources in the form of loans and advances. This ratio is computed by dividing net profit by loan & advances. This can be expressed as below:

$$\text{Return on Loans \& Advance Ratio} = \frac{\text{Net Profit}}{\text{Loan and Advance}}$$

iii) Total Interest Earned to Total Outside Assets Ratio

This ratio measures the interest earning capacity of the bank through the efficient utilization of outside assets. Higher ratio implies efficient use of outside assets to earn interest.

This ratio is calculated by dividing total interest earned by total outside assets, this can be expressed as,

Total Interest Earned to Total outside Assets Ratio=$\frac{\text{Total Interest Earned}}{\text{Total Outside Assets}}$

Outside assets means assets deployed outside the organization and includes loans, discount and overdrafts.

iv) Total Interest Earned to Total Working Fund Ratio

This ratio is calculated to find out the percentage of interest earned to total assets (Working fund). Higher ratio implies better performance of the bank in terms of interest earning on its total working fund. This ratio is calculated by dividing total interest earned by total working fund.

This can be expressed as,

Total interest Earned to Total working Fund Ratio =$\frac{\text{Total Interest Earned}}{\text{Total Working Fund}}$

Where, total interest earned includes interest on loan, advances and overdrafts, government securities, investment in debentures and other interbank placements.

v) Total Interest Paid to Total Working Fund Ratio

This ratio is calculated to find out the percentage of interest paid on liabilities with respect to total working fund. This ratio is calculated by dividing total interest paid by total working fund.

It can be expressed as,

Total Interest Paid to Total Working Fund Ratio = $\frac{\text{Total Interest Paid}}{\text{Total Working Fund}}$

Where, total interest paid includes total expresses on deposits, borrowings and interbank takings.

E) Risk Ratios

Risk taking is the prime business of bank's investment management. The proper risk management increase effectiveness and profitability of the bank. These rations inductee the amount of risk associated with the various banking operations, which ultimately influences the bank's investment policy.

The following ratios are taken into account under this heading.

i) Liquidity Risk Ratio

The liquidity risk ratio measure the level of risk associated with the liquid assets i.e. cash, bank balance that are kept in the bank for the purpose of satisfying the depositors demand for cash. Higher the ratio, lower is the liquidity rise. This ratio is computed by dividing cash & bank by total deposits.

This can be mentioned as

$$\text{Liquidity Risk Ratio} = \frac{\text{Total Cash \& Bank Balance}}{\text{Total deposit}}$$

ii) Credit Risk Ratio

Credit risk ratios measure the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. By definition, credit risk ratio is expressed as the percentage of non-performing loan to total loan & advances by total assets.

This can be mentioned as,

$$\text{Credit Risk Ratio} = \frac{\text{Total Non-Performing Assets}}{\text{Total Loans and Advances}}$$

iii) Capital Risk Ratio

The capital risk ratio of a bank indicates how much asset values may decline before the position of depositors and other creditors jeopardize. The capital risk is directly related to the return on equity (ROE). Higher the ratio, lower is the capital risk. The ratio is computed by dividing capital (Paid up Capital + Reserves) by risk-weighted assets as computed under BASLIE committee's formula.

This can be mentioned as,

$$\text{Capital Risk Ratio} = \frac{\text{Capital (Paid up+Reserves)}}{\text{Risk Weighted Assets}}$$

F) Growth Ratios

Growth ratios measure how well the firm is maintaining its economic position in its industry. It is directly related to the fund mobilization and investment management of a commercial bank.

The following growth ratios are calculated in this study.

i. Growth ratio of total deposit

ii. Growth ratio of loan & advances

iii. Growth ratio of total investment

iv. Growth ratio of net profit.

3.4.2 Statistical Tools

Some important statistical tools are used to achieve the objective of this study. In this study, Statistical tools such as trend analysis of important variables, coefficient of correlation between different variables as well as test of hypothesis have been used which are as follows:

a) Trend Analysis

This topic analyzes the trend of loan and advance to total deposit ratio and trend of total investment to total deposit ratio of NABIL and Bank of Kathmandu Bank from 2001/02 to 2006/07 and makes the forecast for the next six years. Under this topic following sub-topic has been presented.

i) Trend analysis of total deposits.

ii) Trend analysis of loan and advances.

iii) Trend analysis of total investment.

iv) Trend analysis of net profit.

b) Co-efficient of Correlation Analysis

The correlation co-efficient determines the relationship between the two or more variable. 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.

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

c. Arithmetic mean

Arithmetic mean is the some of all the observations divided by the number of Observations. Arithmetic mean is calculated to find the mean of financial ratio. The asthmatic mean can be commuted as:

$$A.\ m = \frac{\sum f}{n}$$

d) Standard Deviation

The Measurement of the sectaries about an average is known as dispersion. The S.D. means a high degree of uniformity of the observations as well as homogeneity of the serried a large S.D means a high degree of uniformity of the observations as well as homogeneity of the serried a large S.D of different ratios are calculated. It is computed as:-

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

(e) Co-efficient of Variation (C.V)

The co-efficient of variation is the relative measure of dispersion comparable across distribution which is defies to the mean expresses in percent. It is Calculated as:

$$C.V = \frac{S.D}{Mean} x100$$

f) Test of Hypothesis

The objective of this test is to test the significance regarding the parameters of the population on the basis of sample drawn from the population.

Types of Hypothesis:-

Null hypothesis

Alternative hypothesis

Null Hypothesis (H_0): $\overline{x_1} = \overline{x_2}$:-It always rejected the difference & accepts they (assumption value & actual value) are same i.e. there is no significant different between mend ratios of loan & advances to total deposits of NABIL and Bank of Kathmandu.

Alternative Hypothesis(H_0): $\overline{x_1} \neq \overline{x_2}$ **:-** Complementary of null is called alternative hypothesis i.e. there is significant difference between mean ratios of loan & advances to total deposits of NABIL & Bank of Kathmandu Bank.

Generally, following steps are followed for the test of hypothesis.

-formulating hypothesis

- Null Hypothesis
- Alternative hypothesis

– Computing the test statistics

– Fixing the level of significance

– Finding critical region

– Deciding two-tailed or one tailed test

– Making decision

In this topic statistic is used to find out the test of significance regarding the partner of the population on the basis of sample drawn from the population on the basis of sample drawn from the population.

T-Test

If we draw a large number of small samples i.e.(n<30) and compute the mean for each sample and then plot the frequency destruction of these mean, the resulting sampling distribution would be t-test. On these study sample are taken only for five years i.e. (5<30).

Assumption made for using t-test in this case is that:-

The parent populations from which samples are drawn are normally distributed.

The two samples are random and independent of each other.

The population variances are equal and unknown.

This test has been conducted on the various ratios related with the banking business.

i) Test of hypothesis on loan and advances to total deposit ratios between NABIL and Bank of Kathmandu Bank.

ii) Test of hypothesis on total investment to total deposit ratio between NABIL and Bank of Kathmandu Bank.

iii) Test of hypothesis on investment on Government securities to current assets ratio between NABIL and Bank of Kathmandu Bank.

iv) Test of hypothesis on loan and advances to current assets ratio between NABIL and Bank of Kathmandu Bank.

v) Test of hypothesis on return on loan and advances ratio between NABIL and Bank of Kathmandu Bank.

vi) Test of hypothesis on total interest earned to total outside assets ratio between NABIL and Bank of Kathmandu Bank.

(g) 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 regression analysis is a mathematical measure of the average relationship between two or non variables in terms of original units of data. There are two types of variable i.e. dependent variable and independent variable. The variable whose value is influenced or is to be predicated is called dependent

variable where the variable which influences the value or is used for predication is called independent variable. Thus regression analysis studies the statistical relationship between the variables. The main objective of regression 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 relationship are known as regression equations. It is the line which gives the best estimates for the value of Y for any specified value of x.

Regression equation of Y on x is given by

$Y = a + b\bar{x}$

Where,

Y= Dependent Variable

X= Independent Variable

a= Intercept of the line

b= Slope of the line

the value of the constants 'a' and 'b' can be determined by solving two normal equations (applying principle of method of least squares).

$\sum y = na + b\sum x$……ii

$\sum xy = a\sum x + b\sum x^2$……..iii

Research methodology and the various financial and statistical tools discussed above have been used in the next chapter to analyze and interpret the data regarding the NABIL and Bank of Kathmandu Bank for the study period from fiscal year 2001/02 to 2006/2007.

CHAPTER-IV
PRESENTATION AND ANALYSIS OF DATA

This chapter implies the presentation and analysis of data collected from various secondary sources. 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.

4.1 Financial Analysis of Commercial Bank

Financial analysis of the process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items of the balance sheet. Here relevant ratio is calculated and appropriate interpretations are made. Analysis of financial ratio reflects the performance of the concern banks.

1. Liquidity Ratio:

Commercial Banks must maintain its satisfactory liquidity position to satisfy the credit needs of the Commercial to meet demands for deposit, withdrawals, Pay nation by obligation in time and convert non-cash assets into cash to fulfill immediate needs without loss of bank and consequent impact on long run profit.

i) Current Ratio:

It is the relationship of current assets and current liabilities. Current assets can be converted into cash with in short period of time normally not exceeding one year. Current liabilities are those obligation which are payable with in short period. Current assets consist of each and banks balance money at call or short terms notice, loan and advances investment in government securities and other interest receivable and other miscellaneous current assets. Current

liabilities consist of deposits, loan and advances, bills payable. Tax provision, staff bonus, dividend payable and miscellaneous current liabilities.

Table 4.1 Current Ratio (Times)

Banks	Fiscal Year						Mean	S.D	C.V
	2001/02	2002/03	2003/04	204/05	2005/06	2006/07			
NABIL	1.27	0.92	0.94	0.97	2.08	1.20	1.23	0.4026	32.73
BOK	1.06	1.05	1.06	1.02	1.21	1.06	1.08	0.0632	5.85

Sources: Appendix No.1

In the table 4.1 current Ratio of commercial banks are analyzed. The table shows that the current assets of sampled commercial banks have exceeded the current liabilities during the six years period. In general it can be said that sample bank have sound ability to meet their short term obligations in other words bank is capable of discharging the current obligations.

In case of NABIL the current ratio is in increasing trend from fiscal year 2002/03 to 2005/06 but it has slightly decreased in the year 2006/07 by 0.88 similarly BOK has a fluctuating trend ratio. In the case, NABIL has maintained higher current ratio, which states that liquidity position of NABIL is not fair. The value of coefficient of variation of NABIL is 32.73% which is comparatively higher than BOK i.e. 32.73% > 5.85%, Thus it can be said that current ratio of NABIL is less consistence than BOK.

ii) Cash and bank balance to total deposit Ratio

Cash and bank balance are assets that constituted banks first line of defense and consist of cash and hand foreign cash on hand cheques and other cash items balance with demotes banks and balance aboard. This ratio measures the

proportion of most liquid assets i.e. cash and balance among the total current assets of bank. Higher ratio reflects the bank ability to meet demand for cash. The table 4.2 reflects cash and bank balance to total deposit ratio of NABIL and bank of Kathmandu from the FY 2001/02 to 2006/07.

Table 4.2 Cash and Bank Balance to Total Deposit Ratio

Unit in Percentage

Banks	**Fiscal Year/Unit**						**Mean**	**S.D**	**C.V&**
	2001/02	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**			
NABIL	6.78	8.51	6.87	3.38	3.26	6.00	5.88	1.8160	30.88
BOK	11.95	11.23	10.11	8.28	6.95	10.62	9.86	2.7251	17.50

Sources: Appendix No:2

In the table 4.2 reflects the percentage of cash and bank balance total deposit ratio position of NABIL and BOK. The mean standard deviation and coefficient of variation of cash and bank balance to total deposit ratios of sampled banks are better. The above table shows BOK has fluctuating trend likewise 11.95%, 11.23%, 10.11%, 8.28%, 6.95% and 10.62% from the FY 2001/02 to 2006/07 respectively. It has maintained highest ratio in the FY2001/02 ,11.95% and lowest ratio in the FY 2005/06 i.e. 6.95% similarly NABIL has maintained fluctuating trend from the FY 2001/02 to 2006/07. In average BOK has higher cash and bank balance to total deposit ratio than NABIL. It states that the liquidity position of BOK is better in this regard.

The above analysis helps to conclude that, the cash and bank balance position of NABIL with respect to deposits is not better against the readiness to serve its customers deposits than that of the BOK so NABIL may invest in more

productive sectors like short-term marketable securities treasury bills etc ensuring enough liquidity which will helps the bank to improve its profitability.

iii.) 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 assets of bank. Higher ratio indicates the bank's ability to meet the daily cash requirement of their customer's deposit. Bank has to balance the cash and bank balance to adequate cash for the customers demand against deposit when required and less interest is required to be paid against the cash deposit.

The table below reflects the cash and bank balance to current asset ratio of NABIL and BOK from the FY 2001/02 to 2006/07.

Table 4.3 Cash and Bank Balance to Current Assets Ratio

Unit in Percentage

Banks	**Fiscal Year**						**Mean**	**S.D**	**C.V%**
	2001/02	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**			
NABIL	7.90	8.25	6.81	3.74	4.55	7.32	6.43	1.6941	26.35
BOK	11.04	9.59	8.36	7.95	8.17	9.28	9.07	1.0621	11.69

Sources: Appendix no: 3

This table 4.3 reflects the mean, standard deviation and coefficient of variation of cash and bank balance to current assets ratio of two banks are in fluctuating trend during the study period. They show the ability to manage the deposit withdraw from the customers. NABIL has maintained a highest ratio of 8.25%

in the year 2002/03. Similarly BOK has a highest ratio of 11.04% in the year 2001/02. The mean value of BOK is highest in comparisons to NABIL Bank. Similarly the coefficient of variation of NABIL is 26.53 % which is higher than BOK it reflects that the current ratio is less heterogeneous of NABIL than BOK bank.

Lastly, the analysis reflects that NABIL is better position during the study period as the bank shows the ability to manage the deposit with draws from the customers although it has the fluctuating trend.

iv) Investment on Government Securities to current Assets Ratio

The ratio examines Share 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 fund. Even governments securities are not so liquid as cash and bank balance of commercial bank they can easily be sold in the market or it can also be converted into cash in other ways. The ratio is computed as:

Table 4.4 Investment on Government Securities to current Assets Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	30.95	25.88	25.78	16.12	26.61	25.14	23.41	5.3385	22.80
BOK	8.76	20.91	25.33	23.06	29.81	16.45	20.72	6.7164	32.43

Sources: Appendix no: 4

The above table 4.4 reflects that investment in government securities to current assets ratio of NABIL is in decreasing trend from fiscal year 2001/02 to 2005/06 but it has increased in the year 2006/07 by 8.53%. Similarly BOK is fluctuation trend during the study period.

The mean ratio of NABIL is higher than BOK it means that NABIL has invested it's as much as portion of its current assets on government securities than that of BOK. The coefficient of variation of NABIL is lower in comparison to BOK bank.

Lastly it can be conclude that BOK 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 NABIL liquidity portion is slightly poor than BOK bank on view point of investment of government securities.

v) Loans and Advances to Current Assets Ratio

To make a high profit and for mobilizing its fund in the best way a commercial bank should not keep its all collected funds as cash and bank balance but they should be invested as loan and advances to the customers. In

the present study loan and advances represent to local and foreign bills discounted and purchased and loans, cash credit and overdraft in local currency as well as in convertible foreign currency.

Table 4.5 Loan and Advances to Current Assets Ratio

Unit in Percentage

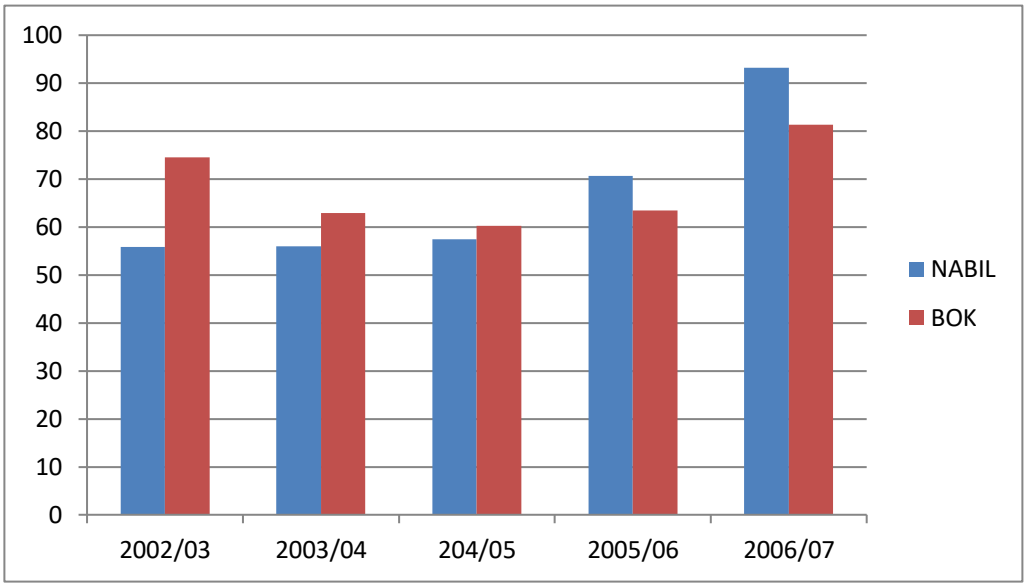
Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	55.87	55.93	57.50	70.71	93.25	81.28	69.09	14.24	20.61
BOK	74.51	62.88	60.30	63.51	81.39	66.31	68.15	7.4169	10.89

Sources: Appendix No: 5

The table 4.5 shows the percentage of loan and advances ratio to current assets ratio position of NABIL and BOK. The loan and advances to current assets ratio of NABIL is increasing trend from fiscal year 2001/02 to 2005/06 but it has decreased in the year 2006/07 by 11.97% similarly BOK is in fluctuating trend from 2001/02 to 2006/07. The mean ratio of NABIL is slightly more than BOK. It shows that loan and advances to current asset ratios of the NABIL has maintained a higher ratio of 93.25% in the FY 2005/06. Similarly BOK has in 81.39% in the FY 2005/06.

The coefficient of variation among ratio is higher in case of NABIL, which indicates formality of NABIL in comparison to BOK bank. So, it can be concluded that it is not better to mobilize NABIL funds as loan and advances.

Figure 4.1 Loan and Advances to current Assets Ratio



4.1.1 Asset Management Ratio

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

i) Loan and Advance to Total Deposit Ratio

This ratio measures how successfully the banks are able to mobilize the total deposit on loan and advances for profit generating 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 4.6 presents the percentage of loan and advances to total deposit ratios position of NABIL and BOK.

Table 4.6 Loan and Advances to Total Deposit Ratio

Unit in Percentage

Banks	Fiscal Year/unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	47.97	57.68	58.01	72.57	66.79	66.60	61.60	8.0943	13.03
BOK	80.61	73.62	72.94	66.12	69.23	75.87	73.07	4.6206	6.32

Source: Appendix No.6

The ratio of NABIL is in increasing trend where as BOK ratio is in decreasing trend between 2001/02 and 2004/05. In the case of NABIL has maintained higher loan and advances to total deposit i.e. 72.57% in a year 2004/05, likewise BOK has maintained higher ratio i.e. 80.61% in a year 2001/02 respective. The mean value of NABIL i.e. 61.60 is less than BOK i.e. 73.07% C.V of NABIL is higher than that of the BOK. Bank which indicate that loan and advances of it is stable and consistent.

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

ii) 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. Table 4.7 reflects the total investment to total deposit ratio of the banks NABIL and BOK.

Table 4.7 Total Investment to Total Deposit Ratio

Unit in Percentage

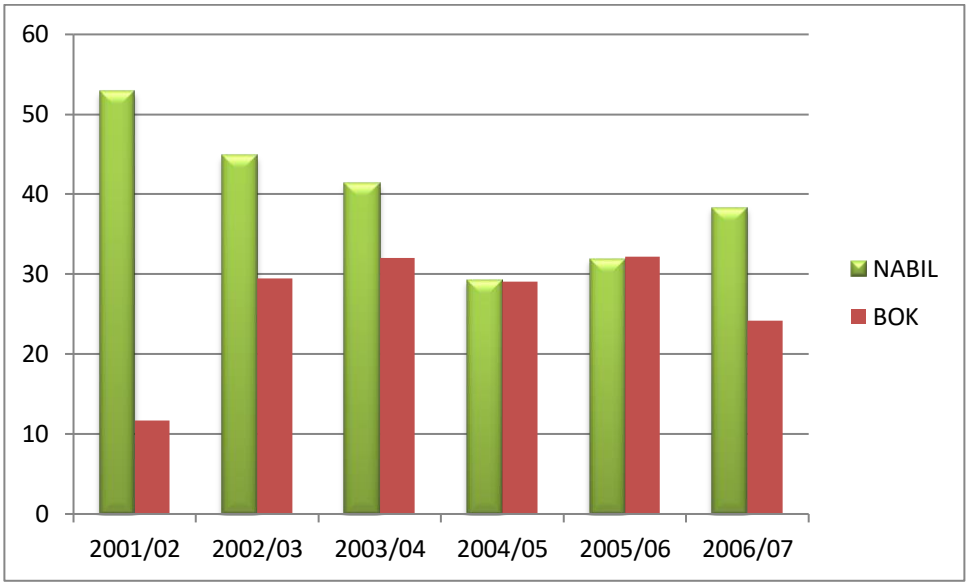
Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	52.88	44.85	41.33	29.28	31.93	38.32	39.76	9.0072	22.66
BOK	11.66	29.43	32	29.05	32.22	24.18	26.42	7.1136	26.93

Source: Appendix no: 7

From the table 4.7 it is fund that, total investment to total deposit ratio of NABIL and BOK banks are in increasing and decreasing trend or in fluctuating trend during study period 2001/02 to 2006/07. The total investment to total deposit ratio of NABIL has highest ratio of 52.88% in FY 2001/02 and lowest ratio 29.28% in FY 2004/05. Similarly BOK has highest and lowest ratio of 32.22% and 11.66% in FY 2005/06 and 2001/02 respectively.

In comparison with mean value, NABIL has higher than BOK i.e. 39.76>26.42. Likewise the value of coefficient of variation on NABIL is lower than BOK banks. After analysis it is clear that the investment policy of NABIL is in better position in comparison to BOK bank. The total investment to total deposit ratio of NABIL is more homogeneous because it has low coefficient of variation.

Figure 4.2 Total Investment Total Deposit Ratio



iii) Loan and Advances to Total Working Fund Ratio

Loan and advances is the major components of the total working fund, which indicate the ability of banks to utilize in deposit in the form of loan and advances to earn high return. It is an appropriate level to generate profit the ratio shows the extent to which the commercial banks are able to utilizing their assets loan and advances for the purpose of profit generation.

Total working fund is the total assets. It is composed up of current assets fixed assets miscellaneous assets and investment loan and advances and interest receivable.

The table 4.8 reflects the loan and advance to total working fund ratio of NABIL and BOK.

Table 4.8 Loan and Advances to Total Working Fund Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	42.43	46.83	48.91	61.60	57.87	57.04	52.45	6.8154	12.99
BOK	72.58	61.02	59.96	59.98	59.12	64.51	62.78	4.7329	7.54

Sources: Appendix no.8

In the table 4.8 reflects that loan and advance to working fund ratio of NABIL is in increasing trend. Similarly BOK is decreasing trend during the study period. NABIL has the highest ratio 61.60% in the FY 2001/02.

The mean value of BOK has maintained average loan and advances to total working fund ratio than that of NABIL. This regard BOK is in better position among NABIL bank i.e. 7.54% < 12.99% respectively, which clear that loan and advances to total working fund ratio is less variable than NABIL Bank.

iv) Investment on Government Securities to Total Working Fund 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 4.9 shows the investment on Government securities to total working fund ratio of NABIL and BOK.

Table :4.9 Investment on Government Securities to Total Working Fund Ratio.

Unit in Percentage

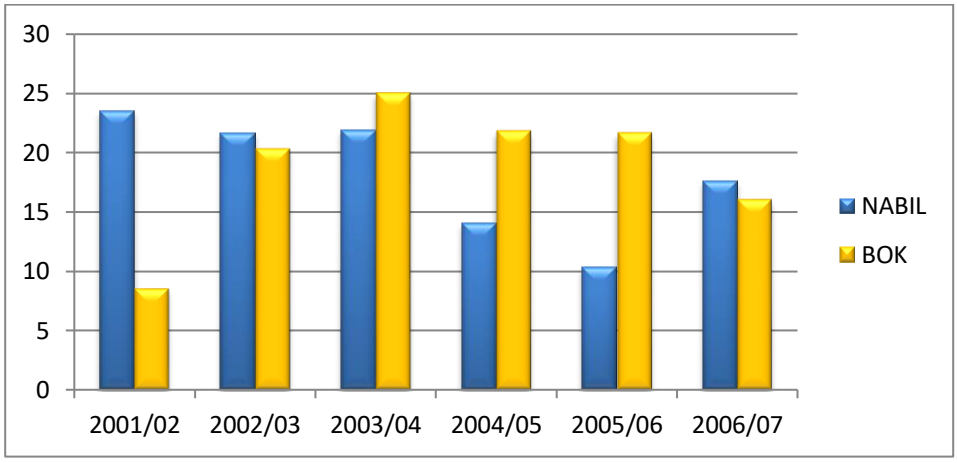
Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	23.51	21.67	21.93	14.05	10.31	17.64	18.19	4.7255	25.98
BOK	8.54	20.29	24.98	21.78	21.65	16.01	18.88	5.3292	28.23

Source: Appendix No.9

From the table 4.9 it is found that investment on government securities to total working fund ratio of banks are in fluctuating trend in study period 2001/02 to 2006/07. The investment on government securities to total working fund ratio NABIL has highest ratio of 23.51% in FY 2001/02 and lowest ratio 10.31% in FY 2005/06.Similarly BOK has highest and lowest ratio of 24.98% and 8.54% in FY 2003/04 and 2001/02 respectively.

In companion with mean value, NABIL has lower than BOK i.e. 18.13%<18.88% Likewise the value of coefficient of variation on NABIL is lower BOK. After analysis it is clear that the investment policy of NABIL is in better position in comparison to BOK. This means NABEL has invested its more portion of working fund on government securities as than BOK bank.

Figure 4.3 Investment on Government Securities to Total Working Fund Ratio



v) Investment on Shares and Debentures to Total Working Fund Ratio

This ratio reflects the banks investment in shares and debentures of subsidiary and other companies. Now a day's commercial banks are interested to invest its fund not on government securities. They are interested to invest in shares and debenture of different types of companies and also in most of commercial bank in Nepal have purchased shares of regional development banks and some of them have purchased the shares of other companies as well.

This ratio shows the extent on which the banks are able to mobilize their assets on purchase of shares and debenture of other companies to generate income and utilize their excess fund. A highest ratio indicated more portion of investment on shares and debenture out of total working fund. The table 4.10 shows the investment on shares and debenture to total working fund ratio of NABIL and BOK from the FY 2001/02 to 2006.07.

Table 4.10 Investment on Share and Debentures to Total Working Fund Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	0.13	0.13	0.13	0.16	0.12	0.10	0.13	0.0173	13.31
BOK	0.60	0.31	0.14	0.23	0.19	0.16	0.29	0.1469	50.66

Sources: Appendix No. 10

In the table 4.10 shows that of NABIL has maintain same position up to 2003/04 than it has increasing trend in 2004/05 than it has decreasing trend up to 2006/07 i.e.0.13%, 0.13, 0.13%, 0.16%, 0.12% and 0.10%. Similarly BOK has also in decreasing trend to investment of shares and debenture to working fund ratio.

4.1.2 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. Commercial banks acquire profit by providing different kinds higher the profitability ratio shows the efficiency of the management. The following profitability ratios are related to study under this heading.

i) Return on Total Working Fund Ratio

It also known as return on assets. This ratio measures the profit earning by mobilizing available resources (Total assets). The bank has to earn satisfactory return on assets or working funds are well manage and are efficiently utilized

maximizing taxes within the legal options available will also improve the available will also improve the return or return will be higher. Net profit includes the profit that is left to the internal equities after all charge and expenses cost. The table below shows the return on assets of NABIL and BOK.

Table 4.11 Return on Total Working Fund Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	1.55	2.51	2.71	3.02	2.35	2.47	2.52	0.4733	18.78
BOK	0.15	1.10	1.34	1.42	1.65	1.80	1.24	0.5372	43.32

Source: Appendix No: 11

The table 4.11 shows the mean, S.D and C.V of NABIL and BOK banks from FY 2001/02 to 2006/07. NABIL has increasing position up to 2004/05 than it has decreasing trend in the FY 2005/06 to 2006/07 i.e.1.55%, 2.51%, 2.71%, 3.02%, 2.85%, 2.47%. Similarly BOK has the increasing trend in the FY 2001/02 to 2006/07 NABIL has highest profit ratio is 3.02% in the FY 2004/05 and minimum profit ratio is 1.55% in the FY 2001/02. Similarly BOK has highest and lowest profit ratio is 1.80% and 0.158% in the FY 2006/07 and 2001/02. In average, NABIL, BOK banks have able to 2001/02. In average, NABIL, BOK banks have able to maintain a net profit during the study period.

If the mean values are observed NABIL is rocketing than BOK i.e. 2.52% > 1.24% respectively. The coefficient of variation of NABIL is lower than of BOK i.e. 18. 78 %< 43.32% it indicate the return on total working fund ratio

of NABIL is stable and consistent in comparisons to BOK. The analysis clear the profitability ratio with respect to financial resources investment of NABIL is better as well as stable.

ii) Return on Loans and Advances Ratio

Return on loan and advances ratio measure the earning capacity of banks on its total deposit mobilized on loan and advances mostly loan and advances included loan, cash credit, overdraft, bills purchased and discount. In order words return on loan and advances ratio indicates how efficiently the banks have employed its resources in the firm of loan and advances.

Table 4.12 Return on Loan and Advances Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	3.65	5.37	5.56	4.90	4.92	4.34	4.79	.6403	13.37
BOK	0.20	1.81	2.26	2.36	2.79	2.79	2.035	0.8866	43.57

Sources: Appendix No:12

The table 4.12 reflects that NABIL return on loan and advances ratio has increasing trend in the beginning years and after 2004/05 it is fluctuating from 4.90% to 4.92% to 4.34% in 2006/07. Similarly BOK has maintained increasing trend in the first five years after that constant i.e. 0.20%, 1.81%, 2.26%, 2.36%, 2.79%, 2.79%.

The mean of NABIL is higher than BOK i.e. 4.79>2.0 35 respectively. The standard deviation of NABIL is lower than BOK. Similarly the coefficient of variation of NABIL is less than BOK i.e. 13.37<43.57. Thus it can be

concluded that NABIL is in average position in earning loan and advances in comparison to BOK.

(iii) 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 of outside assets of a commercial bank. Total outside assets includes loan and advances, investment on government securities share and debentures and other all types of investment.

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

Table 4.13 Total Interest Earned to Total outside Assets Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	7.17	7.38	7.14	7.20	6.86	6.48	7.04	0.2828	4.02
BOK	8.96	7.81	6.98	7.13	6.75	6.61	7.37	0.8056	10.93

Sources: Appendix No: 13

The comparison of mean ratios of NABIL and BOK banks reflects that total inters earned to total outside assets ratio of NABIL is lowest which indicate that it has not able to use in fund (outside assets) to earn high interest income in comparison to BOK bank.

The total interest earned to total outside ratio of NABIL has fluctuating trend. In case of NABIL is increase at FY 2002/03 i.e. 7.38% and decrease in the year 2006/07 i.e. 6.48% similarly BOK has decrease from 8.96% to 6.98%. if

the coefficient of variation is observed NABIL has the lowest than BOK i.e. 4.02% <10.93%. This reflects that earned total outside assets of NABIL is consistent. In other words it is satisfactory in compared to BOK. Therefore, it can conclude that NABIL has better position with respect to the income earned from the total outside assets.

iv) Total interest Earned to Total Working Fund Ratio

This ratio is calculated to find out the percentages of interest earned total assets. It reflects the extent to which the banks are success in mobilizing there to total assets to gain higher income as interest. Higher ratio indicates higher earning power of the banks of its total working fund.

The table below shows the interest earned to total working fund ratio of NABIL and BOK.

Table 4.14

Total Interest Earned to Total Working Fund Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	6.39	6.15	5.98	6.22	5.87	5.83	6.07	0.1732	2.85
BOK	7.45	6.67	5.97	6.16	5.85	5.62	6.29	0.6126	9.74

Sources: Appendix No.14

The table 4.14reflects that the ratio of NABIL is in decreasing trend, where the ratio and increase in the fourth year of the both banks i.e. 6.39% > 6.15% >5.98% < 6.22% > 5.87% > 5.83% and 7.45% > 6.67% > 5.97 % < 6.16% >5.85% > 5.62% respectively. The BOK has maximum ratio is 7.45% in the

FY.2001/02 and minimum ratio is 5.62% in the FY 2006/07 on the other hand the mean value of NABIL has lower than of BOK i.e. 6.07< 6.29. Similarly the coefficient of variation of NABIL is 2.85% which is lower than BOK i.e. 2.85% <9.74%.

After analysis it can be concluded that total interest earned of total working fund of NABIL is satisfactory in compared to BOK. It indicates the total interest earned to total working fund ratio is stable. BOK has highest coefficient of variation than NABIL. That means it is not successful in earning interest income because high ratio is an indicator of higher earning power of the bank of its total working fund and vice versa.

V) Total Interest Paid to Total Working Fund Ratio

This ratio is calculated to find out the proportion of interest paid against the total working fund. Higher ratio indicated the higher interest expenses on total working fund and Vice-versa.

The table below shows the mean, S.D and C.V of total interest paid to total working fund ratio.

Table 4.15 Total Interest Paid to Total Working Fund Ratio

Unit in Percentage

Banks	**Fiscal Year/Unit**						**Mean**	**S.D**	**C.V%**
	2001/02	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**			
NABIL	2.64	1.92	1.69	1.42	1.60	2.04	1.89	0.4000	21.16
BOK	4.48	3.72	3.01	2.45	2.51	2.33	3.08	0.7810	25.36

Sources: AppendixNo.15

The table 4.15 total interest paid to working fund ratio of the banks is in decreasing trends during the study period. NABIL has variable trend from 2.64% to 1.60% in the FY 2001/02 to 2005/06 after increase 2.04% in the FY2006/07. Similarly BOK has also variable trend from 4.48% to 2.33% respectively.

In comparison of mean value of NABIL with BOK reflect that NABIL is lower than BOK i.e. 1.89<3.08. It means NABIL has paid minimum interest. Similarly the coefficient of variance of it has lower than BOK (i.e. 21.16 <25.36) which indicates that total interest and to total working fund ratio is inconsistent than BOK.

After analysis is can be concluded that NABIL is in better position, from payment of interest point of view. It seems to be successful to collect its working fund from less expensive sources in comparison to BOK.

4.1.3 Risk Ratio

Risk taking is the prime business of bank investment management which increase effectiveness and profitability of the bank. Bank has to take risk to get return on investment risk taken is compensated by the increase in profit. So a bank has to take higher risk if it expects higher return on its investment.

Through these ratios, focus has been made to measure the level of risk inherent in the NABIL in comparison to BOK.

i) 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 4.16 Liquidity Risk Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	6.78	8.51	6.87	3.83	3.26	6	5.88	1.8138	30.85
BOK	11.95	11.23	10.11	8.28	6.95	10.62	9.86	1.7251	17.50

Sources: Appendix No.16

In the table 4.16 shows the percentage of liquidity risk ratio of NABIL and BOK. This table reflects the liquidity risk ratio of NABIL is fluctuating trend i.e. it has maintained a maximum ratio of 8.51% in the FY 2002/03 and the minimum ratio of 3.26% in the FY 2005/06. Similarly BOK liquidity risk ratio is in decreasing trend from 11.95% to 6.95% in the FY 2001/02 to 2005/06 after that increase to 10.62% in the FY 2006/07. It has the minimum ratio is 6.95 % in the FY 2005/06.

While comparing the mean of two banks NABIL is lower than BOK i.e. 5.83<9.86 which indicates that NABIL liquidity risk is maximum in compare to BOK. The coefficient of variation of banks is 30.85% and 17.50% respectively. In comparison them, BOK has less C.V which indicates that liquidity risk ratio of it's in consistent. The C.V ratio of BOK is lower than that of NABIL i.e. 17.50% < 30.85%.

ii) Credit Risk Ratio

Bank utilized its collected funds in providing credit to different sector while making investment. It is essential for a bank sector while making investment. It is essential for a bank to examine the credit risk involved in the project. This ratio shows the proportion of nonperforming 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 4.17 Credit Risk Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	55.87	55.93	57.50	70.71	56.96	56.28	58.88	5.3235	9.04
BOK	74.51	62.88	60.30	63.51	63.13	75.87	66.7	6.1041	9.15

Sources: Appendix No 17

In above table 4.17 reflects the percentage of credit risk ratio of NABIL and BOK. The credit risk ratio of NABLI is in increasing trend first fourth year after that decreasing trend during two period i.e.55.87% <55.93% < 57.50% <70.71% > 56.96%> 70.71% in the FY 2004/05 and it has minimum ratio of 55.87% in the FY 2001/02. Similarly BOK credit risk ratio is fluctuating trend it has maintained maximum ratio of 75.87% in the FY 2006/07 % in the FY 2003/04.

The mean of NABIL is lower than BOK which means NABIL has minimum credit in comparison to BOK. The coefficient of variation of NABIL has lower than BOK i.e. 9.04% < 9.15%. Among these banks, NABIL has less C.V, it indicates that its credit policy is consistent than BOK.

iii) 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 it attract deposit and inter-bank can earn if a bank choose to take high capital risk.

Table 4.18 Capital Risk Ratio

Unit in Percentage

Banks	Fiscal Year/Unit						Mean	S.D	C.V%
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07			
NABIL	4.99	11.78	12.48	11.68	10.74	10.40	10.35	2.4912	24.07
BOK	10.25	10.60	10.32	10.41	9.50	6.87	9.66	1.2961	13.42

Sources: Appendix No.18

From the table 4.18 it is clearly seen that the percentage of capital risk ratio of NABIL is fluctuating trend during the study period i.e. it has maintained maximum ratio of 12.48% in the FY 2003/04 and it has minimum ratio of 4.99% in the year 2001/02. Similarly BOK has maximum ratio of 10.60% in the FY 2002/03 and minimum ratio of 6.87% in the FY 2006/07. The mean value of NABIL has highest capital risk ratio in comparison to BOK bank. The coefficient of variation of NABIL is 24.07 % that is greater than that of BOK's C.V i.e. 24.07% > 13.42% respectively.

Thus it can be concluded that BOK is stable and heterogeneous than NABIL but less stable and more heterogeneous in comparison to the NABIL because it has maintained more C.V among two banks.

4.1.4 Growth Raito

It represents how well the commercial banks those growth ratios are maintaining their economic and financial position. Here those growth ratios are analyzed and interoperate, which are related to the fund mobilization and

investment management of a bank. In the topic, there are four types of growth ratio of total deposit, total investment, loan and advances and net project calculated.

i) Growth Ratio of Total Deposit

The comparative table 4.19 reflects that the growth ratio of BOK deposit is higher than that of NABIL. BOK has maintained ratio of 16.70% where as NABIL is 8.52%. This means the performance of Bank of Kathmandu bank limited to collect greater deposit compared to NABIL bank Limited. NABIL is improving year by year. Among two banks NABIL has less growth ratio i.e. 8.52%.

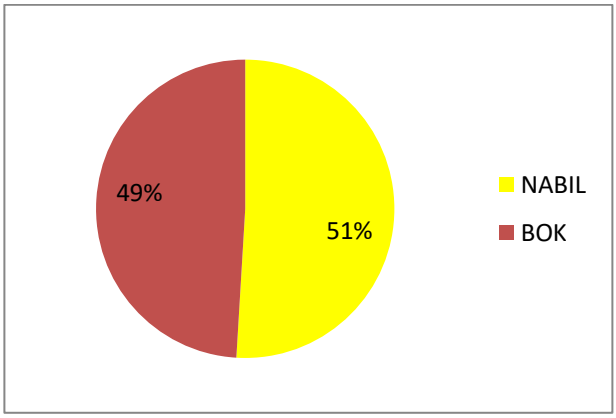
Table 4.19 Growth Ratio of Total Deposit

Unit in Percentage

Banks	**Fiscal Year/Unit**						**Growth Rate %**
	2001/02	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**	
NABIL	15506.40	13447.70	14119.03	14586.60	19347.40	23342.29	8.52
BOK	5723.29	6170.71	7741.65	8942.75	10.485.00	12388.93	16.70

Sources: Appendix No.19

Figure 4.4 Growth Ratio of Total Deposit



ii) Growth Ratio of Loan and Advances

The comparative table 4.20 shows that the growth ratio of NABIL loan and advances is higher than that of BOK. NABIL has able to maintain of 15.89% where as BOK able to has maintained 15.30% respectively. The performance of NABIL to grant loan and advance is better in comparison to BOK. The above table clearly has shown that NABIL in comparison to BOK is better year by year.

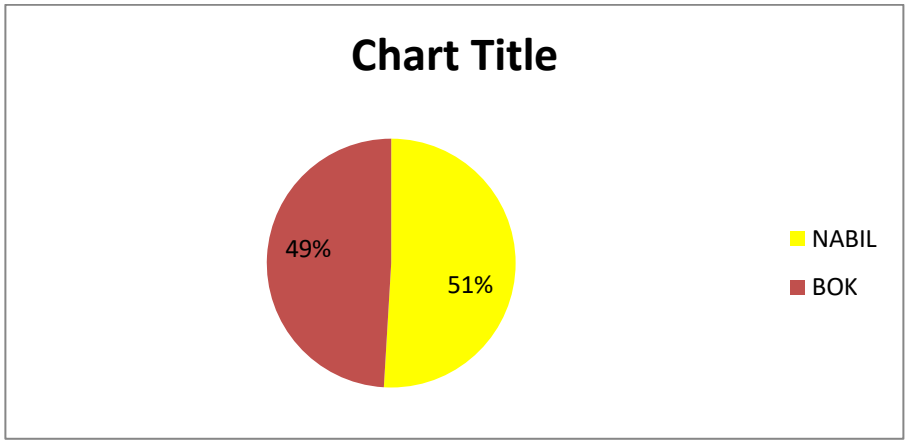
Table 4.20 Growth Ratio of Loan and Advances

Unit in Percentage

Banks	Fiscal Year/Unit						Growth Rate %
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	
NABIL	7437.89	7755.95	8189.99	10586.17	12922.50	15545.78	15.89
BOK	4613.61	4542.7.0	5646.69	5656.69	7259.08	9399.33	15.30

Sources: Appendix No.19

Figure 4.5 Growth Ratio of Loan and Advances



iii) Growth Ratio of Total Investment

The comparative table 4.21 reflects that the growth ratio of NABIL total investment is lower than BOK i.e. 1.76% < 35.02%. The total investment of NABIL has less position in comparison to BOK.

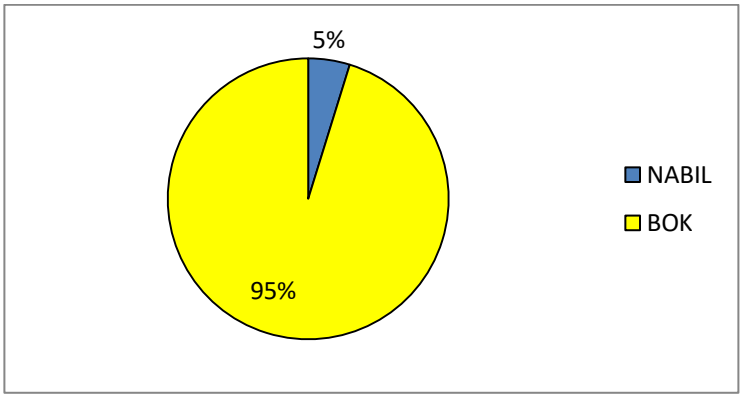
Table 4.21 Growth Ratio of Total Investment

Unit in Percentage

Banks	Fiscal Year/Unit						Growth Rate %
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	
NABIL	8199.5	6031.17	5835.95	4267.23	6178.53	8945.32	1.76
BOK	667.46	1816.15	2477.40	2598.25	3378.13	2995.19	35.02

Sources: Appendix No.19

Figure 4.6 Growth Ratio of Total Investment



iv) Growth Ratio of Total Net Profit

The comparative table 4.22 reflects that the growth ratio of BOK total net profit is higher than NABIL bank. Net profit of NABIL is poor in comparison than BOK. So it clear that BOK has high growth rate in comparison to NABIL.

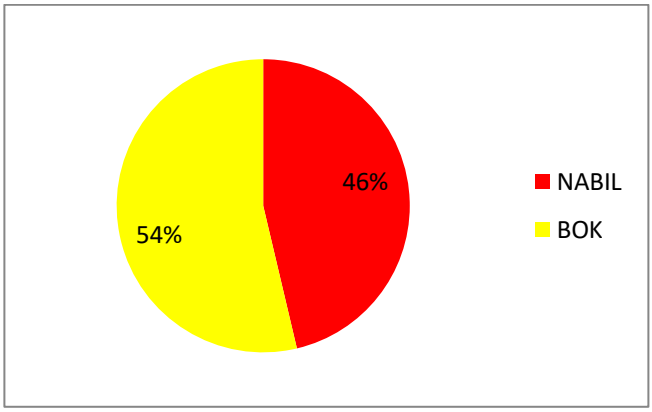
Table 4.22 Growth Ratio of Total Net Profit

Unit in Percentage

Banks	**Fiscal Year/Unit**						**Growth Rate %**
	2001/02	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**	
NABIL	271.64	416.24	455.31	518.64	635.30	673.96	19.93
BOK	92.8	82.13	127.48	139.52	202.44	262.39	23.11

Sources: Appendix No.19

Figure 4.7 Growth Ratio of Total Net Profit



From the above analysis of all tables it can be concluded that BOK performance regarding the collection of deposit grow thing loan and advance on total investment and net profit is comparatively better.

4.2 Statistical Tools

4.2.1 Trend Analysis

i) Trend Analysis of Total Deposit

Under this topic an efforts has been made to calculated the trend values of deposits of NABIL and BOK for five years from mid July 2001/02 to 2006/07 and forecast for next five years from the mid July **2006/07 to2011/12**.

Table 4.23 Trend Value of Total Deposit of NABIL and BOK

(Rs In Millions)

Fiscal Year	Trend Value of NABIL	Trend value of BOK
2002	8425.15	3368.83
2003	12575.03	5972.11
2004	16724.91	8575.39
2005	20874.79	11178.67
2006	25024.67	13781.95
2007	29174.55	16385.23
2008	33324.43	18988.51
2009	37474.31	21591.79
2010	41624.19	24195.07
2011	45774.07	26798.35
2012	49923.95	29401.63

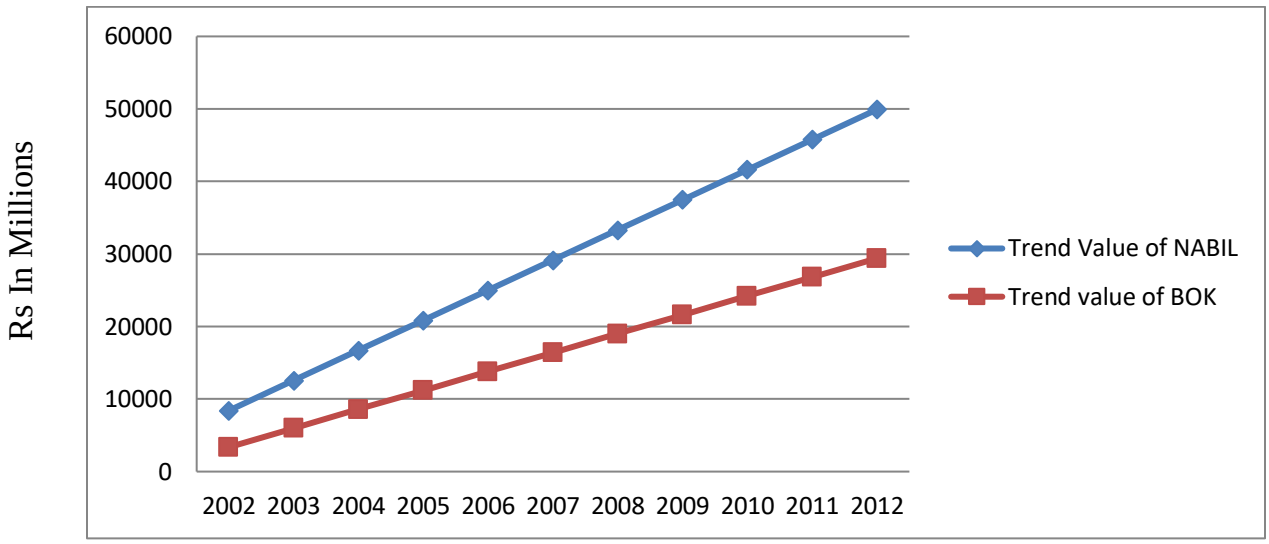
Sources: Appendix No.20

The table 4.23 reflects the trend value of total deposit from 2006/07 to 2011/12 of two banks.

The total deposits of NABIL and BOK have in the increasing trend. If all other things remain the same the total deposits of the NABIL will be highest deposit among the two banks under the study period. Same as the total deposit of the BOK will be 29401.63 million in the mid July 2012. The total deposit of NABIL will be 49923.95 million in the mid July 2012.

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

Figure 4.8 Trend value of Total Deposit of NABIL and BOK.



iii) Trend Analysis of Loan and Advances

Here the trend values of loan and advances of NABIL and BOK level been calculated for five years from mid July 2001/02 to 2006/07. The forecast for next five years up to 2012 have been done.

The table 4.24 reflects that the trend value of loan and advances of the two banks have been in increasing trend. If other things remain same, total loan and advances of NABIL will be 35853.42 million by 2012. Similarly the total loan and advances of BOK will be 20906.36 million. Total loan and advances of NABIL is the highest among the study period.

Table 4.24 Trend values of Loan and Advances of NABIL and BOK

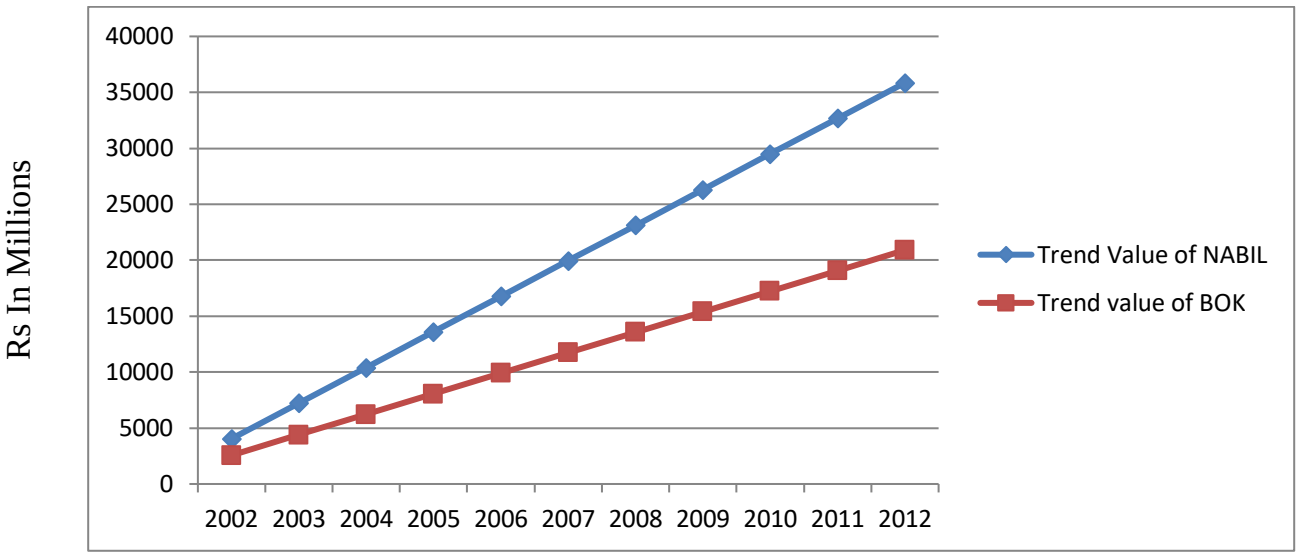
(Rs In Millions)

Fiscal Year	Trend Value of NABIL	Trend value of BOK
2002	4044.62	2559.66
2003	7225.50	4394.33
2004	10406.38	6229
2005	13587.26	8063.67
2006	16768.14	9898.34
2007	19949.02	11733.01
2008	23129.90	13567.68
2009	26310.78	15402.35
2010	29491.66	17237.02
2011	32672.54	19071.69
2012	35853.42	20906.36

Sources: Appendix No.21

From the above analysis it is found the loan and advances position of NABIL is higher than BOK i.e. 35853.42> 20906.36 million respectively. BOK may use the skill for the other option of secured loans that is quite appreciable. NABIL is tilted towards the secured loan because of less risk due to the sufficient collateral of its clients.

Figure 4.9 Trend values of Loan and Advances of NABIL and BOK



iii) Trend Analysis of Total Investment

In this aspects, an effort has been made to calculate the trend values of total investment from the mid July 2001/02 to 2006/07 have been calculated and forecasted from July 2007 to 2012. The table 4.25 shows the trend values of total investment from mid July 2001/02 to 2011/12 of the NABIL and BOK.

Table 4.25 Trend values of Total Investment of NABIL and BOK

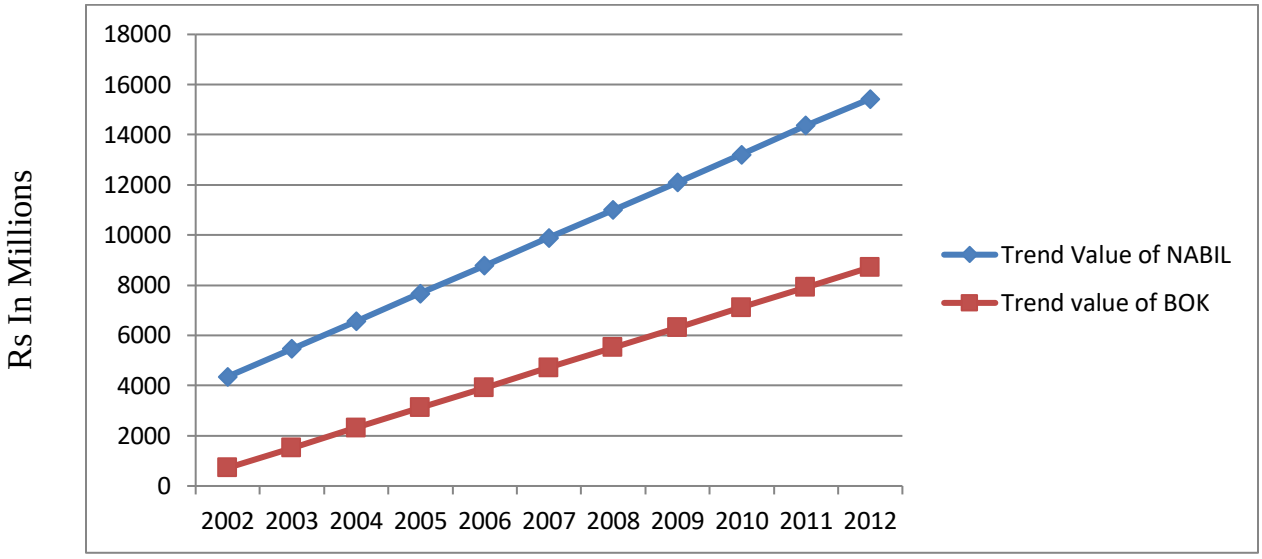
(Rs In Millions)

Fiscal Year	Trend Value of NABIL	Trend value of BOK
2002	4362.61	723.26
2003	5469.45	1522.68
2004	6576.29	2322.10
2005	7683.13	3121.52
2006	8789.97	3920.94
2007	9896.81	4720.36
2008	11003.65	5519.78
2009	12110.49	6319.20
2010	13217.33	7118.62
2011	14374.17	7918.04
2012	15431.01	8717.46

Sources: Appendix No.22

Total investment of NABIL and BOK has the increasing trend value. The total investment of NABIL will be 15431.01 million in the mid July 2012, which highest in comparison to BOK i.e. 15431.01> 8717.46 million. The total investment trend of NABIL is satisfactory among BOK bank from the above analysis it can be concluded that BOK has not maintained well investment but in case of NABIL it is predicted to be good total investment trend up to the 2011/12 years.

Figure 4.10 Trend values of Investment of NABIL and BOK



iv) Trend Analysis of Net Profit

Under this topic, an effort had been made to analysis net profit of NABIL and BOK from the mid July 2001/02 to 2006/07 to 2011/12. The table 4.30 reflects the trend values of net profit for ten years from mid July 2001/02 to 2011/12 of NABIL and BOK.

Table 4.26 Trend Analysis of Net Profit of NABIL and BOK

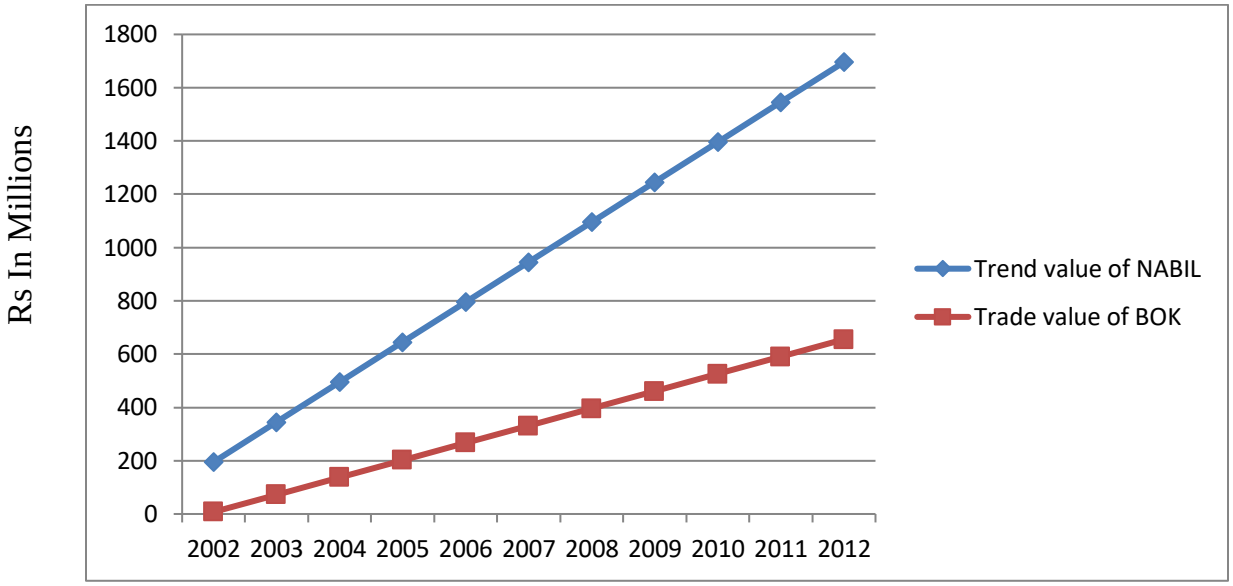
(Rs In Millions)

Fiscal Year	Trend value of NABIL	Trade value of BOK
2002	194.98	7.65
2003	345.08	72.43
2004	495.18	137.21
2005	645.28	201.99
2006	795.38	266.77
2007	945.48	331.55
2008	1095.58	396.33
2009	1245.68	461.11
2010	1395.78	525.89
2011	1545.88	590.67
2012	1695.98	655.45

Source: Appendix No. 23

The above table 4.26 shows the net profit of two banks have the increasing tread value. The net profit of NABIL will be 1695.98 million in the mid July 2012. Similarly net profit of BOK will be 655.45 million which the lowest amount among the NABIL Bank is during the study period.

Figure 4.11 Trend Value of Net Profit of NABIL and BOK



from this trend analysis it can be said that the net profit of NABIL in the highest among the BOK bank which shows i.e. 1695.98> 655.45 million in the year 2012. The above calculated trend values of banks are fitted in the trend line.

4.2.2 Coefficient of Correlation Analysis

In this heading Karl Pearson coefficient of correlation (Direct Method) is used to find out the relationship between deposit and advances. Deposit and total investment and outside assets and net profit and soon.

i) Relationship 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 of computing coefficient of correlation(r) between the two variables are to justify whether deposit is significantly used as loan and advances or not. The table 4.27 reflects the value of 'R' r^2 , P.E r and 6.P. Er between deposit

and loan and advances of NABIL in comparison to BOK.

Table 4.27 Correlation between deposit and Loan and Advances

Banks	Evaluation criterions			
	r	r^2	P. Er	6p.Er
NABIL	0.781195	0.6602656	0.010259	0.061554
BOK	0.996406	0.9928249	0.0019758	0.0118548

Source: Appendix No.24

Table 4.27 shows the value of 'r' r^2, P. Er, 6P.Er between deposit and loan and advances of NABIL comparison to BOK from the 2001/02 to 2006/07. In case of NABIL it is found that coefficient of correction between deposit and loan and advances 0.781195. it shows the positive relationship between two variables. The value of coefficient of determination (r^2) is 0.9627456, which mean 596.28% of the variation in the dependent variable (loans and advances), has explained by the independent variable (deposit). Similarly BOK coefficient of correlation between deposit and loan and advances 0.996406. It reflects the positive relationship between two variables when we consider the value of coefficient of determination (r^2) It indicate then NABIL and BOK are 98.27% and 99.28% respectively of the variation in the dependent variable has been explained by the independent variable since the value r^2 of NABIL and BOK are greater than 6p. Er which reveals the of 'r' is significant i.e. there is significant relationship between deposit and loan and advances.

After analyzing the conclusion can be drawn that in NABIL and BOK there is significant relationship between deposit and loan and advances because 'r' is

greater than 6P.Er. This indicated that BOK has higher correlation between deposit and loan and advance as well as higher value of (r^2) than NABIL. It can conclude that it is successful to great loan and advances to mobilize the collected deposits in a proper way.

ii) Relationship between Deposit and Total Investment.

Coefficient of correlation between deposit and total investment measure the degree of relationship between other two variables. Deposit is independent variable (X) and total investment is dependent variable (y). The purpose of computing it is to find out whether deposit is significantly used is investment or not. The table 4.9 shows the value of 'r', r^2, per, 6p. Er between Deposit and total investment is dependent variable(y). The purpose of computing it is to find out whether deposit is significantly used as investment or not. The total 4.28 shows the value of 'r', r^2, P. Er, 6p.Er between deposit and total investment of NABIL and BOK for the study period 2001/02 to 2006/07.

Table 4.28 Coefficient of Correlation Deposit and Total Investment.

Banks	Evaluation criterions			
	r	**r^2**	**P. Er**	**6p.Er**
NABIL	0.228584	0.0522506	0.260976	1.56586
BOK	0.935524	0.857205	0.0392305	0.235383

Sources: Appendix No.25

The table 4.28 shows the value of 'r', r^2, Per, 6p.Er between deposit and total investment of NABIL in companion to BOK. From table, it is found that coefficient of correlation between deposit and total investment of NABIL is 0.228584. It shows the positive relationship between two variables i.e. deposit, independent (X) and total investment dependent (y). Moreover, when we

consider the value of coefficient of determination (r^2) it is 0.0522506 and it means 5.23% of the variation in the dependent variable is explained by the independent variation in the dependent variable is explained by the independent variable. Similarly considering the value of 'r' and comparing with 6p.Er, it is lesser than 6p.Er so we can say that there is not significant relationship between total deposit and total investment.

On the other hand, in case of BOK has positive correlation between deposit and total investment. By considering the probable error since the value of 'r' i.e.0.935524 is more than 6p.Er i.e. 0.235383, so it indicates that there is significant relationship between total deposits and total Investment. Likewise by the application of coefficient determination i.e. r^2 which indicates BOK to be 85.72% of the variation in the dependent variable has been explained by the independent variables.

The above analysis clears that in case of NABIL there is not significant relation between total deposit and total investment because 'r' is less than 6p Er. That means NABIL has not able to follow the policy of maximizing the investment of their deposits. It has not certain investment policy of invest their deposit where there as BOK there is significant relationship between deposit and total investment. Lastly we can say that BOK has followed the policy of maximizing the investment of their deposit or BOK is successful in maximizing the investment of their deposit.

iii) Coefficient of correlation between outside Assets and Net Profit

It measures the degree of relationship between two variables. Here outside assets; (x) are independent variable(y). The objectives of computing coefficient of correlation between outside assets and net profit is to find out whether net profit is significantly correlated with respect to total assets or not the table 4.29 shows the value of 'r', r^2 , $P.E^r$ 6p. Er between outside asset and

net profit of NABIL and BOK.

Table 4.29 Coefficient of Correlation between Outside Assets and Net Profit

Banks	Evaluation criterions			
	R	**r^2**	**P. Er**	**6p.Er**
NABIL	0.723899	0.5240298	0.1310648	0.7863888
BOK	0.931841	0.8683276	0.0362578	0.2175468

Source: Appendix No.26

The table 4.29 shows the value of r. r^2, P.Er, 6p. Er between deposit and loan and advances of NABIL in comparison to BOK for the study period 2001/02 to 2006/07 from this table, it has been found the coefficient of correlation between total outside i.e. independent variable and net profit dependent variable is 0.723899 in case of NABIL. It shows positive relationship between there variable. By considering the value of coefficient of determination (r^2), is 0.5240298 indicated that 52.40% of the variation in the dependent variable has been explained by the independent variable has been explained by the independent variable has been explained by the independent variable. Similarly considering the value of r is laser than the value of 6P.Er, which reflects NABIL is not capable to earn net profit by mobilizing in total outside assets. Similarly the coefficient of correlation between total outside assets and net profit in the case of BOK is 0.931841. Again when we consider the value of coefficient determination (r2) i.e. 0.8683276, it means 86.83% in the dependent variable has been explained by the independent variable.

On the basis of comparison between the value of 'r' and 6p. Er there is no significant correlation between two variables because the value of 'r' i.e. 0.72899 is lower than that of the value 6P.Er i.e. 0.7863888. In case of NABIL

is not significant correlation between mobilization of funds and returns but in the case of BOK the value of r is greater than 6P. Er i.e. 0.931841> 0.2175468, so it has significant correlation between mobilizations of funds return.

iv) Coefficient of Correlation between Deposit and Net Profit.

The coefficient of correlation between deposit and net profit measures the degree of relationship between these two variables. Here deposit(x) is independent variable and net profit (y) is dependent variable the objectives of computing between their two variables are to justify whether net profit is significantly correlated with deposits or not. The following table 4.30 shows the value of 'r', r^2, P Er, 6P.Er between deposit and net profit of NABIL and BOK during the study period.

Table 4.30 Coefficient of Correlation between Deposit and Net Profit

Banks	Evaluation criterions			
	r	**r^2**	**P. Er**	**6p.Er**
NABIL	0.463860	0.2151661	0.2161146	1.296688
BOK	0.941281	0.88600991	0.03138871	0.1883323

Source: Appendix No-27

From this table 4.30 it has been found that the coefficient of correlation between total deposits and net profit in case of NABIL 0.463860 which indicated a positive relationship between deposit and net profit. The value of (r^2) is 0.2151661 indicates that 21.52% of the variation of the dependent variable has been explained by the independent variable. The value of r is lower than that of the value of 6P. Er. This state that there is no significant relationship between there variables. Similarly the coefficient of correlation

between there variables in case of BOK is 0.88600992. The increase in net profit in case of NABIL is due to effective mobilization of deposits and other factor have a less or role to play in increase in net profit. NABIL has not been more successful as BOK in mobilization of its deposits.

v) Coefficient of Correlation between Deposit and Interest Earned.

The coefficient of correlation between deposits and interest earned measure the relationship between these two variables. Deposits are independent variable (x) and anointer earned is dependent variable(y). The objectives of calculating r between two variables are to justify whether deposit is significantly used to earn interest or not. The table 4.31 shows the value of 'r', r^2. P. Er and 6P.Er of NABIL and BOK during the study period.

Table 4.31Coefficient of Correlation between Deposit and Interest Earned

Banks	Evaluation criterions			
	R	**r^2**	**P. Er**	**6p.Er**
NABIL	0.907261	0.823123	0.0487055	0.292233
BOK	0.963798	0.928907	0.0195764	0.1174584

Sources: Appendix No. 28

The coefficient of correlation 'r' between two variables in case of NABIL and BOK are 0.907261 and 0.963798 which indicates that 90.73% and 96.38% of the variation of dependent variable has been explained by independent variables. The value of 'r' in case of NABIL has higher than that of 6p.Er. This states that there is a significant relationship between deposit and interest earned. Whereas the value of r in case if NABIL has lower value of 6P.Er i.e. 0.907261> 0.292233. Which states that there is no significant relation between deposit and interest earned?

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

vi) Coefficient of Correlation between Loan and Advances and Interest Paid.

It measures the relationship between these variables. Here, loan and advances is independent variables(x) and interest paid in dependent variable (y). The purpose of calculating 'r' between these variables is to established whether increase in loan and advances has play any role in decreasing in interest expenses.

The table 4.32 shows the values of 'r', r^2, P. Er, and 6P. Er of NABIL and BOK during the study period.

Table 4.32 Coefficient of correlation between loan and advances and Interest Paid

Banks	Evaluation criterions			
	r	**r^2**	**P. Er**	**6p.Er**
NABIL	-0.38218	0.146062	0.235143	1.410858
BOK	-0.02754	0.0007585	0.275155	1.65093

Source: Appendix No.29

The coefficient correlation between loan and advances and interest paid in the case of NABIL and BOK are -0.38218 and -0.02754. They show the negative relationship between these variable. The value of coefficient of determination (r^2) are 0.146062 and 0.0007585 it means 14.60% and 0.076% of the variation in the dependent variable is explained by the in depend variable. Again

considering the value of r and comparing with 6P.Er in both case it is lower than 6P. Er this reveals that the value is not significant relationship between two variables

In conclusion, it can be clear that the relationship between loan and advances and interest in case of both banks are low significant. It is not successful to utilize the loan and advances. There banks have no relationship could be established between the loan and advances and interest paid.

vii) Coefficient of Correlation between Total working fund and Net Profit.

The Coefficient of Correlation between them. Here total working fund is taken as independent variable (x) and net profit is taken as dependent variable(y). The main purpose of calculating 'r' is to justify where total working fund is significantly used to generate earnings or in other words whether there variables are significantly correlated or not.

The table 4.33 shows the value of 'r', r^2, P.Er, 6P. Er between their two variable of NABIL and BOK.

Table 4.33 Coefficient of Correlation between total Working Fund and Net Profit.

Banks	Evaluation criterions			
	r	r^2	P. Er	6p.Er
NABIL	0.621771	0.3865992	0.1689082	1.0134492
BOK	0.965852	0.9328701	.01848512	0.1109107

Sources: Appendix No.30

The coefficient of correlation 'r' between total working fund and net profit in case of both banks are 0.0621771 and 0.965852 which indicates positive relationship between these variables that means it has significant relation

between two variables. The coefficient of determination r^2 in case of NABIL and BOK are 0.3865992 and 0.9328701, which shows that only 38.66% and 93.29% of the variation of the dependent variables have been explained by independent variables. The value of 6P.Er is higher than 'r' i.e. 0.621771< 1.0134492 in case of NABIL so there is no significant relation. But the value of 'r' is greater than 6P.Er in case of BOK, so there is significant relationship between there variables.

After analysis the conclusion can be drawn that NABIL is no significant relation so fell to generate earnings or in other words these variables are significant relationship between there variable which indicated that total working fund is significantly use to generate earnings.

4.2.3 Test of Hypothesis

i) Test of Hypothesis on loans and Advances to Total Deposit Ratio.

To test the ratios of loans and advances to total deposits of NABIL and BOK are taken under statistical tools T-test has been done.

Table 4.34 Loans and Advances to Total Deposits Ratio between NABIL and BOK

Fiscal Year	NABIL			BOK		
	X_1	X_1	X_1^2	X_2	X_2	X_2^2
2001/02	47.97	-13.63	185.78	80.61	7.51	56.40
2002/03	57.68	-3.92	15.37	73.62	0.52	0.27
2003/04	58.01	-3.59	12.89	72.94	-0.16	0.026
2004/05	72.57	10.97	120.34	66.12	-6.98	48.72
2005/06	66.79	5.19	26.94	69.23	-3.87	14.98
2006/07	66.79	5	25	75.87	2.77	7.67
Total	**369.62**		**386.32**	**438.39**		**128.07**

We have,

$$\overline{X_1} = \frac{\sum X_1}{n} \qquad \overline{X_2} = \frac{\sum X_2}{n} = \frac{438.39}{6} = 73.10$$

$$= \frac{369.63}{6}$$

=61.60

Again, $X_1 = X_1 - \overline{X_1}$ $X_2 = X_2 - \overline{X_2}$

Test of significance of difference between NABIL and BOK to test the significant relationship between NABIL and BOK under statistical tool, t-test has been done.

We have, $t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{SP^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$

Where, $sp^2 = \frac{1}{n_1 + n_2 - 2}\left(\sum x_1^2\right)$

$$= \frac{1}{6+6-2} \times (386.32 + 128.07)$$

=51.44

Now, Test Statistics under H_0 is

$$t = \frac{61.60 - 73.10}{\sqrt{51.44\left(1/6 + 1/6\right)}} = \frac{-11.50}{4.141} = -2.7771$$

$\therefore /z/ = 2.7771$

With degree of frequency = $n_1+n_2-2=6+6-2 =10$

The calculated value of (t) =2.7771

The calculated value of 't' at ∞=0.05 of 5% level of significance for two tailed

test and for 10 degree of freedom is 2.228 i.e. 0.05 (10) = 2.228.

Decision, since the calculated value of t is greater than its tabulated value of 5% level of significance for 10 degree of freedom for two tailed test null hypothesis is (H_0) is rejected. i.e. significance difference and alternative hypothesis is (H_1) accepted so we may conclude that there is a significant differences between mean ratio of loans and advances to total deposit of NABIL and BOK.

ii) Test of Hypothesis on Total Investment to Total Deposit Ratio

The ratio of total investment to total deposit of NABIL and BOK are taken and carried out under t-test of significance difference.

Table 4.35

Test of Hypothesis on Total Investment to Total Deposit Ratio

Fiscal Year	NABIL			BOK		
	X_1	X_1	X_1^2	X_2	X_2	X_2^2
2001/02	52.88	13.12	172.13	11.66	-14.76	217.86
2002/03	44.85	5.09	25.91	29.43	3.01	9.10
2003/04	41.33	1.57	2.46	32	5.58	31.14
2004/05	29.25	-10.51	110.46	29.05	2.63	6.92
2005/06	31.93	-7.83	61.31	32.22	5.8	33.64
2006/07	38.32	-1.44	2.10	24.18	-2.24	5.02
Total	**238.58**		**374.37**	**158.54**		**303.68**

We have, $\overline{X_1} = \frac{\sum X_1}{n} = \frac{238.56}{6} = 39.76$

$\overline{X_2} = \frac{\sum X_2}{n} = \frac{158.54}{6} = 26.42$

Again, $X_1 = X_1 - \overline{X_1}$ $X_2 = X_2 - \overline{X_2}$

a) Test of significance Difference between NABIL and BOK to test the significant relationship between NABIL and BOK under statistical tool, T-test has been done .

We have,

$$\frac{\overline{X_1} - \overline{X_2}}{\sqrt{s^2 p\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$s_p^2 = \frac{1}{n_1 + n_2 - 2}\left(\sum x_1^2 + \sum x_2^2\right)$$

$$= 1/6 + 6 - 2 \quad (374.3.7 + 303.68)$$

$$=67.81$$

Now, Test Statistics under H_0 is

$$t= \frac{39.76 - 26.42}{\sqrt{67.81\left(1/6 + 1/6\right)}} = \frac{13.34}{4.754341} = 2.8059s$$

t= 2.8059

The calculated value of t=2.8059

Degree of frequency =n_1+n_2-2= 6+6-2=10

The tabulated value of't' at % ∞=0.05 level of significance for n_1+n_2-2= 6+6-2=10 degree of freedom for two tailed is 2.228.

Decision since the calculated value of t is greater than its tabulated value at 5% level of significance for 10 degree of freedom for two tailed test, null hypothesis is rejected i.e. significance differences and alternatives hypothesis is accepted so we may conclude that there is a significance difference between mean ratios of total investment to total deposit of two banks.

iii) Hypothesis test of Investment of Government Securities to Current Assets Ratio.

To test the significant relationship between NABIL and BOK under statistical tool T-test has been done.

Table 4.36 Investment of Government Securities to Current Assets Ratio of NABIL and BOK.

Fiscal Year	NABIL			BOK		
	X_1	X_1	X_1^2	X_2	X_2	X_2^2
2001/02	30.95	7.54	56.85	8.76	-11.96	143.04
2002/03	25.88	2.47	6.10	20.91	0.19	0.036
2003/04	25.78	2.37	5.62	25.33	4.61	21.25
2004/05	16.12	-7.29	53.14	23.06	2.34	5.48
2005/06	16.61	-6.8	46.24	29.81	9.09	82.63
2006/07	25.14	1.73	3.00	16.45	-4.27	18.23
Total	**140.48**		**17.95**	**124.32**		**270.67**

We have,

We have, $\overline{X_1} = \frac{\sum X_1}{n} = \frac{140.48}{6} = 23.41$

$\overline{X_2} = \frac{\sum X_2}{n} = \frac{124.32}{6} = 20.72$

Again, $X_1 = X_1 - \overline{X_1}$ $X_2 = X_2 - \overline{X_2}$

a) Test of significance of difference between NABIL and BOK

To test the significant relationship between NABIL and BOK under statistical tool, T-test has been done.

We have

$$t = \frac{\bar{X_1} - \bar{X_2}}{\sqrt{S_p^2\left(1/n_1 + 1/n_2\right)}}$$

With degree of freedom = n_1+n_2-2

Where, $Sp^2 = \frac{1}{n_1+n_2-2}\left(\sum x_1^2 + \sum x_2^2\right)$

$$= \frac{1}{6+6-2} \times (170.95 + 270.67)$$

$$= 44.162$$

Now, Test statistics under null hypothesis is H0 is,

$$t = \frac{23.41 - 20.72}{\sqrt{44.162\left(1/6 + 1/6\right)}} = \frac{2.69}{3.837} = 0.7011$$

The calculated value of t= 0.7011 with degree of frequency= $n_1+n_2-2=6+6-2=10$

The tabulated value of t at 5% level of significance for (n_1+n_2-2) = 10 degree of freedom on a two tailed test is 2.228 i.e. $t_{0.05}$ (10) =2.228.

Decision, since the tabulated value of t is higher than its calculated value of 5% level of significance for 10 degree of freedom for two tailed test,

Null hypothesis is accepted i.e. not significance differences and alternative hypothesis (H_1) is rejected. So we may conclude that there is no significance differences between mean ratio if investment on government securities to current assets ratio of NABIL and BOK.

iv) Hypothesis Test of Loans and Advances to Current Assets Ratio

To test the significant relationship between loans and advances of NABIL and BOK under statistical tool, T- test has been done.

Table 4.37 Loans and Advances to Current Assets Ratio of NABIL and BOK

Fiscal Year	NABIL			BOK		
	X_1	X_1	X_1^2	X_2	X_2	X_2^2
2001/02	55.87	-13.22	174.77	74.51	6.36	40.45
2002/03	55.93	-13.16	173.19	62.88	-5.27	27.77
2003/04	57.50	-11.59	134.33	60.30	-7.85	61.62
2004/05	70.71	1.62	2.62	63.51	-4.64	21.53
2005/06	93.25	24.16	583.71	81.39	13.24	175.30
2006/07	81.28	12.19	148.60	66.31	-1.84	3.39
Total	**414.54**		**1217.22**	**408.90**		**330.06**

We have,

$$\overline{X_1} = \frac{\sum X_1}{n} = \frac{414.54}{6} = 69.09$$

$$\overline{X_2} = \frac{\sum X_2}{n} = \frac{408.90}{6} = 68.15$$

Again, $X_1 = X_1 - \overline{X_1}$ $X_2 = X_2 - \overline{X_2}$

a) Test of Significance of Difference between NABIL and BOK.

To test the significant relationship between NABIL and BOK under statistical tool, T-test has been done.

We have

$$t = \frac{\bar{X_1} - \overline{X_2}}{\sqrt{S_p^2\left(1/n_1 + 1/n_2\right)}}$$

With degree of freedom = n_1+n_2-2

Where, $Sp^2 = \frac{1}{n_1+n_2-2}\left(\sum x_1^2 + \sum x_2^2\right)$

$= \frac{1}{6+6-2} \times (1217.22 + 330.06)$

= 154.73

Now,

Test statistics is

$$t = \frac{69.09 - 68.15}{\sqrt{154.73\left(1/6 + 1/6\right)}} = \frac{0.94}{7.182} = 0.13088$$

The calculated value of t= 0.13088

With degree of Frequency= $n_1+n_2-2=6+6-2=10$

The tabulated value of t at 5% level of significance for (n_1+n_2-2) degree of freedom on a two tailed test if 2.228 i.e. = $t_{0.05}2.228$.

Decision

Since the calculated value of t is lower than its tabulated value of 5% level of significance for 10 degree of freedom for two tailed test, null hypothesis of freedom for two tailed test, null hypothesis is accepted i.e. not significance differences and Alternative hypothesis is rejected. So, we may conclude that there is no significance difference between mean ratio of loan and advances to current assets ratio of two banks.

v) Hypothesis Test of Return on Loans and Advances Ratio of NABIL and BOK.

The ratios of returns on loans and advances of NABIL and BOK are taken and under T-test of significance difference.

Table 4.38 Return on Loans and Advances Ratio of NABIL and BOK

Fiscal Year	NABIL			BOK		
	X_1	X_1	X_1^2	X_2	X_2	X_2^2
2001/02	3.65	-1.14	1.30	0.20	-1.835	3.37
2002/03	5.37	0.58	0.34	1.81	-0.225	0.051
2003/04	5.56	0.77	0.593	2.26	0.225	0.051
2004/05	4.90	0.11	0.012	2.36	0.325	0.106
2005/06	4.92	0.13	0.017	2.79	0.755	0.57
2006/07	4.34	-0.45	0.203	2.79	0.755	0.57
Total	**28.74**		**2.465**	**12.21**		**4.72**

We have,

$$\overline{X_1} = \frac{\sum X_1}{n} = \frac{28.74}{6} = 4.79$$

$$\overline{X_2} = \frac{\sum X_2}{n} = \frac{12.22}{6} = 2.035$$

Again, $X_1 = X_1 - \overline{X_1}$ $X_2 = X_2 - \overline{X_2}$

a) Test of Significance of Difference between NABIL and BOK.

To test the significant relationship between NABIL and BOK

To Test the significant relationship between NABIL and BOK under statistical tool, T-test has been done.

We have

$$t = \frac{\bar{X_1} - \overline{X_2}}{\sqrt{S_p^2\left(1/n_1 + 1/n_2\right)}}$$

With degree of freedom = n_1+n_2-2

Where, $Sp^2 = \frac{1}{n_1+n_2-2}\left(\sum x_1^2 + \sum x_2^2\right)$

$= \frac{1}{6+6-2} \times (2.465 + 4.72)$

$= 0.7185$

Now, Test statistics of (H_0) is

$$t = \frac{4.79 - 2.035}{\sqrt{0.7185\left(\frac{1}{6} + \frac{1}{6}\right)}} = \frac{2.755}{0.2395} = 11.5031$$

The calculated value of t= 11.5031

With degree of Frequency= $n_1+n_2-2=6+6-2=10$

The tabulated value of t at 5% level of significance for 10 degree of freedom on a two tailed test is 2.228 i.e. $t_{0.05}(10)=2.228$.

Decision since the calculated value of t is greater than its tabulated value of 5% level of significance for 10 degree of freedom for two tailed test null hypothesis is rejected i.e. highly significance difference and alternative hypothesis if accepted. So we may conclude that there is a significance difference between mean ratio of return on loan and advances ratio of NABIL and BOK.

vi) Hypothesis Test of Total Interest Earned to total outside Assets Ratio of NABIL and BOK.

The ratio of total interest earned to total outside assets of NABIL and BOK are taken and carried out under (T-test) of significance differences.

Table 4.39 Total Interest Earned to Total outside Assets Ratio of NABIL and BOK

Fiscal Year	NABIL			BOK		
	X_1	X_1	X_1^2	X_2	X_2	X_2^2
2001/02	7.17	0.13	0.0169	8.96	1.59	2.53
2002/03	7.38	0.34	0.1156	7.81	0.44	0.1936
2003/04	7.14	1.10	0.01	6.98	-0.39	0.1521
2004/05	7.20	0.16	0.0256	7.13	-0.24	0.0576
2005/06	6.86	-0.18	0.0324	6.75	-0.62	0.3844
2006/07	6.48	-0.56	0.3136	6.61	-0.76	0.5776
Total	**42.23**		**0.5141**	**44.24**		**3.895**

We have,

$$\overline{X_1} = \frac{\sum X_1}{n} = \frac{42.23}{6} = 7.04$$

$$\overline{X_2} = \frac{\sum X_2}{n} = \frac{44.24}{6} = 7.37$$

Again, $X_1 = X_1 - \overline{X_1}$ $X_2 = X_2 - \overline{X_2}$

a) Test of Significance of Difference between NABIL and BOK.

To test the significant relationship between NABIL and BOK under statistical tool, T-test has been done.

We have

$$t = \frac{\bar{X_1} - \overline{X_2}}{\sqrt{S_p^2\left(1/n_1 + 1/n_2\right)}}$$

With degree of freedom = n_1+n_2-2

Where, $Sp^2 = \frac{1}{n_1 + n_2 - 2}\left(\sum x_1^2 + \sum x_2^2\right)$

$= \frac{1}{6+6-2} \times (0.5141 + 3.895)$

$= 0.441$

Now, Test statistics of (H_0) is

$$t = \frac{7.04 - 7.37}{\sqrt{0.441\left(\frac{1}{6} + \frac{1}{6}\right)}} = \frac{-0.33}{0.383} = -0.8616$$

The calculated value of $|t| = 0.8616$

With degree of Frequency= $n_1+n_2-2=6+6-2=10$

The tabulated value of t at 5% level of significance for 10 degree of freedom on a two tailed test is 2.228 i.e. $t_{0.05}(10)=2.228$.

Decision since the calculated value of t is lesser than its tabulated value i.e.(0.8616<2.228)to 5% level of significance for 10 degree of freedom for two tailed test null hypothesis is rejected i.e. highly significance difference and alternative hypothesis is accepted. i.e. not significant differences and Alternative hypothesis is rejected. So we may conclude that there is no significant between mean ratio of return on loan and advances ratio of NABIL and BOK.

4.2.4 Regression Analysis

Regression of Networking capital and Net Profit

Regression is the statistical tool which is used to determine the statistical relationship between two or more variables and so make estimate of one variable on the basis of the other variable regression is the line which gives the best estimate of one variable for any given value of the other variable. The regression line of Y on X. estimate the most probable values of Y for given values of X.

X is independent Variable

Y is dependent variable

The regression equation of y on x expressed as

y =a + b x

Where, a and b are parameters of the line.

To find out the exact relationship between different variable simple regressions analysis has been done and result of the analysis has been table.

Table 4.40 Calculation of Regression Equation between Net Profits on Total Working Fund.

Banks	Regression Equation	Value (a) Constant	Regression Coefficient(b)
NABIL	y= 31.0617+0.0268475x	a= 31.0617	b=0.0268475
BOK	y=151.43+0.0288624x	a=151.43	b=0.0288624

Sources: Appendix No: 31

The table reflects the regression equation of net profit and net working fund in NABIL and BOK. According to the table regression equation of net profit on net working fund y=310.0617+0.0268475x in NABIL is positive and the regression coefficient is also positive i.e. 0.028475 which indicates the positive relationship between net and net working fund. In other hand, one million increase in net working funds leads to average about 0.0268475 million increase in net profit. The value of constant (a) is relatively high. The value of (a) indicates that if net working fund is o then the value of net profit is 31.0617 million. So, from analysis it shows that the net profit will be increase and net working fund also increase.

On the other hand, regression coefficient of (b) is positive in case of BOK which indicates that one million increase in net working fund lead to an average about Rs.0.0288624 increase in Net Profit. According to the above table regression equation of Net Profit on net working fund regression

coefficient is positive which shows the positive relationship between net and working fund.

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

Table 4.41 Calculation of Regression Equation between Net Profits on Total Deposit

Banks	Regression Equation	Value (a) Constant	Regression Coefficient(b)
NABIL	y= 14.1732+0.02876X	a= 31.0617	b=0.0268475
BOK	Y=151.33+0.033647X	a=151.33	B=0.033647

Source: Appendix No: 32

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 y=14.1732=0.02876 in NABIL is positive i.e. 0.02876 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 0.02876 million increase in net profit. The value of constant (a) is relatively high. Similarly in case of BOK the regression coefficient is positive or in other words one million increases in total deposit leads to average about 0.033647 million increase in net profit. The value of coefficient (a) indicates that net profit can be increase and total deposit also increase.

From the test of 't' statistics it can be concluded that of two cases the results are not statistically significant at 5% level of significance since the value of t is smaller than tabulated value.

4.3 Major Findings of the Study

1) The current ratio of NABIL shows the increasing trend between 2002/03 and 2005/06 after that decreased in the year 2006/07. The ratio ranges from lowest 0.92 in 2002/03 to highest 2.08 in 2005/06 an average ratio of 1.23. The mean ratio of NABIL is more than BOK i.e. 1.23> 1.08. In general, the current ratio analysis of banks over the six years period indicates that it has been able to meet its short-term obligation and has satisfactory liquidity position.

2) The case and bank balance to total deposit ratio of NABIL has fluctuating trend. The main ratio of this book is lower than BOK which indicates that is liquidity position is bad to serve its customers deposits with drawl demands. The C.V between the ratios is found to be 30.88% which shows that the ratios of NABIL are consistent and less variable.

3) The mean ratio of cash and bank balance to current assets NABIL is lower than BOK. It states that liquidity position of NABIL is not better in this regarded. The C.V higher than is 26.35% on the basis of C.V the ratios are seemed to be variable. NABIL 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 to BOK.

4) The main ratio of investment on government securities to current assets of NABIL is higher than in compared to BOK, which states that its. Investment on government securities is highly rich than that of BOK. In the year 2001/02 the bank has invested 30.95% of its fund in the government securities which maximum percentages during the study period. On the basis of C.V the ratio of NABIL are more volatile and in consistent.

5) The investment of on government securities to current assets ratio BOK has increasing trend. The mean ratio of BOK is lower than NABIL. The ratio of

BOK is lower than NABIL. The ratio of BOK is variable in comparison to NABIL Bank, which indicates that its liquidity positions fewer consistencies.

6) The loans and advances to total deposit ratio of NABIL has increasing trend. The mean ratio of NABIL is lower than BOK. The mean ratio is 61.60% with 13.03% which shows that the ratios are not satisfactory consistent over the study period.

7) Investment to total deposit of banks has in fluctuating trend during the study period. The main ratio of total investment to total deposit of NABIL is higher than BOK. The highest ratio is 52.88% and lowest 29.25% with mean ratio 39.76% and C.V of 22.66% it is higher than BOK so the ratio is more consistent and less variable its overall figure suggest that the banks have mobilized significant amount of found on the government securities and shares and debenture of other companies.

8) The loans and advances to total working fund of ratio NABIL is slightly lower than BOK, its C.V is 12.99% which is more than that of BOK bank shows the ratio is inconsistent over the study period. Loan and advances is the most risky and most productive assets of the bank from the study shows two third of the assets taken optimum risk towards the mobilization of its fund to risky assets.

9) In case of investment on government securities to total working fund mean ratio, NABIL is lower than that if BOK. The mean of the ratio is 18.19% with lowest C.V of 25.98% than BOK indicates that its ratio is variable and consistent over the study period.

10) The investment on shares and debentures to total working fund ratios of NABIL has increasing trend but BOK has fluctuating trend. The mean ratio of NABIL is found to be 0.13 with 13.31% C.V than the other compared BOK bank. It shows the ratio of NABIL is very stable over the study period.

11) Return on Total working fund ratios of NABIL is in fluctuating trend during the study period. The mean ratio of NABIL is 2.52% with C.V of 18.78% this indicates that the ratios are less variable and consistent than that of BOK bank.

12) The mean ratio of return on loans and advances ratio of NABIL is higher than BOK. The mean of the ratio is found to be4.79% with C.V of 13.87% which indicates that the ratios are less variable. The average ratio of 4.79% suggests that the earning capacity of the bank's loan and advances is satisfactory.

13) The mean ratio of total interest earned to total outside assets of NABIL is lowest than BOK. The total interest earned to total outside assets ratio of the NABIL is less variable in comparison to BOK. Its lowest C.V indicates that the ratios are satisfactory consistent during the study period.

14) Total interest earned to total working fund ratios of NABIL has ranging from 6.39% in 2001/02 to 5.23% in 2006/07. The main ratio of total interest earned to total working fund of NABIL is 6.07% with 2.85% C.V. The ratio indicates that NABIL has average earnings power of the total assets. The variability of the ratio NABIL than BOK.

15) The total interest paid to working fund ratios has decreasing trend during the study period. The mean ratio of total interest paid to total working fund of NABIL is lower than BOK, which mean it has paid low interest than BOK. The total interests paid to working fund ratios are lesser than to total inters earned to total fund ratio. This indicates that the bank is in profitability position as it is earning higher return than it interest cost.

16) Liquidity risk ratio of the bank are decreasing trend. The mean liquidity risk ratio of NABIL is lower than BOK and C.V of its also highest in comparison to BOK. So, the ratio of NABIL is more variable than BOK.

17) Credit risk ratios of NABIL bank is increasing trend up to in year 2004/05 similarly BOK has decreasing trend up to year 2005/06. The mean of the ratios of NABIL is found to be 58.88% which are lower than BOK. Similarly its C.V is 9.04% which is less in compared to BOK. It indicates that its credit policy is consistent than BOK.

18) The mean capital risk ratio of NABIL is higher than BOK. The ratio of NABIL is more variable which indicates that the capital risk ratio is inconsistent.

19) The analysis of the growth ratio of total deposit total loan and advances, total investment, and net profit of NABIL in comparison to BOK during the study period shows that the total deposits of the bank is in decreasing trend with the net growth rate of 8.52%. It has maintained growth rate lowest that compared bank. This means the performance of NABIL to collect deposit in comparison to BOK bank is not better year by year.

20) Similarly loans and advances of the banks are increasing trend. The growth rate of NABIL is higher than that of BOK. It has maintained growth rate of 15.89% where as BOK has 15.30% respectively. So, the performance if NABIL to grant loan and advances in comparison to BOK bank is year by year.

21) The total investment of studies banks are fluctuating trend during the study period. The growth ratio of NABIL total investment is lower than BOK. NABIL has lowest growth ratio of 1.76% which is lower than BOK (35.02%). It shows that NABIL has low successful in investing.

22) The total net profit of studies banks are also in increasing trends during the study periods. The growth ratio of BOK net profit is highest than NABIL. It has the rate of 23.11% where as NABIL has 19.93% respectively. It means the performance of BOK to earn profit is better year by year.

23) The trend analysis of total deposit of NABIL and BOK have increasing trend. Form the trend analysis it is forecasted that the total deposit of NABIL in 2010/11 will be Rs 49923.95 million. Similarly the total deposit of BOK will be 29401.63 million in the third mid July of 2011 respectively. The deposit collection of NABIL is better than BOK.

24) From the trend analysis of total loan and advances it has been seen that the total loan advances of banks have increasing trend. The total loan and advances of NABIL will be 35852.42 million in the mid July 2011, which is highest amount than BOK i.e.20906.36 million.

25) Total investment of NABIL and BOK has in increasing trend. The total investment of the NABIL by the year 2011 is projected to be 15431.01 million. Similarly the total investment of BOK will be 8717.46 million period.

26) The net profits of two banks have the increasing trend. The net profit of NABIL by the year 2011 is projected to be 1695.98 million, which is the highest value under the study period. Similarly the total net profit of BOK will be 655.45 million, which is the lowest value under the study period.

27) The coefficient of correlation (r) between deposits and loan and advances of the BOK is 0.996406 which is highest than NABIL bank. Its probable error multiplied by six is found to be 0.0118548 since 'r'>6p.Er and 'r' is positive which is near by 1, there is very strong positive correlation between deposits and loans and advances during study period.

28) The correlation coefficient (r) between total deposit and total investment of BOK is o.935524 and probable error multiplied by six found to be 0.235383 since 'r'>6P.Er it is significant relationship between these variables. Similarly the correlation coefficient of NABIL is 0.228584 and 6P.Er is 1.56586 since r<6P.Er there is correlation between total deposit and total investment during study period. It indicates that BOK is successful in

maximizing the investment during study period. It indicates that BOK is successful in maximizing the investment of their deposit. But NABIL has insignificant relationship.

29) The correlation coefficient 'r' between total outside assets and net profit of the BOK is 0.931841 and probable error multiplied by six is found to be 0.2175468, Since r > 6P.Er the relation is significant. This indicates that BOK is capable to earn net profit by mobilizing its total outside assets in comparison to NABIL. Loan and advances is the main earning assets of the bank, but here the increase or decrease of loan and advances is significant to the net profit of NABIL.

30) The coefficient of correlation between total deposit and total net profit of the BOK is 0.941281 which is the higher than that net profit of 6P.Er. So, it is significant.

31) The coefficient of correlation between deposits and interest earned of the BOK is 0.963798 and probable error multiplied by six is found to be 0.1174584. Since 'r'>6P.Er it is positively and significantly relationship between there variables. The value of 'r' in case of NABIL also higher than the value 6P.Er. So, the relation is significant so BOK has effectively mobilization of deposits which has had major role to play in its earnings in compare to NABIL.

32) The coefficient of correlation between loan and advances and interest paid of the NABIL and BOK are-o.38218 and -0.2754 which is the negative relationship between two variables. Its probable error multiplied by six is found to be greater than value of 'r' in case of both banks have no relationship could be established between the loan and advances and interest paid.

33) The coefficient of correlation 'r' between total working fund and net profit of the BOK is 0.965852 which is highest than NABIL bank. It's probable

error multiplied by six is found to be 0.1109107. Since ‘r’>6P>E r and ‘r’ is positive. There is positive correlation between total working fund and net profit during the study period.

34) The calculated value of t 2.7771 is greater than that if the tabulated value2.228, so there is significant differences between mean ratios of loan and advances to total deposit of NABIL and BOK, which indicates that it is to mobilize the total deposit on loan and advances for profit generating purpose.

35) There is a significant difference between mean ratio of total investment to total deposit ratio of NABIL and BOK so, these banks must mobilize its deposit funds by investing in different securities issued by government and other financial sectors.

36) There is no significant difference between mean ratio of investment of government securities of investment of government securities to current assets ratio of NABIL and BOK.

37) The calculated value of ‘t’ is lesser than that of tabulated value of NABIL and BOK. This indicates there are significant differences between mean ratio of loan and advances to current assets NABIL and BOK. It must invest its collected funds as and bank balance in order to make high profit by mobilizing its funds by keeping some amount as liquidity.

38) There is significant relationship between mean ratio of return on loan and advances of NABIL and BOK. They have passed to employ its resources in the form of loan and advances.

39) There is no significant difference between mean ratios of total interest earned total outside assets of NABIL and BOK.

40) The regression of Net Profit on net working fund is positive in the case of NABIL and BOK. It indicates one million increases in net working fund leads

to average 0.13847 and 0.02754 increase in net profit of NABIL and BOK.

Test of ‘t’ statistic helps us to conclude that two regression coefficient are statistically significant i.e. regression equation of net profit on net working fund of NABIL.

41) Simple regression of net profit on total deposit is positive in the case of NABIL and BOK. It shows that one million increase on total deposit leads to average increase on total deposit leads to average of 0.2089 and 0.1315 increases on net profit in the case of NABIL and BOK.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Commercial banks are major financial institutions 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 economy by adopting the growth oriented investment policy and planned effort pushed forward the force of economic growth.

The income and profit of the bank depends upon its lending procedure lending policy and investment of its fund utilize in different securities. Commercial banks able to utilize its deposits properly i.e. providing loans and advances or lending for a profitable project the reason behind it is lack of sound investment policy. The objective of this study is to evaluate the investment policies adopted by NABIL and BOK. The study is totally based on secondary sources to data i.e. population sample. Financial tools, statistical tools etc. The required data has been collected from various financial and statistical tools, i.e. ratio asset management ratio, profitability ratio risk ratio, test of hypothesis and regression analysis etc.

Regarding the investment policies of commercial banks there are basically five basic principles of the bank follow while providing the loans i.e. liquidity profitability, security and suitability diversification. Various processes while making investment decision are applied in the study i.e. set investment process

security analysis portfolio construction, revision, performance evaluation. The data obtained from annual reports of the concerned banks likewise the financial statement of six year (from 2001/02 to 2006/07) were selected for the purpose of evaluation.

5.2Conclusion

The liquidity position of NABIL is comparatively better than that of BOK. In spite of the current ratio is average among the BOK bank NABIL has maintained the cash and bank balance to meet the customers demand. Both banks have met the normal standard current assets ratio to meet the short term obligation of its customers. NABIL has invested lowest sectors like government securities than BOK. BOK had mobilized lots of its funds in order to gain the high profit.

From the analysis of assets management ratio it can be found that NABIL is in better position as compared to that of BOK. The loans and advances to total deposit ratio loan and advances to total working fund ratio of NABIL lowest than of BOK. BOK has invested the higher portion of total working fund on government securities as compared to BOK. Due to more efficient loan policy. NABIL suffers less from loan loss provision. It takes low credit risk and has sufficient deposits of none bearing interest which can be used in a creation period. Anyhow BOK has also trying to best in loan loss provision. Investment on shares and debentures to total working fund ratio is higher in BOK. The interest earned to total outside assets and return on total working fund ratio of NABIL is lowest of BOK. But overall analysis of profitability ratios NABIL is profitable in comparison to next compare bank i.e. BOK. To make the profit BOK is taking highest risk by providing the higher portion of its deposit as a loan.

The return on loan and advances ratio and return on assets of BOK is lowest of all. The ratio suggests that the earning capacity of the bank's loan and advances is satisfactory. The return on assets of the bank is good in average; it indicates the good earning capacity of the bank assets and good utilization of its assets.

The total interest paid to working fund ratio is less than the interest earned to total working fund ratio. So, it is profitable position as it is getting higher return that is interest cost.

The degree of risk is lowest of NABIL. The credit risk ratio is lower than the compared bank however the lowest C.V. of credit ratio and highest C.V of liquidity risk ratio and capital ratio over the study period provides for the assurance of consistency of the degree of risk. NABIL has showing its good performance by increasing the total deposit, loan and advances and investment in profitable sectors interested earnings by providing loan to clients. The trend of the total investment total deposit, loan and advances and net profit of NABIL shows better position than that of BOK.

5.3Recommendations

On the basis of the findings of the study, following recommendations can be drawn:

1) In commercial bank the liquidity position affects external and internal factors such as saving for investment situations, central banks requirements, the leading policies management capacity etc. In this study it should try to lower the current liabilities to improve its liquidity position. Current liabilities to improve its liquidity position. Current ratio of both banks is not satisfactory. It is below its standard rate 2:1so the banks are suggested to improve current assets the ratio of cash and bank balance to total deposit and current assets of BOK is higher than

that of BOK. It means BOK has higher cash and bank balance which decrease profit of bank. So it is recommended to mobilize cash and bank balance in profitable as loan and advances.

2) From the study it is found that NABIL has invested funds in government securities than that of BOK bank. NABIL liquidity position shows that it has kept relatively founds as cash and bank balance which doesn't earn any return. This ultimately affects profitability of bank. Investment in government securities i.e. TBs development banks saving certificate are free of risk and highly in nature. So NABIL is recommended to invest its fund in government securities instead of keeping them idle "Something is better than nothing".

3) In practice joint ventured banks are urban based service quite a few elite, a fluent big customer are heavily dependent on free based activities. To overcome its situation they should be accessible to rural areas and possible loan and advances to its deposit. So the customers is enjoying by getting deposit borrowing and other services.

4) BOK has invested it's more of the funds that is total investment on total deposit ratio but the percentages of investment on shares and debenture is nominal. So it is suggested to investment more of its fund in share and debenture of different companies.

5) NABIL loan and advances to total deposit ratio is lowest in compared to BOK bank. To overcome from the situation its is recommended to follow liberal lending policy and invest more and more of total deposit in loan and advances and maintain stability on the investment policy.

6) Profitability ratios of banks are not satisfactory. If resources held idle bank have to bearded more cost and result would be lower profit

margin. So portfolio condition of a 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 share holders' funds and it should reduce its express and should try to collect cheaper fund being more profitable.

7) It is seen that NABIL has invested much of its fund in total outside assets but it has not achieved the desired result. So NABIL should play fact fully while investing its fund keeping in mind the interest rate.

8) NABIL has taken the low credit risk as NABIL is one of the largest commercial bank in Nepal. It must also invest as BOK. The risk taken by BOK from the angle of credit risk and capital risk are in an highest but the consistencies of the same are highly volatile which may result higher loss. So it should not test such risk on an experiment basis it should carefully study it so as to achieve higher return from the above risk.

9) In the light of growing competition 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 a more convenient way.

10) The investment policy of NABIL is good in every aspect as studied above but the consistency in the above investment sectors is in equalities states. 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 optional performance of the bank.

To get success itself and to encourage financial and economic development of the country through industrialization and commercialization a commercial bank must mobilize its fund and debentures of other financial and non financial companies. And if other sectors go up positively than bank can utilize its fund more and more by providing them loan or getting sufficient dividend on their share or interest on their debentures. Commercial banks needed to strengthen its economic structure to achieve piped overall development. They have to resort to innovative approach of banking there by bringing professionalism in their business. If they follow those suggestions they can have better reach to the modern innovative and competitive banking markets.

Appendix:1

Current Ratio

(Rs in Millions)

Banks	**NABIL**			**BOK**		
Fiscal Year	Current Assets	Current Liabilities	Ratio (Times)	Current Assets	Current Liabilities	Ratio(times)
2001/02	13312.40	1051.82	1.27	6192.12	5815.18	1.06
2002/03	13868.30	15135.42	0.92	7224.66	6865.68	1.05
2003/04	14244.04	15135.13	0.94	9364.43	8845.59	1.06
2004/05	14971.80	15511.63	0.97	9310.27	9136.39	1.02
2005/06	13857.50	6661.00	2.08	8919.06	7399.33	2.21
2006/07	19127.30	15947.50	1.20	141743 1	13318.93	1.06

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix:2

Cash and Bank Balance to Total Deposit Ratio

(Rs in Millions)

Banks	**NABIL**			**BOK**		
Fiscal Year	Cash & Bank Balance	Total Deposit	Ratio%	Cash & Bank Balance	Total Deposit	Ratio %
2001/02	1051.82	15506.43	6.78	683.65	5723.29	11.95
2002/03	1144.76	13447.66	8.51	692.71	6170.71	11.23
2003/04	970.49	14119.03	6.87	782.85	7741.65	10.11
2004/05	559.38	14586.66	3.83	740.52	8942.75	8.28
2005/06	630.29	19347.4	2.26	728.70	10485	6.95
2006/07	1999.83	23342.29	6.00	1315.90	12388.93	10.62

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix:-3

Cash and Bank Balance to Current Assets Ratio

Banks	NABIL			BOK		
Fiscal Year	Cash & Bank Balance	Current Assets	Ratio%	Cash & Bank Balance	Current Assets	Ratio %
2001/02	1051.82	13313.40	7.90	683.65	6192.12	11.04
2002/03	1144.76	13868.30	8.51	692.71	7224.66	8.36
2003/04	970.49	14244.04	6.87	782.85	9364.43	7.95
2004/05	559.38	14971.8	3.74	740.52	9310.27	8.17
2005/06	630.29	13857.5	4.55	728.70	89.19.06	8.17
2006/07	1399.83	19127.30	7.32	1315.90	14.174.31	9.28

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix:4

Investment on Government Securities to current assets Ratio

(Rs in Million)

Banks	NABIL			BOK		
Fiscal Year	Investment on Govt. Securities	Current Assets	Ratio%	Investment on Govt. Securities	Current Assets	Ratio %
2001/02	4120.29	13313.40	30.95	542.65	6192.12	8.76
2002/03	3588.77	13868.30	25.88	1510.71	7224.66	20.91
2003/04	3672.63	14244.04	25.78	2371.77	9364.43	25.33
2004/05	2413.94	14971.8	16.12	2146.62	9310.27	23.06
2005/06	2301.46	13857.5	16.61	2658.37	89.19.06	29.81
2006/07	4808.35	19127.30	25.14	2332.04	14.174.31	16.45

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix:5

Loan and Advances to Current Assets Ratio

(Rs. In Million)

Banks	NABIL			BOK		
Fiscal Year	Loan & Advance	Current Assets	Ratio%	Loan & Advance	Current Assets	Ratio %

2001/02	7437.89	13313.40	55.87	4613.61	6192.12	8.76
2002/03	7755.95	13868.30	55.93	4542.70	7224.66	20.91
2003/04	8189.99	14244.04	57.50	5646.69	9364.43	25.33
2004/05	10586.17	14971.8	70.71	5912.58	9310.27	23.06
2005/06	12922.50	13857.5	93.25	7259.68	89.19.06	29.81
2006/07	15545.78	19127.30	81.28	9399.33	14.174.31	16.45

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix: 6

Loan and Advances to Total Deposit Ratio

Banks	**NABIL**			**BOK**		
Fiscal Year	**Loan & Advance**	**Current Assets**	**Ratio%**	**Loan & Advance**	**Current Assets**	**Ratio %**
2001/02	7437.89	15506.43	47.97	4613.61	5723.29	80.61
2002/03	7755.95	13447.66	57.68	4542.70	6170.71	73.62
2003/04	8189.99	14119.03	58.01	5646.69	7741.65	72.94
2004/05	10586.17	14586.66	72.57	5912.58	8942.75	66.12
2005/06	12922.50	19347.40	66.79	7259.68	10485	69.23
2006/07	15545.78	23342.29	66.60	9399.33	12388.93	75.87

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-7

Total Investment to Total Deposit Ratio

(Rs. in Millions)

Banks	**NABIL**			**BOK**		
Fiscal Year	**Loan & Advance**	**Current Assets**	**Ratio%**	**Loan & Advance**	**Current Assets**	**Ratio %**
2001/02	8199.51	15506.43	52.88	667.46	5723.29	11.66
2002/03	6031.18	13447.66	44.85	1816.15	6170.71	29.43
2003/04	5835.95	14119.03	41.33	2477.40	7741.65	32
2004/05	4267.23	14586.66	29.25	2598.25	8942.75	29.05
2005/06	6178.53	19347.4	31.93	3378.13	10485	32.22
2006/07	8945.31	23342.29	38.32	2995.19	12388.93	24.18

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-8

Loan and Advances to Total Working Ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	Loan & Advance	Current Assets	Ratio%	Loan & Advance	Current Assets	Ratio %
2001/02	7437.89	17529.25	42.43	4613.61	6356.65	72.58
2002/03	7755.95	16562.62	46.83	4542.70	7444.82	61.02
2003/04	8189.99	16745.48	48.91	5646.69	9496.34	59.46
2004/05	10586.17	17186.33	61.60	5912.58	9857.13	59.98
2005/06	12922.50	22330	57.87	7259.68	12278.3	59.12
2006/07	15545.78	27253.39	57.04	9399.33	14570.10	64.51

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-9

Investment on Government Securities to Total Working Fund Ratio.

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	Investment on Government Securities	Working Fund	Ratio %	Investment on Government securities	Working Fund	Ratio %
2001/02	4120.29	17529.25	23.51	542.65	6356.65	8.54
2002/03	3588.77	16562.62	21.67	1510.71	7444.82	20.29
2003/04	3672.63	16745.48	21.93	2371.77	9496.34	24.98
2004/05	2413.94	17186.33	14.05	2146.62	9857.13	21.78
2005/06	2301.46	22330	10.31	2658.37	12278.3	21.65
2006/07	4808.35	27253.39	17.64	2332.04	14570.10	16.01

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-10

Investment on Share and Debentures to Total Working Fund

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	**Investment on Government Securities**	**Working Fund**	**Ratio %**	**Investment on Government securities**	**Working Fund**	**Ratio %**
2001/02	22.22	17529.25	0.13	38.01	6356.65	0.60
2002/03	22.22	16562.62	0.13	22.81	7444.82	0.31
2003/04	22.22	16745.48	0.13	23.16	9496.34	0.24
2004/05	27.36	17186.33	0.16	23.16	9857.13	0.23
2005/06	27.56	22330	0.12	23.16	12278.3	0.19
2006/07	27.56	27253.39	0.10	23.16	14570.10	0.16

Appendix-11

Return on Total Working Fund Ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	**Net Profit**	**Working Fund**	**Ratio%**	**Net Profit**	**Working Fund**	**Ratio %**
2001/02	271.64	17529.25	1.55	9.28	6356.65	0.15
2002/03	416.24	16562.62	2.51	82.13	7444.82	1.10
2003/04	455.31	16745.48	2.72	127.48	9496.34	1.34
2004/05	518.64	17186.33	3.02	139.52	9857.13	1.42
2005/06	635.30	22330	2.85	202.44	12278.3	1.65
2006/07	673.96	27253.39	2.47	262.39	14570.10	1.80

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-12

Return on Loan and Advances Ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	Net Profit	Working Fund	Ratio%	Net Profit	Working Fund	Ratio %
2001/02	271.64	7437.89	3.65	9.28	4613.61	0.20
2002/03	416.24	755.95	5.37	82.13	4541.70	1.81
2003/04	455.31	8189.99	5.56	127.48	5646.69	2.26
2004/05	518.64	10586.17	4.90	139.52	5912.58	2.36
2005/06	635.30	12922.50	4.92	202.44	7259.08	2.79
2006/07	673.96	15545.78	4.34	262.39	9399.33	2.79

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-13

Total Interest Earned to Total outside Assets ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	Interest Earned	Outside Assets	Ratio%	Interest Earned	Working Fund	Ratio %
2001/02	1120.70	15630.74	7.17	473.30	5281.07	8.96
2002/03	1017.87	13787.13	7.38	496.81	6358.85	7.81
2003/04	1001.61	14025.94	7.14	567.09	8124.09	6.98
2004/05	1068.75	14853.40	7.20	607.09	851.83	7.13
2005/06	1310	19101.08	6.86	718.12	10633.80	6.75
2006/07	1587.76	24491.09	6.48	819.004	12391.76	6.61

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-14

Total Interest earned to Total Working Fund Ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	Net Profit	Working Fund	Ratio%	Net Profit	Working Fund	Ratio %
2001/02	1120.70	17529.25	6.39	473.30	6356.65	7.45

2002/03	1017.87	16562.62	6.15	496.81	7444.82	6.67
2003/04	1001.61	16745.48	5.98	567.09	9496.34	5.97
2004/05	1068.75	17186.33	6.22	607.09	9857.13	6.16
2005/06	1310	22330	5.87	718.12	12278.30	5.85
2006/07	1587.76	27253.39	5.83	819.004	14570.10	5.62

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-15

Total Interest Pain to Total Working Fund Ratio

(Rs in Millions)

Banks	**NABIL**			**BOK**		
Fiscal Year	**Interest Paid**	**Working Fund**	**Ratio%**	**Interest Paid**	**Working Fund**	**Ratio %**
2001/02	462.08	17529.25	2.64	285	6356.65	4.48
2002/03	317.35	16562.62	1.92	276.71	7444.82	3.72
2003/04	282.95	16745.48	1.69	286.30	9496.34	3.01
2004/05	243.54	17186.33	1.42	241.64	9857.13	2.45
2005/06	357.20	22330	1.60	308.15	12278.30	2.51
2006/07	555.71	27253.39	2.04	339.18	14570.10	2.33

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-16

Liquidity Risk Ratio

(Rs in Millions)

Banks	**NABIL**			**BOK**		
Fiscal Year	**Interest Paid**	**Working Fund**	**Ratio%**	**Interest Paid**	**Working Fund**	**Ratio %**
2001/02	1051.82	15506.43	6.78	683.65	5723.29	11.95
2002/03	1144.76	13447.66	8.51	692.71	6170.71	11.23
2003/04	970.49	14119.03	6.87	782.85	7741.65	10.11
2004/05	559.38	14586.66	3.83	740.52	8942.75	8.28
2005/06	630.29	19347.40	3.26	728.70	10485	6.25
2006/07	1399.83	23342.29	6.00	1315.90	12388.93	10.62

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-17

Credit Risk Ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	**Loan & Advance**	**Total Assets**	**Ratio%**	**Loan & Advance**	**Total Assets**	**Ratio %**
2001/02	7437.89	13313.40	55.87	4613.61	6192.12	74.51
2002/03	7755.95	13868.30	55.93	4542.70	7224.66	62.88
2003/04	8189.99	14244.04	57.50	5646.69	9364.43	60.30
2004/05	10586.17	14971.80	70.71	5912.58	9310.27	63.51
2005/06	12922.50	22688.40	56.96	7259.08	11498.66	63.13
2006/07	15545.78	27621.60	56.28	9399.33	12388.93	75.87

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-18

Capital Risk Ratio

(Rs in Millions)

Banks	NABIL			BOK		
Fiscal Year	**Capital**	**Risk weight Assets**	**Ratio%**	**Capital**	**Risk weight Assets**	**Ratio %**
2001/02	1146.42	22985.76	4.99	520.18	5074.23	10.25
2002/03	1314.18	11153.13	11.78	579.13	5462.02	10.60
2003/04	1481.68	11872	12.48	650.75	6306.13	10.32
2004/05	1657.64	14193.07	11.68	720.74	6926.86	10.41
2005/06	1823.04	16976.40	10.74	720.74	7583.65	9.50
2006/07	1992.85	19166.77	10.40	702.74	10226.20	6.87

Sources: www.nabilbanklimited.com, www.bok.com.np

Appendix-19

Calculation of Growth Ratio

Let,

D_n= Variable in the 5^{th} year

D_o= Variable in the initial year

n= no of period study

total deposit growth ratio of NABIL

$D_n=D_o\ (1+g)^{n-1}$

$23342.29=15506.40(1+g)^{6-1}$

$$1+g=\left(\frac{23342.29}{15506.40}\right)^{1/5}$$

g = 8.52%

Total deposit growth ratio of BOK

$D_n=D_o(1+g)^{n-1}$

$12388.93 =5723.29(1+g)^{6-1}$

$$1+g=\left(\frac{12388.93}{5723.29}\right)^{1/5}$$

g= 16.70%

Total Loans and Advance Growth rate of NABIL

$D_n=D_o\ (1+g)^{n-1}$

$15545.78=7437.89(1+g)^{6-1}$

$$1+g=\left(\frac{15545.78}{7437.89}\right)^{1/5}$$

g = 15.89%

Total deposit growth ratio of BOK

$D_n=D_o(1+g)^{n-1}$

$9399.33 =4613.61(1+g)^{6-1}$

$$1+g=\left(\frac{9399.33}{4613.61}\right)^{1/5}$$

g= 15.30%

Total Investment Growth ratio of NABIL

$D_n=D_o\ (1+g)^{n-1}$

$8945.31=8199.51(1+g)^{6-1}$

$$1+g=\left(\frac{8945.31}{8199.51}\right)^{1/5}$$

$g = 1.76\%$

Total Deposit Growth Ratio of BOK

$D_n=D_o(1+g)^{n-1}$

$2995.19 =667.46(1+g)^{6-1}$

$$1+g=\left(\frac{2995.19}{667.46}\right)^{1/5}$$

$g= 35.02\%$

Total Net Profit growth Ratio of NABIL

$D_n=D_o\ (1+g)^{n-1}$

$673.96=271.64(1+g)^{6-1}$

$$1+g=\left(\frac{673.96}{271.64}\right)^{1/5}$$

$g =19.93\%$

Total Deposit Growth Ratio of BOK

$D_n=D_o(1+g)^{n-1}$

$262.39 =92.8(1+g)^{6-1}$

$$1+g=\left(\frac{262.39}{96.8}\right)^{1/5}$$

$g= 23.11\%$

Trend Analysis

Appendix:20

Trend Analysis of Total Deposit of NABIL

(Rs In Millions)

Fiscal Year	Total Deposit	X= t-2004	X^2	Xy	y_c =a+bx
2002	15506.43		4	-31012.86	8425.15
2003	13447.66		1	-13447.66	12575.03
2004	14119.03		0	0.00	16724.79
2005	14586.66		1	14586.66	230874.79
2006	19347.40	2	4	38694.8	25024.67
2007	23342.29	3		70026.87	29174.55
Total	100349.47		19	78847.81	

Sources: www.nabilbanklimited.com,

$$a = \frac{\sum y}{n} = \frac{100349.47}{6} = 16724.91$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{78847.81}{19} = 4149.88$$

Project Trend Values of Total Deposit for Next Five Years

Fiscal Year	X= t-2004	y_c =a+bx
2008	4	33324.43
2009	5	37474.31
2010	6	41624.19
2011	7	45774.07
2012	8	49923.95

Appendix:20

Trend Analysis of Total Deposit BOK

(Rs in Millions)

Fiscal Year	Total Deposit	X= t-2004	X^2	Xy	y_c =a+bx
2002	5723.39	-2	4	-1446.58	3368.83
2003	6170.71	-1	1	-6170.71	5972.11
2004	7741.65	0	0	0.00	8575.39
2005	8942.75	1	1	8942.75	11178.67
2006	10485	2	4	20970	13781.95
2007	12388.93	3		37166.79	16385.23
Total	51452.33		19	49462	

Sources: www.bok.com.np

$$a = \frac{\sum y}{n} = \frac{51452.33}{6} = 8575.39$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{49462.25}{19} = 26.328$$

Project Trend Values of Total Deposit for Next Five Years

Fiscal Year	**X= t-2004**	**y_c =a+bx**
2008	4	18988.51
2009	5	21591.79
2010	6	24195.07
2011	7	26798.35
2012	8	29401.63

Appendix:21

Trend Analysis of Loan and Advance of NABIL

(Rs in Millions)

Fiscal Year	**Loan & Advance (y)**	**X= t-2004**	**X^2**	**Xy**	**y_c =a+bx**
2002	7437.89	-2	4	-14875.78	4044.62
2003	7755.95	-1	1	-7755.95	7225.50
2004	8189.99	0	0	0.00	10406.38
2005	10586.17	1	1	10586.17	13587.26
2006	12922.50	2	4	25845	16768.14
2007	15545.78	3		46637.34	19949.02
Total	62438.28		19	60436.78	

Sources: www.nabilbanklimited.com,

$$a = \frac{\sum y}{n} = \frac{62438.28}{6} = 10406.38$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{60436.78}{19} = 3180.88$$

Project Trend Values of Loan and Advances for Next Five Years

(Rs in Millions)

Fiscal Year	X= t-2004	y_c =a+bx
2008	4	23129.90
2009	5	26310.78
2010	6	29491.66
2011	7	32672.54
2012	8	35853.42

Appendix:21

Trend Analysis of Loan and Advance of BOK

(Rs in Millions)

Fiscal Year	Loan & Advance (y)	X= t-2004	X^2	Xy	y_c =a+bx
2002	4613.61	-2	4	-9227.22	2559.66
2003	4542.70	-1	1	-4542.7	4394.33
2004	5646.69	0	0	0.00	6229
2005	5912.58	1	1	5912.58	8063.67
2006	7259.08	2	4	14518.16	9898.34
2007	9399.33	3		28197.99	11733.01
Total	37373.99		19	34858.81	

Sources: www.bok.com.np

$$a = \frac{\sum y}{n} = \frac{37373.99}{6} = 6229$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{34858.81}{19} = 1834.67$$

Project Trend Values of Loan and Advances for Next Five Years

(Rs in Millions)

Fiscal Year	X= t-2004	y_c =a+bx
2008	4	13567.68
2009	5	15402.35
2010	6	17237.02
2011	7	19071.69
2012	8	20906.36

Appendix: 22

Trend Analysis of Total Investment of NABIL

(Rs in Millions)

Fiscal Year	Total Invest (y)	X= t-2004	X^2	Xy	y_c =a+bx
2002	8199.51	-2	4	-16399.02	4362.61
2003	6031.18	-1	1	-6031.18	5469.45
2004	5835.95	0	0	0.00	6576.29
2005	4267.23	1	1	4267.23	7683.13
2006	6178.53	2	4	12357.06	8789.97
2007	8945.31	3		26835.93	9896.81
Total	39457.71		19	21030.02	

Sources: www.nabilbanklimited.com,

$$a = \frac{\sum y}{n} = \frac{39457.71}{6} = 6576.29$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{21030.02}{19} = 1106.84$$

Project Trend Values of Total Investment for Next Five Years

(Rs in Millions)

Fiscal Year	X= t-2004	y_c =a+bx
2008	4	11003.65
2009	5	12110.49
2010	6	13217.33

2011	7	14324.17
2012	8	15431.01

Appendix: 22

Trend Analysis of Total Investment of BOK

(Rs in Millions)

Fiscal Year	**Total Invest (y)**	**X= t-2004**	**X^2**	**Xy**	**y_c =a+bx**
2002	667.46	-2	4	-1334.92	723.26
2003	1816.15	-1	1	-1816.15	1522.68
2004	2477.4	0	0	0.00	2322.10
2005	2598.25	1	1	2598.25	3121.52
2006	3378.13	2	4	6756.26	3920.94
2007	2995.19	3		8985.57	4720.36
Total	13932.58		19	15189.01	

Sources: www.bok.com.np

$$a = \frac{\sum y}{n} = \frac{13932.58}{6} = 2322.10$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{15189.01}{19} = 799.42$$

Project Trend Values of Total Investment for Next Five Years

(Rs in Millions)

Fiscal Year	**X= t-2004**	**y_c =a+bx**
2008	4	5519.78
2009	5	6319.20
2010	6	7118.62
2011	7	7918.04
2012	8	8717.46

Appendix: 23

Trend Analysis of Net Profit of NABIL

(Rs in Millions)

Fiscal Year	Net Profit (y)	X= t-2004	X^2	Xy	y_c =a+bx
2002	271.64	-2	4	-543.28	194.98
2003	416.24	-1	1	-416.24	345.08
2004	455.31	0	0	0.00	495.18
2005	518.64	1	1	518.64	645.28
2006	635.3	2	4	1270.60	795.38
2007	673.96	3		2021.88	945.48
Total	2971.09		19	2851.6	

Sources: www.nabilbanklimited.com,

$$a = \frac{\sum y}{n} = \frac{2971.09}{6} = 495.18$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{2851.6}{19} = 150.10$$

Project Trend Values of Net Profit for Next Five Years

(Rs in Millions)

Fiscal Year	X= t-2004	y_c =a+bx
2008	4	1095.58
2009	5	1245.68
2010	6	1395.78
2011	7	1545.88
2012	8	1695.98

Appendix: 23

Trend Analysis of Net Profit of BOK

(Rs in Millions)

Fiscal Year	Net Profit (y)	X= t-2004	X^2	Xy	y_c =a+bx
2002	9.28	-2	4	-18.56	7.65
2003	82.13	-1	1	-82.13	72.43
2004	127.48	0	0	0	137.21
2005	139.52	1	1	139.52	201.99
2006	202.44	2	4	404.88	266.77
2007	262.39	3		787.17	331.55
Total	823.24		19	1230.88	

Sources: www.bok.com.np

$$a = \frac{\sum y}{n} = \frac{823.24}{6} = 137.21$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{1230.88}{19} = 64.78$$

Project Trend Values of Net Profit for Next Five Years

(Rs in Millions)

Fiscal Year	X= t-2004	y_c =a+bx
2008	4	396.33
2009	5	461.11
2010	6	525.89
2011	7	590.67
2012	8	655.45

Appendix: 24

Coefficient of Correlation Between Deposit Between and Loan and Advance of NABIL

(Rs in Millions)

Fiscal Year	Deposit X	Loan & Advance (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	15506.43	7437.89	-1218.48	1484693.51	-2968.49	8811932.88	3617045.70
2003	13447.66	7755.95	-3277.25	10740367.56	-2650.43	7024779.19	8686121.72
2004	14119.03	7755.95	-2605.88	6790610.57	-2216.39	4912384.63	5775646.37
2005	14586.66	10586.17	-2138.25	4572113.10	179.79	32324.44	-384435.97
2006	19347.40	12922.50	2622.49	6877453.80	2516.12	6330859.85	6598499.54
2007	23342.29	15545.78	6617.38	43789718.10	5139.4	26413432.36	34009362.77
Total	**100349.47**	**62438.28**	**0.00**	**74254956.64**	**0.00**	**53525713.35**	**58302240.13**
Mean	**16724.91**	**10406.38**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 58302240.13) - (100349.47\times 62438.28)}{\sqrt{(6\times 74254956.64 - (100349.47)^2}\sqrt{(6\times 53525713.35 - (62438.28)^2}}$$

=0781195

Coefficient of Determination(r^2) = 0.981195×0.981195

=0.9627436

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

$= 0.6745\times\frac{1-0.9627436}{\sqrt{6}}$

=0.010259

6(P.Er)=0.061554

Appendix: 24

Coefficient of Correlation Between Deposit Between and Loan and Advance of BOK

(Rs in Millions)

Fiscal Year	Deposit X	Loan & Advance (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	5723.29	4613.61	-2852.10	8134474.41	-1615.39	26.9484.85	4607253.82
2003	6170.71	4542.70	-2404.68	5782485.90	-1686.30	2843607.69	4055011.90
2004	7741.65	5646.69	-833.74	695122.39	-582.31	339084.94	485495.14
2005	8942.75	5912.58	367.36	134953.37	1030.10	100121.62	-116240.05
2006	10485	7259.08	1909.61	3646610.35	3170.33	1061106.01	167089.26
2007	12388.93	9399.33	3813.54	14543087.33	0.00	10051004.99	12090187.90
Total	**51452.33**	**37373.99**	**0.00**	**32936733.75**		**17004410.10**	**23088797.97**
Mean	**8575.39**	**6228.998**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6\times 23088797.97) - (51452.33\times 37373.99)}{\sqrt{(6\times 32936733.75 - (51452.33)^2}\sqrt{(6\times 17004410.10 - (37373.99)^2}}$$

=0.996406

Coefficient of Determination (r^2) = 0.996406×0.9964

=0.9928249

Probable (P.Er) = $0.6745\times\frac{1-r^2}{\sqrt{6}}$

$= 0.6745\times\frac{1-0.9928249}{\sqrt{6}}$

=0.0019758

6(P.Er)=0.0118548

Appendix: 25

Coefficient of Correlation Deposit Between and Total Investment of NABIL

(Rs in Millions)

Fiscal Year	Deposit X	Total Investment (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	15506.43	8199.51	-1218.48	1484693.51	1623.22	2634843.17	-1977861.11
2003	13447.66	6031.18	-3277.25	10740367.56	-545.11	297144.91	1786461.75
2004	14119.03	5835.95	-2605.88	679.610.57	-740.34	548103.32	1929237.20
2005	14586.66	4267.23	-2138.25	4572113.10	-2309.06	5331758.10	4937347.55
2006	19347.40	6178.53	2622.49	6877453.80	-397.76	158213.02	-1043121.62
2007	23342.29	8945.31	6617.38	43789710.06	2369.02	5612255.76	15676705.57
Total	**100349.47**	39457.71	0.00	**74254956.6**	**0.00**	**14582318.28**	**21308769.34**
Mean	**16724.91**	**6576.29**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 21308769.34) - (100349.47\times 39457.71)}{\sqrt{(6\times 74254956.6 - (100349.47)^2}\sqrt{(6\times 14582318.28 - (39457.71)^2}}$$

=0.228584

Coefficient of Determination (r^2) = $(0.228584)^2$

=0.0522506

Probable (P.Er) = $0.6745\times\frac{1-r^2}{\sqrt{6}}$

$= 0.6745\times\frac{1-0.0522506}{\sqrt{6}}$

=0.260976

6(P.Er)=1.56586

Appendix: 25

Coefficient of Correlation Deposit Between and Total Investment of BOK

(Rs in Millions)

Fiscal Year	Deposit X	Total Investment (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	5723.29	667.46	-2852.11	8134531.45	-1654.64	2737833.53	4719215.29
2003	6170.71	1816.15	-2404.69	5782534	-505.95	255985.40	1216652.91
2004	7741.65	2477.4	-833.75	695139.10	155.3	54118.09	-129481.38
2005	8942.75	2598.25	367.35	134946	276.15	76258.82	101443.70
2006	10485	3378.13	1909.6	3646572.16	1056.06	115199.36	2016594.89
2007	12388.93	2995.19	3813.53	14543011.06	673.09	453050.15	2566848.91
Total	**51452.33**	13932.58	0.00	**32936733.77**	**0.00**	**4662445.35**	**10491274.4**
Mean	**8575.4**	**2322.10**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6\times 10491274.40) - (51452.33\times 13932.58)}{\sqrt{(6\times 32936733.77) - (51452.33)^2}\sqrt{(6\times 4662445.35 - (13932.58)^2}}$$

=0.935524

Coefficient of Determination (r^2) = $(0.935524)^2$

=0.857205

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

$= 0.6745\times\frac{1-0.857205}{\sqrt{6}}$

=0.0392305

6(P.Er)=0.235383

Appendix: 26

Coefficient of Correlation between Outside Assets and Net Profit of NABIL

(Rs in Millions)

Fiscal Year	Outside Assets (x)	Net Profit (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	15630.74	271.64	-1350.82	1824714.67	-223.54	49970.13	301962.30
2003	13787.13	416.24	-3194.43	10204383.02	-7894	6231.51	252168.30
2004	14025.94	455.31	2955.62	8735689.58	-39.87	1589.62	117840.57
2005	14853.40	518.64	-2128.16	4529064.98	23.46	550.37	-49926.23
2006	19101.08	635.30	2119.52	4492365.03	140.12	19633.61	296987.14
2007	24491.09	673.96	7509.53	56393040.82	178.78	31962.29	1342553.77
Total	**101889.38**	2971.09	0.00	**86179258.31**	**0.00**	**109937.54**	**2261585.45**
Mean	**16981.56**	**495.18**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 2261585.45) - (101889.38\times 2971.09)}{\sqrt{(6\times 86179258.1) - (101889.38)^2}\sqrt{(6\times 109937.54 - (2971.09)^2}}$$

=0.723899

Coefficient of Determination (r^2) = $(0.723899)^2$

=0.5240298

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

$= 0.6745\times\frac{1-0.5240298}{\sqrt{6}}$

=0.1310648

6(P.Er)=0.235383

Appendix: 26

Coefficient of Correlation Between Outside Assets and Net Profit of BOK

(Rs in Millions)

Fiscal Year	Outside Assets (x)	Net Profit (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	5281.07	9.28	-3269.03	10686557.14	-127.93	16366.10	418207.01
2003	6358.85	82.13	-2191.25	4801576.56	-55.08	3033.81	120694.05
2004	8124.09	127.48	-426.01	181484.52	-9.73	94.67	4145.08
2005	8510.83	139.52	-39.27	1542.13	2.31	5.34	-90.71
2006	10633.80	202.44	2083.70	4341805.69	65.23	4254.95	132658.25
2007	12391.76	262.39	3841.66	14758351.56	125.18	15670.03	4808.99
Total	**51300.4**	**823.24**	**0.00**	**3477131.7.60**	**0.00**	**39424.90**	**1156512.68**
Mean	**8550.10**	**137.21**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6\times 1156512.68) - (51300.40\times 823.24)}{\sqrt{(6\times 34771317.60) - (51300.40)^2}\sqrt{(6\times 39424.90 - (823.24)^2}}$$

=0.723899

Coefficient of Determination (r^2) = $(0.931841)^2$

=0.8683276

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

$= 0.6745\times\frac{1-0.8683276}{\sqrt{6}}$

=0.0362578

6(P.Er)=0.2175468

Appendix: 27

Coefficient of Correlation Between Deposit and Net Profit of NABIL

(Rs in Millions)

Fiscal Year	Deposit X	Net Profit (y)	X=x- $\bar{x}$	X^2	y= y- $\bar{y}$	y^2	xy
2002	15506.43	271.64	-1218.48	1484693.51	-223.54	49970.13	272379.02
2003	13447.66	416.24	-3277.25	10740367.56	-78.94	6231.52	258706.12
2004	14119.03	455.31	-2605.88	6790610.57	-39.87	1589.62	103896.44
2005	14586.66	518.64	-2138.25	4572113.10	23.46	550.37	-50163.34
2006	19347.40	635.30	2622.49	6877453.80	140.12	19633.61	367463.30
2007	23342.29	673.96	6617.38	43789718.10	178.78	31962.29	1183055.20
Total	**100349.47**	**2971.09**	**0.00**	**74254956.64**	**0.00**	**109937.54**	**2135336.72**
Mean	**16724.91**	**495.18**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 2135356.72) - (100349.47\times 2971.09)}{\sqrt{(6\times 74254856.64) - (100349.47)^2}\sqrt{(6\times 109937.54 - (2971.09)^2}}$$

=0.463860

Coefficient of Determination (r^2) = $(0.463860)^2$

=0.2151661

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

$= 0.6745\times\frac{1-0.2151661}{\sqrt{6}}$

=0.2161146

6(P.Er)=1.296688

Appendix: 27

Coefficient of Correlation Between Total 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
2002	5723.29	9.28	-2852.11	8134531.45	-127.93	16366.10	364870.43
2003	6170.71	82.13	-2404.69	5782534	-55.08	3033.81	132450.33
2004	7741.65	127.48	-833.75	695139.10	-9.73	94.67	8112.39
2005	8942.75	139.52	367.35	134946	2.31	5.34	848.58
2006	10485	202.44	1909.60	3646572.16	65.23	4254.95	124563.21
2007	12388.93	262.39	3813.53	14543011.06	125.18	15670.03	477377.69
Total	51452.33	**823.24**	**0.00**	**32936733.77**	**0.00**	**39424.90**	**1108222.63**
Mean	**8575.40**	**137.21**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6\times 1108222.63) - (51452.33\times 2823.24)}{\sqrt{(6\times 32936733.77) - (51452.33)^2}\sqrt{(6\times 39424.90 - (823.24)^2}}$$

=0.941281

Coefficient of Determination (r^2) = $(0.941281)^2$

=0.88600991

Probable (P.Er) = $0.6745\times\frac{1-r^2}{\sqrt{6}}$

$= 0.6745\times\frac{1-0.88600991}{\sqrt{6}}$

=0.03138871

6(P.Er)=01883323

Appendix: 28

Coefficient of Correlation between Total Deposit and interest earned of NABIL.

(Rs in Millions)

Fiscal Year	**Total Deposit X**	**Interest earned (y)**	**X=x-$\bar{x}$**	**X^2**	**y= y-$\bar{y}$**	**y^2**	**xy**
2002	155063.43	1120.70	-1218.48	1484693.51	-63.75	4064.10	77678.10
2003	13447.66	1017.87	-3277.25	10740367.56	-166.58	27748.90	545924.31
2004	14119.03	1001.61	2605.88	6790610.57	-182.84	33430.47	476459.10
2005	14586.66	1068.75	-2138.25	4572113.10	-115.7	13386.50	247395.53
2006	19347.40	1310	2622.49	6877453.80	125.55	15762.80	329253.62
2007	23342.29	1587.76	6617.38	43789718.10	403.31	162658.96	2668855.53
Total	100349.47	**7106.69**	**0.00**	**74254956.64**	**0.00**	**257051.73**	**4345566.19**
Mean	**16724.91**	**1184.45**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 4345566.19) - (100343.47\times 7106.69)}{\sqrt{(6\times 74254956.64) - (100349.47)^2}\sqrt{(6\times 257051.73 - (7106.69)^2}}$$

=0.907261

Coefficient of Determination (r^2) = $(0.907261)^2$

=0.823123

Probable (P.Er) = $0.6745\times\frac{1-r^2}{\sqrt{6}}$

$= 0.6745\times\frac{1-0.823123}{\sqrt{6}}$

=0.0487055

6(P.Er)=0.292233

Appendix: 28

Coefficient of Correlation between Total Deposit and interest earned of BOK.

(Rs in Millions)

Fiscal Year	**Total Deposit X**	**Interest earned (y)**	**X=x-$\bar{x}$**	**X^2**	**y= y-$\bar{y}$**	**y^2**	**xy**
2002	5723.29	473.30	-2852.10	8134474.41	-140.27	19675.67	400064.07
2003	6170.71	496.81	-2404.68	5782485.90	-116.76	13632.89	280770.44
2004	7741.65	567.09	-833.74	695122.39	-46.48	2160.39	38752.24
2005	8842.75	607.09	367.36	134953.37	-6.48	42	-2380.50
2006	10485	718.12	1909.61	3646610.35	104.55	10930.70	199649.72
2007	12388.93	819.004	3813.54	14543087.33	205.43	42201.48	783415.52
Total	51452.33	**3681.41**	**0.00**	**32936733.75**	**0.00**	**88643.13**	**1700271.50**
Mean	**8575.39**	**613.57**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6\times 1700271.50) - (51452.33\times 3681.41)}{\sqrt{(6\times 32936733.75) - (51452.33)^2}\sqrt{(6\times 88643.13 - (3681.41)^2}}$$

=0.963798

Coefficient of Determination (r^2) = $(0.963798)^2$

=0.928907

Probable (P.Er) = $0.6745\times\frac{1-r^2}{\sqrt{6}}$

$= 0.6745\times\frac{1-0.928907}{\sqrt{6}}$

=0.0195764

6(P.Er)=0.1175584

Appendix: 29

Coefficient of Correlation between Total Deposit and interest earned of NABIL.

(Rs in Millions)

Fiscal Year	**Loan & Advance X**	**Interest Paid (y)**	**X=x-$\bar{x}$**	**X^2**	**y= y-$\bar{y}$**	**y^2**	**xy**
2002	7437.89	462.08	-2968.50	8811992.25	92.27	8513.75	-273903.50
2003	7755.95	317.35	-2650.44	7024832.19	-52.46	2752.05	139042.10
2004	8189.99	282.85	2216.4	4912428.96	-86.86	7544.66	192516.50
2005	10586.17	243.54	179.78	32320.85	-126.27	15944.11	-22700.82
2006	12922.54	357.20	2516.15	63331010.82	-12.61	159.01	-31728.65
2007	15545.78	555.71	5139.39	26413329.57	185.90	34558.81	955412.60
Total	62438.37	**2218.18.83**	**0.00**	**535.5913.64**	**0.00**	**69472.39**	**958638.23**
Mean	**10406.39**	**369.81**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 958638.23) - (62438.32\times 2218.83)}{\sqrt{(6\times 53525913.64) - (62438.32)^2}\sqrt{(6\times 69472.39 - (2218.83)^2}}$$

=0.38218

Coefficient of Determination (r^2) = $(0.38218)^2$

=0.146062

Probable (P.Er) = $0.6745\times\frac{1-r^2}{\sqrt{6}}$

$$= 0.6745 \times \frac{1 - 0.146062}{\sqrt{6}}$$

$=0.235143$

$6(P.Er)=1.410858$

Appendix: 29

Coefficient of Correlation between Total Deposit and interest Paid of BOK.

(Rs in Millions)

Fiscal Year	**Loan & Advance X**	**Interest Paid (y)**	**X=x-$\bar{x}$**	**X^2**	**y= y-$\bar{y}$**	**y^2**	**xy**
2002	4613.61	285	-1615.39	2609484.85	-4.50	20.25	7269.26
2003	4542.70	276.71	-1686.30	2843607.69	-12.79	163.58	21567.78
2004	5646.69	286.3	-582.31	339084.94	-3.2	10.24	1863.40
2005	5912.58	241.64	-316.42	100121.62	-47.86	2290.58	15143.86
2006	7259.082	308.15	1030.10	1061068.93	18.65	347.82	19211.36
2007	9399.33	339.18	3170.33	10050992.31	49.68	2468.10	157502
Total	**37374**	**1736.98**	**0.00**	**17004360.34**	**0.00**	**5300.57**	**222557.66**
Mean	**6229**	**289.50**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6 \times 222557.66) - (37374 \times 173698)}{\sqrt{(6 \times 17004360.34) - (37374)^2}\sqrt{(6 \times 5300.57 - (1736.98)^2}}$$

$=0.38218$

Coefficient of Determination (r^2) = $(0.02754)^2$

$=0.0007585$

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

= $0.6745-\frac{1-0.0007585}{\sqrt{6}}$

=0.275155

6(P.Er)=1.65093

Appendix: 30

Coefficient of Correlation between Total Working Fund and Net Profit of NABIL.

(Rs in Millions)

Fiscal Year	Working Fund X	Net Profit (y)	X=x-$\bar{x}$	X^2	y= y-$\bar{y}$	y^2	xy
2002	17529.25	271.64	-2071.95	4292976.80	-223.54	49970.13	463163.70
2003	16562.62	416.24	-3038.58	9232968.42	-78.94	6231.52	239865.51
2004	16745.48	455.31	-2855.72	8155136.72	-39.87	1589.62	113857.56
2005	17186.33	518.64	-2414.87	5831597.12	23.46	550.37	-57286.27
2006	22329.97	635.3	2728.77	7446185.71	140.12	19633.61	382355.25
2007	27253.39	673.96	7652.19	58556011.8	178.78	31962.29	1368058.53
Total	**117607.04**	**2971.09**	**0.00**	**93514876.57**	**0.00**	**109937.54**	**2510014.28**
Mean	**19601.20**	**495.18**					

Sources: www.nabilbanklimited.com,

Coefficient of correlation(r):

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

$$= \frac{(6\times 2510014.28) - (117607.04\times 2971.09)}{\sqrt{(6\times 93514876.57) - (117607.04)^2}\sqrt{(6\times 109937.54 - (2971.09)^2}}$$

=0.621771

Coefficient of Determination (r^2) = $(0.621771)^2$

=0.3865992

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

$= 0.6745\times\frac{1-0.3865992}{\sqrt{6}}$

=0.1689082

6(P.Er)=1.0134492

Appendix: 30

Coefficient of Correlation between Total Working Fund and Net Profit of BOK.

(Rs in Millions)

Fiscal Year	**Working Fund X**	**Net Profit (y)**	**X=x-$\bar{x}$**	**X^2**	**y= y-$\bar{y}$**	**y^2**	**xy**
2002	6365.65	9.28	-3643.91	13278080.09	-127.93	16366.10	466165.41
2003	7444.82	82.13	-2555.74	6531806.95	-55.08	3033.81	140770.16
2004	9496.34	127.48	-504.22	254237.81	-9.73	94.67	4906.10
2005	9857.13	139.52	-143.43	20572.16	2.31	5.34	-331.32
2006	12278.33	202.44	2277.77	5188236.17	65.23	4254.95	148578.94
2007	14570.10	262.39	4569.54	20880695.81	125.18	15670.03	572015.01
Total	**60003.37**	**823.24**	**0.00**	**46153628.99**	**0.00**	**39424.90**	**1332104.31**
Mean	**10000.5**	**137.21**					

Sources: www.bok.com.np

Coefficient of correlation(r):

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

$$= \frac{(6\times 1332104.31) - (60003.37\times 823.24)}{\sqrt{(6\times 46153628.99) - (60003.37)^2}\sqrt{(6\times 39424.90 - (823.24)^2}}$$

=0.965852

Coefficient of Determination (r^2) = $(0.9656852)^2$

=0.9328701

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

$= 0.6745\times \frac{1-0.9328701}{\sqrt{6}}$

=0.01848512

6(P.Er)=0.1109107

Appendix: 31

Regression equation between Net Profit in Total Working Fund of NABIL.

(Rs in Millions)

Fiscal Year	Working Fund X	Net Profit (y)	X^2	y^2	xy
2002	17529.30	271.64	307276358.5	73788.30	4761659.05
2003	16562.60	416.24	274319718.8	173255.74	6894016.62
2004	16745.50	455.31	280411770.3	207307.20	7624393.61
2005	17186.30	518.64	295368907.7	268987.45	8913502.63
2006	22330	635.3	498628900	403606.09	14186249
2007	27253.39	673.96	742747266.5	454222.20	18367694.72
Total	**117607.09**	**2971.09**	**2398752922**	**1581166.88**	**60747515.63**

Sources: www.nabilbanklimited.com,

X= Independent Variable

Y= Dependent Variable

Let the regression equation of y on x is

y= a + bx ……equation (i)

to find the vlue of a and b we have two normal equation

$\sum y=na+b\sum x$……..equation(ii)

$\sum xy=a\sum x+b\sum x^2$……..equation(iii)

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

2971.09=6a + 117607.09b……..equation (iv)

60747515.63=117607.09 a + 23987529922 b…….(v)

Now multiplying equation (iv) by 117607.09 and equation (v) by 6 than subtracting we get

$$349421249 = 705642.54a + 13831427618.27b3$$
$$364485093.8 = 705642.54a + 14392517532b$$
$$\overline{\mp 15063844.8 = \mp 561089920b}$$

b= 0.0268475

Putting the value of b in equation (iv) than

we get,

2971.09=6a+117607.09×0.0268475

2971.09=6a+3157.46

a= 31.0617

Appendix: 31

Regression equation between Net Profit in Total Working Fund of BOK.

(Rs in Millions)

Fiscal Year	Working Fund X	Net Profit (y)	X^2	y^2	xy
2002	6356.65	9.28	40406999.22	86.12	58989.71

2003	7444.82	82.13	55425344.83	6745.34	611443.07
2004	9496.34	127.48	90180473.4	16251.15	1210593.42
2005	9857.13	139.52	97163011.84	19465.83	1375266.78
2006	12278.33	202.44	150757387.6	40981.95	2485625.13
2007	14570.10	262.39	212287814	68848.51	3823048.54
Total	**60003.37**	**823.24**	**646221030.09**	**152378.90**	**9564966.65**

Sources: www.bok.com.np

x= Independent Variable

y= Dependent Variable

Let the regression equation of y on x is

y= a + bx ……………………………equation (i)

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

∑y=na+b∑x………………………..equation(ii)

∑xy=a∑x+b∑x^2………………………..equation(iii)

Subtracting the value of n, ∑x, ∑y,∑x^2, ∑xy in equation (ii) and (iii) we get,

823.24=6a + 60003.37 b………………….. (iv)

9564966.65=60003.37 a + 646221030.9……….(v)

Now multiplying equation (iv) by 60003.37 and equation (v) by 6 than subtracting we get

$$49397174.32 = 360020.22a + 3600404411.36b$$
$$\underset{-}{57389799.90} = \underset{-}{360020.22a} + \underset{-}{3877326185b}$$

$$\overline{\not- 7992625.58 = \not- 276921774b}$$

b= 0.0288624

putting the value of b in equation (iv) than

we get,

823.24=6a+60003.37×0.0288624

a= 151.43

Appendix: 32

Regression equation between Net Profit in Total Deposit of NABIL.

(Rs in Millions)

Fiscal Year	Total Deposit X	Net Profit (y)	X^2	y^2	xy
2002	15506.43	271.64	240449371.3	73788.29	4212166.65
2003	13447.66	416.24	180839559.5	173255.74	5597453.998
2004	14119.03	455.31	199347008.1	207307.20	6428535.55
2005	14586.66	518.64	212770650	268987.45	7565225.34
2006	19347.4	635.30	374321886.8	403606.09	12291403.22
2007	23342.29	673.96	544862502.4	454222.10	15731769.77
Total	**100349.47**	**2971.09**	**1752590978**	**1581166.88**	**51826554.53**

Sources: www.nabilbanklimited.com,

x= Independent Variable

y= Dependent Variable

Let the regression equation of y on x is

y= a + bx ……equation (i)

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

$\sum y=na+b\sum x$……..equation (ii)

$\sum xy=a\sum x+b\sum x^2$……..equation (iii)

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

2971.09=6 a + 100349.47 b…….. (iv)

51826554.53=100349.47 a + 1752590978b…….(v)

Now multiplying equation (iv) by and equation (v) by 6 than subtracting we get

$$298147306.8 = 602096.82a + 10070016129.28b$$
$$310959327.2 = 602096.82a + 10515545868b$$
$$-12812020.4 = -445529740b$$

b= 0.02876

Putting the value of b in equation (iv) than

We get,

2971.09=6a+100349.47×0.02876

a= 14.1732

Appendix: 32

Regression equation between Net Profit in Total Deposit of BOK.

(Rs in Millions)

Fiscal Year	Total Deposit X	Net Profit (y)	X^2	y^2	xy
2002	5723.29	9.28	327560.48.42	86.12	53112.13
2003	6170.71	82.13	38077661.90	6745.34	506800.41
2004	7741.65	127.48	59933144.72	16251.15	986905.54
2005	8942.75	139.52	79972777.56	19465.83	1247692.48
2006	10485	202.44	109935225	40981.95	122583.40
2007	12388.93	262.39	153485586.5	68848.51	3250731.34
Total	**51452.33**	**823.24**	**474160444.10**	**152378.90**	**8167825.30**

Sources: www.bok.com.np

x= Independent Variable

y= Dependent Variable

Let the regression equation of y on x is

y= a + bx ……equation (i)

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

∑y=na+b∑x……..equation (ii)

$\sum xy = a\sum x + b\sum x^2$……..equation (iii)

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

823.24=6 a + 51452.33 b…….. (iv)

8167825.30=51452.33a + 474160444.10b…….(v)

Now multiplying equation (iv) by and equation (v) by 6 than subtracting we get

$$42357616.15 = 308713.98a + 2647342262.43b$$
$$49006951.8 = 30871398a + 2844962665b$$

$$\overline{\mp 6649335.65 = \mp 197620403b}$$

b= 0.33647

Putting the value of b in equation (iv) than

We get,

823.24=6a+51452.33×0.033647

a= 151.33

Appendix: 33

Calculation of Mean, Standard Deviation and Coefficient of Variation.

	Ratio(X)	**X^2**
2001/02	1.27	1.6129
2002/03	0.92	0.8464
2003/4	0.94	0.8836
2004/05	0.97	0.9409
2005/06	2.08	4.3264
2006/07	1.20	1.44
Total	**7.38**	**10.0502**

$$\text{Mean} = \frac{\sum x}{N} = \frac{7.38}{6} = 1.23$$

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

$= \sqrt{\frac{10.0502}{6} - \left[\frac{7.38}{6}\right]^2}$

=0.4026

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

$= \frac{0.4026}{1.23} \times 100 = 32.73\%$