

# CHAPTER – I

## INTRODUCTION

### 1.1 Background Information

Nepal is adopting mixed economic model to uplift economic growth rapidly in the global perspective of economic development. Its inherent assumption is state and private sectors complement each other in the development process over time. Nepalese economy is still agricultural dominated economy. It still has been considering economic and social development as the primary objective. The economic growth rate of the country is very low of 4.5% (2011). Per capita GDP of Nepal is \$473, with vast inconsistency of income level in Rural and Urban areas of the country. The political inconsistency is the major barrier of high growth rate of the country. Lack of proper implementation of government planning in infrastructure development country is facing the lack of basic availability of economic development tools. However, the present context is improving and creating new opportunities for the business and commerce after the Royal Regime. Still lack of consciousness of political parties the environment of business and commerce of the nation remains same as past. New business venture are not in the stage of growth and ventures, those were established in past are not in smooth operation. All of behind this is absence of proper business friendly policies & stable government to lead the economic activities of the nation.

Motives of the commercial banks are to earn profit. For the purpose, it supplies loans to business organizations. In general, it provides short-term loan especially for working capital. But in recent days, change in perceptions & increasing competition in financial market, commercial bank provide long-term loan for business capital investment to the business people & corporate houses. There is compulsory flow 12% of its total loan amount in deprived and agriculture sector including cottage and small scale industries. Additionally, commercial banks need to promote its branches in remote areas to flow loan for remote economic activities as directed by Nepal Rastra Bank. Commercial banks offer the opportunity to participate in development process of the country via issuing initial public

offering & accepting deposit from public. Commercial bank, mobilize & invest its accumulated resources into field of deprived sector as well as industry, hydropower, tourism, infrastructure development, trade & commerce.

In the perspective of the Nepalese banking industry; it has not long history. The modern banking starts only after the establishment of Nepal Bank Limited in the 1937 (1994 B.S.). It is the first commercial bank of Nepal. Nepal government owned 51% of its shares & controlled its operations mainly. In Nepal, whole banking system recently modernized & restructuring of government owned commercial banks are taking place. Government owned commercial banks in Nepal are Nepal Bank Limited, Rastriya Banijaya Bank, & Agriculture Development Bank, which are in decentralized form in serving to local community, but the performance of these banks are not still good in condition. However in recent days, it is in improving state. Currently, 32 commercial banks are in operation in Nepalese financial market up to mid-July 2011. Some other commercial banks are going to come in near future in Nepalese financial market.

Nepal Rastra Bank, the central bank of Nepal, was established in 1956 (Baisakh 14, 2013). As an agency of Nepal Government, it is most important financial institutions in the modern economy & finance. It has crucial role in public policy functions in monitoring & regulating the operation of financial system and controlling the growth of money supply in market. The main objective of the Rastra Bank Act 2012 is to issue paper money as per necessity, controlling & directing the other bank & financial institutions, & working as a bank of governments. Its main objective is to formulate monetary policy & foreign exchange policies in order to maintain the price stability & balance of payment for sustainable development of the economy of the nation. Maintaining stability and liquidity in banking & financial sector it has important role. It also plays the role to develop secure, healthy, & efficient payment system. It regulates, inspect, supervise, & monitor banking & financial system. Equally, it supports entire banking & financial system to exchange its public credibility.

According to Nepal Rastra Bank Act 2012, the main function of NRB is to issue bank notes and coins, formulate, implement monetary policy, formulate foreign exchange policies,

determine foreign exchange rate, & exchange reserve. It is the government body to issue license to commercial banks and financial institutions to carry on banking and financial business, regulate, examine, supervise & monitor transactions. Act as a banker, advisor and financial agent of Nepal government. Act as the banker of a commercial banks and financial instruction and to function as the lender of the cost resort. Establish and promote the system of payment, clearing and settlement and regulate those activities.

## **1.2 Brief introduction about sample banks**

### **Nabil Bank Ltd.**

Nabil Bank Limited, the first foreign joint venture bank of Nepal established in July 1984 today is a pioneer in introducing many innovative products and services in the domestic banking sector representing a milestone in the banking history of Nepal. It started an era of modern banking with customer satisfaction as a focal point for doing business. With 43 points of representation across the nation and multiple correspondent banks around the globe, the Bank is serving a wider clientele. Thus, Nabil Invest targets to establish itself as one of the leading Merchant Bankers in its short span of operation and as an Investment Banker with strong professional expertise in long run introducing innovative products and services in the Nepalese capital market with strict adherence to prevailing rules and regulations. It has vision to be investment banker.

### **Capital Structure:**

Institutional Promoter (Nabil Bank) – 70%

General Public – 30%

### **Nepal Investment Bank Ltd.**

Nepal Investment Bank Ltd (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French collaborate holding 50% of capital of NIBL, was Credit Agricole Indosuez, a subsidiary of the one the largest banking group in the world. With the decision of Credit Agricole Indosuez, a group of companies comprising of bankers, professionals, industrialists and businesspersons, had acquired on April 2002 the 50% shareholding of Credit Agricole Indosuez In Nepal Indosuez

Bank Ltd. The name of the bank has been changed to Nepal Investment Bank Ltd. Agreement of bank's AGM, NRB & company Registrar's office with the following shareholding structure.

A group of companies holding 50% of the capital

- Rastriya Banijaya Bank holding 15% of the Capital
- Rastriya Beema Sansthan holding 15% of the Capital
- The remaining 20% being held by the General Public

### **Bank of Kathmandu Ltd**

BOK started its operation in March 1995 with the objective to stimulate the Nepalese economy and take it to newer heights. Public owns it. BOK also aims to facilitate the nation's economy and to become more competitive globally. To achieve these, BOK has been focusing on its set objectives right from the beginning. Its major objective is to contribute to the sustainable development of the nation by mobilizing domestic savings and channeling them to productive areas.

### **1.3 Outline of Credit Management**

Credit is term used to identity accounting functions. It is conducted under the form of account receivables. Essentially, the collection process involves qualifying the extension of credit to a customer. Credit management of the commercial banks serves as an exceptional way for the business to remain financially sound. Credit policy refers to the setting of outline to determine whether or not to extend credit and how much amount of credit to extend. Credit policy of the bank has two dimensions; Credit standards and Credit analysis. A firm has to establish and use standards in making credit decision. Identifying appropriate sources of credit information and methods of credit analysis is important parts in credit management. Credit risk is defined as the possibility that a borrower will fail to meet the obligations in accordance with the agreed terms and conditions. The credit risk is not constrained to lending activities but also includes off balance sheet and inter-banking exposures. The purpose of the credit risk management is to maximize a bank's risk adjusted rate of return by maintaining the credit risk exposure within acceptable parameters. For most of the commercial banks, loan are the largest source of credit risk, other sources of credit risk exist throughout the activities of the banks,

including the banking book, trading book, and on & off balance sheet. Banks are increasingly facing credit risk in various financial instruments other than loans, acceptances, inter banking transactions; trade financing, foreign exchange transactions, bank guarantees, & settlement of the transactions.

#### **1.4 Objective of the Study**

The objective of this study is to get an insight of the credit position of the commercial banks on the basis of NRB directives as the Central Bank of Nepal governments. More specifically this study investigate & analyze credit risk management in accordance with bank's risk adjusted rate of return by maintaining the credit exposure within acceptable parameters. The effective management of credit risk is a significant component of comprehensive approach to risk management. It is crucial to the success of any commercial banking institutions.

Major objectives are as follows:

- To measure the comparative productivity of credit management between sample commercial banks of Nepal.
- To examine the level of non-performing loan & investment that exists in commercial banking industry.
- To appraise the loan employed in different sectors by commercial banks in Nepal.
- To review the application of financial sector program by NRB.
- To grant the suggestions for future growth of credit management system in the commercial banks.

#### **1.5 Problem Statement**

The problem of this study is directed toward identifying credit position of commercial bank of Nepal, within the area of the proposed study, there exist a large number of problems regarding the commercial banks, services they offer, and their relationship with the concerned party. It is affected due to host factors like; lack of transparency in the financial statements, permissive banking practice such as multiple banking contributing to diversion of funds, flight of capital, over financing etc., absence of risk based pricing methodologies, customer risk rating models, absence of risk based pricing methodologies, credit rating models, independent credit information bureau, credit risk transfer instruments, lack of transparency among the

banks and fail in exchange of information on the business entities etc. These factors contributed for higher level of impaired debt specifically in the banking & financial sectors.

Main problems of the commercial banks are non-performing loans. From recent survey of NRB government owned banks have the higher ratio of Non- performing loans than other commercial banks. Recovery process of those banks dues through public auction of the securities, quite often thwarted by expert restraint orders from the judiciary and enormous time is involved to vacate the restraint orders. Financial sector reforming programs are not being properly implemented. Inadequate practice of laws to deal with financial crimes like misfeasance, cheating etc is also a big issue for credit management. Main focus in concentration of credit in certain areas & limited investment opportunities lacks commercial banks. In general, it is accepted that disadvantages sectors in economy like agriculture & small business have been neglected by the banking industry. These sectors are not receiving proper financial support as commercial banks hesitate to be involved in these sectors where they do not get adequate returns.

### **1.6 Limitations of the Study**

This study is based on the data from banks publications which may not be reliable because they publish reports according to their profit planning & their position in market. Moreover, the personal interviews and interactions may not be always fact. We can't make them liable for their response. There are many difficulties to get adequate information as banks hesitate to provide data easily. This study is based on only a five years transactions period of sample banks. The purpose of the study is to fulfill the requirement for Master of Business Study, the study is conducted in certain time frame to collect information, analyze and interpret.

### **1.7 Organization of the Study**

The study is organized carefully in such way that the above specified objectives can easily be fulfilled. The structure of the study will try to analyze the study in a prescribed format. The study report& findings has presented in the systematic presentation. The study report is designed in five chapters.

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### **Chapter-I: Introduction**

This chapter describes basic concept and background of the study. It has served orientation for readers to know about the basic knowledge of the research area, various problems regarding study, objectives of the study and need or significance of the study. It is concerned with readers to know about the perspective they need to understand & the detailed information about others chapter.

### **Chapter-II: Review of literature**

This second chapter of the study declares readers that they are familiar with important research that has been done in similar areas of the study. It establishes that the study as a reference research that is developing and emerging knowledge about concerned field. This includes review of past studies, article & journals in related topics.

### **Chapter-III: Research Methodology**

Research methodology refers to the steps carried out by a researcher in studying a problem with certain objectives in view. It describes the details about the sources of data related to study and various tools and techniques adopted for presenting the data for study.

### **Chapter-IV: Presentation and Analysis of data**

This chapter deals the study of related data, & presentation. Here, researcher presents the data in accordance with analyzing tools & try to present its results. Researcher also makes some comments briefly.

### **Chapter-V: Summary, Conclusion and Recommendation**

This is the last chapter of the study. Based on the results from data analysis, the researcher fulfilled the performance of the concerned entities for betterment.

## **CHAPTER – II**

### **REVIEW OF LITERATURE**

#### **2.1 Conceptual Framework**

Research is ongoing process which is concerned with deep study about the subject matter. One has to study deeply about the past information, relevant facts, and different views of the past researcher about the particular topics of the research. In simple language, it is investigation of what have done & what has to be done in particular topic. For the purpose of this study, an attempt has to be made to review bank's publications, periodicals, journals, & central banks rules and regulations. Further, interaction programs related with the financial issues conducted by various news channels will be taken as a reference.

##### **2.1.1 Conceptual Review**

Commercial banks are business entities that receive and hold deposit of fund from public or others, make loans or extend credits and transfer funds by written order of deposits. It is a corporation, which accepts demand deposits subject to check and makes short-term loans to business enterprises, regardless of the scope of its other activities. A commercial banker is a dealer in money and substitute for money such as checks or bills of exchange. It also provides various financial services. According to the commercial bank Act 2031 B.S. of Nepal “ A commercial bank is one which exchanges money, deposits money, accepts deposits, grants loans and performs commercial banking functions and which is not a bank mean for cooperative, agriculture, industries for such specific purpose”.

The Bank and financial development institutions ordinance, 2060 has accumulated the five banking acts including commercial bank Act 231. This defines the bank with respect to their transactions. This act categorizes the banking institutions in two dimensions based on their transactions. According to this act, “Bank is the institution which performs its transaction under the provisions mentioned on section 47 of this act.”

The essential of this act is its functions. It provides short-term debts necessary for trade & commerce. They accept deposit from the public grant loans in different forms. They purchase and discount bills of exchange, promissory notes and foreign currency exchange. They perform various functions on the behalf of their customer if they are paid for their services.

Financial activities are necessary for the economic advancement of the country and commercial banking in this perspective is the heart of financial system. Optimum investment decision plays a vital role in each organization. Though the commercial banks and other financial institutions needs sound knowledge of investment because this subject is relevant for all surrounding that mobilize funds in different sectors in the view of maximum return. For the mobilization of the funds towards the profitable, secured & marketable sectors banks & financial institutions most gather sufficient information about their perspective customers. This information includes credit worthiness of firm, nature of firm, & financial background etc. It is necessary from the view point of investment security.

The returns or profit of the bank largely depend upon the lending criteria adopted by the bank. Moreover lending policy and investment in different securities affect the income and profit. In terms of investment procedures and policies, one should keep in mind that "the greater the credit created by bank, the higher will be the profitability". A sound lending and investment policy is not only requirement for bank's profitability but also vitally significant for the promotion of commercial savings of the developing nation like Nepal.

The sound lending policies help commercial banks to maximize the quality & quantity of investment. Finally it plays great role to maximize profit & social welfare as well as economic growth of nation. Commercial banks as financial institutions perform a number of internal functions. Among them, providing credit is considered as most important one. "Commercial banks bring into being the most important ingredient of the money supply, demand deposit through the creation of credit in the form of loan and investment" (Course, 1963:21).

### **2.1.2 Concept of Commercial Bank**

Commercial bank is a corporate business venture which have certain paid-up capital

and Provide loan, accept deposit, exchange money and other consultancy, agency, and guarantee etc services are perform. Commerce is the financial transactions related to selling and buying activities of goods and services. Therefore commercial banks are those banks, which work from commercial viewpoint. They perform all kinds of banking functions as accepting deposits, advancing credits, credit creation and agency functions. They provide short-term credit, medium term credits and long terms credit as well as issuing guarantee, bonds, letter of credit, etc to trade and industry.

"A commercial bank is the bank which exchanges money, accepts deposit transfers loans and performs banking functions" (Commercial Bank Act, 2031 B.S.). "Principally commercial bank accepts deposits and provides loans, primarily to business firms there by facilitating the transfer of fund in economy" (Rose, 1989: 89) the commercial bank has its own role and contribution in the economic development. It is a resource for the economic development, it maintain economic confluence of various segments and extends credit to people" (Ronald, 1999: 87)

"A Bank is a business organization that's receives and holds deposits and funds from others, makes loans and extend credits and transfer funds by written order of depositors" (Grolier incorporation, 2000).

Commercial Banks function as an intermediary; accepting deposits and providing credits to the needy area. The primary source of funds for commercial bank are capital (shareholder equity) reserve (retain earning) and other main source of the commercial bank is current deposit issue of commercial paper bond etc. Commercial banks are restricted to invest their funds in corporate securities. They invest their funds in long term as well as short-term needs of any trade and industry. They grant credits in the form of cash credits and overdraft. Banks undertaking business with the objective of earning profits are commercial banks. Commercial banks pool scattered fund and channels it to productive use. Commercial Banks Apart from financing, they also render a variety of service like collection of bills and cheques, safekeeping of valuables, financial advising, agencies functions, keeping of guarantee etc to their value customers.

### **2.1.3 Functions of Commercial Banks**

The business of commercial bank is primarily to hold deposits and make credits and investments with the object of securing profits for its shareholders. Its primary motive is profit; other considerations are secondary. The major functions of commercial banks are as follows: Accepting Deposit, Advancing credits, Agency Services, Credit Creation, Financing of Foreign Trade, Safe keeping of valuables, Making Venture Capital Credits, Financial Advising and Offers Security Brokerage Services. They also function as issue of commercial paper, bond and debenture; invest in government security as well as underwriting function under rules and regulation of their Central Bank. Assist in foreign Trade: The bank assist the traders engaged in foreign trade of the country. He discounts the bills of exchange drawn by exporters on the foreign importers and enables the exporters to receive money in the home currency. Similarly, also accepts the bills drawn by foreign exports.

Commercial bank offers Investment Banking and Merchant Banking Services: Banks today are following in the footsteps of leading financial institutions all over the globe in offering investment banking and merchant banking services to corporations. These services include identifying possible merger targets, financing acquisitions of other companies, dealing in security underwriting, providing strategies marketing advice and offering hedging services to protect their customers against risk from fluctuating world currency prices and changing interest rate. In this way, they support the overall economic development of the country by various modes of financing.

### **2.2 Concept of Credit**

Credit is considered as the most income generating assets especially in commercial banks. It is regarded as the main part of the commercial banking business. It occupies large volume of transactions of investment. Most of the investments are based on credit, thus it is main factor for creating profitability. It affects the overall economy of the country. In present context, it affects to the national economy. If the bank provides credit to retailer, it will make the customer status. Similarly, it provides to trade and industry, the government will get tax from them and help to increase national economy. It is the security against depositors. It is proved

from very beginning that credit is the shareholders wealth maximization derivative.

However, other factors can also affect profitability and wealth maximization but the most effective factor is regarded as credit. It is most challenging job because it is backbone of commercial banks. Therefore credit should be seriously considered in the context of effective management system. Credit management refers management of credit exposures arising from loans, corporate bonds and credit derivatives. Credit exposures are the main source of investment in commercial banks and return on such investment is main source of the income. This strongly recommends analyzing and managing the credit risk. It is known as the possibility that the borrowers fail to meet the obligations in accordance with agreed terms and conditions. Credit risk is not restricted to lending activities only but includes off balance sheet and interbank explore. The main purpose of the credit risk management is to maximize a bank's risk adjusted rate of return by maintaining the credit risk exposure within acceptable parameters. For the banking institutions loans are the largest and most obvious sources of credit risk. However other sources of credit risk exist throughout the activities of a bank. This includes banking book, trading book, and both increasingly facing credit risk in various financial instruments other than loan including acceptances, interbank transactions, guarantees, & the settlements of the transactions.

The credit policy of institutions provides the framework to determine whether or not to extend credit and how much credit to extend. This is depends on credit standards & credit analysis of the firm. Credit is the sum amount of money lent by the creditor (Bank) to the borrower (Customers) either based on security or without security. Sum of the money lent by a bank, is known as credit (Oxford Advanced Learners Dictionary, 1992)<sup>3</sup>. Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credits and advances, which is one of the major sources of income for banks. Bank prepares credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely (Varshney and Swaroop, 1994: 42).

Credit is financial assets resulting from the delivery of cash or other assets by a lender to a Borrower in return for an obligation of repay on specified on demand. Banks generally grants

credit on four ways (Chhabra and Taneja, 1991).

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

### **2.2.1 Types of credit**

There are different types of credit that are mentioned below.

#### **Overdrafts:**

**It denotes the excess amount withdrawn over their deposits.**

Overdrafts denote the excess amount withdrawn over their deposits. In other words bank provide some limited amount of money to their valuable customer for their trustworthiness is overdraft. It is an arrangement with a bank allowing one to draw more money than there is in company's accounts.

#### **Cash Credit**

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

#### **Term Credit**

It refers to the condition of the credit sale, especially with regard to the payment arrangements. Firms need to determine when the credit period begins, how long the customer has to pay for the credit purchases before the account is considered. It is principle form of medium term -debt financing, which normally have maturity of 1to 8 years. Barely and Myers urge that bank credits with maturities exceeding 1 years are called term credits. The firm agrees to pay interest based on the bank's prime rate and to repay principle in the regular installments. Special patterns of principle payments over time can be negotiated to meet the firm's special needs (Richard, 1996:89).

### **Working Capital Credit**

Working capital denotes the difference between current assets and current liabilities. Normally, it is granted to the customers to meet their working capital gap for supporting production process. A natural process develops in funds moving through the cycle are generated to repay a working capital credit.

### **Hire Purchase Financing (Installment Credit)**

Hire-Purchase credits are characterized by periodic repayment of principle and interest over the maturity of the credit. Hirer agrees to take the goods on hire at a stated rental including their repayment of principle as well as interest with an option to purchase. A recent survey of commercial banks indicates those banks are planning to offer installment credits on a variable rate basis. It can be secured and unsecured as well as direct and indirect installment credits on a variable rate basis. It can be secured and unsecured as well as direct and indirect installment credit.

### **Housing Credit (Real Estate Credit)**

It is also known as real estate credit. Financial institutions extend credit to their customers in different way such as constructing residential house, commercial complex, construction of warehouse etc. it is given to those who have regular income or can generate from housing project itself.

### **Credit Cards and Revolving Lines of Credit:**

Banks are increasingly utilizing cards and revolving lines of credit to make unsecured consumer credit. Revolving credit line lowers the cost of making credit since operating and processing cost are reduced. Due to standardization, centralized department processes revolving credits resulting reduction on administration cost. Continued borrowing arrangement enhances cost advantages. Once the credit line is established, the customer can borrow and repay according to his needs and the bank can provide the fund to the customer at lower cost.

**Bank Guarantee:**

It used for the sake of the customers in favor of the other party (beneficiary) up to the approved limit. Generally, a certain percent amount is taken as margin from the customer and the customer's margin account is credited.

**Letter of Credit (L/C):**

It is issued on behalf of the customer (buyer/importer) in favor of the exporter (seller) for the import of goods and services stating to pay certain sum of money on the submission of certain documents complying the stipulated terms and conditions as per the agreement of L/C. It is also known as importers letter of credit since the bank of importer do not open separate L/C for the trade of same commodities (Johnson, 1940:85).

**2.2.2 Factors Affecting Credit Policy**

A credit policy is a set of decisions that includes a firm's credit standards. Setting a credit standards implicitly require a measurement of credit quality which is define in terms of the probability that a customer will default, hence not repay the credit. The estimation of probability for a given customer is for the most part of the judgment. Credit evaluation is a well- established practiced, and a good credit manager can make reasonably accurate judgments of probability of default exhibited by different classes of customers. Here are some factors, which affects the credit policy of the commercial banks. Before setting a credit policy, credit managers need to analyze the following factors carefully.

**Industry Environment**

It determines the nature of the industry structure, its attractiveness and the company's position within the industry. It helps to determine the company's overall positions on behalf of environment.

**Financial Condition**

It refers to the borrower's capacity to repay through cash flow as the first way out basis. Collateral liquidation is assessed. Furthermore, the possibility to fall back on income of sub concerns in case of financial crisis of the company condition there after repayment capacity assessed.

### **Management Quality**

It determines the integrity, competence and nature of alliances of borrower's management team, weakness in replacement needs to be evaluated.

### **Technical Strength**

It determines the strength and quality of the technical support required for sustainable operation of the company in terms of availability of work force and technology used. Appropriate technical competencies of the workers, the viability of the technology uses, availability of after sales services, cost of maintenance and replacement need to be evaluated.

### **Security Realization**

It determines the control over various securities obtained bank to the loan provided excitability of the security documents and present value of the properties mortgaged with the bank. Weakness in security threatens the bank is secondly way out.

### **2.2.3 Lending Criteria**

Best credit standard need to be set for lending criteria. Credit standards refer to the strength and credit worthiness a customer exhibit in order to qualify for credit. The firm's credit standards are applied to determine which customers qualify for the regular credit terms and how much credit each customer should receive. The methods used to measure credit quality are concerned with evaluating the five areas. Generally, they are considered important to determine a customer's credit worthiness, whether the customer is business or individual.

### **Character:**

It refers to the likelihood that a credit customer will try to repay the debt. Character of a borrower is the most important issue in credit evaluation performances, both for businesses and for individuals. Credits reports will be discussed in details to determine credit reputation; talking with its bankers, its suppliers, its customers and even its customers. It is extremely important in determining whether the credit will be granted.

**Capacity:**

It is subjective judgment of a customer's ability to pay. Capacity is a measure of the ability of the of the credit customers to generate cash sufficient to service the debt. Evaluation of this factor is based on primarily on the cash income received by the borrower. It is gauged in part by the customers past record can be observations of firm's plants and stores.

**Capital:**

It is measured by the general financial condition of the borrower as indicated by an analysis of financial statements. Special focus is given to the ratios such as current ratio, debt to assets ratio, time interest earned ratios etc.

**Collateral:**

It is the security proposed by the borrower. It is represented by assets offer to obtain credit by borrowers.

**Conditions:**

Condition both refers both general economic trends to special developments in certain geographic regions. It may affect the borrower's ability to meet its obligations.

**2.2.4 Features of Sound lending Policy**

The income and profit of the commercial banks depend upon its lending procedure. The greater the credit created by bank, the higher wills the profitability. A sound lending policy is not only pre-requisite for commercial banks profitability, but also crucially significant for the promotion of commercial saving of backward country like Nepal. Some features of Sound lending policy are considered as under.

**Safety**

Safety is the most important principle of good lending. When a banker lends, he must feel certain that the advance is safe; that is, the money will definitely come back. For example, if borrower invests the money in an unproductive or speculative venture, or if the borrower himself is dishonest, the advance would be in jeopardy. Similarly, if the

borrower suffers losses in his business due to his incompetence, the recovery of the money may become difficult. The banker ensure that the money advanced by him goes to the right type of borrower and is utilized in such a way that it will not only be safe at the time of lending but will remain so throughout, and after serving a useful purpose in the trade or industries where it is employed, is repaid with interest.

### **Liquidity**

It is not enough that the money will come back: it is also necessary that it must come back on demand or in accordance with agreed terms of repayment. The borrower must be in a position to repay within a reasonable time after a demand for repayment is made. This can be possible only if the money is employed by borrower for short-term requirements and not locked up in acquiring fixed assets or in schemes, which take a long time to pay their way. The source of repayment must also be definite. The reason why bankers attach as much importance to “liquidity” as to “safety” of their funds is that a bulk of their deposits is repayable on demand or at short notice.

### **Purpose**

The purpose should be productive so that the money not only remains safe but also provide a definite source of repayment. The banker must closely analyze the purpose for which the money required, and ensure, as far as he can, that the borrower applies the money borrowed for a particular purpose accordingly.

### **Profitability**

Equally important is the principle of profitability in bank advances. Like other commercial institutions, banks must make profit. They have to pay interest on deposits received by them. They have to incur expenses on establishment, rent, stationery, salary and other operating expenses so on. They have to make provision for depreciation of their fixed assets, and also for possible bad or doubtful debts. After meeting all these items of expenditure that enter the running cost of banks, a reasonable profit must be made; otherwise, it will not be possible to carry anything to the reserve of pay dividend to shareholders. It is after considering all factors that a bank decides upon its lending rate.

### **Collateral/Security**

It has been the practice of banks not to lend as far as possible except against security. Security can be considered as insurance. Security may be generally classified as personal and tangible, as well as primary and collateral. The banker carefully scrutinizes all the different aspects of an advance before granting it. At the same time, he provides for an unexpected change in circumstance, which may affect the safety or liquidity of advance.

### **Legality**

Legal securities will bring out many problems for the investor. Commercial banks must follow the rules and regulation as well as different directions issued by Nepal Rastra Bank, Ministry of Finance and other while mobilizing its funds.

### **Spread**

Another important principle of good lending is the diversification of advances. An element of risk is always present in every advance, however secure it might appear to be. In fact, the entire banking business is one of taking calculated risks and successful banker is an expert in assessing such risks. He is keen on spreading the risks involved in lending, over a large number of borrowers, over a large number of industries and areas, and over different type of securities.

### **National Interest**

Even when an advance satisfies all the formerly mentioned principles, it may still not be suitable. The advance may run counter to national interest. It is in the changing concept of banking factors such as purpose of the advance, viability of the proposal and national interest are assuming greater importance than security, small borrowers and export-oriented industries

### **2.2.5 Lending / credit process**

Commercial bank follows several steps to disburse loan to the borrowers. The lending policies might be different from one bank to another. In general, steps are as follows. Application: the needy are required to submit an application to the bank along with required documents. The documents required for credit proposal appraisal and processing by

banks are as follows:

Loan application, Citizenship certificate of applicant, Firm/ company registration certificate (if self-employed) ,Income tax registration certificate (if self-employed) Authenticated partnership deed in case of partnership firm, and memorandum and article of association in case of company Attested copy of board resolution in case of company resolved to avail loan and banking facilities from bank against the pledge, hypothecation, and mortgage of fixed property owned by company or property of third party named. Letter of authority authorizing to sign loan deed and other relevant document paper, which are deemed necessary while dealing with bank on behalf of firm/company. Feasibility report/scheme (for new project)

## **2.2.6 Lending appraisal and possessing**

### **Project Appraisal**

Before providing credit to the customer, bank makes analysis of project from various aspects and angles. It will help the bank to see whether project is really suitable to invest. The purpose of project appraisal is to achieve the guarantee of reasonable return from the project.

Project appraisal answer

Test the following questions:

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

Generally, the project appraisal involves the investigation from the following aspects (Gautama,

2004: 258):

- a. Financial aspect
- b. Economic aspect
- c. Management/Organizational aspect
- d. Legal aspect

Directives Issued by NRB for the Commercial Bank: (related to credit aspect only):

### **2.3 Review of NRB Directives regarding Credit Management of Commercial Banks**

Rules, regulations, act & directives are reviewed carefully while preparing the concept of this study. Different types of directives issued for commercial banks to manage the credit are taken as reference of study. These directives and actions towards the commercial banks by NRB are playing the great role for the comparative analysis of credit of the commercial banks.

#### **2.3.1 NRB Rules Regarding Fund Mobilization of Commercial Banks**

To mobilize bank's deposit in different sectors of the different parts of the nation to prevent them from the financial problems, central bank (NRB) may establish a legal framework by formulating various rules and regulations (prudential norms). These directives must have direct or indirect impact while making decisions. Rules and regulations formulated by NRB in terms of investment and credit to priority sector, deprived sector, other institution, single borrower limit, CRR, loan loss provision, capital adequacy ratio, interest spread, productive sector investment etc. of commercial bank is directly related to the fact that how much fund must be collected as paid up capital while being established at a certain place of the nation, how much fund is needed to expand the branch and the counters, how much flexible and helpful the NRB rules are important. Here we discuss only those, which are related to investment function of commercial banks. The main provisions established by NRB in the form of prudential norms in above relevant area are briefly discussed here:

#### **2.3.2 Directives Relating to Single Borrower Credit Limit**

With the objective of lowering the risk of over concentration of bank loans to a few big borrowers and to increase, the access of small and middle size borrowers to the bank loans. NRB has directed commercial banks to set an upper limit for single borrower limit. According to the directive, commercial banks may extend credit to single borrower or group of related borrowers in such a way that the amount of Fund Based Loans and advances up to 25% of the core capital and Non Fund off the balance sheet facilities like letters of credit, guarantees, acceptances, commitments, is up to 50% of its Core Capital Fund.

In case of hydropower, electricity transmission line and cable car the limit is up to 50% of the core capital but there should be power purchase agreement with the related organization. This rule is not applicable in the loan against fixed deposit, government bonds and guarantee of World Bank, Asian development bank, international monetary fund, and internationally rated banks.

In the case of advances and facilities to be used for the purpose of importing specified merchandise by the following public corporations, the exemption in the limit of credits and facilities is not applicable:

<b>Name of corporation</b>	<b>Merchandise</b>
Nepal Oil Corporation	Petrol, Diesel, Kerosene, and LPG gas
Agriculture Input Corporation	Fertilizer, Seeds
Nepal Food Corporation	Cereals

### **2.3.3 Directives Relating to Loan Classification and Loan Loss Provisioning**

Banks should classify outstanding loans and advances based on aging of principal amount. Loans and advances should be classified into the following four categories:

- a) **Pass:** Loans and Advances whose principle amount are not past due and the past due for a period up to three months shall be included in this category. These are classifies and defines as Performing Loans.
- b) **Substandard:** All loan and advances that are past due for a period of 3 months to 6 months shall be included in this category.
- c) **Doubtful:** All loans and advances, which are past due for a period of 6 months to 1 year, should be included in this category.
- d) **Loss:** All loans and advances which are past due for a period of more than 1 year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.

Loans and advances falling in the category of sub-standard, doubtful and loss are defined as non-performing loan.

Here, if it is appropriate in the views of the bank management, there is not restriction in classifying the loan and advance from new risk category to high-risk category. For instance, loans falling under sub- standard category may be classified in to doubtful or loss and loans falling under Doubtful may be classified into loss category. In addition, the term Loans and Advance also include Bills Purchased and Discounted.

### **Loan Loss Provisioning**

The Loan Loss Provisioning, based on the outstanding loans and advances and bills purchased as above should be provided as follows:

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

Loan loss provision set aside for performing loans is defined as General Loan Loss Provision and loan loss provision set aside for non-performing loan is defined as Specific Loan Loss Provision.

Before this arrangement was in force i.e. up to 2057.3.31, the classification and provisioning of loans and advances as per circular dated 2047.12.8 was as follows:

<b>Classification of loans</b>	<b>Time</b>	<b>Provision Required</b>
Good	Not overdue	1%
Acceptance	Overdue up to 1 month	1%
Evidence of Sub-Standard	Overdue 1-6 months	5%
Sub Standard	Overdue 6 month-1 year	25%
Doubtful	Overdue 1 to 5 years	50%
Bad	Overdue more than 5 years	100%

#### **2.3.4 Requirement to Extend Loans and Advances to Deprived Sector**

Commercial banks are required to extend minimum 3% of their total loans and advances in deprived sector. It includes low income and particularly socially backward women, tribes, lower caste, blind, hearing impaired and physically handicapped persons and squatter family. All credit extended for the enlistment of the economic and social status of deprived sector upto the limit specified by NRB is termed as "Deprived Sector Credit". Low-income person means:

- None of the member of the family has received permanent employment and has not received credit facility from the Banks/Financial Institutions.
- Members of the undivided family holding 6 Anna or 10 Dour of land within the area of Metropolitan Corporation or sub- Metropolitan Corporation and 20 Ropani or 1.5 Bight of land in other areas and/or members of undivided family who has been using the land belonging to Gothic as tenant and
- Annual per person income of up to Rs 5,500.00.

It is considered as integral part of priority sector credit comprises micro credit program and project also. It includes the advances up to 60,000 as per borrower family.

Following activities of commercial banks in income generating employment oriented

Program:

- Direct investment by commercial banks in income generating employment oriented program.
- Investments made by the commercial banks in share capital of rural development banks
- Advances to rural development banks and other development banks engaged in the same poverty alleviation programs.
- Advances to co-operatives, non-governmental organizations and small farmer co-operatives approved by NRB for carrying out banking transactions.

- Advances to the Micro Finance institutions, rural development banks and other financial institutions, cooperatives and non-governmental organizations approved by NRB for financial intermediation
- Providing loan up to Rs 150,000 to persons going for foreign employment without collateral has been arranged. Such loan provided by commercial banks will be eligible for inclusion under deprived sector credit
- Examination of the fulfillment of deprived sector lending shall be made at the end of each quarter (i.e. mid-Oct, mid-Jan, mid- Apr and mid-July) based on total outstanding loan and advances (except investment) as of immediately preceding six months. On the failure of fulfilling such lending, penalty in shortfall amount at the maximum prevailing lending rate of the bank during the examination period shall be imposed under sub section 2 of section 32 of NRB act, 2012. If the Priority sector lending is fulfilled, but the deprived sector is not, the penalty is imposed on shortfall amount and if both sector lending is not fulfilled, then the penalty is imposed on greater shortfall amount for one sector only.

### **2.3.5 Directives Relating to Capital Adequacy Norms for Commercial Banks**

**Maintenance of the minimum capital fund:** The total capital fund is the sum of core capital and supplementary capital.

Based on the risk-weighted assets, the banks should maintain the prescribed proportion of minimum capital funds as per the following timetable:

<b>Year</b>	<b>Core capital</b>	<b>Capital fund</b>
For FY 2064/65	5.5%	11%
For FY 2065/66	6.0%	10.0%
For FY 2066/67	6.0%	10.0%

### **2.3.6 Directives Relating to Interest Rates**

Commercial banks itself can determine interest rate of deposits and the loan and advances. They have to submit the interest rate details to NRB within seven days of every quarter end.

Commercial banks have to publish their interest rate of deposits and loan and advances once in every six months in national level daily newspaper.

### **2.3.7 Directives Relating to Cash Reserve Ratio Requirements (CRR)**

Commercial banks in Nepal are required to hold a certain proportion of their deposit in the form of cash. However banks don't hold these as cash with themselves, but deposit such case with NRB. The NRB uses CRR either to drain excess liquidity or to release funds needed for growth of the economy from time to time. Increase in CRR means that banks have less funds available & money is sucked out of circulation. Higher the CRR, the lower the amount that banks will be able to use for lending investment. This power of NRB to reduce the lendable amount by increasing the CRR, it is an instrument in the hands of a central bank through which it can control the amount that the commercial banks lend. It is an important tool used by NRB to control liquidity in banking system. In this regard, NRB has directed commercial banks to deposit minimum 5% of current & banks.

### **2.3.8 Directives to Raise Minimum Capital Fund**

Nepal Rastra Bank has directed all the commercial banks under operation and established to operate in national level and having low capital base have been directed to raise their capital fund at a minimum level of Rs Two billion by the end of the fiscal year 2070. The amount under the headings of the paid-up capital, general reserve, share premium, non-redeemable preference share and retained earnings included in the core capital fund to the extent of the minimum capital funds of Two billion.

### **2.3.9 Directives Regarding Investments in Shares and Securities by Commercial Banks**

Banks should prepare written policy relating to investments in the shares and securities of other organized institutions. Such policies should be implemented only under the approval of the Board of Directors. There should be no restrictions as to investment by the banks in the securities of organized HMG and securities issued by Nepal Rastra Bank.

Banks may invest in shares and securities of any one organized institutions not exceeding 10% of the paid up capital of such organized institution.

## **2.4 Important Terminologies**

In this section of the study efforts have been made to clarify the meaning of some important terms frequently used in this study, they are given as

### **a. Deposits**

Deposits mean the amount in a current, saving or fixed account of a bank or financial institution. For a commercial bank, deposit is the most important source of liquidity for bank's financial strength; it is treated as a barometer. In the word of Eugene, "A bank deposits are the amounts that it owes to its customers" deposits are the lifeblood of the commercial banks. Through they constitute the great bulk liabilities; the success of a bank greatly depends upon the extent to which it may attract more and more deposits. The deposit of a bank is affected by various factors like:

- Types of customers
- Physical facilities of bank
- Management and accessibility of customers
- Types and range of the services offered by the bank

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

### **b. Loan and Advances**

Loan advances and overdraft are the main source of income for a bank. Bank deposits can be crossed beyond a desired level but the level of loans, advances, overdrafts will never cross it, the facilities of granting loan, advances, and overdrafts are the main services in which customers of the bank can enjoy. Funds borrowed from banks are much cheaper than those borrowers from unorganized moneylenders are. The demand for loan has excessively increased due to cheaper interest rates; further an increase in economic and business activities always increase the demand for funds. Due to limited resources and increasing demand for loans, there is some fear those commercial banks and other financial institutions too. It may take more preferential collateral while granting loans causing unnecessary botheration to the general customers. Such loans from these institutions would be available on special request

only and there is a chance of utilization of resources in economically less productive fields. These are the undesirable effects of too low interest rate.

### **c. Investment on Government Securities, Shares and Debentures**

Commercial banks invest on government securities, shares and debentures to earn some interest and dividend. This is the secondary sources of income to the bank. A commercial bank may extend credit by purchasing government securities, bond and shares for several reasons, some of them are:

- It may want to space its maturities so that the inflow of cash coincide with expected withdrawals by depositors of large loan demands of its customers
- It may wish to have high grade marketable securities to liquidate, if its primary source of reserves becomes inadequate
- It may also be forced to invest because the demand for loans have decreased or is not sufficient to absorb its excess reserves.

However, investment portfolio of commercial bank is established and maintained with a view to the mature of bank's liabilities. That is because depositors may demand funds in great volume without previous notice to banks; the investment must be of a type that can be marketed quickly with little or no shrinkage in value.

### **d. Investment on Other Companies Shares and Debentures**

Due to excess funds but least opportunity to invest those funds in much more profitable sector and to meet the requirement of Nepal Rastra bank directives many commercial banks have to utilize their funds to purchase shares and debentures of many other financial and non-financial companies. Nowadays, most of the commercial banks have purchased the shares of regional development bank, NIDC and other development banks,

### **e. Other Use of Funds**

Commercial banks must maintain the minimum bank balance with Nepal Rastra Bank as prescribed by the bank. Similarly, they have to maintain the cash balance in local currency in

the value of the bank. Again, a part of the funds should be used for bank balance in foreign bank. And to purchase fixed assets like land, building, furniture, computers stationery, etc.

#### **f. Off-balance Sheet activities**

Off- balance sheet activities cover the contingent liabilities etc. Off- balance sheet activities involve contracts for future purchase or sale of assets and all these activities are contingent obligations. These are not recognized as assets of liabilities in balance sheet. Some good examples of these items are letter of credit (L C), letter of guarantee, commission, bills for collections etc. nowadays, such activities are stressfully highlighted by some economists and finance specialists to expand the modern transactions of a bank. These activities are very important, as they are the good source of profit to the bank, though they have risk.

#### **g. Lending and Investment Procedures**

The income and profit of the bank depends upon its lending procedures, lending policy and investment of its fund in different securities. The greater the credit created by the bank, the higher will be the prodigality. A sound lending and investment policy is not only perquisite for banks profitability, but also crucially significant for the promotion of commercial saving of a backward countries like Nepal.

Some necessities or some of the main characteristics for sound lending and many authors as have given the investment policies, which must be considered by the commercial banks:

- Safety and security
- Profitability
- Liquidity
- Purpose of loan diversification
- Diversification
- Tangibility
- Legality

## 2.5 Review of Relevant Articles and Journals

This dissertation has been done after studying various books, journals, periodicals, articles & previous studies. These are mainly concerned with credit management of the commercial banks and financial institutions, which seek profit from lending the money that, are collected in the form of deposits from public / customers. Though, the risk associated in lending policy of the banks is always critical. Commercial banks can lose the confidence of the customers and can lead towards bankruptcy, if they do not have sound credit policy.

*Khan and Jain view in the book 'Financial Management', "The type of relationship to be investigated depends upon the objective and purpose of evaluation. The purpose of evaluation of financial statements diggers among various groups (creditors, shareholders, potential investors, management, government, labor leaders and so on) interested in the results and relationships reported in the financial statements. For example, short-term creditors are primarily interested in judging the firm's ability to pay its currently- maturing obligation."(Khan1988:116). Again, the same author opine that " While it is true that general economic conditions and industry practices have a strong impact on the level of receivables, a firm's investments in these type of current assets is also greatly affected by its internal policy."(Khan, 1988:669)*

*Dr. Joshi S. and Dr. Sheathe H. P. in the book "Principle of Bank and Insurance", mentions the principle of sound investment policy of commercial bank. In this topic the authors identify the investment policy as profitability, liquidity, shift ability, safety, diversification of risks, capital adequacy, solvency, social welfare etc (Joshi &Shrestha, 2058:152).*

In the book, *Accounting for Financial Analysis and planning the writers Rant Man Dingo and Kasha Prasad Parapet* mention the use of Ratio Analysis as follows

- For expressing trend
- For showing changes in financial statement
- For explaining plan for future
- For setting standard
- For effective control

- For comparing efficiency
- For maintain uniformity

Likewise, *Peter S. Rose* has emphasized on the factors affecting default risk and interest rates. He opines, "Another important factor causing one interest rate to differ from another in the global marketplace is the degree of default risk carried by individual assets. Investors in financial asset face many different kinds of risk, but one of the most important is default risk the risk that a borrower will not make all promised payments at the agreed upon times. All debt except some government securities is subject to varying degrees of default risk. (Rose, 2003:206).

In an article, *Mahesh Bhatia*, is trying to indicate the problem of banks' bad debt and non-performing asset. According to him, "if a bank cannot recover its loan lending, bank's cash flow will be badly affected." Similarly, it can affect the close relationship between depositors (Bhatia;2059:62).

In an article, " *Challenges of non-performing loan management in Nepal*", *Umea Karki* has mentions the causes of increasing trend of non- performing loan. She identifies the major causes such as "poor loan analysis, guarantee oriented loan system, and depreciation on valued assets, misuse of loan, lack of regular supervision of loan (Karki, 2059:87).

In an article, "*Importance of Credit Information Burro and its Activities*" *Madhav Lal Pradhan* is trying to identify the need of credit information burro. In this article he is trying to dig out about the establishment of credit information burro and major activities, which are assured by the Nepal Rastra Bank Act 2058 section 58 (Pradhan, 2061:190).

In an article "Nepal's Financial Reform: A Tardy Pace of Deliberate Race" *Bill Pendleton* is trying to explore the need and relevancy of financial reform program in Nepal. In this article he suggest that "HMGN has way to go for complete financial reform, restore financial soundness to deserving public,, much work is left to do; however, the Government had set to "Road Map" to complete this phase and continues to improve the reform process, a process

vision to sustain the economy for generations to come. The upcoming World Bank sponsored Phase II of the Financial Sector Reform Program will support this vision. It is important that the citizens of Nepal, particularly the media services, support this effort as well (Pendleton, 2061:1).

Every investment is made in the expectation to generate additional return. However each investment involves some degree of risk; it requires burdening certain sacrifice for a future uncertain benefit. This study describes various ways to select the investments that will generate the high future return at the acceptable level of risk. It examines such marketable financial instruments as common stocks, bonds, preferred stock, option regarding sale process, & future contracts on the traditional commodities, financial future & other investments, as well as the risk associated rate of return with each. It analyses these assets, the markets in which they are traded, the laws governing the trading, the valuation of the assets, the construction if a diversified portfolio and other important investment management techniques.

In an article, "*WTO and Challenges of Financial Services Liberalization in Nepal*" Gautam Biji, has put his opinion in the context of financial service liberalization and financial reform in Nepal. According to him, "the process of financial services liberalization in Nepal is very recent phenomenon. It has been gathering pace gradually, the process of liberalization was started with the financial sector reform in mid-eighties. It was surged up after the initiation of structural Adjustment Program and Enhanced Structural Adjustment Program with respective loan and assistance of the World Bank and International Monetary Fund. Financial sector reform was implemented on a phase wise basis. It was designed to address the institutional deficiencies and closed and controlled financial system. Various macroeconomic policies were modified and adjusted during the period to facilitate the liberalization process. The procedural relaxation on the entry of joint venture banks (with collaboration), determination of interest rate (first, in 1986 with certain limit and then in 1989 without any limit) and operation of various financial transactions are mainly attributable for the reform. (Gautam, 2061:73)

**Bhattarai (2002)** in his article "*Something is Rotten with the State of Commercial Banking in*

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

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

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

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

**Joshi** (CEO- NIC Bank), in an interview published on Himalayan Times dated 22 Dec. 2006,

comments that the strong and healthy banking sector will definitely help boost national economy. He adds that if commercial banks ever face survival threats or management inefficiency, it will primarily due to poor corporate governance. As number of banks and financial institutions is increasing, the market, on the contrary, is facing more difficulties. The bankers, in such a bottleneck competition, urge the state to create more investment opportunities in the areas where financial institutions can prosper.

Joshi comments that the business sector is currently on a wait and watch mood as there is no clear indication from the government on various issues like investors' security and property rights. However, he seems optimistic in a changed environment. According to him, "government has to clarify its vision on economic policy so that business could survive and expand." "The time is running out to identify new areas for investment and encourage the market forces to function," he opines adding that the government should remain only as a regulator and let the private sector do their job properly and honestly. To increase the market pie for banking sector, colossal investment in infrastructure, tourism and hydropower are urgently required, which ultimately could bring a turn-around in the economic growth within a few years' time," he says.

"Sound and safe environment has to be created to motivate the foreign investors to invest on infrastructure as the government alone cannot invest the huge amount needed for infrastructure," says Joshi adding that without enough foreign direct investment, the economy will face troubles to take off smoothly. "Even in hydropower, capital subsidy is required to boost investment. Talking about non-performing assets, Joshi adds, "Due to poor corporate governance, conflict of interest and poor management skills ratio of non-performing assets has increased." (The Himalayan Times, 22 Dec 2006)

**Shrestha (2007)** in her article has presented the objectives to make an analysis of contribution of commercial banks' lending to the Gross Domestic Product (GDP) of Nepal. She has set a hypothesis that there has been a positive impact of lending of commercial banks to the GDP. In research methodology, she has considered GDP as the dependent variable and various sectors of lending viz. Agriculture, industrial, commercial, service, general and social sectors

as independent variables. A multiple regression technique has been applied to analyze the contribution.

Her analysis has shown that all the variables except service sector lending have positive impact on GDP. Thus in conclusion, she has accepted the hypothesis, i.e. there has been positive impact on GDP by the lending of commercial banks in various sectors of economy, except service sector investment." (The Business Voice of Nepal, 2007)

## **2.6 Review of Related Research Studies and Thesis**

In this part, effort has made to examine and review of some related research papers. World Bank discussion papers, magazines, newspapers and other related publications.

**Chand (2004)** "*Credit Disbursement and Repayment of Agriculture Development Bank Nepal*" has following objectives, major findings & recommendations:

### **Objectives:**

- To see the repayment situation.
- To find out the rate of growth of investment.
- To explain possible causes of non-and delayed repayment.

### **Major findings:**

- There is systematic relationship between credit disbursement and repayment. \
- Correlation value as calculated is 0.94, which shows significance Coefficient relationship.
- Repayment situation is satisfactory on production inputs and agro-based industry, warehouses and marketing percentage of repayment to due to the farm mechanization and Irrigation and tea horticulture and livestock, poultry and fisheries in much less satisfactory.

### **Recommendation**

For effective credit recovery from the borrowers or clients, Credit should be channeled

through  
The borrower's group.

**Shrestha (2005)** "*Effective Implementation of Credit Policy in Nepalese Commercial Banks*" has following objectives, major findings & recommendations:

**Objectives:**

- To study the relationship between deposits & lending.
- To study the classification, provision for loan/advances & its effect in profitability.
- To examine the sector wise and security wise lending
- To identify and analyze the problems and prospects of lending practice of Nepalese Commercial Banks

**Major findings:**

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

**Recommendation**

- Lending procedure should be short
- Need to invest in small entrepreneur's Development program
- Need to invest in productive areas that utilize natural resources
- Need to diversify lending in various sectors and explore un-banked sectors
- Target agriculture based sector for long term sustainability

**Shrestha (2006)** "A Study on lending performance with reference to Nabil Bank, SCBL and NIBL." has following objectives, major findings & recommendations:

**Major Objectives:**

- To measure the bank's lending strength and efficiency.
- To analyze the lending contribution in total profitability
- To study the loans and advances, profitability, deposits position of the commercial banks under study.

**Major Findings:**

- NIBL is best in utilizing its fund in relative term. SCBL is most successful in collecting high non-interest bearing deposits.
- SCBL has low loan loss provision than other two banks.
- Banks are able to decrease the on performing loans.
- The lending ratio is in increasing trends with increasing deposits they are able to capture the market shares.
- All the banks have good lending procedure preliminary screening is done in loan application, credit appraisal & financial position of the business & cash flows.

**Dhakal (2007)** entitled with "*Soundness of Credit Policies in Nepalese Commercial Banks*" has following objectives, major findings & recommendations:

**Objectives:**

- To study the relationship between deposits & lending.
- To study the classification, provision for loan/advances & its effect in profitability.
- To examine the sector wise and lending
- To identify and analyze the problems and prospects of lending practice of Nepalese Commercial Banks

**Major findings:**

- Flow of lending depends upon the availability of low cost deposit in the market
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- First preference of the Banks for security to loan is fixed assets collateral followed by Government Bonds
- Lengthy procedure in loan processing and tedious legal procedures is the key factor affecting growth of lending.
- Lack in follow-ups and irregular site visits lead to generation of NPA.

### **Recommendation**

- Lending procedure should be short
- Need to invest in small entrepreneur's Development program and deprived sector
- Need to invest in productive areas that utilize natural resources
- Need to diversify lending in various sectors and explore un-banked sectors
- Target agriculture based sector for long term sustainability

**Joshi (2009)** "*Credit Management of Commercial Banks in Nepal*" has following objectives, major findings & recommendations:

### **Objectives:**

- To assess the lending patterns of selected Nepalese commercial banks.
- To explore the credit efficiency, analyze the industry environment and management quality in terms of credit practices
- To explore the relationship between loan & advances, NPA and Net profit

### **Major findings:**

- Repayment is satisfactory in manufacturing sector compared to other sectors.
- Management quality and credit efficiency of selected banks was found satisfactory as they have standard credit practices
- Credit disbursement and repayment has significant relationship. Flow of new credit depends upon the recovery status

### **Recommendation**

- Low cost deposits shall be increased and NPA shall be decreased to increase the

Profitability.

- Credit policies and procedures shall be tightened to ensure no further losses due to flow of new loans.

**Shrestha (2010)** “*Credit Risk Management of Joint Venture Banks*” has following objectives, major findings & recommendations:

**Objectives:**

- To determine and analyze credit risk of joint venture banks in Nepal.
- To evaluate strength, weakness, opportunity and threats in credit management in commercial banks
- To provide suggestions & recommendations about credit risk management

**Major findings:**

- Lending in one lucrative sector and concentration in urban areas only is increasing the risk of loss for the Bank Credit policies and practices were found satisfactory. Bank has opportunity to explore the virgin village market and SMEs.
- Most of the customers are satisfied with the Joint Venture Banks in terms of service and counseling regarding credit facilities.

**Recommendation**

- Banks should depend on written information for credit analysis.
- Name lending shall be stopped
- Credit officers must be competent enough to find out the all possible credit risks to minimize the possible loss.
- Banking services and lending shall be extended to rural areas and new untouched sectors as well.

**Nepal (2011)** “*Credit Management of Commercial Banks in Nepal*” has following objectives, major findings & recommendations:

**Objectives:**

- To assess the credit practices of selected Nepalese commercial banks.
- To explore the credit efficiency, analyze the industry environment and management quality in terms of credit practices
- To explore the relationship with loan & advances, NPA and Net profit

### **Major findings:**

- Repayment is satisfactory in agro based industry and production sector compared to other sectors.
- Management quality and credit efficiency of selected banks found satisfactory as they have standard credit practices
- Credit disbursement and repayment has significant relationship. Flow of new credit depends upon the recovery status

### **Recommendation**

- Low cost deposits shall be increased and NPA shall be decreased to increase the Profitability.
- Credit policies and procedures shall be tightened to ensure no further losses due to flow of new loans.

### **2.7 Research Gap**

Research gap is difference between previous works done & present studies. In earlier phase, previous studies done by previous researchers are very useful in every new study. Here in the case of new study, past study remains backbone. The findings & recommendation made by the past researchers help to improve & strengthen the core area of study on related topic. However there is a huge gap between past and present study. Research is an ongoing process. There is not end in any topic. New things are identified, studied and analyzed through the help of previous research. Similarly, this research had focused to find something new to the topic. Banks survive through collection of deposits and make lending to borrowers. Today non-performing loan is becoming a great problem to all the commercial banks. All the commercial banks lend their deposits on different sectors of the economy. But all the sectors are not

worsening in today's scenario. Even some sectors are flourishing today. Market is never the same. The demand keeps on changing with the modernization and globalization. Even when some sectors are going bad some have high demand and the market. Bank can still lend without increasing their non-performing asset if they focus on identifying the new market for lending and if they properly analyze the proper sector for lending. The study on the sector wise lending of commercial banks is limited. This thesis mostly focuses on identifying the proper sector to lend for the commercial banks. The loan performance of different sectors will be analyzed and studied in this thesis which has not done in past studies.

## **CHAPTER – III**

### **RESEARCH METHODOLOGY**

The topic of the study has been selected as “Credit **Position study** of the Commercial Banks of Nepal”. The main purpose of this study is to make the comparative analysis of credit in different sectors and to determine the conclusion based on this. To accomplish the objective of the study, different activities are carried out and different test has conducted during the study period. For the purpose, this chapter aims to present and reflect the methods and techniques those are applies and followed during the study period. The research methodology is designed for the presentation of the mentioned study. This chapter deals with research design, population & sample source of data, procedure apply for collection of data, processing of data, tabulation, presentation procedure and methodology.

Commercial banks are prime agents of the money market. Credit is the major instrument of the financial system. Therefore, commercial banks & their lending activities obviously affect the national economy of the country. Moreover, the lending & borrowing transaction that takes place through the commercial banks influence the daily livings of each national. In addition, at the same time from the Government side should also play great role as the misleading by the commercial banks can violate the total economic system. Commercial bank’s financial management system can contribute the economic growth of the nation. These are major contributor of financial market. In this way, the credit position of commercial banks in different sectors and their outcome might be considered as important subject to study.

#### **3.1 The Research Design**

The research study is done by gathering information regarding the borrowers, and lending policies of banks through personal interactions and written source as well. Moreover, the study is conducted in the highlight of central bank’s rules and regulations that stand for commercial banks. This research study has adopted both descriptive & analytical research design.

### **3.2 The Population**

Throughout the past decade, central bank has licensed 32 commercial banks to be established.

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

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

29. Mega Bank Ltd.
30. Civil Bank Ltd.
31. Century Bank Ltd.
32. Sanima Bank Ltd.

### **3.3 The sample**

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

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

### **3.4 Nature and Sources of Data**

Specially, the nature of the data is to be secondary, as the basic purpose of the study is to fulfill the requirement for the degree of M.B.S., T.U. However, primary data has also been aimed to achieve to some extent through personal interviews with bank's personnel. The secondary sources of data are bank publications (Annual reports), central banks rules, regulations and publications.

### **3.5 Data Gathering Procedure**

All the data collected here are considered significant for this research. It is aimed to gather data through a couple of strategies. These strategies are receiving bank publications, informal interviews & interactions with bank personnel, and different reports published from Nepal Rastra Bank.

### **3.6 Reliability of Data**

There exists a kind of uncertainty related the bank personnel's interviews as the study do not make them obliged to provide any sort of authentic data. However, those data received through central bank's statistics and research departments, bank publications were considered valid, as they have already been audited. Similarly data & text from the freelance sector can

also be considered as valid and reliable because their analysis is independent and not from the business purpose.

### **3.7 Data Analysis Procedure**

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

#### **3.7.1 Financial Tools**

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

#### **3.7.2 Liquidity Ratios**

Liquidity ratio measures the liquidity position of a firm. It measures the firm's ability to meet its short-term obligations or its current liabilities. It measures the speed with which a bank's assets can be converted into cash to met deposit withdrawal and other current obligations. As a financial analytical tool, following four liquidity ratios has been used to come into the acts and findings of the study.

- Cash and bank balance to total deposit ratio(CRR Ratio)
- Investment on government securities to Total Deposits

### **3.7.3 Asset Management Ratios**

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

- Loan and advances to total deposit ratio
- Non-Performing Assets to Performing assets ratio
- Non-performing assets to total assets ratio

### **3.7.4 Activity Ratio**

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

- Non-performing assets to total loans and advances ratio
- Loan loss provision to total loans and advances ratio
- Provision for Pass loan to total pass loan ratio
- Provision for substandard loan to total substandard loan ratio
- Provision for doubtful loan to total doubtful loan ratio
- Provision for bad loan to total bad loan ratio

### **3.7.5 Loans and Advances Portfolio**

To analyze the portfolio behavior of loans and advances of the bank for the study period, trends of loans and advances granted to various sectors of the economy for various purposes have been measured. Under this topic, the following ratios have studied.

- Sector Wise Lending
- Non sector Wise Lending

### 3.7.6 Profitability Ratio

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

- Interest expenses to total expenses ratio
- Interest income to credit and investment ratio
- Net profit to Total loan and advances ratio

### 3.7.7 Statistical tools

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

### 3.7.8 Arithmetic Mean

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

$$\frac{\Sigma X = X_1 + X_2 + X_3 + \dots + X_n}{N}$$

Where,

$X$  = variables

$\Sigma X$  = Arithmetic mean

$N$  = number of observation

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

### 3.7.9 Karl Pearson's Coefficient Correlation

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

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

r = coefficient of correlation

$\Sigma XY$  = Sum of product of deviation in two series.

$\Sigma X^2$  = Sum of squared deviation in X series

$\Sigma Y^2$  = Sum of squared deviation in Y series

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

### 3.7.10 Standard deviation

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

### 3.7.11 Trend Analysis

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

### 3.7.12 Coefficient of Correlation Probable Error (P E)

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

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

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

## **CHAPTER – IV**

### **DATA PRESENTATION AND ANALYSIS**

This chapter refers to the detail analysis and interpretation of data from which actual result can be obtained. This consist of various calculation made for the analysis of credits position of the sample commercial banks. To make the study effective, accurate and easily explicable, this chapter is categorizes in three parts: Presentation, Analysis and Interpretation. These analysis is fully based in secondary data. In presentation section, data are presented in terms of table and charts. The presented data are then analyzed using different statistical tools mentioned in chapter three. Finally, the results of the analysis are interpreted. Though there are no distinct lines of demarcation for each section.

#### **4.1 Liquidity Position**

Liquidity refers to how quickly and cheaply an asset can be converted in to cash. Money is the most liquid asset. Assets that generally can only be sold after a long exhaustive search for a buyer are known as liquid. Bank is considered to be liquid if it has access to immediate spendable fund at reasonable cost at precisely the time those funds are needed. This means the bank either has the right amount of immediate spendable funds on hand or can raise the necessary funds by borrowing or by selling its own assets. A large position in cash or in assets those are easily convertible to cash. High liquidity produces flexibility for a firm or an investor in a low-risk position, but it is also tends to decrease profitability.

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

#### 4.1.1 Cash Reserve Ratio (CRR)

Nepal Rastra Bank has set a fixed CRR for all the commercial banks to fulfill with, according to the directive of NRB all commercial banks have to have a CRR of 5%. Cash Reserve Ratio (CRR) measures the liquidity position of the commercial bank:

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

##### 4.1.1.1 Cash Reserve ratio of Nabil Bank.

**Table 4.1**

(In Millions)

<b>Years</b>	<b>Cash &amp; Bank Balance</b>	<b>Deposits</b>	<b>CRR%</b>
2006/07	1399.83	23342.29	5.9
2007/08	2671.14	31915.05	8.3
2008/09	3372.51	37348.26	9.0
2009/10	1400.09	46340.70	3.0
2010/11	2458.55	49608.38	4.9
<b>Mean</b>			<b>6.22</b>
<b>Standard Deviation</b>			<b>2.20</b>

**Source:** (Annual Reports, Annex-I)

Table 4.1 exhibits the cash and Bank balance to the Total Deposits of Nabil Bank from fiscal year 2006/07 to 2010/11. In Fiscal year 2006/07 the ratio was 5.9% and then the ratios are increasing trend up to year 2008/09, 8.3%, & 9.0% respectively. In the year 2009/10, the ratio is lower in digit 3.0%, which is lower than the former ratios. This was due to wide spread liquidity crisis in the financial sector since mid of the financial year. In the fiscal year 2010/11 the ratio is slowly increased up to 4.9%. This was due to recouping trend of liquidity in the financial sector.

The table shows that the Deposits are in increasing trend but the cash and bank balance has been decreased in fiscal year 2009/10 which cause the CRR ratio to fall in that year.

#### 4.1.1.2 Cash Reserve ratio of NIBL

**Table 4.2**

(in Millions)

<b>Years</b>	<b>Cash &amp; Bank Balance</b>	<b>Deposits</b>	<b>CRR%</b>
2006/07	2441.51	24488.86	9.9
2007/08	3754.94	34451.73	10.8
2008/09	7918.00	46698.10	16.9
2009/10	6815.89	50,094.00	13.6
2010/11	8140.37	50,138.00	16.2
<b>Mean</b>			<b>13.48</b>
<b>Standard Deviation</b>			<b>2.79</b>

**Source:** (Annual Reports, Annex-I)

Table 4.2 exhibits the cash and bank balance to total Deposits of Nepal Investment bank in fiscal years 2006/07 to 2010/11. The CRR ratio in fiscal year 2006/07 is 9.9% which is in increasing trend up to fiscal year 2008/09, 10.8% & 16.69% respectively. In the year 2009/10 the CRR ratio has decreased to 13.6%. This is also cause of liquidity crisis in financial market. However deposits are in increasing trend. In the fiscal year 2010/11, again CRR in the increasing trend.

#### 4.1.1.3 Cash Reserve ratio of BOK

**Table 4.3**

(in Million)

<b>Years</b>	<b>Cash &amp; Bank Balance</b>	<b>Deposits</b>	<b>CRR%</b>
2006/07	994.159	12389	8.0
2007/08	1198.634	15834	7.5
2008/09	1370.767	18084	7.5
2009/10	1798.36	20316	8.8
2010/11	1678.93	21018	7.9
<b>Mean</b>			<b>7.94</b>
<b>Standard Deviation</b>			<b>0.48</b>

**Source:** (Annual Reports, Annex-I)

Table 4.3 exhibits the cash and Bank balance to the Total Deposits of Bank of Kathmandu from fiscal year 2006/07 to 2010/11. In Fiscal year 2006/07 to 2009/10 the ratio was 8.0%, 7.5%, 7.5%, and 8.8%. In the fiscal year 2010/11 the ratio is 7.9%. The table shows deposits

are in increasing trend & cash & bank balance has been decreased in fiscal year 2010/11 this cause the CRR to fall that year.

#### 4.1.1.4 Comparative analysis of CRR

**Table4.4**

YEARS	NABIL	NIBL	BOK
2006/07	5.9	9.9	8.0
2007/08	8.3	10.8	7.5
2008/09	9.0	16.9	7.5
2009/10	3.0	13.6	8.8
2010/11	4.9	16.2	7.9
MEAN	6.22	13.48	7.94
S.D	2.20	2.79	0.48

**Source:** Annual Reports

**Figure.4.1**

**Comparative analysis Cash Reserve Ratio**

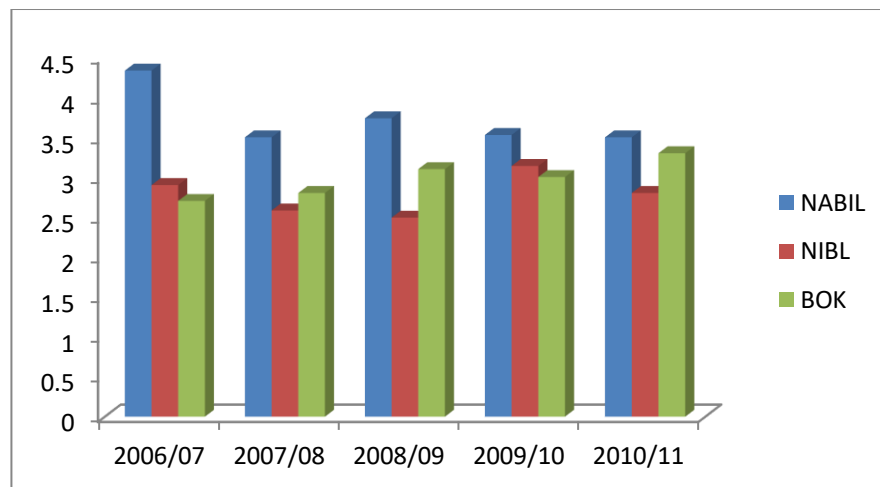


Figure 4.1 exhibits that NIBL has been able to maintain high CRR ratio among three banks that means they have high liquidity then other two banks and they have not facing any problem to meet their short-term obligation. Among three banks, Nabil has low CRR ratio, which states that they are in high liquidity risk and BOK has maintained average CRR ratio. However it has higher than 5% CRR ratio in all the fiscal year.

Since the Nabil Bank has maintained low CRR ratio higher percentage of their fund has been invested or used in loan and advances, which generates higher profits due to adverse relation between profitability and liquidity. In this case, Nepal investment Bank has the opportunity cost due to the high liquidity whereas the fund could have utilized somewhere to generate higher return.

The average CRR of Nabil bank is 4.9%, which is lower, than NIBL and BOK with 16.2% and 7.9% respectively. The standard deviation is lower of Bok with 0.48% to Nabil and NIBL with 2.20% and 2.79% respectively that means the fluctuation in CRR ratio is lower of BOK in relation to NABIL and NIBL.

#### 4.1.2 Investment in Government securities to Total Deposits

Investment in government securities like treasury bills governments bonds by commercial banks are also treated as liquid assets as they can be easily converted into cash as per the requirement of the commercial banks

##### 4.1.2.1 Investment in Government securities to Total Deposits of Nabil Bank

**Table 4.5**

**Investment in Govt. securities to Total Deposits (in millions)**

<b>Years</b>	<b>Inv.govt Securities</b>	<b>Deposits</b>	<b>Ratio %</b>
2006/07	4808.35	23342.29	20.5
2007/08	4646.88	31915.05	14.5
2008/09	3706.10	37348.26	9.9
2009/10	7973.66	46341.07	17.2
2010/11	8745.23	49696.11	17.6
<b>Mean</b>			15.94
<b>Standard Deviation</b>			3.57

**Source:** (Annual Reports, Annex-I)

Table 4.5 exhibits the investment in government securities to total deposits of Nabil bank from 2006/07 to 2010/11. It shows that the Bank has invested average 15.94% of total deposit in government securities. This reaches the maximum in the year 2010/11 to 17.6% and then lowered to 9.9% in the year 2008/09. Even the Total Deposits have been increased year by

year, the investment in government securities has been in a fluctuate trend. The investment is higher in the year 2010/11 with 8745.23 million.

#### 4.1.2.2 Investment in Government securities to Total Deposits of NIBL Bank

**Table 4.6**

(in millions)

<b>Years</b>	<b>Inv.govt Securities</b>	<b>Deposits</b>	<b>Ratio %</b>
2006/07	3256.40	24488.86	13.2
2007/08	3155.00	34451.73	9.1
2008/09	2531.30	46698.10	5.4
2009/10	4201.85	50094.73	8.3
2010/11	4294.60	50138.00	8.4
<b>Mean</b>			<b>8.88</b>
<b>Standard Deviation</b>			<b>2.51</b>

**Source:** (Annual Reports, Annex-I)

Table 4.6 exhibits the Investment in government securities to Total Deposits of Nepal Investment Bank from year 2006/07 to 2010/11. Investment in government securities has been in decreasing trend up to fiscal year 2008/09, due to lower growth rate of investment in government securities. This implies that the fund has been diverted in other sectors as investment. From the fiscal year 2009/10 it is in increasing trend. However deposits of bank are in increasing trend.

#### 4.1.2.3 Investment in Government securities to Total Deposits of BOK

**Table 4.7**

(in Millions)

<b>Years</b>	<b>Inv.govt Securities</b>	<b>Deposits</b>	<b>Ratio %</b>
2006/07	2332.04	12389	18.8
2007/08	2113.22	15834	13.3
2008/09	1744.98	18084	9.6
2009/10	2954.93	20316	14.5
2010/11	4002.14	21018	19.1
<b>Mean</b>			<b>15.06</b>
<b>Standard Deviation</b>			<b>3.56</b>

**Source:** (Annual Reports, Annex-I)

Table 4.7 exhibits the investment in government securities to total deposits of Bank of Kathmandu. Investment in government securities was high in the year 2006/07, later it is in decreasing trend in following years even after the increment in the total deposits. Investment in Government securities to Total Deposits was 18.8% on the year 2006/07, which decreased to 13.3%, & 9.6%, on fiscal year 2007/08, 2008/09. The decline in the investment even after the increasing trend in total deposits implies that the fund has been diverted in other sector. In the year 2009/10, & 2010/11 the ratio has increased to 14.5% & 19.1% respectively.

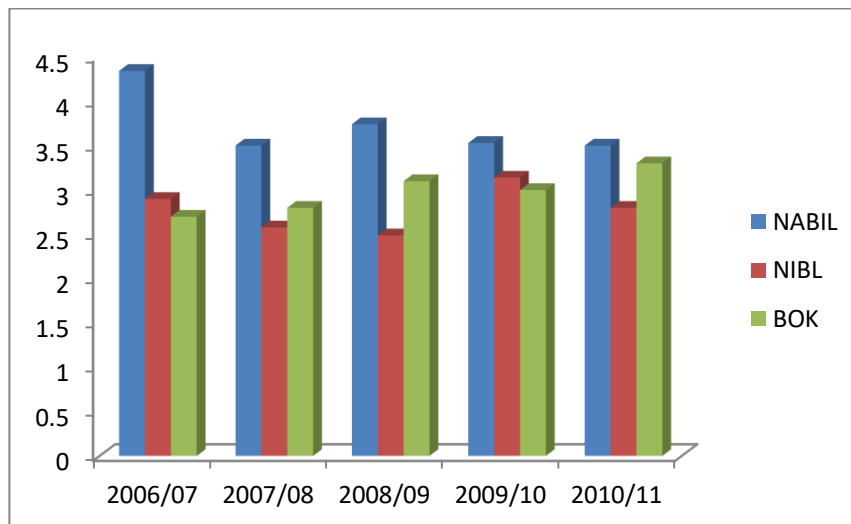
#### 4.1.2.4 Comparative analysis of Investment on Government Securities

**Table 4.8**

YEARS	NABIL	NIBL	BOK
2006/07	20.5	13.2	18.8
2007/08	14.5	9.1	13.3
2008/09	9.9	5.4	9.6
2009/10	17.2	8.3	14.5
2010/11	17.6	8.4	19.1
MEAN	15.94	8.88	<b>15.06</b>
S.D	3.57	2.51	<b>3.56</b>

**Source:** Annual reports

**Figure 4.2**



**Investment in Government Securities to Total Deposits**

Figure 4.2 exhibits the investment in Government Securities to Total Deposits of the three Banks. Among them Nabil & BOK has the higher investment in government securities of with mean 15.94% & 15.06% respectively. NIBL has low investment in government securities of with the mean of 8.88%.

In the year 2006/07 Nabil has maximum of 20.5% investment in government securities. Likewise BOK has 19.1% of investment in government securities in the year 2010/11. This implies the higher liquid asset. Among the three banks, NIBL has maintained minimum ratio in all the years. The trend of decreasing ratio shows later years the banks due to diversification of investment in other sectors.

#### **4.2 Asset Management /Asset Quality**

Asset quality is an evaluation of assets to measure the credit risk associated with a particular asset. These assets usually require interest payments such as loan and investment. This asset refers to the degree of financial strength and risk in a bank's assets. A comprehensive evaluation of asset quality is one of the most important components in assessing the current condition and future possibility of the bank. The way any business firm is able to make profit or earnings is by utilizing its assets gain some form of earning. In other words this means asset's ability to generate cash flows over time. High quality assets generally have stable cash flow patterns with steady positive growth. It also has low risk of losing its value or future cash flows. Low risk usually translates to high credit worthiness and market stability. In this view, not only the asset but also the type of asset of the company plays an essential role if the company is to succeed or fail. Thus, a company needs assets and it has to make sure that its assets are performing or doing what they are supposed to do.

In the case of banks the major asset categories assets of the banks are the cash and bank balance, money at call, investments and Loans and advances. However, among the four asset types the bank stands to earn more if there is a more loan dispersion as the spread is higher. Investments also earn money for the bank but the rate is lower than that of loans as too is the case of bank balances.

Therefore, the ideal condition of the bank would be to disperse all its deposits as loans and earn interest on it, but not only is this not possible due to regulations but as the theory in economics explain “higher the gain higher the risk”, this is very true for loans. Therefore, though the bank gives out loans it may not be performing, as the creditor will not pay his interest and principle. If this happens then the bank needs to set aside some provisions to meet the risk of non-payment of creditors. Thus by analyzing this none performing assets of the bank, we can get a glance of the quality use of the asset of the bank. The higher the NPA the worse is the situation for the bank.

#### 4.2.1 Loan and advances to total Deposit

Loan and Advances to total deposit ratio shows the proportion of the loan in relation with the Deposits. Higher the ratio, higher the utilization of fund and results in increment in the profit but it also increases the liquidity risk.

##### 4.2.1.1 Loan and advances to total deposits of Nabil Bank

**Table 4.9**

(in millions)

<b>Years</b>	<b>Loan and Adv.</b>	<b>Deposits</b>	<b>Ratio %</b>
2006/07	15903.10	23342.29	68.1
2007/08	21759.68	31915.05	68.1
2008/09	27589.16	37348.26	73.8
2009/10	32268.87	46340.70	69.6
2010/11	38034.09	49696.11	76.5
<b>Mean</b>			<b>71.22</b>
<b>Standard Deviation</b>			<b>3.37</b>

**Source:** (Annual Reports, Annex-I)

Table 4.9 shows that relation between loan and advances to total deposits of Nabil Bank from year 2006/ 07 to 2010/11. Loan and advances to deposit in the year 2006/07 & 2007/08 has been 68.1%, which later increased to 73.8% in year 2008/09 & again decreased in 2009/10 to 69.6%. In the year 2010/11 it has increased 76.5%. The average investment in loan & advances is 71.22% & it has standard deviation of 3.37%.

#### 4.2.1.2 Loan and advances to total deposits of NIBL Bank

Table 4.10

(in millions)

Years	Loan and Adv.	Deposits	Ratio %
2006/07	17769.12	24488.86	72.5
2007/08	27530.38	34451.73	79.9
2008/09	36826.12	46698.10	78.8
2009/10	40947.43	50094.73	81.7
2010/11	41887.00	50138.00	83.5
<b>Mean</b>			79.28
<b>Standard Deviation</b>			3.75

Source: (Annual Reports, Annex-I)

Table 4.10 shows the loan and advances to total deposit ratio of NIBL Bank from year 2006/07 to 2010/11. It shows that the loan and advances has been increased with the total deposits every year but the growth rate has been inconsistent which results in the fluctuation in the ratio. The growth rate of loan and advances is lower in the year 2006/07 in comparison with the growth rate of the deposit of that year. In year 2007/08 the loan and advances has increased and reached 79.9% of total deposit and keep on increasing in later years to 78.8%, 81.7% & 83.5% respectively. The average loan and advances to total deposit remains 79.28% in these five years with the standard deviation of 3.75%.

#### 4.2.1.3 Loan and advances to total deposits of BOK

Table 4.11

(in millions)

Years	Loan and Adv.	Deposits	Ratio %
2006/07	9694	12389	78.2
2007/08	12748	15834	80.5
2008/09	14946	18084	82.6
2009/10	17044	20316	83.8
2010/11	17957	21018	85.4
<b>Mean</b>			<b>82.1</b>
<b>Standard Deviation</b>			<b>2.52</b>

Source: (Annual Reports, Annex-I)

Table 4.11 shows the loan and advances to total deposit of Bank of Kathmandu of years 2006/07 to 2010/11. Loan and advances has been increased with the increment in total deposit. The growth rate of loan and advances has been higher than the growth rate of deposit that leads to the increment in the ratio from 78.2% in the year 2006/07 to 85.4% in 2010/11. The average loan and advances remain 82.1% in these five years with the standard deviation of 2.52%.

#### 4.2.1.4 Comparative analysis of Loan and advances to Total Deposit

**Table 4.12**

<b>YEARS</b>	<b>NABIL</b>	<b>NIBL</b>	<b>BOK</b>
2006/07	68.1	72.5	78.2
2007/08	68.1	79.9	80.5
2008/09	73.8	78.8	82.6
2009/10	69.6	81.7	83.8
2010/11	76.5	83.5	85.4
<b>MEAN</b>	<b>71.22</b>	<b>79.28</b>	<b>82.1</b>
<b>S.D</b>	<b>3.37</b>	<b>3.75</b>	<b>2.52</b>

**Source:** Annual Report

**Figure 4.3**

#### Comparative Analysis of Loan and Advances to Total Deposits



Table 4.12 exhibits the comparative analysis of the loan and advances to total deposit of the three sampled banks. Among the three banks, Nabil and NIBL have fluctuated trends in their ratio with the lowest with 68.1% in the year 2006/07 & highest 76.5% in the year 2010/11,

likewise, 72.5% in the year 2006/ 07 & highest 83.5% in the year 2010/11. In the case of BOK ratio has been increased all the year from 78.2% to 85.4%.

BOK has highest average ratio of loan and advance to total deposit with 82.1% & Nabil has 71.22% lowest average ratio, likewise standard deviation 2.52% & 3.37% respectively which means they have high fluctuation in their ratios and BOK maintaining the minimum with 2.52%.

#### 4.2.2 Non-performing Assets to Performing Assets.

Non-performing assets to Performing assets gives us an idea of the organization's asset quality. It tells us the portfolio of the good assets and the bad assets of the total assets. Higher the performing assets, reduces the credit risk and positively affect in the profit and vice versa.

##### 4.2.2.1 Non-Performing Assets to Performing Assets of Nabil Bank

**Table 4.13**

**(in millions)**

<b>Years</b>	<b>Non-Performing Assets</b>	<b>Performing Assets</b>	<b>Ratio %</b>
2006/07	176.12	15724.73	1.1
2007/08	159.83	21598.37	0.7
2008/09	224.82	27774.19	0.8
2009/10	487.28	32544.69	1.4
2010/11	689.85	38215.64	1.8
<b>Mean</b>			<b>1.16</b>
<b>Standard Deviation</b>			<b>0.40</b>

**Source:** (Annual Reports, Annex-I)

Table 4.13 shows that ratio of non-performing assets to performing assets of the Nabil bank over five years period from 2006 /07 to 2010/11. Performing assets of Nabil Bank is in increasing ratio whereas the non-performing asset is high in the year 2009/10 and 2010/11 with Rs. 487.28 million and Rs.689.85 million respectively. The ratio is highest in the year 2010/11with 1.8%. Even when the non-performing asset is high in year 2008/09 but ratio is 0.80%, this is due to higher growth rate in the performance assets. The average ratio is 1.16 % and the standard deviation is 0.40% with not much fluctuation in the ratio.

#### 4.2.2.2 Non-Performing Assets to Performing Assets of NIBL

Table 4.14

(in millions)

Years	Non-Performing Asset	Performing Asset	Ratio %
2006/07	411.13	17347.13	2.3
2007/08	304.86	27219.83	1.1
2008/09	213.91	36613.25	0.5
2009/10	274.33	40674.10	0.6
2010/11	395.28	41492.41	0.9
<b>Mean</b>			<b>1.8</b>
<b>Standard Deviation</b>			<b>0.97</b>

Source: (Annual Reports, Annex-I)

Table 4.14 exhibits the non-performing asset to performing asset of NIBL Bank from year 2006/07 to 2010/11. Performing asset is growing every year from 17347.13 million in year 2006/07 to 41492.41 million in the year 2010/11 whereas the nonperforming asset is higher in the year 2006/07 with 411.13 million, which later decreases to 304.86 million, 213.91million, 274.33 million 395.28 million & in the year 2007/08 , 2008/09 , 2009/10 & 2010/11 respectively.

The ratio is highest in the year 2006/07 with 2.3% and the minimum in the year 2008/09 with 0.5%. NIBL has managed to reduce their non-performing assets to performing assets ratio with the highly increment in the performing side every year. Shows which the positive sign in managing the default risk, whose mean ratio is 1.8% & standard deviation is 0.97%.

#### 4.2.2.3 Non-Performing Assets to Performing Assets of BOK

Table 4.15

(in millions)

Years	Non-Performing loans	Performing loans	Ratio %
2006/07	237.22	9450.81	2.5
2007/08	232.70	12510.82	1.8
2008/09	190.32	14755.40	1.2
2009/10	257.22	16787.08	1.5
2010/11	326.33	17630.62	1.8
<b>Mean</b>			<b>1.76</b>
<b>Standard Deviation</b>			<b>0.43</b>

Source: (Annual Reports, Annex-I)

Table 4.15 exhibits the non-performing assets to performing assets of BOK from year 2006/07 to 2010/11. Performing assets of BOK is has grown from Rs.9450.81 million in the year 2006/07 to Rs. 17630.62 million in the year 2010/11. Non-performing assets has decreased from Rs.237.22 million in the year 2007/08 to 232.70 million & 190.32 in year 2008/09, again it increases in year 2009/10 to 257.22 million & in year 2010/11 it increases to 326.33 million, which shows the fluctuating performance in the five year trend. With the increase in lending, the bank has trying to minimize the non-performing assets. The mean ratio of the non-performing assets to Performing assets is 1.76% with the standard deviation of 0.43%.

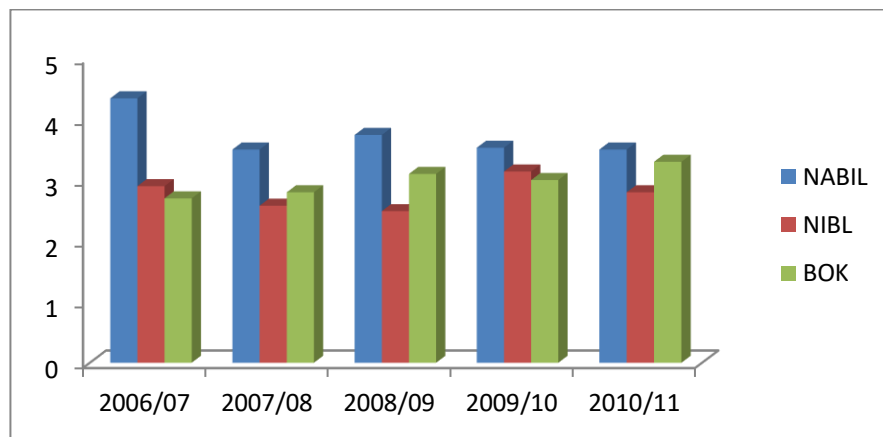
#### 4.2.2.4 Comparative analysis of Non-performing assets to Performing assets.

**Table 4.16**

<b>YEARS</b>	<b>NABIL</b>	<b>NIBL</b>	<b>BOK</b>
2006/07	1.1	2.3	2.5
2007/08	0.7	1.1	1.8
2008/09	0.8	0.5	1.2
2009/10	1.4	0.6	1.5
2010/11	1.8	0.9	1.8
<b>MEAN</b>	<b>1.16</b>	<b>1.8</b>	<b>1.76</b>
<b>S.D</b>	<b>0.40</b>	<b>0.97</b>	<b>0.43</b>

**Source:** Annual Reports

**Figure 4.4**



**Comparative analysis of Non-performing assets to Performing assets**

Table 4.16 exhibits the comparative analysis of non-performing assets to Performing assets of the three sampled banks. Among the three banks, Nabil has been able to manage low non-performing assets to performing assets ratio with the average of 1.16% and the deviation of 0.40 BOK has higher average ratio 1.76% and standard deviation is 0.43. In case of the NIBL, average ratio is 1.8% and standard deviation is 0.97.

#### 4.2.3 Non-performing Assets to Total assets.

Non-performing assets to total assets shows the assets status of the banks .Higher the non-performing assets results on the lower assets quality and the higher credit risk.

##### 4.2.3.1 Non-performing Assets to Total assets of Nabil Bank.

**Table 4.17**

(in millions)

<b>Years</b>	<b>Non-Performing Asset</b>	<b>Total Asset</b>	<b>Ratio %</b>
2006/07	176.12	27253.39	0.6
2007/08	159.83	37132.76	0.4
2008/09	224.82	43867.40	0.5
2009/10	487.28	52079.73	0.9
2010/11	689.85	58099.61	1.1
<b>Mean</b>			<b>0.7</b>
<b>Standard Deviation</b>			<b>0.26</b>

**Source:** (Annual Reports, Annex-I)

Table 4.17 exhibits the non-performing assets to total assets of Nabil Bank Ltd. from year 2006/07 to 2010/11. The trend shows the decrease in the non-performing assets in the year 2006/07 to 2010/11. The trend shows the decrease in the non-performing assets in the year 2007/08 which later increased in the year 2008/09, 2009/10, & 2010/11. In the Total assets side, there is increment in every year. The ratio of non-performing assets to total assets has been decreased in 2007/08 year & increment in the all following year. The average non-performing asset to total assets is 0.7% with the standard deviation of 0.26%.

#### 4.2.3.2 Non-performing Assets to Total assets of NIBL.

Table 4.18

(in millions)

Years	Non-Performing Asset	Total Asset	Ratio %
2006/07	411.13	27590.84	1.4
2007/08	304.86	38873.31	0.7
2008/09	213.91	53010.80	0.4
2009/10	274.33	57305.41	0.4
2010/11	395.28	58356.83	0.6
<b>Mean</b>			<b>0.7</b>
<b>Standard Deviation</b>			<b>0.37</b>

Source: (Annual Reports, Annex-I)

Table 4.18 exhibits the non-performing assets to total assets of NIBL from year 2006/07 to 2010/11. Non-performing asset of NIBL is 411.13 in the year 2006/07 which has later decreased to 304.86 & 213.91 in the year 2007/08 & 2008/09 respectively. Again, it increased 274.33 in the year 2008/09 & 395.28 in the year 2010/11. In the total assets side, there is an increment every year. The ratio of non-performing assets to total assets is 1.4% in the year 2006/07, which has decreased to 0.7% in the year 2007/08 due to lower in the non-performing assets. In addition, the ratio has reduced the following years and reached 0.4% in the year 2009/10. Again, in the year of 2010/11 the ratio has been increased to 0.6%. The mean ratio of non-performing assets to total assets is 0.7% and the standard deviation is 0.37%.

#### 4.2.3.3 Non-performing Assets to Total assets of BOK.

Table 4.19

(in millions)

Years	Non-Performing Asset	Total Asset	Ratio %
2006/07	237	14570	1.6
2007/08	232	17722	1.3
2008/09	190	20496	0.9
2009/10	257	23396	1.0
2010/11	326	24,758	1.3
<b>Mean</b>			<b>1.22</b>
<b>Standard Deviation</b>			<b>0.25</b>

Source: (Annual Reports, Annex-I)

Table 4.19 exhibits the non-performing assets to total assets of BOK from year 2006/07 to 2010/11. The non-performing asset of BOK has decreased up to the year 2008/09 from 237 in 2006/07 to 190 in the year 2008/09. Again, it increased in the year 2009/10 & 2010/11 by 257 & 326 million respectively. In the assets, there is a continuous increment every year.

The ratio, non-performing assets to total assets in the year 2006/07 is 1.6% which the bank managed to decrease to 1.3% in the five years by decreasing the non-performing side and increasing total assets. The average ratio is 1.22% with the standard deviation of 0.25%

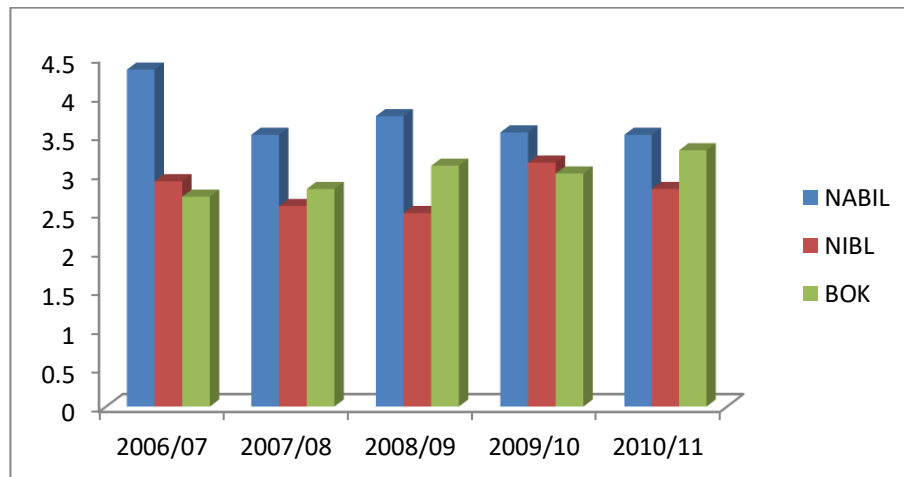
#### 4.2.3.4 Comparative analysis of Non-performing assets to Total assets.

**Table 4.20**

<b>YEARS</b>	<b>NABIL</b>	<b>NIBL</b>	<b>BOK</b>
2006/07	0.6	1.4	1.6
2007/08	0.4	0.7	1.3
2008/09	0.5	0.4	0.9
2009/10	0.9	0.4	1.0
2010/11	1.1	0.6	1.3
MEAN	0.7	<b>0.7</b>	<b>1.22</b>
S.D	0.26	<b>0.37</b>	<b>0.25</b>

**Source:** Annual Reports

**Figure 4.5**



**Comparative analysis of non-performing assets to total assets**

Among the three sampled banks, Nabil bank& NIBL have lower non-performing assets to total assets compared to BOK. Both have average performing assets to total assets is 0.7% each & BOK has 1.22%. All three banks has performed well in managing the non-performing assets low even in the higher increment in the total assets side.

### 4.3 Activity Ratio

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

#### 4.3.1 Non-performing assets to total Loan and advances ratio

Non-performing loan to total loan and advances ratio gives us an idea about the status of the loan which are good and which are in risk. Higher the non- performing loan to total loan mean the bank is in higher default risk.

##### 4.3.1.1 Non-performing assets to total Loan of Nabil Bank

**Table 4.21**

**(in millions)**

<b>Years</b>	<b>Non-Performing Asset</b>	<b>Total Loan and Adv.</b>	<b>Ratio %</b>
2006/07	176.12	15903.10	1.1
2007/08	159.83	21759.68	0.7
2008/09	224.82	27589.16	0.8
2009/10	487.28	32268.87	1.5
2010/11	689.85	38034.09	1.8
<b>Mean</b>			<b>1.18</b>
<b>Standard Deviation</b>			<b>0.42</b>

**Source:** (Annual Reports, Annex-I)

Table 4.21 exhibits the non-performing assets to total assets of Nabil Bank from year 2006/07 to 2010/11. The non-performing assets of the Nabil bank have decreased in the year 2007/08 to Rs.159.83 million. But it has increased to Rs. 224.82, 487.28, & 689.85million in the year

2008/09, 2009/10 & 2010/11. Total loan and advances has increased continuously increased every year and reached to Rs.38034.09 million in the year 2010/11.

The ratio, non-performing assets to total loan and advances in the year 2006/07 is 1.1% which later decreased to 0.7% in the year 2007/08 then after the ratio increased and reached 0.8% in the year 2008/09, likewise, increased to 1.5 & 1.8% in the year 2009/10 & 2010/11. The average ratio is 1.18% with the standard deviation of 0.42%.

#### 4.3.1.2 Non-performing assets to total Loan of NIBL.

**Table 4.22**

**(in millions)**

<b>Years</b>	<b>Non-Performing Asset</b>	<b>Total Loan and Adv.</b>	<b>Ratio %</b>
2006/07	411.13	17769.12	2.3
2007/08	304.86	27530.38	1.1
2008/09	213.91	36826.12	0.5
2009/10	274.33	40947.43	0.6
2010/ 11	395.28	41887.00	0.9
<b>Mean</b>			1.08
<b>Standard Deviation</b>			0.65

**Source:** (Annual Reports, Annex-I)

Table 4.22 exhibits the non-performing assets to total loan and advances of NIBL over five years period. The non-performing assets of NIBL in the year 2006/07 is Rs. 411.13million which is in decreasing trend up to year 2008/09; 304.86 & 213.91 respectively. In the year 2009/10 & 2010/11, again it increased 274.33 & 395.28 respectively. The loan and advances has been in increasing trend in all five years.

The ratio non-performing assets to total loan and advances is 2.3% in the year 2006/07 which the bank has managed to reduce to 0.9% by the year 2010/11. The mean ratio of the five years is 1.08% with the standard deviation of 0.65%.

#### 4.3.1.3 Non-performing assets to total Loan of BOK.

Table 4.23

(in millions)

Years	Non-Performing Asset	Total Loan and Adv.	Ratio %
2006/07	237	9694	2.4
2007/08	232	12748	1.8
2008/09	190	14946	1.2
2009/10	257	17044	1.5
2010/11	326	17957	1.8
<b>Mean</b>			1.74
<b>Standard Deviation</b>			0.39

**Source:** (Annual Reports, Annex-I)

Table 4.23 exhibits the Non-performing assets to total loan and advances of BOK from the year 2006/07 to 2010/11. The non-performing loan in the year 2006/07 is Rs. 237million that has been decreased in the year 2007/08 to Rs. 232 million. Later on decreased and reached Rs. 190 million in the year 2008/09. Again, in the year 2009/10 it increases to 257million & in the year 2010/11 it increases 326 million. Total loan and advances of the BOK has been in increasing trend every year.

The ratio of non-performing loan to total loan is 2.4% in the year 2006/07 that is a bit high but the bank has managed to decrease on the following years and reached 1.8% by the year 2010/11. This shows the quality performance of the bank. The mean ratio of non-performance assets to total loan and advances is 1.74% with the standard deviation of 0.39%.

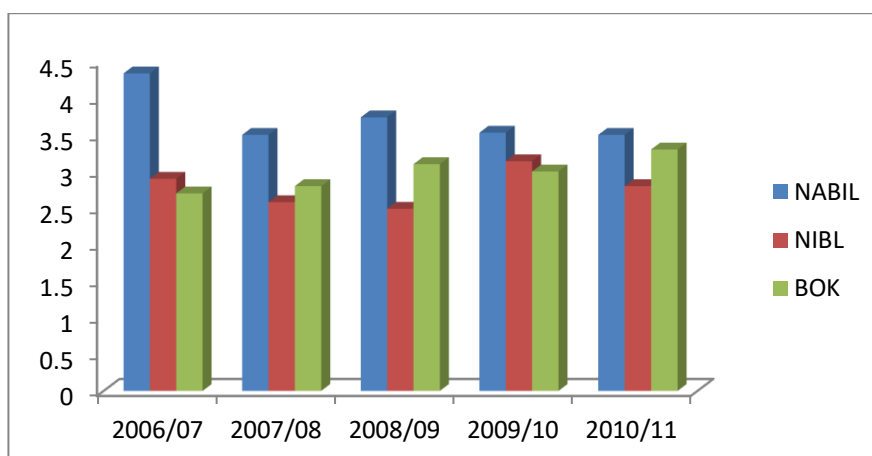
#### 4.3.1.4 Comparative analysis of non-performing assets to total loan and advances.

Table 4.24

YEARS	NABIL	NIBL	BOK
2006/07	1.1	2.3	2.4
2007/08	0.7	1.1	1.8
2008/09	0.8	0.5	1.2
2009/10	1.5	0.6	1.5
2010/11	1.8	0.9	1.8
MEAN	<b>1.18</b>	1.08	1.74
S.D	<b>0.42</b>	0.65	0.39

**Source:** Annual Report

**Figure 4.6**



### **Comparative analysis of non-performing assets to total loan and advances**

Among the three sampled banks, NIBL has maintained the low mean non-performing assets to total loan and advances ratio with 1.08%, in comparison with Nabil & BOK, with mean 1.18 & 1.74 respectively. BOK has managed to decrease the ratio in higher portion and it reduces from 2.4% in year 2006/07 to 1.8% in the year 2010/11 but it is still higher than that of other two banks.

### **4.3.2. Loan Loss Provision to Total Loan and Advances Ratio**

Loan loss provision to total loan and advances ratio gives us an idea of the total provisioning of the non-performing loans by the banks. Higher the provision means the higher the non-performing assets in the bank.

#### **4.3.2.1 Loan loss provision to total loan and advances of Nabil bank.**

**Table 4.25**

**(in millions)**

<b>Years</b>	<b>Loan loss Provision</b>	<b>Total Loan and Adv.</b>	<b>Ratio %</b>
2006/07	357.25	15903.10	2.2
2007/08	394.41	21759.68	1.8
2008/09	409.08	27589.16	1.4
2009/10	762.09	32268.87	2.3
2010/11	871.39	38034.09	2.2
<b>Mean</b>			1.98
<b>Standard Deviation</b>			0.34

**Source:** (Annual Reports, Annex-I)

Table 4.25 exhibits the loan loss provision to total loan and advances of Nabil Bank from year 2006/07 to 2010/11. The Loan loss provision has been in decreasing trend from year 2006/07 to 2008/09. Again from year 2009/10 to 2010/11 the loan loss provision has been in increasing trend. Total loan and advances trend shows the continuous increment every year.

The ratio is high in the year 2006/07 with 2.2% that the bank manages to control and decrease every year and by the year of 2009/10, the ratio increased to 2.3%. In the year 2010/11 the ration remain same as 2006/07, ie, 2.2%. This shows the bank good performance in managing the lower provision. However ratio remains unchanged. The average ratio of the five years remains 1.98% with the standard deviation of 0.34%.

#### 4.3.2.2 Loan loss provision to total loan and advances of NIBL.

**Table 4.26**

**(in millions)**

<b>Years</b>	<b>Loan loss Provision</b>	<b>Total Loan and Adv.</b>	<b>Ratio %</b>
2006/07	482.67	17769.12	2.7
2007/08	532.65	27530.38	1.9
2008/09	585.95	36826.12	1.5
2009/10	630.13	40947.43	1.5
2010/11	792.17	41887.00	1.8
<b>Mean</b>			1.88
<b>Standard Deviation</b>			0.44

**Source:** (Annual Reports, Annex-I)

Table 4.26 exhibits the loan loss provision to total loan and advances of NIBL form year 2006/07 to 2010/11. The Loan loss provision of the NIBL is in increasing trend every year and reaches Rs.792.17million in year 2010/11 from Rs.482.67 million in the year 2006/07. Total loan and advances of NIBL is also in increasing trend every year.

The ratio, Loan loss provision to total loan and advances is high in the year 2006/07 with 2.7% that is in decreasing trend and reaches 1.8% in the year 2010/11. The mean ratio is 1.88% with the standard deviation of 0.44%.

#### 4.3.2.3 Loan loss provision to total loan and advances of BOK

**Table 4.27**

**(in millions)**

<b>Years</b>	<b>Loan loss Provision</b>	<b>Total Loan and Adv.</b>	<b>Ratio %</b>
2006/07	237	9694	2.4
2007/08	232	12748	1.8
2008/09	298	14946	1.2
2009/10	379	17044	1.5
2010/11	489	17957	2.7
<b>Mean</b>			1.92
<b>Standard Deviation</b>			0.56

**Source:** (Annual Reports, Annex-I)

Table 4.27 shows the Loan loss provision to Total loan and advances of BOK for five years. The Loan loss provision is in up and down in the five-year period. The provision has decreased in the year 2007/08 and increased in the year 2008/09, 2009/10 & 2010/11 in other side the loan and advances are in increasing trend. The ratio is highest in year 2010/11 with 2.7% & lowest ratio in 2008/2009 with 1.2% that is fluctuating in trend. The mean is 1.92% with the standard deviation of 0.56%.

#### 4.3.2.4 Comparative analysis of Loan loss provision to total loan and advances.

**Table 4.28**

<b>YEARS</b>	<b>NABIL</b>	<b>NIBL</b>	<b>BOK</b>
2006/07	2.2	2.7	2.4
2007/08	1.8	1.9	1.8
2008/09	1.4	1.5	1.2
2009/10	2.3	1.5	1.5
2010/11	2.2	1.8	2.7
MEAN	1.98	1.88	1.92
S.D	0.34	0.44	0.56

**Source:** Annual reports

**Figure4.7**



**Comparative analysis of loan loss provision to total loan and advances**

Among the three sampled banks. NIBL has maintained lowest mean ratio of loan loss provision to total loan and advances with 1.88%. All the three banks have managed to lower the ratio with their better performance. Nabil has the higher ratio among the three with average of 1.98% compared to the 1.88% and 1.92% of NIBL and BOK.

**4.3.3. Provision for pass loan to total pass loan**

**4.3.3.1 Provision for pass loan to total pass loan of Nabil Bank**

**Table 4.29**

**(in millions)**

Years	Provision for Pass Loan	Total Pass Loan	Ratio %
2006/07	175.50	15638.48	1.1
2007/08	291.71	21587.74	1.3
2008/09	280.44	27767.00	1.0
2009/10	335.42	32543.43	1.0
2010/11	384.89	38215.64	1.0
<b>Mean</b>			1.08
<b>Standard Deviation</b>			0.12

**Source:** (Annual Reports, Annex-I)

Table 4.29 shows that provision for pass loan to total pass loan of Nabil Bank for five years period. The total pass loan of Nabil Bank is in increasing in trend whereas the provision is in up and down order. The ratio is highest in the year 2007/08 with 1.3% and the mean is 1.08% with the standard deviation of 0.12%. As per NRB directives, the provision for the pass loan should be 1% that the Nabil bank has maintained in every year.

#### 4.3.3.2 Provision for pass loan to total pass loan of NIBL.

Table 4.30

(in millions)

Years	Provision for Pass Loan	Total Pass Loan	Ratio %
2006/07	173.50	17309.51	1.00
2007/08	274.45	27176.97	1.00
2008/09	381.20	36576.26	1.00
2009/10	420.84	40674.11	1.00
2010/11	416.60	41492.41	1.00
<b>Mean</b>			1
<b>Standard Deviation</b>			0

Source: (Annual Reports, Annex-I)

Table 4.30 exhibits the provision for pass loan to total pass loan of NIBL for 5 years period. The provision for the pass loan of NIBL is in increasing trend with the increasing total loan. The ratio 1.00% in the year 2006/07 that is standard directed by NRB. They are able to maintain the ratio all the years. The average ratio is 1% with the standard deviation of 0. %.

#### 4.3.3.3 Provision for pass loan to total pass loan of BOK

Table 4.31

(in millions)

Years	Provision for Pass Loan	Total Pass Loan	Ratio %
2006/07	93	9347	1.00
2007/08	124	12435	1.00
2008/09	147	14747	1.00
2009/10	168	16785	1.00
2010/11	178	17630	1.00
<b>Mean</b>			1
<b>Standard Deviation</b>			0

Source: (Annual Reports, Annex-I)

Table 4.31 exhibits the provision of pass loan to total pass loan of BOK from year 2006/07 to 2010/11. The provision is increasing every year with the increase in the total pass loan. The ratio is 1% for all the year that is below the standard directed by the NRB. All the year the bank has maintained NRB standard. The average ratio for the five years is 1.00% with no deviation.

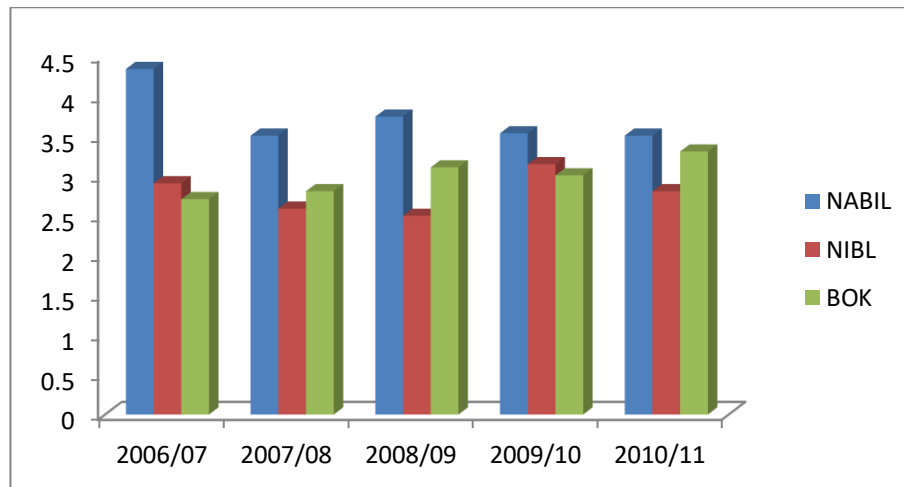
#### 4.3.3.4 Comparative analysis of provision for pass loan to total pass loan.

**Table 4.32**

YEARS	NABIL	NIBL	BOK
2006/07	1.1	1.00	1.00
2007/08	1.3	1.00	1.00
2008/09	1.0	1.00	1.00
2009/10	1.0	1.00	1.00
2010/11	1.0	1.00	1.00
MEAN	1.08	1	1
S.D	0.12	0	0

**Source:** Annual reports

**Figure 4.8**



#### **Comparative analysis of provision for pass loan to total pass loan**

Among the three banks, Nabil banks have provisioned over the standard of 1% in the year 2006/07 and the other two banks has failed to meet the standard. However, in other years all their banks have met the standard directed by NRB.

#### 4.3.4 Provision for substandard loan to total substandard loan

##### 4.3.4.1 Provision for substandard loan to total substandard loan of Nabil Bank

Table 4.33

(in millions)

Years	Prov. for Sub-standard	Loan Sub-Standard Loan	Ratio %
2006/07	56.64	119.70	47.3
2007/08	32.30	66.22	48.8
2008/09	44.07	113.31	38.8
2009/10	14.76	59.02	25.0
2010/11	42.55	170.21	24.9
<b>Mean</b>			36.96
<b>Standard Deviation</b>			10.38

Source: (Annual Reports, Annex-I)

Table 4.32 exhibits the provision for substandard loan to total substandard loan of Nabil Bank. The substandard loan of Nabil bank has increased highly in following years in comparison to that of year 2006/07. Likewise, the provision has also been increased. The ratio has been above the standard as directed by NRB of 25%. The mean ratios for the five years remain 36.96% with the high deviation of 10.38%.

##### 4.3.4.2 Provision for substandard loan to total substandard loan of NIBL.

Table 4.34

(in millions)

Years	Prov. For Sub-standard	Loan Sub-Standard Loan	Ratio %
2006/07	24.57	96.89	25.3
2007/08	10.40	61.74	16.8
2008/09	2.69	10.77	24.9
2009/10	13.93	55.71	25.00
2010/11	5.69	27.78	20.4
<b>Mean</b>			22.48
<b>Standard Deviation</b>			3.37

Source: (Annual Reports, Annex-I)

Table 4.33 exhibits the provision for substandard loan to total substandard loan of NIBL. The substandard loan of NIBL is Rs. 96.89million in the year 2006/07 which later on decreased to Rs.61.74 million by the year 2007/08 again, it decreased to Rs.10.77 million by the year

2008./09 and by the year 2009/10 increased to 55.71 million. Again, in the year 2010/11 the sub-standard loan decreased to 27.78. The provision has increased in the year 2009/10.

The ratio has been meeting up to the standard of 25% only in the year 2006/07 & 2009/10 then the bank failed to meet in the year 2007/08 and 2008/09 & 2010/11. The ratio is only 16.8% in the year 2007/08 that is very low with the standard of 25%. The mean ratio is 22.48% below the standard with the deviation of 3.37%.

#### 4.3.4.3 Provision for substandard loan to total substandard loan of BOK.

**Table 4.35**

(in millions)

Years	Prov. for Sub-standard	Loan Sub-Standard Loan	Ratio %
2006/07	10	39.86	25.00
2007/08	25	100.18	25.00
2008/09	9	36.91	25.00
2009/10	2.9	11.46	25.00
2010/11	3.2	12.67	25.00
<b>Mean</b>			25
<b>Standard Deviation</b>			0

**Source:** (Annual Reports, Annex-I)

Table 4.34 exhibits the provision for substandard loan to total substandard loan of BOK. It has been able to reduce its substandard loan in all years. The mean ratio is 25.00% with the zero standard deviation.

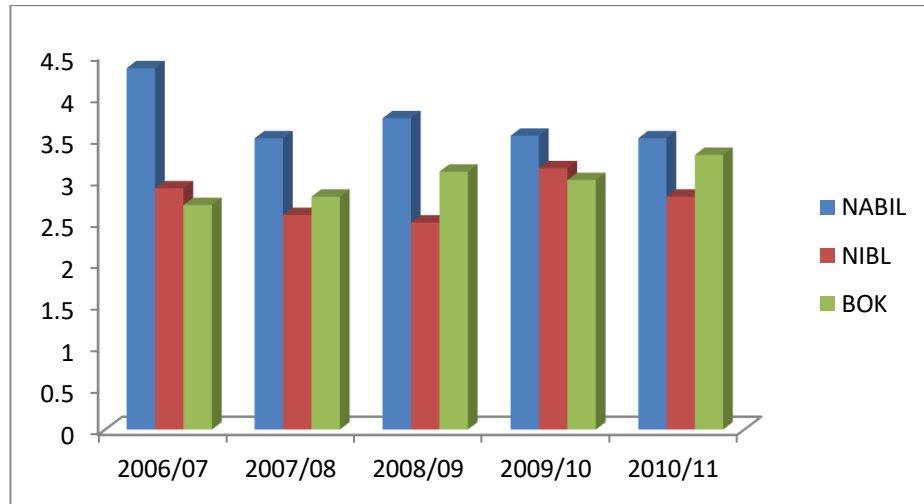
#### 4.3.4.4 Comparative analysis of provision for substandard loan to total substandard loan

**Table 4.36**

YEARS	NABIL	NIBL	BOK
2006/07	47.3	25.3	25.00
2007/08	48.8	16.8	25.00
2008/09	38.8	24.9	25.00
2009/10	25.0	25.00	25.00
2010/11	24.9	20.4	25.00
MEAN	36.96	22.48	25
S.D	10.38	3.37	0

**Source:** Annual reports

**Figure 4.9**



**Comparative analysis of provision for substandard loan to total substandard loan**

Among the three sampled banks, Nabil bank has met the standard of 25% in all years and they are even highly above than the standard. The mean ratio of Nabil bank is 36.96% that is very high then the standard. NIBL has met the standard in two years 2006/07 & 2009/10. However, they failed to meet the standard in year 2007/08, 2008/09 & 2010/11 that shows their poor performance in maintaining standard. The average ratio of NIBL is 22.48%, which is below the standard. BOK has met the standard in all following years.

**4.3.5 Provision for doubtful loan to total doubtful loan.**

**4.3.5.1 Provision for doubtful loan to total doubtful loan of Nabil Bank.**

**Table 4.37**

**(in millions)**

<b>Years</b>	<b>Prov. for Doubtful Loan</b>	<b>Doubtful Loan</b>	<b>Ratio %</b>
2006/07	7.12	14.47	49.2
2007/08	21.27	42.58	49.9
2008/09	23.53	45.76	51.4
2009/10	11.37	22.73	50.0
2010/11	52.32	104.66	50.0
<b>Mean</b>			50.1
<b>Standard Deviation</b>			0.72

**Source:** (Annual Reports, Annex-I)

Table 4.35 exhibits provision for doubtful loan to total doubtful loan of Nabil bank from 2006/07 to 2010/11. Total doubtful loan of Nabil bank has increased in the five-year period from Rs.14.47 million in years 2006/07 to Rs.104.66 million in the year 2010/11. Likewise, the provision has also decreased from Rs. 7.12 million in year 2006/07 to Rs. 52.32 million in the year 2010/11. The ratio is higher in the year 2008/09 with 51.4% higher above the standard of 50% as directed by NRB. In the fiscal year 2006/07 to 2007/08 the bank has failed to meet the standard of 50% and met the standard in the year 2008/09. The mean ratio is 50.1% with the deviation of 0.72%.

#### 4.3.5.2 Provision for doubtful loan to total doubtful loan of NIBL

**Table 4.38**

(in million)

<b>Years</b>	<b>Prov. for Doubtful Loan</b>	<b>Doubtful Loan</b>	<b>Ratio %</b>
2006/07	43.08	86.05	50.00
2007/08	10.40	20.72	50.00
2008/09	5.74	11.49	49.90
2009/10	5.50	10.99	50.00
2010/11	2.08	4.16	50.00
<b>Mean</b>			49.98
<b>Standard Deviation</b>			0.04

**Source:** (Annual Reports, Annex-I)

Table 4.36 shows that the provision for doubtful loan to total doubtful loan of NIBL. The doubtful loan is highest in the year 2006/07 with Rs.86.05 million that has reduced in later years and reached Rs.4.16 million in years 2010/11. The provision also moved in the same trend with highest in the year 2006/07 with Rs.43.08 million that decreased to Rs.2.08 million in the year 2010/11. NIBL has met the standard of 50% in initial two years and the year 2009/10 & 2010/11. But it has failed to meet the standard in the year 2008/09 with only 49.90%. The average ratio is 49.98 with the deviation of 0.04%.

#### 4.3.5.3 Provision for doubtful loan to total doubtful loan of BOK

**Table 4.39**

**(in millions)**

<b>Years</b>	<b>Prov. for Doubtful Loan</b>	<b>Doubtful Loan</b>	<b>Ratio %</b>
2006/07	18.29	36.58	50.00
2007/08	9.62	19.25	49.97
2008/09	10.54	21.09	49.98
2009/10	35.42	70.85	50.00
2010/11	3.1	6.22	49.80
<b>Mean</b>			49.948
<b>Standard Deviation</b>			0.46

**Source:** (Annual Reports, Annex-I)

Table 4.37 shows the provision of doubtful loan to total doubtful loan of BOK of five years period. The doubtful loan is highest in the year 2009/10 with Rs. 70.85 million. It has failed to meet standard in year 2007/08, 2008/09 & 2010/11. The average ratio is 49.99%, which is below the standard with the deviation of 0.46%.

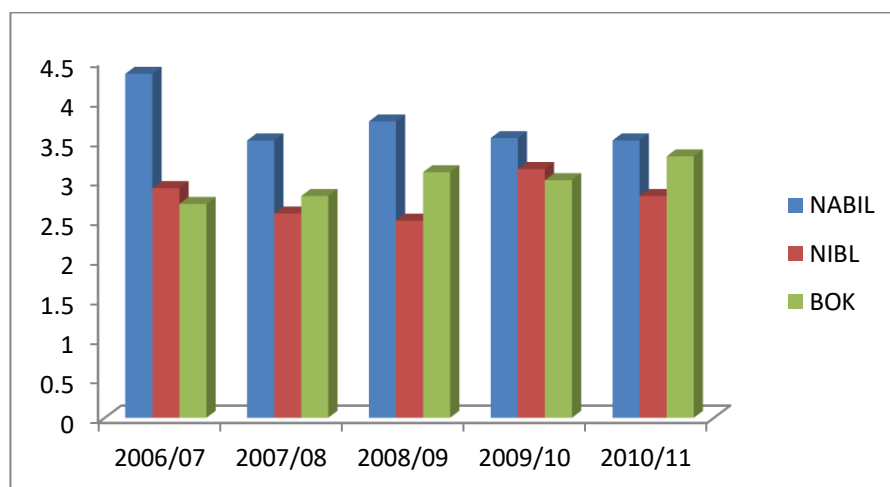
#### 4.3.5.4 Comparative analysis of provision for doubtful loan to total doubtful loan.

**Table 4.40**

<b>YEARS</b>	<b>NABIL</b>	<b>NIBL</b>	<b>BOK</b>
2006/07	49.2	50.00	50.00
2007/08	49.9	50.00	49.97
2008/09	51.4	49.90	49.98
2009/10	50.0	50.00	49.99
2010/11	50.0	50.00	49.80
<b>MEAN</b>	50.1	49.98	49.948
<b>S.D</b>	0.72	0.04	0.46

**Source:** Annual reports

**Figure 4.10**



### **Comparative analysis of provision for doubtful loan to total doubtful loan**

Among the Three banks, NIBL has managed to meet the standard of 50% as per NRB directive in 4 fiscal years and 1 failed to meet in the year 2008/09. Nabil bank and BOK have failed to meet the standard in Three Fiscal years. Nabil has average ratio of 50.1. The average ratio of Bok is 49.99% that is below the standard directed by NRB.

### **4.3.6 Provision for bad loan to total bad loan.**

#### **4.3.6.1 Provision for bad loan to total bad loan of Nabil bank**

**Table 4.41**

**(in millions)**

<b>Years</b>	<b>Prov. for Bad Loan</b>	<b>Bad Loan</b>	<b>Ratio %</b>
2006/07	38.15	44.12	86.40
2007/08	46.10	52.29	88.00
2008/09	59.84	65.76	91.00
2009/10	400.4	404.53	98.98
2010/11	388.91	392.84	98.99
<b>Mean</b>			92.674
<b>Standard Deviation</b>			5.36

**Source:** (Annual Reports, Annex-I)

Table 4.39 exhibits provision for bad loan to total bad loan of Nabil bank. The bad loan of the year 2006/07 is 44.12 million, which is lowest. The highest bad loan in the year 2009/10

404.53 million. The Nabil has failed to meet the provision for bad loan as per direction of NRB. The mean ratio is 92.67% with the standard deviation 5.36%.

#### 4.3.6.2 Provision for bad loan to total bad loan of NIBL.

**Table 4.42**

(in millions)

<b>Years</b>	<b>Prov. for Bad Loan</b>	<b>Bad Loan</b>	<b>Ratio %</b>
2006/07	236.82	239.03	99.08
2007/08	227.01	227.01	100.00
2008/09	191.66	191.66	100.00
2009/10	187.33	187.33	100.00
2010/11	368.34	368.34	100.00
<b>Mean</b>			99.816
<b>Standard Deviation</b>			0.368

**Source:** (Annual Reports, Annex-I)

The table 4.40; exhibits the provision for bad loan to total bad loan. Total bad loan of NIBL is in decreasing trend until year 2009/10. In the year 2010/11 it has highest bad loan 368.34 million. NIBL has failed to meet the standard of 100% as per directive of NRB in initial year and abled to manage in following years. The average ratio is 99.816% below the standard with the deviation of 0.368%.

#### 4.3.6.3 Provision for bad loan to total bad loan of BOK.

**Table 4.43**

(in millions)

<b>Years</b>	<b>Prov. for Bad Loan</b>	<b>Bad Loan</b>	<b>Ratio %</b>
2006/07	160.36	166.86	96.10
2007/08	116.93	117.48	99.53
2008/09	130.39	132.32	98.54
2009/10	173.12	174.91	98.98
2010/11	304.00	304.00	100.00
<b>Mean</b>			98.63
<b>Standard Deviation</b>			1.36

**Source:** (Annual Reports, Annex-I)

Table 4.41 shows the provision for bad loan to total bad loan of BOK. There is up and down trend in the bad loan of BOK. The ratio is below the standard of 100% in all the fiscal years, except in year 2010/11. The mean ratio is 98.63 below the standard with the deviation of 1.36%.

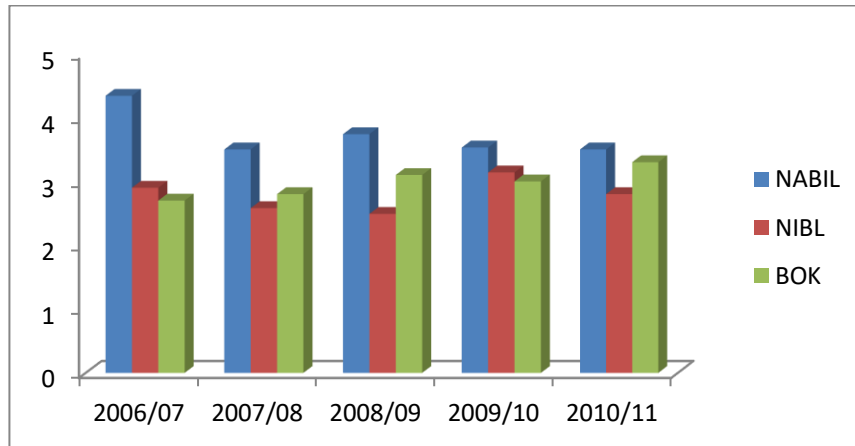
#### 4.3.6.4 Comparative analysis of provision for bad loan to total bad loan.

**Table 4.44**

YEARS	NABIL	NIBL	BOK
2006/07	86.40	99.08	96.10
2007/08	88.00	100.00	99.53
2008/09	91.00	100.00	98.54
2009/10	98.98	100.00	98.98
2010/11	98.99	100.00	100.00
MEAN	92.674	99.816	98.63
S.D	5.36	0.368	1.36

**Source:** Annual reports

**Figure 4.11**



#### **Comparative analysis of provision for bad loan to total bad loan**

Among the three sampled banks, all the banks has failed to meet the standard of 100% provisioning as per guided by NRB. Only NIBL has managed to meet the standard in year 2007/08 2008/09& 2009/10. Nabil bank has performed poor as their provisioning is well below the standard. BOK has failed to meet the standard but the provision is only short by

some percent. NIBL has failed to meet the standard in initial year but the ratio is very near to the standard.

#### 4.4 Loan and Advances Portfolio

Loan and Advances portfolio is the combination of loan and advances into different areas allowed by bank. By analyzing the loan diversified into different areas and the status of that sector bank can make decision whether to lend more or stop to lend for that particular sector. The percentage calculated below is the average of the four years data from 2007 to 2011 here; five year's average has been taken for studies.

##### 4.4.1 Loan and advances portfolio of Nabil bank.

**Table 4.45**

<b>Sector</b>	<b>Percentage</b>
Agricultural & Forest Related	0.625592
Fishery Related	0
Mining Related	0.059098
Manufacturing Producing Related	29.88291
Construction	13.50434
Electricity Gas & Water	0.560502
Metal Products, Machinery & Electronic Equipment & Assoc	4.121054
Transport, Communication & public Utilities	9.251782
Wholesalers & Retailer	15.54565
Finance, Insurance & Real-estate	9.024388
Hotel or Restaurant	3.866164
Other services	5.089342
Consumption loans	0.486986
Local Government	0
Others	7.982194
	<b>100</b>

**Source:** (NRB report, Annex: II)

**Figure 4.12**

**Sector wise lending of Nabil Bank**

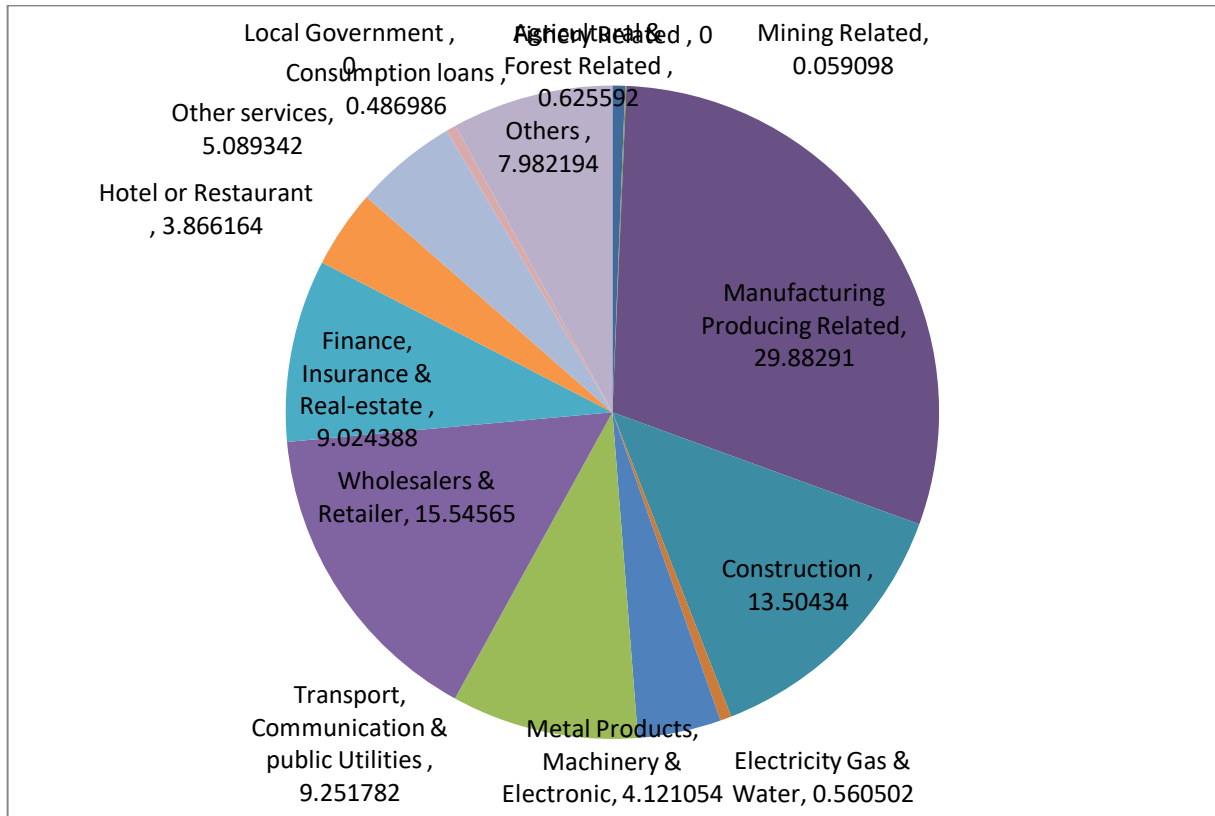


Table 4.43 and Figure 4.12 show the average of sector wise lending of the Nabil of years 2007 to 2011. The bank has lent mostly in the manufacturing / producing related sector with nearly 30%, followed by wholesaler & retailer & Construction. Nabil has granted nearly 1% of its investment in agriculture sector. The loan and advance in transport, communication & public utilities & finance insurance & real estate are 9%. In the consumption & mining sectors bank granted below 1% and no loan and advance has provided in the fishery & local government sectors.

#### 4.4.2 Loan and advances portfolio of NIBL.

**Table 4.46**

<b>Sector</b>	<b>Percentage</b>
Agricultural & Forest Related	0.647067
Fishery Related	0
Mining Related	6.08805
Manufacturing Producing Related	25.91073
Construction	3.688372
Electricity Gas & Water	0.471298
Metal Products, Machinery & Electronic Equipment & Assoc	1.383721
Transport, Communication & public Utilities	5.045558
Wholesalers & Retailer	12.0721
Finance, Insurance & Real-estate	11.75153
Hotel or Restaurant	7.355175
Other services	4.331158
Consumption loans	1.495128
Local Government	0
Others	19.76011
	<b>100</b>

**Source:** (NRB reports, Annex:II )

**Figure 4.13**

**Sector wise lending of NIBL.**

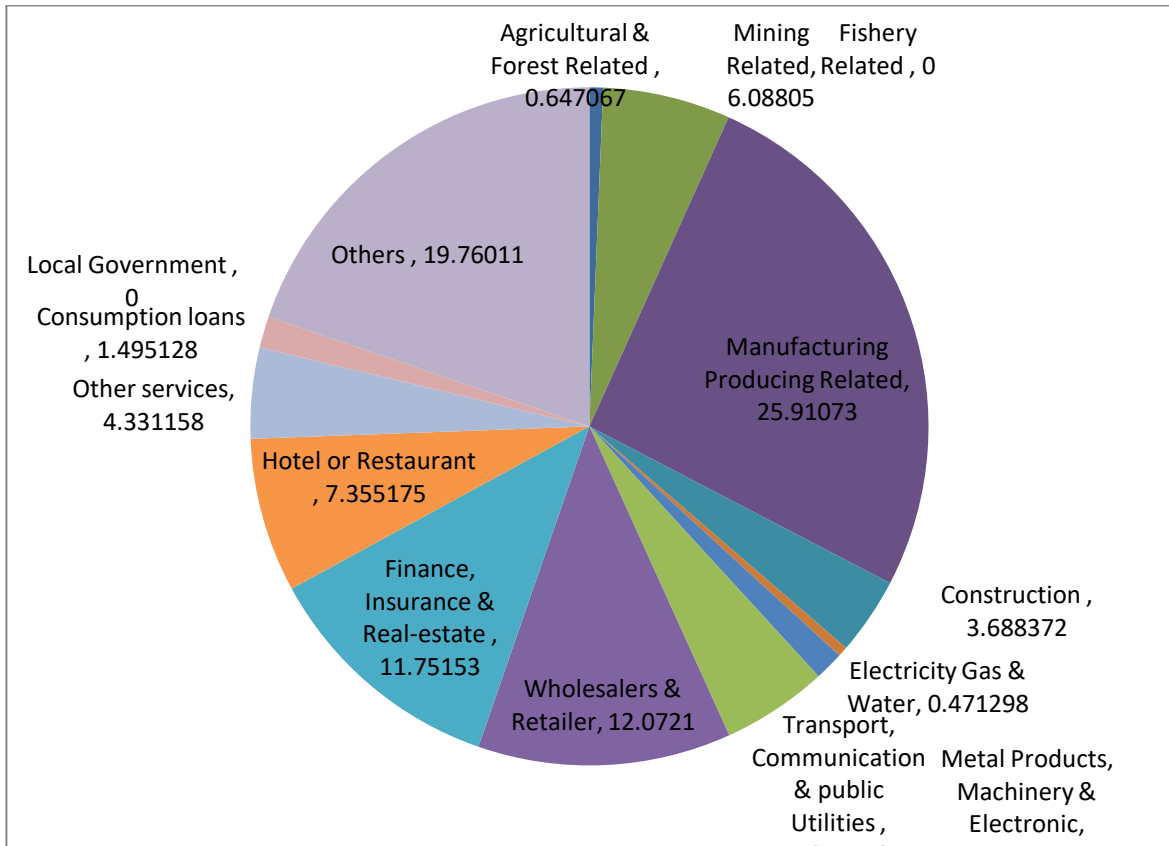


Table 4.44 and Figure 4.13 show the average proportion of loan and advances in different sectors of NIBL of year 2007 to 2011. NIBL has highest proportion of loan and advances in the production sector with nearly 26%, follow by other sectors nearly 20%, wholesaler and retailer 12%. Nearly 1% of total loan and advance is granted in agriculture sector, electricity, gas & water sector granted below 1% and no loan & advance is granted in fishery & local government sector.

#### 4.4.3 Loan and advances portfolio of BOK.

**Table 4.47**

<b>Sector</b>	<b>Percentage</b>
Agricultural & Forest Related	0.7595526
Fishery Related	0
Mining Related	1.3194869
Manufacturing Producing Related	25.583756
Construction	10.379993
Electricity Gas & Water	1.8235434
Metal Products, Machinery & Electronic Equipment & Assoc	0.7045444
Transport, Communication & public Utilities	8.010181
Wholesalers & Retailer	19.292421
Finance, Insurance & Real-estate	12.807263
Hotel or Restaurant	4.9630491
Other services	5.4112334
Consumption loans	1.6790767
Local Government	0
Others	7.2659002
	<b>100</b>

**Source:** (NRB reports, Annex:II)

**Figure 4.14**  
**Sector wise lending of BOK**

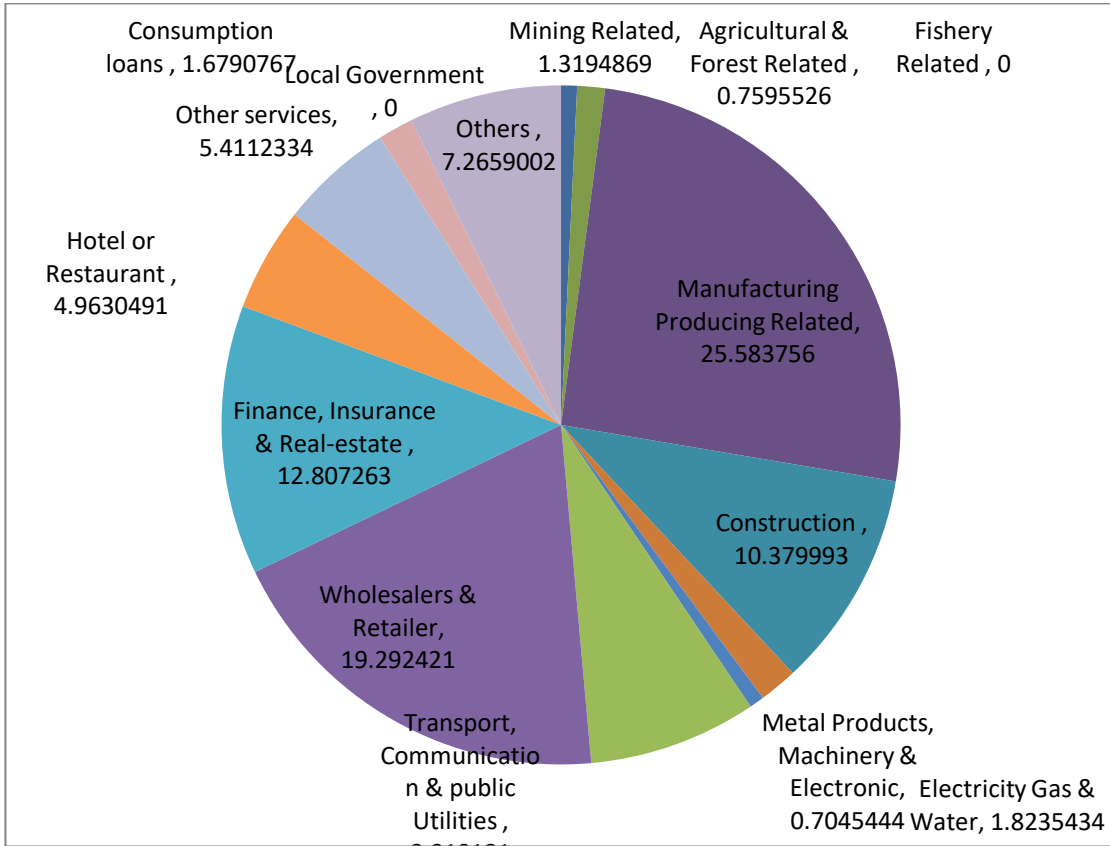


Table 4.45 and figure 4.14 show the average sector wise lending of BOK over five years period from 2007 to 2011. BOK has lent near to 26% of its loan in manufacturing producing related sector followed by 19% in wholesaler and retailer and 10% in transportation. It has near to 1 % lending in metal products, machinery, & electronic, agriculture, & mining related sector. No lending has been made in local government & fishery related sector.

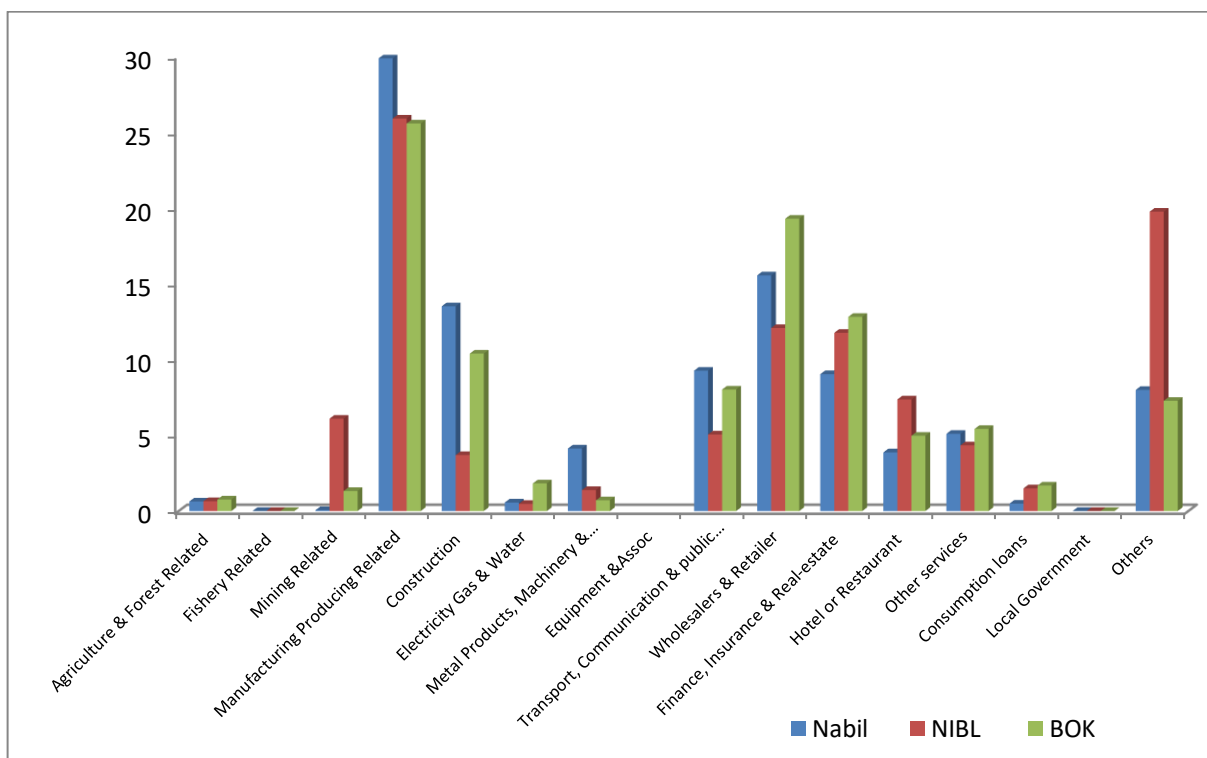
**4.4.4 Comparative analysis of sector wise lending by sampled banks**

**Table 4.48**

Sector wise lending	NABIL	NIBL	BOK
Agriculture & Forest Related	0.625592	0.647067	0.7595526
Fishery Related	0	0	0
Mining Related	0.059098	6.08805	1.3194869
Manufacturing Producing Related	29.88291	25.91073	25.583756

Construction	13.50434	3.688372	10.379993
Electricity Gas & Water	0.560502	0.471298	1.8235434
Metal Products, Machinery & Electronic Equipment & Assoc	4.121054	1.383721	0.7045444
Transport, Communication & public Utilities	9.251782	5.045558	8.010181
Wholesalers & Retailer	15.54565	12.0721	19.292421
Finance, Insurance & Real-estate	9.024388	11.75153	12.807263
Hotel or Restaurant	3.866164	7.355175	4.9630491
Other services	5.089342	4.331158	5.4112334
Consumption loans	0.486986	1.495128	1.6790767
Local Government	0	0	0
Others	7.982194	19.76011	7.2659002
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Figure 4.15**



**Sector wise lending of three sampled banks**

Table 4.46 and Figure 4.16 show the average sector wise lending of the sampled banks. All three banks have highest proportion of their loan and advance in the manufacturing producing related sector; followed by wholesaler & retailer. BOK has higher lending in the other services in relation with that of Nabil and NIBL. NIBL has lower proportion of loan in mining related sector in relation with Nabil and BOK. All three banks have lent very low in agriculture sectors and no lending in local government.

#### 4.5 Profitability Ratio

Profitability ratios measure the company's use of its assets and control of its expenses to generate an acceptable rate of return. This shows the overall efficiency of the firm in term of profit and financial performance. For better performance, the ratio should be higher.

##### 4.5.1 Interest expenses to total expenses

##### 4.5.1.1 Interest expenses to total expenses of Nabil bank

**Table 4.49**

**(in millions)**

<b>Years</b>	<b>Interest Expense</b>	<b>Total Expense</b>	<b>Ratio %</b>
2006/07	555.71	1587.76	56.47
2007/08	755.44	1978.69	60.82
2008/09	1153.28	2798.49	65.59
2009/10	1960.11	4049.71	73.65
2010/11	2955.43	5254.03	56.20
<b>Mean</b>			62.546
<b>Standard Deviation</b>			6.52

**Source:** (Annual Reports, Annex-I)

Table 4.47 shows the Nabil Bank interest expenses to Total expenses for years 2006/07 to 2010/11. Total expenses have grown all years from Rs. million in 1587.76 in year 2006/07 to Rs.5254.03 million in years 2010/11. Similarly, Interest expenses have also grown every year from Rs. 555.71 million from year 2006/07 to Rs. 2955.43 million in years 2010/11.

The ratio is 56.47% in year 2006/07, which decreased to 56.20% by the year 2010/11. The mean of interest expenses to total expenses is 62.54% with the standard deviation of 6.52%.

#### 4.5.1.2 Interest expenses to total expenses of NIBL.

Table 4.50

(in millions)

Years	Interest Expense	Total Expense	Ratio %
2006/07	685.53	1074.33	63.81
2007/08	992.16	1492.46	66.48
2008/09	1686.97	2326.58	72.51
2009/10	2553.85	3267.29	78.16
2010/11	3620.34	4402.94	82.20
<b>Mean</b>			72.632
<b>Standard Deviation</b>			6.89

Source: (Annual Reports, Annex-I)

Table 4.48 shows the Total interest expenses to total expenses of NIBL. Total expenses have grown every year. Likewise, total interest expenses have also grown year by year. The ratio is 63.81% in the year 2006/07, which has increased to 82.20% by the year 2010/11. NIBL has managed to collect the interest bearing deposits in recent years as the ratio has increased. The mean ratio is 72.63% with the standard deviation of 6.89%.

#### 4.5.1.3 Interest expenses to total expenses of BOK.

Table 4.51

(in millions)

Years	Interest Expense	Total Expense	Ratio %
2006/07	339.18	547.35	61.97
2007/08	417.54	819.70	50.94
2008/09	563.11	943.27	59.70
2009/10	902.93	1365.90	66.11
2010/11	1218.79	1700.95	71.60
<b>Mean</b>			62.064
<b>Standard Deviation</b>			6.88

Source: (Annual Reports, Annex-I)

Table 4.49 shows the total interest expenses to total expenses of BOK. Total Expenses of BOK has been increased every year form Rs. 547.35 million in year 2006/07 to Rs. 1700.95 million in year 2010/11. Similarly, interest expenses have also increased from Rs. 339.18 million in year 2006/07 to Rs. 1218.79 million in years 2010/11. The ratio in the year 2006/07

is 61.97%, which reduces to 59.70% in the year 2008/09 and it again increases to 71.60% in the year 2010/11. The decrease in the ratio trend shows the bank able to collect interest free deposits in years up to 2008/09 and it fails to collect in year 2009/10. The mean ratio is 62.06% with the standard deviation of 6.88%.

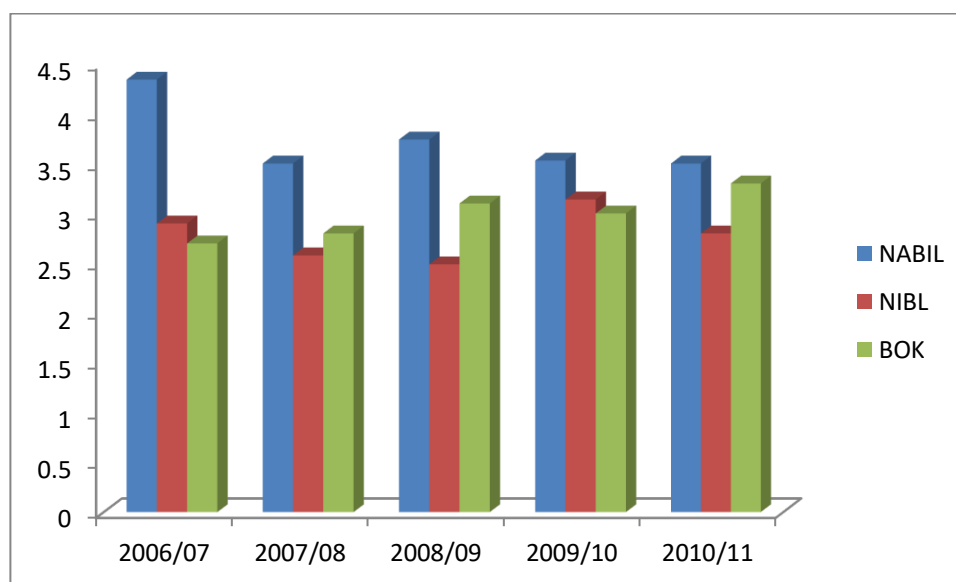
#### 4.5.1.4 Comparative analysis of interest expenses to total expenses.

**Table 4.52**

YEARS	NABIL	NIBL	BOK
2006/07	56.47	63.81	61.97
2007/08	60.82	66.48	50.94
2008/09	65.59	72.51	59.70
2009/10	73.65	78.16	66.11
2010/11	56.20	82.20	71.60
MEAN	62.546	72.632	62.064
S.D	6.52	6.89	6.88

**Source:** Annual reports

**Figure 4.16**



**Comparative analysis of interest expenses to total expenses**

Table 4.50 and figure 4.17 shows the interest expenses to total expenses of the three sampled banks. BOK has the lowest mean ratio with 62.064% in comparison with the 62.546% and 72.632% of NABIL and NIBL respectively. In case of Nabil and NIBL, the ratio has increased that means they are collecting interest bearing deposits but BOK has managed to reduce the ratio, which means their non-interest bearing deposits is growing. Among the three NIBL has highest interest bearing deposits.

#### 4.5.2 Interest income to Credit and investment ratio

##### 4.5.2.1 Interest income to Credit and investment of Nabil Bank.

**Table 4.53**

(in millions)

<b>Years</b>	<b>Interest Income</b>	<b>Credit &amp; investment</b>	<b>Ratio%</b>
2006/07	1587.76	24491.09	6.48
2007/08	1978.70	31304.82	6.32
2008/09	2798.49	38416.31	7.28
2009/10	4049.72	45971.89	8.82
2010/11	5254.03	51115.30	10.20
<b>Mean</b>			7.82
<b>Standard Deviation</b>			1.48

**Source:** (Annual Reports, Annex-I)

Table 4.51 exhibits the interest income to credit and investment of Nabil bank for five years period. Credit and investment has been increased in every year likewise, interest income has also increased every year. The ratio on the year 2006/07 is 6.48% that decreased in 2007/08 but has increased in the year 2008/09 to 7.28% and year 2010/11 to 10.20%. The decrease in the interest income even when the increase in credit and investment shows the interest rate of those years being low. Mean ratio is 7.82% with the deviation of 1.48%.

#### 4.5.2.2 Interest income to Credit and investment of NIBL.

Table 4.54

(in millions)

Years	Interest Income	Credit & investment	Ratio%
2006/07	1584.99	23792.11	6.66
2007/08	2194.00	33870.68	6.48
2008/09	3267.94	43641.02	7.49
2009/10	4653.52	48953.84	9.51
2010/11	5803.44	48518.62	11.90
<b>Mean</b>			8.408
<b>Standard Deviation</b>			2.05

Source: (Annual Reports, Annex-I)

Table 4.52 shows the interest income to credit and investment of NIBL for five years period. In five years, credit and investment has increased every year likewise there is similar increment in the interest income side. The ratio Interest income to credit and investment is also in the increasing trend except for the year 2007/08 that is due to lower growth rate in the interest income side than in total credit and investment side. The lower growth rate in the interest income means the banks has lent and invest in that year in lower interest rate. The mean ratio is 8.408% with the deviation of 2.05%.

#### 4.5.2.3 Interest income to Credit and investment of BOK.

Table 4.55

(in millions)

Years	Interest Income	Credit & investment	Ratio%
2006/07	819.00	12391.76	6.70
2007/08	1034.16	15666.71	6.60
2008/09	1347.76	17430.90	7.70
2009/10	1870.85	19934.14	9.40
2010/11	2386.78	21754.79	11.00
<b>Mean</b>			8.28
<b>Standard Deviation</b>			1.69

Source: (Annual Reports, Annex-I)

Table 4.53 shows the interest income to total credit and investment of BOK of five years period. The bank has managed to increase the total credit and investment every year and

similarly interest income has risen all the years. The ratio has decreased in the year 2007/08 with 6.60% due to lower interest rate and has managed to increase the same in the last two years again it increases in years 2008/09 ,2009/10 & 2010/11. The mean ratio is 8.28% with the standard deviation of 1.69%.

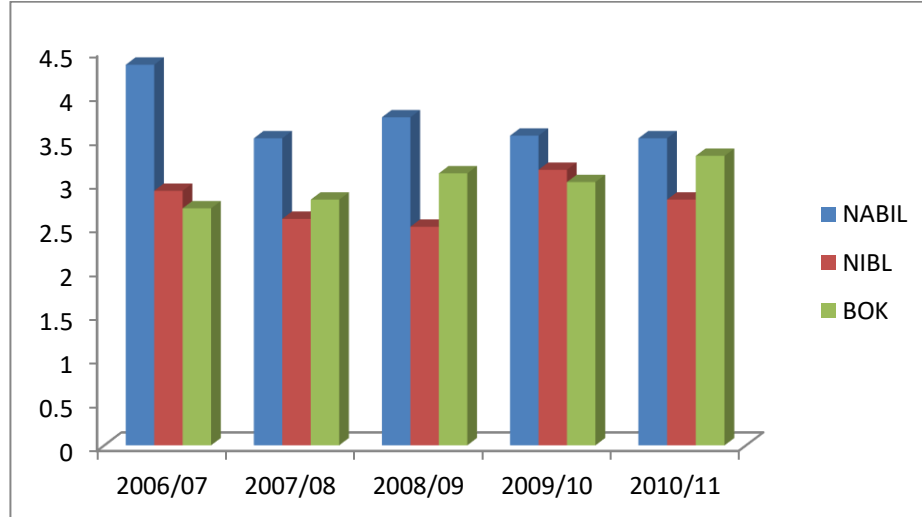
#### 4.5.2.4 Comparative analysis of interest income to Credit and investment

**Table 4.56**

YEARS	NABIL	NIBL	BOK
2006/07	6.48	6.66	6.70
2007/08	6.32	6.48	6.60
2008/09	7.28	7.49	7.70
2009/10	8.82	9.51	9.40
2010/11	10.20	11.90	11.00
MEAN	7.82	8.408	8.28
S.D	1.48	2.05	1.69

Source: Annual reports

**Figure 4.17**



#### Comparative analysis of interest income to credit and investment

Table 4.54 and Figure 4.18 show the comparative analysis of interest income to credit and investment of three sampled banks. Among the three banks, Nabil has managed to earn higher interest income from their credit and investment with the mean of 7.82% in relation to 8.408%

and 8.28% of NIBL and BOK. In the year 2010/11 all three banks have, higher ratio above 10% that says the interest rate of that year is higher than previous years.

#### 4.5.3 Net Profit To total loan and advances

##### 4.5.3.1 Net profit to total loan and advances of Nabil Bank.

**Table 4.57**

(in millions)

<b>Years</b>	<b>Net Profit</b>	<b>Loan and Adv.</b>	<b>Ratio%</b>
2006/07	673.96	15545.78	4.34
2007/08	746.47	21365.05	3.50
2008/09	1031.05	27589.93	3.74
2009/10	1141.05	32268.87	3.53
2010/11	1337.75	38034.09	3.50
<b>Mean</b>			3.722
<b>Standard Deviation</b>			0.322

**Source:** (Annual Reports, Annex-I)

Table 4.55 depicts net profit to total loan and advances of Nabil bank for five years period. The trend of five years shows growth in both net profit and total loan and advances. The ratio is highest in the year 2006/07. Net profit & loan & advance both are in increasing trend. However the ratios are in fluctuating trend. The mean ratio remains 3.72% with standard deviation of 0.32%.

##### 4.5.3.2 Net profit to total loan and advances of NIBL.

**Table 4.58**

(in millions)

<b>Years</b>	<b>Net Profit</b>	<b>Loan and Adv.</b>	<b>Ratio%</b>
2006/07	501.40	17286.43	2.90
2007/08	696.73	26996.65	2.58
2008/09	900.62	36241.21	2.49
2009/10	1265.95	40948.00	3.14
2010/11	1176.00	41887.00	2.80
<b>Mean</b>			2.728
<b>Standard Deviation</b>			0.232

**Source:** (Annual Reports, Annex-I)

Table 4.56 depicts net profit to total loan and advances of NIBL over five years. The trend shows increment in net profit, loan, and advances of NIBL. The ratio net profit to loan and advances was 2.90% in year 2006/07 then it has decreased to 2.49% by the year 2008/09. In the year 2009/10 ratio increases up to 3.14%. Again, it has decreased 2.8% in the year 2010/11. Even after the growth in the net profit and total loan and advances; this is due to low growth rate in the profit side. The mean is 2.728% with the standard deviation of 0.232%.

#### 4.5.3.3 Net profit to total loan and advances of BOK.

**Table 4.59**

(in millions)

<b>Years</b>	<b>Net Profit</b>	<b>Loan and Adv.</b>	<b>Ratio%</b>
2006/07	262	9,694	2.70
2007/08	361	12,748	2.80
2008/09	462	14,946	3.10
2009/10	509	17,044	3.00
2010/11	605	17,957	3.30
<b>Mean</b>			2.98
<b>Standard Deviation</b>			0.214

**Source:** (Annual Reports, Annex-I)

Table 4.57 depicts net profit to loan and advances of BOK of five years period. In both sides, there has been fluctuating trend in every year. The ratio is highest in the year 2010/11 with 3.30% and lowest in the year 2006/07 with 2.70%. This might be due to difference in the interest rate of their lending. The mean is 2.98% with the deviation of 0.214%.

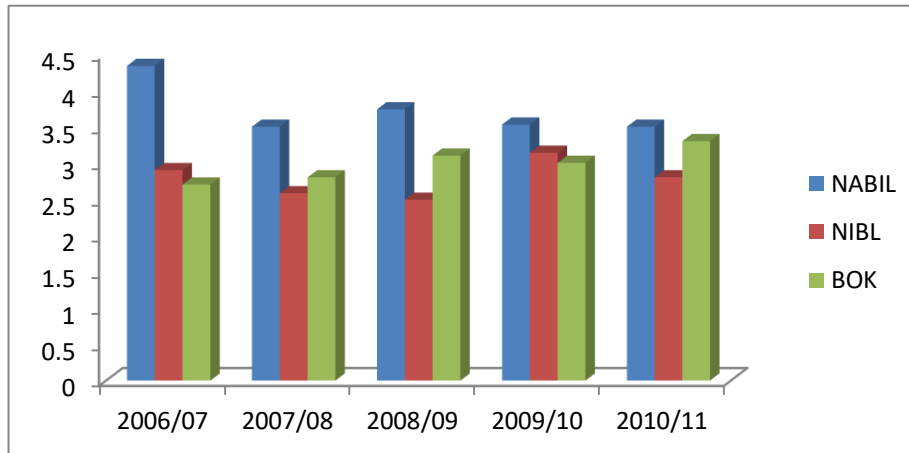
#### 4.5.3.4 Comparative analysis of Net profit to total loan and advances

**Table 4.60**

<b>YEARS</b>	<b>NABIL</b>	<b>NIBL</b>	<b>BOK</b>
2006/07	4.34	2.90	2.70
2007/08	3.50	2.58	2.80
2008/09	3.74	2.49	3.10
2009/10	3.53	3.14	3.00
2010/11	3.50	2.80	3.30
<b>MEAN</b>	3.722	2.728	2.98
<b>S.D</b>	0.322	0.232	0.214

**Source:** Annual reports

**Figure 4.18**



**Comparative analysis of net profit to total loan and advances**

Table 4.58 and figure 4.19 depicts the comparative analysis of net profit and loan and advances of the three sampled banks. Nabil bank has highest mean ratio of 3.72% in comparison with that of NIBL and BOK of 2.72% and 2.98%. This means Nabil bank has maintained higher profit with their loan and advances than NIBL and BOK. Bok has been improving in the recent years in the ratio whereas NIBL has lower ratio in recent years.

#### 4.6. Analysis of coefficient of correlation

##### 4.6.1 Correlation between Total deposit and loan and advances

##### 4.6.1.1 Correlation between Total deposit and loan and advances of Nabil bank

**Table 4.61**

(in millions)

Years	Total Deposit	Loan and Advances
2006/07	23342.29	15545.78
2007/08	31915.05	21365.05
2008/09	37348.26	27589.93
2009/10	46341.07	32268.87
2010/11	49696.11	38034.09
<b>Correlation (r)</b>		1
<b>P.E</b>		0

**Source:** (Annual Reports, Annex-III)

Table 4.59 depicts the coefficient correlation and probable error of Total deposits and total loan and advances of Nabil bank. The correlation coefficient and the probable error remain to

be 1 and 0 respectively. Correlation coefficient is higher than six times of probable error i.e.  $1 > 6 * 0$  which means the loan and advances are highly correlated with the deposits. Increase in deposits tends to increase in the total loan and advances.

#### 4.6.1.2. Correlation between Total deposit and loan and advances of NIBL.

**Table 4.62**

(in millions)

Years	Total Deposit	Loan and Advances
2006/07	24488.86	17769.12
2007/08	34451.73	27530.38
2008/09	46698.10	36826.12
2009/10	50094.73	40947.43
2010/11	50138.00	41887.00
<b>Correlation (r)</b>		0.997
<b>P.E</b>		0.0018

**Source:** (Annual Reports, Annex-III)

Table 4.60 depicts the coefficient correlation between total deposits and loan and advances. The correlation and probable error is 0.997 and 0.0018 respectively and correlation coefficient is greater than six times of probable error i.e.  $0.999 > 6 * 0.00049$  which means total deposits and loan and advances of NIBL are highly positively correlated. The increases in the deposits also increase the loan and advances.

#### 4.6.1.3. Correlation between Total deposit, loan, and advances of BOK.

**Table 4.63**

(in millions)

Years	Total Deposit	Loan and Advances
2006/07	12,389	9,694
2007/08	15,834	12,748
2008/09	18,084	14,946
2009/10	20,316	17,044
2010/11	21,018	17,957
<b>Correlation (r)</b>		0.999
<b>P.E</b>		0.0006

**Source:** (Annual Reports, Annex-III)

Table 4.61 depicts the correlation coefficient of total deposits and loan and advances of BOK. The correlation coefficient and probable error of BOK is 0.999 and 0.0006 respectively and correlation is greater than six times of probable error i.e.  $0.999 > 6 * 0.0006$  which means loan and advances are highly positively correlated with total deposits. Increase in total deposits also increases the loan and advances.

#### 4.6.2 Correlation between loan and advances and net profits

##### 4.6.2.1 Correlation between loan and advances and net profits of Nabil Bank

**Table 4.64**

**(in millions)**

<b>Years</b>	<b>Loan and Advances</b>	<b>Net Profit</b>
2006/07	15545.78	673.96
2007/08	21365.05	746.47
2008/09	27589.93	1031.05
2009/10	32268.87	1141.05
2010/11	38034.09	1337.75
<b>Correlation (r)</b>		0.989
<b>P.E</b>		0.0065

**Source:** (Annual Reports, Annex-III)

Table 4.62 depicts the correlation coefficient and probable error between loan and advances and net profit of Nabil bank. The coefficient correlation and probable are 0.977 and 0.0065 respectively and correlation is higher than six times the probable error i.e.  $0.977 > 6 * 0.0065$  which means loan and advances and net profits are highly positively correlated. Net profits have grown with the grown in the loan and advances side of Nabil bank.

#### 4.6.2.2 Correlation between loan and advances and net profits of NIBL.

**Total 4.65**

(in millions)

Years	Loan and Advances	Net Profit
2006/07	17769.12	501.40
2007/08	27530.38	696.73
2008/09	36826.12	900.62
2009/10	40947.43	1265.95
2010/11	41887.00	1176.00
	<b>Correlation (r)</b>	0.958
	<b>P.E</b>	0.0248

**Source:** (Annual Reports, Annex-III)

Table 4.63 depicts the correlation coefficient and probable between loan and advances to net profits of NIBL. Correlation coefficient and the probable is 0.966 and 0.0248 respectively and the correlation coefficient is higher than six times the probable error i.e.  $0.966 > 6 * 0.0248$  which means loan and advances and net profits of NIBL are highly positively correlated. Net profit tends to grow with the growth in the loan and advances.

#### 4.6.2.3 Correlation between loan and advances and net profits of BOK.

**Table 4.66**

(in millions)

Years	Loan and Advances	Net Profit
2006/07	9,694	262
2007/08	12,748	361
2008/09	14,946	462
2009/10	17,044	509
2010/11	17,957	605
	<b>Correlation (r)</b>	0.985
	<b>P.E</b>	0.0089

**Source:** (Annual Reports, Annex-III)

Table 4.64 depicts the correlation coefficient and probable error of loan and advances and net profits of BOK. Correlation coefficient and probable error remains 0.985 and 0.0089 respectively and the correlation is higher than six times the probable error. i.e.

0.997>6\*0.0089 which means loan and advances and net profits highly positively correlated of BOK. Net profits increases with the increase in the total loan and advances.

#### **4.7 Major Findings of the Study**

From the analysis of the sample commercial banks, major findings are as follows:

1. Liquidity management is one of the major portions of the commercial banks. Higher level of the liquidity reduces the liquidity risk and keeps the firm away from insolvency. But, it losses the opportunity to generate higher profits by employing reserves in to high return generating areas. Therefore, commercial has to manage optimum liquidity based on the NRB directive. Nabil bank has lowest CRR ration among three banks with the average of 6.22% is well above the NRB directive 5.0%. They have succeeded to manage CRR at optimum level. It has more investment and lending in high income generating sectors, this ultimately help to increase in profitability. NIBL has average CRR of 13.48% is higher than the standard. They could have invested the excess reserves in some high income generating sectors. BOK has a bit high CRR with 7.94%, which they are losing the opportunity to earn higher return of that excess reserve. Investment in government securities also considered liquid assets as they are easily converted in to cash. Investment in government securities also view as the liquid assets as they are easily turns in to cash. NIBL has lower investment in government securities in comparison with the other two banks. BOK has managed to invest in government securities 15.06% of total deposits and manages to reduce the liquidity risk by obtaining higher liquid assets. Similarly, NABIL and NIBL have invested 15.94% and 8.88% respectively.
2. Asset management is one of the crucial parts for the commercial banks. Investing in the higher quality assets reduces the credit risk and generates higher profits. Nabil banks has lower average ratio of loan and advances to total deposit ratio of 71.22%. Similarly, NIBL and BOK have 79.28% and 82.1% respectively. Here the trend seems in growing pattern. Bok has higher ratio of lending to total deposits from lending. Higher loan and advance to total deposits ratio increases the liquidity risk, which the NABIL bank has managed well. Loan and advances that crosses the due date are called non-performing assets. NABIL bank has minimum level of average non-performing assets to total assets,

which is 1.16%. Similarly, NIBL and BOK have 1.8% and 1.76% respectively. The trend seems all the banks have performed well in reducing the ratio below 1%.

3. Loan and advances that grants to the customers is the major basis for commercial banks to earn profits. Due to market condition not all the loan collected in the due time so non-performing loan in nearly foreseeable for the commercial banks. Good banks are those one, which keeps the non-performing loan very low. Among the three banks, Nabil & NIBL has lower average non-performing loan to total loan and advances that is 0.7%. Similarly, BOK has 1.22%. All three banks have been able to reduce their non-performing loan ratio in recent years. As directed by the NRB banks should have some provision for the different types of loan. NIBL Bank has the lower loan loss provision to total loan and advances with average 1.08% in relation to that of Nabil and BOK with 1.18% and 1.74%, respectively that mean NIBL has low non-performing loan and has lower provisioning. In provisioning of substandard loan, Bok has managed well which is exactly 25% according to NRB directives. Similarly, NABIL and NIBL have 36.96% and 22.48% respectively. NIBL has below than 25% and NABIL has higher than 25% in other words it has higher than NRB standard. In case of provisioning of doubtful loan, Nabil & NIBL have failed to meet standard. For provisioning the bad loan all three banks has failed in average with Nabil having 92.674% NIBL having 99.816% and BOK having 98.63%. the trend shows Nabil is far away with the standard of 100% provisioning whereas NIBL has met the standard in last few years and BOK is little short from the standard.
4. Investing and lending to the different sectors of the economy by commercial bank has to be determined after the analysis of the situation of the sector wise industries and its overall environment. The economic growth of the country also depends on the growth of these industries. Development and growth of industries needs funds from commercial banks. Working fund collected through loans from commercial banks. The analysis of five years average shows that all there sampled banks has lend highest portion in the manufacturing producing related sector Nabil near to 30% NIBL and BOK with 26% each respectively. After the production industry wholesaler and retailer has obtained the maximum loan from all three banks. All three banks has lend very low in the agriculture industry with around 1%. This shows the commercial banks lower interest in the

agricultural sector in transportation, communication sector Nabil has higher loan portfolio 9.251782% followed by BOK & NIBL 8.010181%, 5.045558%, each respectively. No lending has been made in local government sectors.

5. Profitability of the commercial banks largely depends in the income that generates and expenses they make. For the higher profitability, Bank should focus its investment in higher return generating sectors within the limit and should manage in reducing the expenses. BOK has low cost of deposits as the interest expenses to total expenses is low then other two banks. NIBL has the highest cost of deposit in their expenses with average of 72.632% of total expenses. Interest incomes to credit and investment ratio of all three banks have not much difference. The average ratio of Nabil, NIBL and BOK is 7.82%, 8.408% and 8.28% respectively. This shows that all three banks have invested with the similar investing rate. That might be due to the high competition in commercial banks. The net profit to loan and advances ratio of Nabil bank is higher with 3.722% than that of NIBL and Bok with 2.782% and 2.98% respectively. Nabil Bank has managed to earn higher profit with their loan and advances than NIBL and BOK.
6. Analysis of the correlation coefficient found that all three banks have highly positive correlation to the total deposits and loan and advances. As there is an increase in the deposit, there is increase in the loans. Banks have generally utilized their deposits in the loan and advances rather than investing in other areas. Similarly, there is highly positive correlation between net profits and total loan and advances of all three sampled commercial banks. With the increase in the total loan and advances, banks are able to generate higher profits.

## **CHAPTER – V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This is the final chapter of the study. This chapter includes the summary, conclusion & recommendation based on findings through the analysis with the help of statistical tools and techniques. After the identification of the situation and status through analysis, the conclusion is made & proper recommendation is given.

#### **5.1 Summary**

Screening the current financial situation and economic status of the country, we can see the huge growth of quantities of the financial institutions; commercial banks, development banks, finance & investment companies & cooperatives. These institutions are spread from urban cities to remote area of the country. However these institutions require accurate control over the quality & performance. One of the major problems in the current economic circumstances is liquidity crisis.

NRB has directed all the commercial banks to maintain the CRR of 5% and invest certain percentage of their deposits on government securities like T-Bill and Development Bond of Governments. Verifying at the five years CRR ratio of the three sampled banks, there seems to be comfort in maintaining the CRR as directed by NRB. Investment in government securities out of their deposit of sample banks are above 8.88% of average. It is believed that this also helped them in minimizing the liquidity risk.

Major function of Commercial bank is to collect the deposit from surplus unit & lending them to the deficits unit & earning profit from the spread. In this process, bank need to have some control in the lending ratio to manage liquidity risk. The average loan and advance to total deposit ratio of these three commercial banks are between 71.22% to 82.1%, which lies in the optimum position in the current economic circumstances but the recent trend shows the increment in this ratio which the banks control the growth.

Loan and advance of the commercial banks should be collect within a due date. If they fail to collect within certain time there should be set certain percentage as loan loss provision which adversely affect the performance and goodwill of institutions. The average non-performing assets to loan and advance of Nabil, Nibl, & Bok are 1.18%, 1.08% & 1.74% respectively. Similarly, non-performing assets to total assets ratios are 0.7%, 0.7% & 1.22% respectively. Higher the non-performing ratio lower would be the assets quality. With the analysis, it has found out that the provisioning by all the three banks are not according to the NRB standard as the analysis shows the short falls in the ratios in different years by these banks.

The loan and advances granted by the commercial banks in the different sectors plays a vital role in the development of the particular sectors and the situation of the economy. The loan and advances portfolio of these three sampled banks shows the maximum amount of the loan has been sanctioned to the manufacturing producing sector with around 26% to 30%. Similarly, the wholesaler and retailer remained the second in getting loans of these commercial banks with around 12% to 20%. In the agriculture sector all the three banks has negligible lending around 1%.

Organization can earn profit by maximizing the investment or by minimizing the costs. Commercial can higher profits by collecting the low cost deposits and investing the collection in higher investment. BOK has the lowest interest expenses to total expenses. Likewise, the interest income to total credit and investment ratio is 7.82% of Nabil, 8.408%, and 8.28% of NIBL and BOK. The ratio shows that the sampled banks have invested relatively on same interest rate with NIBL in bit higher rate.

Net profits of the commercial banks have highly positively correlated with the total loan and advances. The correlation analysis of the three sampled banks shows that the increased in the total loan and advances also increased the net profits. Similarly, the total deposits have also highly positively correlated with the loan and advances. The increase in the total deposits also increased the loan and advances of the banks. This indicates good performance of these banks.

## 5.2 Conclusion

The global economic recession has adversely effected the banking & financial institutions of the developed country. However the developing countries like Nepal are also not untouched from it. The declining growth rate in remittance, liquidity crisis is the good example of it. High differences in the balance of payment, low level of exports than imports, deteriorated political environment, unstable government & their policies are the major economic shortcomings of the country.

Commercial banking has to operate in the same environment; it has no other options except compromising. For the success of banking institutions, it has to be highly aware with environment and take proactive measure to be safe and trustworthy. Major proportion of the lending in real estate has been prime concern in the present situation. Crisis of the flow of cash in money market, liquidity crisis in the financial market have been extremely affecting the commercial banks. The rise in bank interest rate, certain restriction of lending in real estate, maintaining cash reserve ratio, are the major challenges for the commercial banking industries.

The present economic state is the result of the past performance of the financial institutions. The above highlighted challenges and uncertainty in the financial market, commercial banks have to provide quality service to sustain in market. The sampled banks; Nabil, Nibl & Bok are top commercial banks of Nepal. From the analysis, it has been found that Nabil has performed well in all the aspects. It has achieved all the standards with high returns. On the other hand, it should focus on adequate liquidity management. Nibl has managed to reduce their loans losses in recent fiscal years. It has also earned maximum profit. It also has some problem regarding the non-performing loan provisioning where bank should be conscious on it. Bok has been performing well in recent years. All the banks have sufficient liquidity in these five years period. Percentage of CRR & investment in government securities easily meets the requirements. They are able to maintain the optimum Credit to Deposit ratio and achieved satisfying growth rate in net profits. In the case of loan loss provisioning, they have also failed in some way where they should focus on and act upon harder to be in the standard.

Commercial banks play a crucial role in the development of the economy of the country. Their lending towards different sectors helps them to grow up and enlarge. The lending to the productive sectors helps to raise the economy. The loan and advances portfolio of the three sampled banks show the major part of the lending on the producing & manufacturing sector followed by wholesaler and retailer sector. Still the most of the lending are towards production sector. There is not any enhancement in these sectors. Most of the production houses have gone down due to political instability and their inner issues. The investment in the service sector is also comparatively very low which plays an important role in the development of the country; creating employment opportunities & utilization of local resources. There is very low investment in the agriculture sector that used to be the vital part of the country's economy. Since the environment not at all is the same of all the sectors, commercial banks must examine the situation of every sector time to time to approve the security of their lending and to recognize the new areas to invest. They should hold back the loan from the poor industries to the growing industries to be on the safe side and besides looking for the maximizing the profits they should also focus on lending to the long term projects which are crucial for the economy to boom like hydro-powers, infrastructure building and construction though the return is after long time. They should make the proper long term planning in these areas rather than focusing on the yearly profits. Hydropower, mining, tourism related sector could be the new investment arena for the long term return for commercial banks. That ensures the long- term growth, profits and goodwill of commercial banks.

### **5.3 Recommendation**

After this study of the credit position of three samples commercial banks of Nepal, some of the findings are made. This may be providing important information for those who are concerned directly or indirectly with credit position of these banks. The findings of the study reflect both positive & negative results with respect to the financial performance of the sampled banks. As per the above conclusion the following suggestions can be concluded for the banks:

1. All the three commercial banks has managed properly sufficient CRR ratio maintaining above 5% as directed by NRB. NIBL has highest cash reserve ratio and BOK

has also bit high ratios that remain idle in their account. The idle fund could invest in high return generating areas of investment which definitely increase the profitability.

2. Investment in government securities seems declining in the year 2008/09 of all the banks, later in the year 2009/10 to 2010/11 it seems on increasing trend that could be good for them to bid the government securities where they can earn interest. Instead of maintaining excess, CRR NIBL and BOK could upward bid for government securities where ultimately they can earn more interest.
3. NABIL bank has low credit to deposit ratio less than 72%, they still have opportunity to lend with least liquidity risk so they should identify the proper sector to maximize the return.
4. Non-performing loan to total loan ratio of all the three banks are satisfying and in decreasing trend. Keeping in view that, the Nepalese market are free from international financial organization. However, they have to act upon harder to keep this ratio very low.
5. In comparisons of three samples commercial banks NABIL & BOK has high loan loss provision. They should focus on reducing the non-performing loan because higher loan loss provision adversely affects the profitability of the banks.
6. NABIL bank has high provisioned for substandard loan, which has reduced their profits so they should focus on reducing the same to standard level and maximize the profit. NIBL bank has failed to achieve the provisioning ratio of substandard loan in recent years so the bank should increase their provisioning for the betterment for goodwill. Here in the case of BOK, it has met the standard all the time.
6. All the three banks have failed to maintain the standard of 50% all year. However, in recent year they are trying to maintain standard. They should maintain proper standard every year according to NRB directives.
7. NABIL bank provisioning of bad loans is poorer among the three banks being highly low than the standard. They should take proper action in being with the standard. BOK has also bit short in bad loan provisioning so it also focuses on increasing the provisioning.
8. Sector wise lending of all three banks is highly concerted in some areas. Their higher proportion in manufacturing producing sector has yet positively affected the economy. Their higher proportion in service industries is very low and negligible in agriculture industries. So far, all three commercial banks should diversify their loan and advances in

new and profitable sectors. They should focus on lending to the productive sectors rather than focus in productive lending and long-term projects like hydropower infrastructure building, construction and mining and service sectors that contributes in the economic growth. Since the environment is not always the same forever, this entire bank must revise their loan portfolio as per the internal and external environment of different industries considering the global perspective of business.

9. Profit maximization is possible through higher investment in productive sector by reducing the cost. Bank should focus in reducing cost by focusing in collecting low cost deposits and investing in higher returns areas.

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## Annex - I

### Comparative analysis of CRR

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	5.9	9.9	8	-0.32	0.1024	-3.58	12.8164	0.06	0.0036
07/08	8.3	10.8	7.5	2.08	4.3264	-2.68	7.1824	-0.44	0.1936
08/09	9	16.9	7.5	2.78	7.7284	3.42	11.6964	-0.44	0.1936
09/10	3	13.6	8.8	-3.22	10.3684	0.12	0.0144	0.86	0.7396
10/11	4.9	16.2	7.9	-1.32	1.7424	2.72	7.3984	-0.04	0.0016
sum	$\Sigma X = 31.1$	$\Sigma Y = 67.4$	$\Sigma Z = 39.7$		$\Sigma(x - \bar{x})^2 = 24.268$		$\Sigma(y - \bar{y})^2 = 39.108$		$\Sigma(z - \bar{z})^2 = 1.132$
Mean	$\bar{X} = 6.22$	$\bar{y} = 13.48$	$\bar{z} = 7.94$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\Sigma x}{n} = \frac{31.1}{5} = 6.22$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n}} = \sqrt{\frac{24.268}{5}} = 2.20$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\Sigma y}{n} = \frac{67.4}{5} = 13.48$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\Sigma(Y - \bar{Y})^2}{n}} = \sqrt{\frac{39.108}{5}} = 2.79$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum Z}{n} = \frac{39.7}{5} = 7.94$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Z-\bar{Z})^2}{n}} = \sqrt{\frac{1.132}{5}} = 0.48$$

### Investment in Government securities to Total Deposits

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	20.5	13.2	18.8	4.56	20.7936	4.32	18.6624	3.74	13.9876
07/08	14.5	9.1	13.3	-1.44	2.0736	0.22	0.0484	-1.76	3.0976
08/09	9.9	5.4	9.6	-6.04	36.4816	-3.48	12.1104	-5.46	29.8116
09/10	17.2	8.3	14.5	1.26	1.5876	-0.58	0.3364	-0.56	0.3136
10/11	17.6	8.4	19.1	1.66	2.7556	-0.48	0.2304	4.04	16.3216
Sum	$\sum X = 79.7$	$\sum Y = 44.4$	$\sum Z = 75.3$		$\sum(x - \bar{x})^2 = 63.692$		$\sum(y - \bar{y})^2 = 31.388$		$\sum(z - \bar{z})^2 = 63.532$
mean	$\bar{X} = 15.94$	$\bar{y} = 8.88$	$\bar{z} = 15.06$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{79.7}{5} = 15.94$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{63.629}{5}} = 3.57$$



NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{365.1}{5} = 71.22$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{56.628}{5}} = 3.37$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{396.4}{5} = 79.28$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(y-\bar{y})^2}{n}} = \sqrt{\frac{70.248}{5}} = 3.75$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{410.5}{5} = 82.1$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z-\bar{z})^2}{n}} = \sqrt{\frac{31.8}{5}} = 2.52$$

**Comparative analysis of Non-performing assets to Performing assets.**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	1.1	2.3	2.5	-0.06	0.0036	1.22	1.4884	0.74	0.5476
07/08	0.7	1.1	1.8	-0.46	0.2116	0.02	0.0004	0.04	0.0016
08/09	0.8	0.5	1.2	-0.36	0.1296	-0.58	0.3364	-0.56	0.3136
09/10	1.4	0.6	1.5	0.24	0.0576	-0.48	0.2304	-0.26	0.0676

10/11	1.8	0.9	1.8	0.64	0.4096	-0.18	0.0324	0.04	0.0016
sum	$\sum X = 5.8$	$\sum Y = 5.4$	$\sum Z = 8.8$		$\sum(x - \bar{x})^2 = 0.812$		$\sum(y - \bar{y})^2 = 2.088$		$\sum(z - \bar{z})^2 = 0.932$
mean	$\bar{X} = 1.16$	$\bar{y} = 1.08$	$\bar{z} = 1.76$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{5.8}{5} = 1.16$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x - \bar{x})^2}{n}} = \sqrt{\frac{0.812}{5}} = 0.40$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{5.4}{5} = 1.08$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Y - \bar{Y})^2}{n}} = \sqrt{\frac{2.088}{5}} = 0.65$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{8.8}{5} = 1.76$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Z - \bar{Z})^2}{n}} = \sqrt{\frac{0.932}{5}} = 0.43$$

**Comparative analysis of Non-performing assets to Total assets.**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	0.6	1.4	1.6	-0.1	0.01	0.7	0.49	0.38	0.1444
07/08	0.4	0.7	1.3	-0.3	0.09	0	0	0.08	0.0064
08/09	0.5	0.4	0.9	-0.2	0.04	-0.3	0.09	-0.32	0.1024
09/10	0.9	0.4	1	0.2	0.04	-0.3	0.09	-0.22	0.0484
10/11	1.1	0.6	1.3	0.4	0.16	-0.1	0.01	0.08	0.0064
sum	$\sum X = 3.5$	$\sum Y = 3.5$	$\sum Z = 6.1$		$\sum(x - \bar{x})^2 = 0.34$		$\sum(y - \bar{y})^2 = 0.68$		$\sum(z - \bar{z})^2 = 0.308$
mean	$\bar{X} = 0.7$	$\bar{y} = 0.7$	$\bar{z} = 1.22$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{3.5}{5} = 0.7$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x - \bar{x})^2}{n}} = \sqrt{\frac{0.34}{5}} = 0.26$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{3.5}{5} = 0.7$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(y - \bar{y})^2}{n}} = \sqrt{\frac{0.68}{5}} = 0.37$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{6.1}{5} = 1.22$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z-\bar{z})^2}{n}} = \sqrt{\frac{0.308}{5}} = 0.25$$

**Comparative analysis of non-performing assets to total loan and advances.**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	1.1	2.3	2.4	-0.08	0.0064	1.22	1.4884	0.66	0.4356
07/08	0.7	1.1	1.8	-0.48	0.2304	0.02	0.0004	0.06	0.0036
08/09	0.8	0.5	1.2	-0.38	0.1444	-0.58	0.3364	-0.54	0.2916
09/10	1.5	0.6	1.5	0.32	0.1024	-0.48	0.2304	-0.24	0.0576
10/11	1.8	0.9	1.8	0.62	0.3844	-0.18	0.0324	0.06	0.0036
sum	$\sum X = 5.9$	$\sum Y = 5.4$	$\sum Z = 8.7$		$\sum(x - \bar{x})^2 = 0.868$		$\sum(y - \bar{y})^2 = 2.088$		$\sum(z - \bar{z})^2 = 0.792$
mean	$\bar{X} = 1.18$	$\bar{y} = 1.08$	$\bar{z} = 1.74$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{5.9}{5} = 1.18$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{0.868}{5}} = 0.42$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{5.4}{5} = 1.08$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum (Y - \bar{Y})^2}{n}} = \sqrt{\frac{2.088}{5}} = 0.65$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{8.7}{5} = 1.74$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum (z - \bar{z})^2}{n}} = \sqrt{\frac{0.792}{5}} = 0.39$$

**Comparative analysis of Loan loss provision to total loan and advances.**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	2.2	2.7	2.4	0.22	0.0484	0.82	0.6724	0.48	0.2304
07/08	1.8	1.9	1.8	-0.18	0.0324	0.02	0.0004	-0.12	0.0144
08/09	1.4	1.5	1.2	-0.58	0.3364	-0.38	0.1444	-0.72	0.5184
09/10	2.3	1.5	1.5	0.32	0.1024	-0.38	0.1444	-0.42	0.1764
10/11	2.2	1.8	2.7	0.22	0.0484	-0.08	0.0064	0.78	0.6084
sum	$\sum X = 9.9$	$\sum Y = 9.4$	$\sum Z = 9.6$		$\sum (x - \bar{x})^2 = 0.568$		$\sum (y - \bar{y})^2 = 0.968$		$\sum (z - \bar{z})^2 = 1.548$
mean	$\bar{X} = 1.98$	$\bar{y} = 1.88$	$\bar{z} = 1.92$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{9.9}{5} = 1.98$$



NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{5.4}{5} = 1.08$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{0.068}{5}} = 0.12$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{5}{5} = 1$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(y-\bar{y})^2}{n}} = \sqrt{\frac{0}{5}} = 0$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{5}{5} = 1$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z-\bar{z})^2}{n}} = \sqrt{\frac{0}{5}} = 0$$

**Comparative analysis of provision for substandard loan to total substandard loan**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	47.3	25.3	25	10.34	106.9156	2.82	7.9524	0	0
07/08	48.8	16.8	25	11.84	140.1856	-5.68	32.2624	0	0
08/09	38.8	24.9	25	1.84	3.3856	2.42	5.8564	0	0
09/10	25	25	25	-11.96	143.0416	2.52	6.3504	0	0
10/11	24.9	20.4	25	-12.06	145.4436	-2.08	4.3264	0	0
Sum	$\sum X = 184.8$	$\sum Y = 112.4$	$\sum Z = 125$		$\sum(x - \bar{x})^2 = 538.972$		$\sum(y - \bar{y})^2 = 56.748$		$\sum(z - \bar{z})^2 = 0$

mean	$\bar{X} = 36.96$	$\bar{y} = 22.48$	$\bar{z} = 25$
$n=5$			

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{184.8}{5} = 36.96$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{538.972}{5}} = 10.38$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{112.4}{5} = 22.48$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Y-\bar{Y})^2}{n}} = \sqrt{\frac{56.748}{5}} = 3.37$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{125}{5} = 25$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z-\bar{z})^2}{n}} = \sqrt{\frac{0}{5}} = 0$$

**Comparative analysis of provision for doubtful loan to total doubtful loan.**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	49.2	50	50	-0.9	0.81	0.02	0.0004	0.052	0.002704
07/08	49.9	50	49.97	-0.2	0.04	0.02	0.0004	0.022	0.000484
08/09	51.4	49.9	49.98	1.3	1.69	-0.08	0.0064	0.032	0.001024
09/10	50	50	49.99	-0.1	0.01	0.02	0.0004	0.042	0.001764
10/11	50	50	49.8	-0.1	0.01	0.02	0.0004	-0.148	0.021904
sum	$\sum X = 250.5$	$\sum Y = 249.9$	$\sum Z = 249.74$		$\sum(x - \bar{x})^2 = 2.56$		$\sum(y - \bar{y})^2 = 0.008$		$\sum(z - \bar{z})^2 = 0.02788$
mean	$\bar{X} = 50.1$	$\bar{y} = 49.98$	$\bar{z} = 49.948$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{250.5}{5} = 50.1$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x - \bar{x})^2}{n}} = \sqrt{\frac{2.56}{5}} = 0.72$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{249.9}{5} = 49.98$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(y - \bar{y})^2}{n}} = \sqrt{\frac{0.008}{5}} = 0.04$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum Z}{n} = \frac{249.74}{5} = 49.948$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Z-\bar{Z})^2}{n}} = \sqrt{\frac{0.02788}{5}} = 0.07$$

**Comparative analysis of provision for bad loan to total bad loan.**

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	86.4	99.08	96.1	-6.274	39.36308	-0.736	0.541696	-2.53	6.4009
07/08	88	100	99.53	-4.674	21.84628	0.184	0.033856	0.9	0.81
08/09	91	100	98.54	-1.674	2.802276	0.184	0.033856	-0.09	0.0081
09/10	98.98	100	98.98	6.306	39.76564	0.184	0.033856	0.35	0.1225
10/11	98.99	100	100	6.316	39.89186	0.184	0.033856	1.37	1.8769
sum	$\sum X = 463.37$	$\sum Y = 499.08$	$\sum Z = 493.15$		$\sum(x - \bar{x})^2 = 143.6691$		$\sum(y - \bar{y})^2 = 0.67712$		$\sum(z - \bar{z})^2 = 9.2184$
mean	$\bar{X} = 92.674$	$\bar{y} = 99.816$	$\bar{z} = 98.63$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{463.37}{5} = 92.674$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{143.6691}{5}} = 5.36$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{499.08}{5} = 99.816$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Y-\bar{Y})^2}{n}} = \sqrt{\frac{0.67712}{5}} = 0.368$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum Z}{n} = \frac{493.15}{5} = 98.63$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z-\bar{z})^2}{n}} = \sqrt{\frac{9.2184}{5}} = 1.36$$

### Comparative analysis of interest expenses to total expenses.

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	(x - $\bar{x}$ )	(x - $\bar{x}$ ) <sup>2</sup>	(y - $\bar{y}$ )	(y - $\bar{y}$ ) <sup>2</sup>	(z - $\bar{z}$ )	(z - $\bar{z}$ ) <sup>2</sup>
06/07	56.47	63.81	61.97	-6.076	36.91778	-8.822	77.82768	-0.094	0.008836
07/08	60.82	66.48	50.94	-1.726	2.979076	-6.152	37.8471	-11.124	123.7434
08/09	65.59	72.51	59.7	3.044	9.265936	-0.122	0.014884	-2.364	5.588496
09/10	73.65	78.16	66.11	11.104	123.2988	5.528	30.55878	4.046	16.37012
10/11	56.2	82.2	71.6	-6.346	40.27172	9.568	91.54662	9.536	90.9353
Sum	$\sum X = 312.73$	$\sum Y = 363.16$	$\sum Z = 310.32$		$\sum(x - \bar{x})^2 = 212.7333$		$\sum(y - \bar{y})^2 = 237.7951$		$\sum(z - \bar{z})^2 = 236.6461$
Mean	$\bar{X} = 62.546$	$\bar{y} = 72.632$	$\bar{z} = 62.064$						
n=5									

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{312.73}{5} = 62.546$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{212.7333}{5}} = 6.52$$



NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{39.1}{5} = 7.82$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x-\bar{x})^2}{n}} = \sqrt{\frac{11.0016}{5}} = 1.48$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{42.04}{5} = 8.408$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(y-\bar{y})^2}{n}} = \sqrt{\frac{21.02388}{5}} = 2.05$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{41.4}{5} = 8.28$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z-\bar{z})^2}{n}} = \sqrt{\frac{14.308}{5}} = 1.69$$

### Comparative analysis of Net profit to total loan and advances

YEARS	NABIL (X)	NIBL (Y)	BOK (Z)	$(x - \bar{x})$	$(x - \bar{x})^2$	$(y - \bar{y})$	$(y - \bar{y})^2$	$(z - \bar{z})$	$(z - \bar{z})^2$
06/07	4.34	2.9	2.7	0.618	0.381924	0.118	0.013924	-0.28	0.0784
07/08	3.5	2.58	2.8	-0.222	0.049284	-0.202	0.040804	-0.18	0.0324
08/09	3.74	2.49	3.1	0.018	0.000324	-0.292	0.085264	0.12	0.0144
09/10	3.53	3.14	3	-0.192	0.036864	0.358	0.128164	0.02	0.0004

10/11	3.5	2.8	3.3	-0.222	0.049284	0.018	0.000324	0.32	0.1024
sum	$\sum X = 18.61$	$\sum Y = 13.91$	$\sum Z = 14.9$		$\sum(x - \bar{x})^2 = 0.51768$		$\sum(y - \bar{y})^2 = 0.26848$		$\sum(z - \bar{z})^2 = 0.228$
mean	$\bar{X} = 3.722$	$\bar{y} = 2.782$	$\bar{z} = 2.98$						
n=5									

s

NABIL

$$\text{Mean } (\bar{X}) = \frac{\sum x}{n} = \frac{18.61}{5} = 3.722$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(x - \bar{x})^2}{n}} = \sqrt{\frac{0.51768}{5}} = 0.32$$

NIBL

$$\text{Mean } (\bar{Y}) = \frac{\sum y}{n} = \frac{13.91}{5} = 2.78$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(Y - \bar{Y})^2}{n}} = \sqrt{\frac{0.26848}{5}} = 0.23$$

BOK

$$\text{Mean } (\bar{Z}) = \frac{\sum z}{n} = \frac{14.9}{5} = 2.98$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum(z - \bar{z})^2}{n}} = \sqrt{\frac{0.228}{5}} = 0.21$$

## Annex - II

### Loan and advances portfolio of Nabil bank.

Sector wise loan and advance of Nabil; Calculation proportion of sector wise lending to Total loan & advance of Nabil

Year	2007		2008		2009		2010		2011		total prop. Ratio	avg ratio
Agricultural & Forest Related	54.5	0.342703	115.9	0.532408	192.9	0.688997	262.9	0.795921	298.9	0.767932	3.127962309	0.625592
Fishery Related	0	0	0	0	0	0	0	0	0	0	0	0
Mining Related	13.9	0.087405	18.5	0.084983	15.4	0.055006	9	0.027247	15.9	0.04085	0.295491038	0.059098
Munufacturing Producing Related	5701.5	35.85173	6640.7	30.50531	7829.5	27.9653	8687.9	26.30234	1120	28.78988	149.414553	29.88291
Constuction	1923.3	12.09394	2985	13.71216	4014.5	14.33893	4780.6	14.47311	5022.4	12.90352	67.52167666	13.50434
Electricity Gas & Water	163.2	1.02621	234.9	1.079057	0	0	129.4	0.391754	118.9	0.305477	2.802510497	0.560502
Metal Productcs, Machinery & Electronic Equipment & Assc	1467.9	9.230334	1791	8.227296	291.1	1.039747	294.6	0.891892	473.3	1.216	20.60526848	4.121054
Transport, Communication & public Utilities	917.7	5.770609	1785.3	8.201112	2498.4	8.92375	4197.3	12.70719	4147.7	10.65625	46.2589123	9.251782
Wholesaller & Retailer	2458.5	15.45935	3586.5	16.47526	1313.2	4.690469	6283.3	19.02249	8594.4	22.08069	77.72825852	15.54565
Finance, Insurance & Realestate	821.1	5.163177	1255.6	5.767835	5094.6	18.19682	2711.4	8.208677	3030.3	7.785431	45.12193989	9.024388
Hotel or Restaurant	0	0	1553.5	7.136295	1964	7.014987	871.3	2.637833	989.3	2.541704	19.33081946	3.866164
Other sevices	1260.7	7.927435	0	0	1979.4	7.069993	1853.1	5.610201	1883.5	4.839078	25.44670763	5.089342
Consumption loans	84.6	0.531975	116	0.532868	116.2	0.415042	139.2	0.421424	207.7	0.533622	2.434929787	0.486986
Local Government	0	0	0	0	0	0	0	0	0	0	0	0
Others	1036.1	6.515123	1686.1	7.745418	2688	9.60096	2810.9	8.50991	2934.6	7.539559	39.91097042	7.982194
<b>Total</b>	<b>15903</b>	<b>100</b>	<b>21769</b>	<b>100</b>	<b>27997.2</b>	<b>100</b>	<b>33030.9</b>	<b>100</b>	<b>38922.7</b>	<b>100</b>		<b>100</b>

## Loan and advances portfolio of NIBL.

Sector wise loan and advance of NIBL; Calculation of proportion of sector wise lending to Total loan & advance of NIBL

Year	2007		2008		2009		2010		2011		total prop. Ratio	avg ratio
Agricultural & Forest Related	156.9	0.882993 511	142.7	0.5183 57	176.1	0.4781 77	253.6	0.6193 18	308.5	0.7364 91	3.235336	0.6470 67
Fishery Related	0	0	0	0	0	0	0	0	0	0	0	0
Mining Related	5.4	0.030389 834	8353. 7	30.344 76	0	0	3	0.0073 26	24.2	0.0577 73	30.44025	6.0880 5
Munufacturing Producing Related	5858. 4	32.96959 328	1335. 4	4.8508 32	10753 .7	29.200 27	12046 .3	29.418 32	13871	33.114 65	129.5537	25.910 73
Constuction	771.8	4.343495 169	325.4	1.1820 13	1889. 9	5.1317 77	1699. 3	4.1498 67	1522. 5	3.6347 1	18.44186	3.6883 72
Electricity Gas & Water	144.4	0.812646 673	51.2	0.1859 84	0	0	347.7	0.8491 19	213.1	0.5087 4	2.35649	0.4712 98
Metal Productcs, Machinary & Electronic Equipment & Assc	11.4	0.064156 316	1191. 6	4.3284 79	297.7	0.8083 66	486.7	1.1885 72	221.6	0.5290 32	6.918605	1.3837 21
Transport, Communication & public Utilities	861	4.845490 205	4077. 7	14.812 22	110.9	0.3011 34	1200. 6	2.9319 9	978.9	2.3369 57	25.22779	5.0455 58
Wholesaller & Retailer	3264. 4	18.37121 745	2799. 9	10.170 62	1701. 9	4.6212 87	5272. 9	12.876 97	5998. 5	14.320 4	60.36049	12.072 1
Finance, Insurance & Realestate	961.7	5.412204 332	3123. 3	11.345 37	4572. 6	12.416 3	6219. 4	15.188 42	6029. 9	14.395 36	58.75765	11.751 53
Hotel or Restaurant	2125. 5	11.96177 634	269.2	0.9778 67	4479. 3	12.162 95	2522. 7	6.1606 95	2309. 1	5.5125 84	36.77588	7.3551 75
Other sevice	221.2	1.244857 646	0	0	3294. 1	8.9446 99	2220. 8	5.4234 24	2531. 2	6.0428 1	21.65579	4.3311 58
Consumption loans	0	0	0	0	455.7	1.2373 94	1327. 8	3.2426 25	1254. 8	2.9956 22	7.475641	1.4951 28
Local Government	0	0	0	0	0	0	0	0	0	0	0	0
Others	3387	19.06117 924	5859. 2	21.283 51	9095. 5	24.697 64	7347. 5	17.943 36	6624. 5	15.814 87	98.80055	19.760 11
<b>Total</b>	<b>17769 .1</b>	<b>100</b>	<b>27529 .3</b>	<b>100</b>	<b>36827 .4</b>	<b>100</b>	<b>40948 .3</b>	<b>100</b>	<b>41887 .8</b>	<b>100</b>		<b>100</b>

## Loan and advances portfolio of BOK.

Sector wise loan and advance of BOK; Calculation of proportion of sector wise lending to Total loan & advance of BOK

Year	2007		2008		2009		2010		2011		Total prop. Ratio	Avg. ratio
Agricultural & Forest Related	81.5	0.8406 92	87.8	0.6887 57	79.3	0.5305 87	170.7	1.0015 2	132.2	0.7362 07	3.797762865	0.75955 26
Fishery Related	0	0	0	0	0	0	0	0	0	0	0	0
Mining Related	343. 9	3.5474 09	337.8	2.6499 11	59.8	0.4001 15	0	0	0	0	6.597434468	1.31948 69
Munufacturing Producing Related	2852 .1	29.420 08	3076. 8	24.136 31	3485. 8	23.323 1	4036. 5	23.682 68	4912. 4	27.356 62	127.9187788	25.5837 56
Constuction	1102 .5	11.372 54	1380. 5	10.829 49	1808. 5	12.100 47	1595. 7	9.3621 84	1478. 8	8.2352 74	51.89996326	10.3799 93
Electricity Gas & Water	208. 6	2.1517 58	232.2	1.8215 19	0	0	231.2	1.3564 81	680.2	3.7879 59	9.117717135	1.82354 34
Metal Productes, Machinary & Electronic Equipment & Assc	10.8	0.1114 05	58.3	0.4573 41	247.7	1.6573 33	28.7	0.1683 87	202.6	1.1282 57	3.522722209	0.70454 44
Transport, Communication & public Utilities	1106	11.408 65	1827. 1	14.332 89	233.3	1.5609 84	2020. 6	11.855 13	160.4	0.8932 5	40.05090513	8.01018 1
Wholesaller & Retailer	1741 .3	17.961 92	2399. 5	18.823 15	1647. 8	11.025 24	4150	24.348 6	4364. 1	24.303 19	96.46210611	19.2924 21
Finance, Insurance & Realestate	726. 8	7.4971 12	905.9	7.1064 36	3487. 2	23.332 46	2319. 2	13.607 05	2243. 4	12.493 25	64.03631334	12.8072 63
Hotel or Restaurant	861. 3	8.8845 11	1190	9.3350 91	728.9	4.8769 88	138.5	0.8125 98	162.7	0.9060 58	24.81524551	4.96304 91
Other sevice	238. 4	2.4591 52	154	1.2080 71	1336. 5	8.9423 71	1235. 3	7.2476 69	1292. 7	7.1989 04	27.05616692	5.41123 34
Consumption loans	0	0	0	0	95.5	0.6389 8	67.4	0.3954 45	1321. 8	7.3609 59	8.395383272	1.67907 67
Local Government	0	0	0	0	0	0	0	0	0	0	0	0
Others	421. 2	4.3447 76	1097. 7	8.6110 33	1735. 4	11.611 37	1050. 3	6.1622 5	1005. 6	5.6000 76	36.32950094	7.26590 02
<b>Total</b>	<b>9694 .4</b>	<b>100</b>	<b>12747 .6</b>	<b>100</b>	<b>14945 .7</b>	<b>100</b>	<b>17044 .1</b>	<b>100</b>	<b>17956 .9</b>	<b>100</b>		<b>100</b>



### Annex - III

Correlation between Total deposit and loan and advances of Nabil bank

X	Y	x <sup>2</sup>	y <sup>2</sup>	xy
23342.3	15545.8	544862502.4	241671275.8	362874105
31915.1	21365.1	1018570417	456465361.5	681866639
37348.3	27589.9	1394892525	761204237.4	1030435879
46341.1	32268.9	2147494769	1041279971	1495373963
49696.1	38034.1	2469703349	1446592002	1890146320
<b>Σx =188642.8</b>	<b>Σy =134803.7</b>	<b>Σx<sup>2</sup> =35586098446</b>	<b>Σy<sup>2</sup> =18172042926</b>	<b>Σxy =25429748495</b>

$$r_{12} = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 25429748495 - 35586098446}{\sqrt{5 \times 35586098446 - (188642.8)^2} \sqrt{5 \times 18172042926 - (134803.7)^2}}$$

$$= 1$$

**Correlation between Total deposit and loan and advances of NIBL.**

Year s	(X)	Loan and Advances( Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
7-06	24488.9	17769.1	599704264	315741626	435145492
8-07	34451.7	27530.4	1186921700	757921823	948469219
9-08	46698.1	36826.1	2180712544	1356163114	1719709834
10-09	50094.7	40947.4	2509481974	1676692024	2051250450
11-10	50138	41887	2513819044	1754520769	2100130406
	<b>Σx =20587 1.4</b>	<b>Σy =16496 0.1</b>	<b>Σx<sup>2</sup> =89906395 25</b>	<b>Σy<sup>2</sup> =58610393 55</b>	<b>Σxy =72547054 01</b>

$$r_{12} = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 7254705401 - 205871.4 \times 164960.1}{\sqrt{5 \times 8990639525 - (205871.4)^2} \sqrt{5 \times 5861039355 - (164960.1)^2}}$$

$$= 0.997$$

**Correlation between Total deposit & loan & Advance of Bok**

Year s	Total Deposit (X)	Loan and Advances (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
7-06	12,389	9,694	153487321	93973636	120098966
8-07	15,834	12,748	250715556	162511504	201851832
9-08	18,084	14,946	327031056	223382916	270283464
10-09	20,316	17,044	412739856	290497936	346265904
11-10	21,018	17,957	441756324	322453849	377420226
	$\sum x = 87641$	$\sum y = 72389$	$\sum x^2 = 1585730113$	$\sum y^2 = 1092819841$	$\sum xy = 1315920392$
	1	9	13	41	92

$$r_{12} = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 1315920392 - 87641 \times 72389}{\sqrt{5 \times 1585730113 - (87641)^2} \sqrt{5 \times 1092819841 - (72389)^2}}$$

=0.999

**Correlation between loan and advances and net profits of Nabil Bank**

Year s	Loan and Advances (X)	Net Profit (Y)	X <sup>2</sup>	y <sup>2</sup>	XY
7-06	15545.8	673.96	241671276	454222.1	10477234
8-07	21365.1	746.47	456465362	557217.5	15948369
9-08	27589.9	1031.05	761204237	1063064	28446597
10-09	32268.9	1141.05	1041279971	1301995	36820394
11-10	38034.1	1337.75	1446592002	1789575	50880104
	$\sum x = 134803.7$	$\sum y = 4930.28$	$\sum x^2 = 3947212848$	$\sum y^2 = 5166074$	$\sum xy = 142572698$
	7	8	48	4	8

$$r_{12} = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

$$= \frac{5 \times 142572698 - 134803.7 \times 4930.28}{\sqrt{5 \times 3947212848 - (134803.7)^2} \sqrt{5 \times 5166074 - (4930.28)^2}}$$

= 0.989

**Correlation between loan and advances and net profits of NIBL.**

<b>Year s</b>	<b>Loan and Advances (x)</b>	<b>Net Profit(y)</b>	<b>x<sup>2</sup></b>	<b>y<sup>2</sup></b>	<b>Xy</b>
6-Jul	17769.1	501.4	315741626	251402	8909437
7- Aug	27530.4	696.73	757921823	485432.7	19181242
8- Sep	36826.1	900.62	1356163114	811116.4	33166340
9- Oct	40947.4	1265.95	1676692024	1602629	51837399
10- Nov	41887	1176	1754520769	1382976	49259112
	$\Sigma x = 164960$ .1	$\Sigma y = 4540.$ 7	$\Sigma x^2 = 58610393$ 55	$\Sigma y^2 = 45335$ 56	$\Sigma xy = 1623535$ 30

$$r_{12} = \frac{n \Sigma xy - \Sigma x \Sigma y}{\sqrt{n \Sigma x^2 - (\Sigma x)^2} \sqrt{n \Sigma y^2 - (\Sigma y)^2}}$$

$$= \frac{5 \times 162352530 - 164960.1 \times 4540.7}{\sqrt{5 \times 586103935 - (164960.1)^2} \sqrt{5 \times 4533556 - (4540.7)^2}}$$

$$= 0.958$$

**Correlation between loan and advances and net profits of BOK.**

<b>Years</b>	<b>Loan and Advances (x)</b>	<b>Net Profit(y)</b>	<b>x<sup>2</sup></b>	<b>y<sup>2</sup></b>	<b>Xy</b>
7-06	9,694	262	93973636	68644	2539828
8-07	12,748	361	162511504	130321	4602028
9-08	14,946	462	223382916	213444	6905052
10-09	17,044	509	290497936	259081	8675396
11-10	17,957	605	322453849	366025	10863985
	$\Sigma x = 72,389$	$\Sigma y = 2199$	$\Sigma x^2 = 1092819841$	$\Sigma y^2 = 1037515$	$\Sigma xy = 33586289$

$$r_{12} = \frac{n \Sigma xy - \Sigma x \Sigma y}{\sqrt{n \Sigma x^2 - (\Sigma x)^2} \sqrt{n \Sigma y^2 - (\Sigma y)^2}}$$

$$\frac{5 \times 33586289 - 72389 \times 2199}{\sqrt{5 \times 1092819841 - (72389)^2} \sqrt{5 \times 1037515 - (2199)^2}}$$

$$=0.985$$

**Calculation of Probable Error;**

**Calculation of P. E. Ratio between Total deposit and loan and advances of Nabil bank**

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

$$= 0.6745 \times \frac{1 - 1^2}{\sqrt{5}}$$

$$= 0$$

**Calculation of P. E. ratio between Total deposit and loan and advances of NIBL.**

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

$$= 0.6745 \times \frac{1 - 0.997^2}{\sqrt{5}}$$

$$= 0.0018$$

**Calculation of P.E. ratio between Total deposit, loan, and advances of BOK.**

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

$$= 0.6745 \times \frac{1 - 0.999^2}{\sqrt{5}}$$

$$= 0.0006$$

**Calculation of P.E. ratio Between loan and advances and net profits of Nabil Bank**

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

$$=0.6745 \times \frac{1-0.989^2}{\sqrt{5}}$$

$$=0.0065$$

**Calculation of P.E. ratio between loan and advances and net profits of NIBL.**

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

$$=0.6745 \times \frac{1-0.958^2}{\sqrt{5}}$$

$$=0.0248$$

**Calculation of P.E. ratio between loan and advances and net profits of BOK.**

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

$$=0.6745 \times \frac{1-0.985^2}{\sqrt{5}}$$

$$=0.0089$$