CHAPATER-I

INTRODUCTION

1.1 Background of the study

Nepal is one of the least developed countries in the world as well as landlocked country in the world. It is basically an agricultural, mountainous and landlocked kingdom surrounding by two large, fast developing nations, China and India. About 80% of the total population is engaged in subsistence farming. Despite its large share in labor market, it paradoxically, contributes 40% of the total GDP. As most of the labor forces are unemployed it is necessary to transform the huge labor force into industrialized sector. The economic development of Nepal is still in initial stage. For the economic growth and development, government has now initiated various economic policies such as industrial policy, foreign investment policy, privatization policy and trade & transit policy.

Nepal has adopted mixed and liberal economic policy with the implicit objective to help the state and the private sector. Especially after restoration of the democracy, the concept of the liberalization policies has been incorporated as directive principal and state policies. The liberalization has helped in establishing many companies, banks, finance companies and manufacturing industries. Thus, these establishments help the country for its development.

Bankers play very important role in the economic life of the nation. The health of the economy is closely related to the soundness of its banking system. Although banks create no new wealth but their borrowing, lending and related activities facilitate the process of production, distribution, exchange and consumption of wealth. In this way they become very effective partners in the process of economic development. Today modern banks are very useful for the utilization of the resources of the country. The banks are mobilizing the savings of the people for the investment purposes. If there would be no banks then a great portion of a capital of the country would remain idle.

A bank as a matter of fact is just like a heart in the economic structure and the Capital provided by it is like blood in it. As long as blood is in circulation the organs will remain

sound and healthy. If the blood is not supplied to any organ then that part would become useless, so if the finance is not provided to Agricultural sector or industrial sector, it will be destroyed. Loan facility provided by banks works as an incentive to the producer to increase the production. Many difficulties in the international payments have been over come and volume of transactions has been increased. Cheques, drafts bills of exchange and letters of credit are very important instruments of the banks. The banks collect these instruments drawn on banks in other cities or countries and proceeds according to the accounts of the customer's concerns. (Sajid Majeed)

After the establishment of Nepal Bank limited on 30th kartik, 1994(B.S.), modern banking system started in Nepal, Under the Nepal Rastra Bank Act 2012, Nepal Rastra Bank was established in Government sector in 2022 and Agricultural Development Bank in 2024, 7th magh. Nepal Arab Bank limited is the 1st joint venture bank established in 2041 under the Commercial banks act 2031 and companies Act 2021. Now there are 31 Commercial banks in Nepal. There are 79 development banks.

The credit policy cannot be sound unless it is based on a clear knowledge of the cost of credit. The cost is determined by the quantity of credit sales, the average collection period and opportunity cost of capital. Whilst a marginal costing approach should be used which takes only incremental cost of credit will also be affected by the expected rate of inflation. Foreign accurate assessment of the cost of capital, a discounting approach should be used. A credit package can be differentiated in various ways, by duration, by interest charge, and by the interaction with the rest of the pricing mix.

1.2 Credit Risk Management

A sound credit risk management program ensures that a corporation's risk identification and reporting controls in credit processes are adequate and functional. Top management typically gauges the company's economic standing and loss-prevention strategy by reviewing risk controls, such as internal audit tests and departmental procedures that lower-level managers put into place.

Credit risk is the risk of loss that may arise from the failure of a business partner (also known as counterparty) to reimburse a loan when it is due. For example, if a bank expects a counterparty to reimburse a $10 million loan on a specific date, and the counterparty

fails to provide funds, the bank incurs a credit loss. Counterparty usually fails to pay because of bankruptcy or temporary monetary difficulties.

The importance of credit risk management for banking is tremendous. Banks and other financial institutions are often faced with risks that are mostly of financial nature. These institutions must balance risks as well as returns. For a bank to have a large consumer base, it must offer loan products that are reasonable enough. However, if the interest rates in loan products are too low, the bank will suffer from losses. In terms of equity, a bank must have substantial amount of capital on its reserve, but not too much that it misses the investment revenue, and not too little that it leads itself to financial instability and to the risk of regulatory non-compliance.

Credit risk management, in finance terms, refers to the process of risk assessment that comes in an investment. Risk often comes in investing and in the allocation of capital. The risks must be assessed so as to derive a sound investment decision. Likewise, the assessment of risk is also crucial in coming up with the position to balance risks and returns.

Banks are constantly faced with risks. There are certain risks in the process of granting loans to certain clients. There can be more risks involved if the loan is extended to unworthy debtors. Certain risks may also come when banks offer securities and other forms of investments.

The risk of losses that result in the default of payment of the debtors is a kind of risk that must be expected. Because of the exposure of banks to many risks, it is only reasonable for a bank to keep substantial amount of capital to protect its solvency and to maintain its economic stability. The second Basel Accords provides statements of its rules regarding the regulation of the bank's capital allocation in connection with the level of risks the bank is exposed to. The greater the bank is exposed to risks, the greater the amount of capital must be when it comes to its reserves, so as to maintain its solvency and stability. To determine the risks that come with lending and investment practices, banks must assess the risks. Credit risk management must play its role then to help banks be in compliance with Basel II Accord and other regulatory bodies.

To manage and assess the risks faced by banks, it is important to make certain estimates, conduct monitoring, and perform reviews of the performance of the bank. However, because banks are into lending and investing practices, it is relevant to make reviews on loans and to scrutinize and analyses portfolios. Loan reviews and portfolio analysis are crucial then in determining the credit and investment risks.

The complexity and emergence of various securities and derivatives is a factor banks must be active in managing the risks. The credit risk management system used by many banks today has complexity; however, it can help in the assessment of risks by analyzing the credits and determining the probability of defaults and risks of losses.

Credit risk management for banking is a very useful system, especially if the risks are in line with the survival of banks in the business world.

1.3 Managing Credit Risk

1.3.1 Overview

Credit risk is the likelihood that a debtor or financial instrument issuer is unwilling or unable to pay interest or repay the principal according to the terms specified in a credit agreement resulting in economic loss to the bank. Credit risk also refers the risk of negative effects on the financial result and capital of the bank caused by borrower's default on its obligations to the bank. Credit risk is the major risk that banks are exposed during the normal course of lending and credit underwriting. Credit risk arises from non-performance by a borrower. For most banks, loans are the largest and most obvious source of credit risk; however, credit risk could stem from activities both on and off balance sheet. It may arise from either an inability or an unwillingness to perform in the pre-committed contracted manner. In a bank's portfolio, losses arise from outright default due to inability or unwillingness of a customer or counter party to meet commitments in relation to lending, trading, settlement and other financial transactions. Alternatively losses may result from reduction in portfolio value due to actual or perceived deterioration in credit quality. Credit risk comes from a bank's dealing with individuals, corporate, banks and financial institutions or a sovereign. Credit risk does not necessarily occur in isolation. The same source that endangers credit risk for the bank may also expose it to other risk. For instance a bad portfolio may attract liquidity problem. This

section presents fundamental credit risk management policies and practices that are recommended for adoption by the banks. The guideline outlines general principles that are designed to govern the implementation of more detailed lending procedures and practices within the banks. A typical Credit risk management framework in a bank may be broadly categorized into following main components;

- ⟩ Board and senior Management's Oversight
- ⟩ Organizational structure
- ⟩ Systems and procedures for identification, acceptance, measurement
- ⟩ Monitoring and control risks.(Sources of NRB guidelines)

1.4 Introduction of Sample Organizations under Study

NABIL Bank Limited

NABIL Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. NABIL was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, NABIL provides a full range of commercial banking services through its 47 points of representation across the kingdom and over 170 reputed correspondent banks across the globe.

NABIL, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business.

Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world-renowned software from Infosys Technologies System, Banglore, India, Internet banking system and Telebanking system.

Nepal Investment Bank Limited

With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, 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. upon approval of bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office with the following shareholding structure

A group of companies holding 50% of the capital

- ⟩ Rasstriya Banijya Bank holding 15% of the Capital.
- ⟩ Rasstriya Beema Sansthan holding 15% of the capital.
- ⟩ The remaining 20% being held by the General Public

We believe that NIBL, which is managed by a team of experienced bankers and professionals having proven track record, can offer you what you're looking for. We are sure that your choice of a bank will be guided among other things by its reliability and professionalism.

1.5 Statement of the problems

Due to unhealthy competition among the Nepalese's banks, the recovery of the bank credit is going negative trends. Non performing credits of the banks are increasing day by day, to control such type of state, the regulatory body of the banks and financial institutions NRB has renewed wealth maximization and achievement of organizational objectives contributes to the national economy and the success and failure of the commercial bank largely depends on the total credit risk management of the commercial banks. It is important to determine the factors affecting the default risk and its management. The specific research questions regarding credit risk management in selected Nepalese commercial banking sector are identified as follows:

- ⟩ How the Nepalese commercial banks are managing credit risk?
- ⟩ What are the main causes of highly increasing credit risk in commercial bank of Nepal?
- ⟩ What is the credit efficiency of the selected Nepalese commercial banks?
- ⟩ Is there any relationship between credit risk position and profitability situation?

1.6 Objective of the Study

The main objective is to familiarize with the overall credit risk management practice in NABIL Bank Limited and Nepal Investment Bank Limited the specific objectives can be outlined as under:

1. To determine and analyze credit risk of NABIL Bank limited and Nepal investment Bank limited.
2. To determine and analyze the R.O.A & R.O.E of NABIL and NIBL
3. To analyze the Performing Asset & Non-Performing Asset of NABIL and NIBL.
4. To analyze the recent trends of Loan Loss Provision of Selected Commercial Bank of Nepal during last 5 years period.
5. To show the recent trends of Credit and Advance to Total Deposit Ratio as well as Credit and Advance to Total Asset Ratio of NABIL & NIBL.
6. To provide suggestion and recommendation about Credit Risk Management.

1.7 Significanceof the study

Credit risk management satisfies it primary objective of risk reduction through credit analysis and review. Credit analysis is the research and investigation required to determine the risk involved with lending to a customer. This is performed by using information from credit applications, public records and credit reports. Credit applications provide information like the applicant's name, address, age, Social Security number, driver's license number and credit references. They can reveal an applicant's credit lines, payment history, legal information (bankruptcies and judgments) and credit score. By researching and investigating an applicant's financial background, credit risk management is able to gauge the risk involved in doing business with him. For established customers, a credit review process should be employed to stay familiar with the credit situation of clients. This process allows for credit limit adjustments and other actions to reduce the company's credit risk.

Credit risk management is the name given to the process of monitoring the risks within the operations of a company. For every flourishing business, it is important that there is a credit risk management done to maintain its success. This is mainly carried out because there is a great risk in every business venture and in the financial world. The credit risk

can be defined as the possible risk of running into losses as a result of the default of payment of the debtor. Credit risk management also helps in the easy debt recovery.

In spite of being a very important topic of financial management, much research has not been done in this topic. This study will have importance to various groups like: shareholders, management bodies of the banks for the evaluation of the performance of their banks, outsiders, stock exchange, stock brokers etc.

1.8 Limitations of the study

1. This study is conducted to fulfill the requirements of Masters Degree in Business Studies (MBS) so the study cannot cover all the dimensions of the subject matter.
2. The study is based on data and information provided by the banks.
3. Due to the lack of time and financial resources only two companies are selected as sample for the study.
4. The data that are collected are mainly from secondary sources and there are interpreted as accordingly.

1.9 Organization of the Study

The present study is organized in such a way that the stated objectives can easily be fulfilled. The structure of the study will try to analyze the study in a systematic way. The study report has presented the systematic presentation and finding of the study. The study report is designed in five chapters which are as follows:

Chapter-1: Introduction

This chapter describes the basic concept and background of the study. It has served orientation for readers to know about the basic information of the research area, various problems of the study, and objectives of the study and significance of the study, limitation of the study.

Chapter-2: Review of Literature

This second chapter deals with the review of available literature. It includes reviews of books, reports, journals etc.

Chapter-3: Research Methodology

This third chapter deals with the research methodology used in the study, which includes research design, source of data, population & sample, method of data analysis etc.

Chapter- IV: Presentation and Analysis

This Chapter deals with the presentation and analysis of data to indicated quantitative factors on dividend policy using statistical tools and techniques. This chapter also present the major finding of the study.

Chapter- V: Summary, Conclusion and Recommendation

This Chapter states summary, conclusion and recommendations, this chapter presents and compares them with other empirical evidence to the extent possible and provides some suggestions. The bibliography and appendices are incorporated in the end of the study.

CHAPTER - II
REVIEW OF LITERATURE

2.1 Introduction

A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and as such, do not report any new or original experimental work.

Most often associated with academic-oriented literature, such as a thesis, a literature review usually precedes a research proposal and results section. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as future research that may be needed in the area.

2.1.1 Concept of Credit

Credit is the trust which allows one party to provide resources to another party where that second party does not reimburse the first party immediately (thereby generating a debt), but instead arranges either to repay or return those resources (or other materials of equal value) at a later date. The resources provided may be financial (e.g. granting a loan), or they may consist of goods or services (e.g. consumer credit). Credit encompasses any form of deferred payment. Credit is extended by a creditor, also known as a lender, to a debtor, also known as a borrower.

Credit does not necessarily require money. The credit concept can be applied in barter economies as well, based on the direct exchange of goods and services (Ingham 2004 p.12-19).

Credit is financial asset resulting from the delivery of cash or other assets by a lender to a borrower in return of obligation repay or specified date on demand. Bank generally grants credit on four ways (Chhabra, T.N. 1991:4)

⟩ Overdraft
⟩ Cash credit
⟩ Direct credit

〕 Discounting of bills.

For bank's overall corporate strategy and strategic plan ta least three critical components are needed. They are: (Joseph, 1998:112)

〕 Business plan

〕 Framework for risk management

〕 Strategies for corporate contro

These are the basic components provide a solid foundation for managing value and risk planning, it focuses in just an operating and competing in the financial services industry. The modern strategic approach also includes a framework for risk management and strategic for completing in the component fits for the modern idea of the basic business of banking as measuring, managing and accepting risk. The objective of the banks is to manage value and risk by maximizing those or eliminating those that destroy value. The main task of commercial bank is to collect funds as deposit through several sources and lend them to different sectors like; manufacturing, transportation, trade, construction, communication and other public utilities etc. Doing all these activities every bank has to face so many risks. There are several types of risks prevailed in the banking industry but the major area of the risk are widely recognized, i.e. credit risk, market risk and operating risk etc.

2.1.2 Credit Risk

Credit risk is defined as the possibility that a borrower will fail to meet its obligations accordance with the agreed forms and conditions. Credit risks are not restricted to lenders doing activities only, but include off balance sheet and inter bank exposures. The goal of credit risk management is to maximize the bank risk adjusted rate of return by maintaining within acceptable parameters. For most banks, loan is the largest and most oblivious resources of credit. However other sources of credit risk exist throughout the activities of bank including in the banking book and in the trading book and also in both on and off balance sheet. Banks are increasingly facing credit risk or counterpart risk in various financing, foreign exchange transaction and guarantee and the settlement of transactions.

2.1.3 Credit Risk Management

The flow of credit in global financial markets slowed from a glacial pace to a virtual standstill. And credit markets have threatened to stay that way despite immense amounts of cash being pumped in by governments and central banks around the world. But today, there are signs that the worst may be over and that a recovery may be imminent. What will it take for banks to regain enough confidence in the financial system to get credit markets moving smoothly – without risking another financial breakdown? Better credit risk management practices are essential.

With confidence in credit markets at an all-time low, it is critical for banks to engage in better credit risk management practices that can optimize risk-adjusted pricing and returns throughout the organization.

- Access and aggregate credit data across disparate systems and sources.
- Seamlessly integrate credit scoring/internal rating processes with your overall credit portfolio risk assessment.
- Accurately forecast measure, monitor and report potential credit risk exposures across the entire organization on both counterparty and portfolio levels, allowing seamless integration of credit scoring with credit risk.
- Evaluate alternative strategies for pricing, hedging or transferring credit risk.
- Optimize allocation of regulatory capital and economic capital.
- Meet the reporting and risk disclosure requirements of regulators and investors for a wide variety of regulations, such as Basel II.
- Manage the entire life cycle of a loan from origination, to servicing, to collection/recovery. (Sources: http://www.sas.com/industry/financial)

While talking about the credit risk management, five C's of credit worthiness should be considered and they are as follow:

1. **Character:** It is the analysis of the applicant as to his ability to meet the obligations put for the by the lending institution. For this analysis, generally the following documents are needed.

- Memorandum and articles of association
- Registration certification

) Tax registration certificate (Renewed)

) Resolution to borrow

) Authorization- person authorizing to deal with the bank

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

2. **Capacity:** Describes customer's ability to pay. It is measured by applicants past performance records and followed by physical observation. For this, an interview with applicant's customers/suppliers will further clarity the situation. Documents relating to this area were:

) Certified balance sheet and profit and loss account for at least past 3 years.

) References or other lenders with whom the applicant has dealt in the past or bank a/c.

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

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

5. **Conditions:** Once the funding company is satisfied with the character, capacity, capital and collateral then a credit agreement is issued in favor of the Borrower- stating conditions of the credit to which borrower's acceptance is accepted.

Table 2.1

Guidelines of Assessing Risk

Applicant Character	Credit Risk
Character + Capacity	Very Low
Character + Capacity without capital	Low to moderate
Character + Capacity but insufficient	Low to moderate

Capital	
Character + Capital but impaired character	Moderate
Character + Capital without character	High
Character + Capital without capital	High
Character + No Capital + No capacity	Very High
Capital + No character + No capacity	Very High
Capacity + No character + No capital	Fraudulent

2.1.4 Credit Risk Management Techniques

As the majority of the banks assets are in the form of loan, as the lending is function is simple and create the value of the bank. The main danger is the chance of the borrower not to pay the loan amount. So the proper prudent management of the credit risk is very important, Merton and Bodies have suggested three techniques for the management, the credit risk in their article published in the journal of Banking and Finance. (Miller & Merton, 1995:483-489)

1. Risk Based Pricing:

Risk-based pricing is a methodology adopted by many lenders in the mortgage and financial services industries. It has been in use for many years as lenders try to measure loan risk in terms of interest rates and other fees. The interest rate on a loan is determined not only by the time value of money, but also by the lender's estimate of the probability that the borrower will default on the loan. A borrower who the lender thinks is less likely to default will be offered a better (lower) interest rate. This means that different borrowers will pay different rates.

The lender may consider a variety of factors in assessing the probability of default. These factors might be characteristics of the individual borrower, like the borrower's credit score or employment status. These factors might also be characteristics of the loan; for example, a mortgage lender might offer different rates to the same borrower, depending on whether that borrower wished to buy a single-family house or a condominium. (Source: www.wikipedia.com)

2. Assets Restriction:

Bank lenders and others creditors have a claim on the borrower's assets. As long as the market value of liabilities, creditors are protected because proceeds from sell of assets cover the entire claim alternatively as long as positive net worth exists; business firms are not going to turn over the creditors assets that exceed the value of claim against them. Thus one way for lenders to protect themselves is try to ensure that the value of assets always exceeds than the value of claims. Restriction amount of debt a borrow takes on and restricting the variability of the value of assets are the basic way of meeting these objectives. Restricting covenants is long agreement and the strength of the bank's customer's relationship is practical ways that lenders impose assets restrictions or establish borrower's incentives for compliance.

3. Monitoring:

If lenders have a contractual right to monitor assets value continuously and to seize assets, than loan losses can be minimized either by auditing assets value and seizing assets before short falls exist or by requiring the posted value of collateral asset to equal or exceeds to the promised payment for private loan, which banks have considerable expertise in organization, monitoring without continuous surveillance is costly. Before providing credit to 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 or not. For that bank needs to do a project appraisal. The purpose of project appraisal is to achieve the guarantee of reasonable from the project. Project appraisal answers the following questions:

〕 Is the project technically sound?

〕 Will the project provide a reasonable return?

〕 Is the project in line with the overall economic objectives of the country/

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

〕 Financial aspects

〕 Economic aspects

〕 Management/ organizational aspects

〕 Legal aspects.

2.1.5 General Risk Management Framework

Management of risk begins with identification and its quantification. It is only after risks are identified and measured that may decide to accept the risk or to accept the risk at a reduced level by undertaking step to mitigate the risk either fully or partially. In addition pricing of the transaction. Hence management of risks may be sub-divide into following five processes.

a) Risk Identification

b) Risk Measurement

c) Risk Pricing

d) Risk monitoring and control

e) Risk Mitigation

a) **Risk Identification**: all transaction undertaken would have one or more of the major risks i.e. liquidity risk, interest rate risk, credit risk, operational risk, exchange rate risk and others with their manifestation indifferent dimensions. Although all these risks are connected at the transaction level and certain risks such as liquidity risk and interest rate risk can manage at the aggregate or portion level. Credit risk, operational risk and market risk arising from individual transaction, can manage at transaction level on portfolio level.

b) **Risk management**: The risk measures seek to capture variation in earnings, market value, losses due to default etc. Arising out of uncertainties associated with various risk elements. Quantitative measures of risks can be classified into three categories.

   i) Sensitivity

   ii) Volatility

   iii) Downside Potential

c) **Risk Pricing**: Bank has to maintain necessary capital at least as per regulatory requirement. The capital required is not without courts and another factor is a probability of associated with all risks. This also needs to be factored into pricing. Therefore banks should be taken into account the following i.e. cost of deployable fund, operating expenses, loss of probabilities and capital charge. Proper risk pricing can reduce the uncertainties regarding time value of money.

d) **Risk Monitoring and Control**: The key driver in managing a business is seeking enhancement in risk adjusted return on capital (RAROC). Therefore, approach to risk management cannot be isolated or in standalone mode. The approach to risk management centers on facilitating implementation of risk business policies simultaneously in a consistent manner. Modern best practices consist of setting risk limits based on economic measures of risk while ensuring best risk adjusted return. For risk monitoring and control, requires strong management information system/well laid out procedure/comprehensive risk report framework/ periodical review and evaluation.

e) **Risk Mitigation**: risk reduction is achieved by adopting strategies that eliminate or reduce the uncertainties' associated with the risk elements. This is called risk mitigation. In banking sector, it comes across a variety of financial instruments and no. of techniques that can be used to mitigate risk. For mitigating credit risk, banks have been using traditional techniques such as collateralization by security or land property, real estate property and third party guarantees etc.

2.1.6. Need of Credit Policy in Commercial Bank

In bank fund management, the cost of handling is, of course, as important as the availability of funding. Competition, deregulation, economic conditions and increased sophistication in money management on the part of retail and wholesale depositors have increased the cost of bank fund tremendously.

Making an unsecured loan involves taking a risk and losses on some loans are to be expected. Commercial banks are increasingly facing credit risk in various financial instruments other than loans, including acceptances inter bank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options and in the settlement of transactions. Thus, the need of credit policy is the most; as the banks should always try to limit loan losses include obtaining sufficient information on loans and borrowers as well as establishing an internal system of loan review in addition to the loan reviews of regulatory agencies. Banks can also affect or offset credit risk in their loan portfolios by watching the business cycle, varying loan rates against the degree of risk and recognizing risk in loan concentration. Although

specific credit risk policy and practices may differ among banks depending upon the nature and complexity of their credit activities. A comprehensive credit risk management program should address the following areas:

a. Establishing an appropriate credit risk environment,
b. Operating under a sound credit granting process,
c. Maintaining an appropriate credit administration, measurement and monitoring process,
d. Ensuring adequate controls over credit risk.

Credit risk is a factor in all loans, but to varying degrees. Bank should recognize this variability by matching loan rates to risk. A bank that charges the same rates for many types of loan is not receiving adequate compensation for its riskier loans. In comparison a loan's total yield to its risk, a bank also should consider any supporting deposit balances required in conjunction with the loan and may also want to consider other profitability generated from customer's relationship with banks (Basel Committee Consultative, paper 199)

2.1.7. Factors affecting credit policy:

The credit policy of a firm provides the framework to determine whether or not to extend credit and loan such to extend. The credit policy decisions of banks have two broad dimensions; credit standard and credit analysis. A firm has to establish and use standards to make credit decision, develop appropriate sources of credit information and methods of credit analysis.

Credit risk management strategy or the credit policy is a tool for analyzing and managing the credit risk. Generally the following factors are to be considered to make effective credit risk management. It is also called the factors of credit policy to get effective credit worthiness.

a) **Industry Environment**: It determines the nature of the industry structure its attractiveness and the company's position within the industry, structural weakness of a company which is disadvantages, theaters first way out and security value.

b) **Financial conditions**: It determines the borrower's capacity to repay through cash flows as first way out. The strength of second way out i.e. through collateral liquidation is also assessed. Further the possibilities to fall bank an income of sister concern in case of financial crunch of the company condition threatens repayment capacity.

c) **Management quality**: It determines the integrity, competence and nature of alliances of borrower's management team. Weakness in replacement needs to be evaluated.

d) **Technical strength**: It determines the strength and the quality of the technical support required for sustainable operation of the company in terms of manpower, the viability of the technology uses, availability of after sale services, cost of maintenance and replacement need to be evaluated.

e) **Security realization**: It determines the control over various securities obtained by bank to secure the loan provided excitability of the security documents and present value of the properties mortgaged with the bank. Weakness in security threatens the bank second way out.

2.1.8. Directives of NRB on Credit Aspect

Commercial banks are heavily regulated than its non-bank competitors in the financial service industry. They are subjected to follow the operated regulation issued by the regulation authority. NRB is the regulating authority of Nepal. As per directives issued by NRB loans and advances should be classified into the following four categories:

⟩ **Pass Credit:** Pass loan and advances whose principle amounts are not past due for a period up to three months shall be included in this category. Those are classified and defined as performing loans.

⟩ **Substandard Credit**: All loans and advances that are past due for the period of three six months shall be included in this category. Those are classified non-performing loans.

）**Doubtful Credit:** All loans & advances, which are past due for period of six months to one year, shall be included in this category. The loans are classified as non-performing loss.

）**Loss:** All loans & advances which are past due for a period of more than 1 year as well as advances which have at least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category. Those loans and advance are also classified as non-performing loans.

The credit loss provision for performing credit is termed as general loss provision where as the credit loss provision for non performing credit is termed as specific credit loss provision has been made. The auditor should examine whether the bank has obtained the complete documentation. So that the bank interest is secured. In addition audit is made to inspect compliance of terms and conditions laid down. Credit audit is required to check whether the credit is given with authority; drawing power etc. credit audit helps the bank to adopt corrective measure where weakness had been pointed out end to focus further on strength.

On the basis of outstanding loans and advances classification and provisioning for credit as per directives shall be provided as follows:

Classification of loan	Loss Provision
Pass	1%
Substandard	25%
Doubtful	50%
Loss	100%

2.2 Review of Related Studies

Review of related studies is an essential part of this study. It is a way to discover what other research in this area of our problem uncovered. The main purpose of literature review is to find out what work have been done in the area of research problem.

2.2.1 Review of Articles and Journals

Shrestha, (1998) in her article "Lending operations of commercial banks of Nepal and its impact on GDP" 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.

In an article published in New Business Age written by Mr. Sudir Khatri, has analyzed the Act (ordinance) Pros and Cons, in general speaking termed as Umbrella Act. He has expressed his disagreement in the ordinance regarding the qualification of the Board of director's composition. The qualification set is out of the total number of directors, two thirds have to be graduates in specified disciplines-management, commerce, economic, accounting, finance, law, banking and statistics. Another requirement is five years work experience either in banking or public limited companies or in a gazette level government posts. He argues why a science graduate or someone with engineering background cannot be the director, it is not justifiable to question on the capacities of the people with these background as the in the past some successful General Manager and Directors in Nepal Industrial Development Corporation (NIDC) were engineers. He further writes that activities like project financing and asset valuation require engineers and similarly that there cannot be any reason for the position of director in banks to be graduates in some specified fields only. CEO of the "Ka" category qualification required is Masters Degree in the chosen few subject and the term would be four year. The act however does not mention the renewal of the CEOs term. The Board or AGM of the institution should be decided the CEO's tenure (Khatri, 2004: 18-20).

Similarly, he points out argument in the requirement of five years work experience. The performance of the public limited companies is so poor that the efficiency of the staff is questionable. In such situation how can one hire someone with the experience in public limited companies? As per the act, it is mandatory to appoint a professional director in

the Board chosen from the list of professional experts enlisted by NRB. Such director will not have voting right; it is questionable that can be contribute significantly towards the development of a bank or financial institution without the voting right (Khatri, 2004: 18-20).

In an article published in New Business Age, Subedi (2003/04) titled "Growth in major commercial banks" has compared between the first six month of the fiscal year 2002-03 and 2003-04, which shows that there has been noticeable increase in credit outflow by the commercial banks except of Nepal Bank Ltd (NBL) and Rastriya Banijya Bank (RBB) the government owned banks. There has been increase in credit deposit (CD) ratios of all commercial banks except of NBL and RBB in which case it has gone down by 10.41% and 5.99% respectively. It may be because their concentration was only on recovery was only on recovery of the huge Non Performing Assets (NPA). However, Mr. Subedi pointed out that no matter what the size of NPA is and the circumstances are each bank has to collect the deposit in order to create a lending and to invest in the new ventures. Except RBB all banks have increment in deposit collection.

2.2.2. Review of Previous Thesis

Lamichhane, (2010) has submitted his thesis on "Credit Risk Management of Joint Venture Banks of Nepal", he stated problem of balance development, slowness in credit collection, hinder the flow of capital required to develop the economic growth as a statement of research problem and the main objective of his study was: to analyze the credit situation, finding out the rate of growth of investment & to explain the possible causes of none & delayed repayment. He has found some finding & recommendation which are as follows:

- Good liquidity position is very necessary for commercial banks as it should be enough to meet the depositor's obligations as well as for good investment and for expansion.
- Bank should be sensitive to adverse movements in external factors such as interest rates, exchange rates and commodity prices as it has direct disruption on cash trends of the bank.

- Bank should strictly band the policy of nepotism and favoritism. On the basis of capability and efficiency, employee's recruitment, placement and promotion should be executed.

- In this research, joint venture banks were taken for the study. Joint venture banks definitely have international relation. Therefore, these banks should make negotiation with the international banks to increase its transactions in the internal area.

- Cash and bank balance of all joint venture banks are high. Unused cash and bank balance do not provide return to the bank. Therefore some percentage of cash and bank should be invested somewhere in profitable sectors. There must be a good investment decision which increases the cooperative value of the firm. It should be carried out by effective identify, organized and manage discrete and diverse segmenting order to serve particular status of customers more effectively.

Regmi, (Dec 2009) has submitted a thesis named "Credit Management of Commercial Banks with references of Nepal Bangladesh Bank Ltd & Bank of Kathmandu" on December 2009 to T.U. In his thesis, he has stated liquidity matters, unfair competition between banks and service institution lack of enough profitable investment sectors, poor recovery process a lengthy and service ineffective legal process in the recovery of credit as a statement of research problem.

Mr Regmi has concluded in his thesis that, both of the banks have sufficient liquidity. It shows that banks have not got investment sectors to utilize their liquid money; both of the banks have provided modern facilities to its customer and have used modern technology; non- performing credit are increasing. So, he concluded that credit is not satisfactory; because of increasing in non performing credit bank should increased its provision for credit loss; lankness in efficiency in the management of credit become the process of recovery is slow, due to increase in the non- performing credit, bank's profit is decreasing year by year.

In his thesis, he has recommended some suggestions, which are as follows:

- Cash and bank balance of both banks are high unused cash and bank balances do not provide return to the bank. Therefore, same % of cash and bank balance should be invest somewhere in profitable sectors.

- Non-performing aspects of both banks are high. It does not provide return to banks therefore bank should increase its effort to recover its credit on time.

- Weighted average capital funds of both banks are lesser than the required as per directive issued by NRB. Therefore, he suggested to increase the amount of the capital fund for overcome out from panelize by NRB.

- Few customers are unsatisfied with the service charge & interest of credit. Therefore, he suggested that bank should decrease service charges & interest charges.

A thesis conducted by Yadav, (June 2010) on the topic "Comparative credit management of Nepalese commercial banks" including Nepal Bank, Himalayan Bank Limited and Nepal SBI Bank. His major findings are as follows:

- HBL is safe from the side of liquidity; Similarly, SBI & NBL would be in liquidity crunch if heavy demand is made from the deposits.

- Comparative by NBL is mobilizing higher deposit to investment. SBI is moderate condition and HBL is in lower level. However, during the period of 2008/09 investment of HBL has exceeded the SBI.

- CBs are trying to lower the NPL that past however ratio of NBL is higher than other.

- Deprived sector credit ratio of NBL is higher enough than other two CBs.

- Interest income to loan and advances of NBL, HBL has increasing trend after 2008/09 but the SBI has decreasing trend.

He recommends the following statements.

- Deprived and priority sector credit should be effectively monitored and mobilized by the SBI and HBL because such credit helps to develop the country in sustainable manner.

) Effective mechanism should be prepared by NBL to lower the non-performing loan and loan loss provision for the sustainable and successful operation of the bank.

) Credit relating to agriculture sector should be focused by CBs & production sector should be promoted from NBL and SBI.

) Major part of security is depended on assets guarantee; all other security related heading should be promoted to make the credit approachable for mass population.

) Cost of deposit should be revised as the time other wise upcoming bank would target the low cost deposit which would be terrible for the CBs in the concern of resources collection.

Subba, Sanjog (2008) in his thesis on "Risk management of commercial bank in Nepal; A comparative study between KBL and MBL" has outlined major finding as follows: The major risk in KBL and MBL is associated with the credit decision as the proportion of credit risk on total risk is high. Based on the response of structured questionnaire, it has been found that proportion of credit risk on total risk is more than 60%. The same conclusion is shown by financial statement analysis. The average loans and advances to total assets ratio of KBL and MBL is 65.19% and 68.14% respectively. Similarly, the mobilization of deposit in credit (i.e. credit deposit ratio) also suggests that major portion of deposit ratio is invested on loan and advances. The average credit deposit ratio on KBL and MBL is 86.38% and 81.12% of total income in KBL and MBL.

The credit practices of MBL shows that MBL is also granting loan without collateral, which is poor sign of credit practice. 100% of provision is to be made for this sort of loan, which reduces the banks' profit. This sort of practice is not found in case of KBL. Similarly, credit concentration on single sector of KBL and MBL has 25% and 35% of total loan exposure, which is sign of "Putting all eggs in one basket". There is positive correlation between loan loss provision and loan and advances in both banks. This indicates that there is a change in LLP and non-performing loan of KBL are positively correlated where as correlation coefficient of MBL is found negative due to higher amount of loan against personal guarantee and unsecured lending. The organizational structure of KBL is found more stringent and advanced than that of MBL. In KBL,

Assets Liability Management Committee (ALMCO) has mainly concerned with all types of risk management including credit risk. In MBL, credit committee which includes the member of board of directors and management is the main body for managing credit risk.

A study conducted by Shrestha, (2006) on the topic 'A study on non-performing loans and loan loss providing of commercial banks' revealed that SCBNL had risk averse attitude to the management or they have policy of investing low in the risky assets, i.e. loans and advances as compared to NBL and NABIL because the loan and advances to total asset ratio of NBL, NABIL & SCBNL during the study period was appeared to be 52.3%, 47.0% and 29.34% respectively. The SCBNL has higher proportion of the investment in risk free or nominally risky asset like treasury bills, National saving bonds etc.

Similarly, the loans and advances to total deposit ratio of NBL, NABIL and SCBNL during the study period was found to be 57.63%, 56.35% and 35.94% respectively. It indicates that SCBNL has the most consistent and variability during the study period where as the NBL has the higher consistent and variability as comparison to other two banks. NABIL has the moderate level of consistent and variability.

In the same way, the proportion of non-performing loan with regard to total loans of NBL, NABIL & SCBNL was found to be 48.37%, 10.67% and 4.38% respectively. That means51.63%, 89.33% and 95.62% of total loan of NBL, NABIL and SCBNL was found to be performing loan. Not only the public sector bank, even private sector bank like NABIL has higher proportion of non-performing loan. However, in recent years NABIL has shown significant decrement in non-performing asset, which are the result of effective bank credit management and its efforts of recovering bad debts through the recovery of establishment of recovery cell.

2.3. Research Gap:

Earlier worker conducted by the previous researches are very useful and appreciated by the personnel in various related field. The suggestions and recommendations given by the previous researches help to improve and increase the necessary data for the related topic. Although there is long gap between previous studies and this study, the gap between earlier studies and this study is that, this study analyses the credit risk management

system of commercial banks (i.e. NABIL Bank Limited and Nepal Investment Bank Limited) in this study requirement of loan loss provisions are studied and its effect on activity and profitability of selected commercial banks which are very crucial for the going concern strategy of those bonds.

To complete this research work: many books, journals, articles, different websites and various published and unpublished dissertations are followed as guideline to make the research easier and smooth. In this regard, here it is going to analyze the different procedure of credit risk management; Present study tries to define credit risk management by applying those various facts. Therefore, this study is useful to the concern bank as well as different persons: such as shareholders, investors, policy makers, stockbrokers, state of government etc. This continuity in research is ensured by linking the present study with the past research studies. It is clear that the new research cannot be found on that exact topic. Previous researchers analyzed the credit risk management by using secondary source of information in terms of credit practices or lending practices. I am also using secondary data but latest as well as analyzing from various financial tools: activity ratio, profitability ratio, statistical tool (Coefficient of Correlation)

CHAPATER-III
RESEARCH METHODOLOGY

3.1 Introduction

Research can be defined as the search for knowledge, or as any systematic investigation, with an open mind, to establish novel facts, solve new or existing problems, prove new ideas, or develop new theories, usually using a scientific method. The primary purpose for basic research (as opposed to applied research) is discovering, interpreting, and the development of methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe. (www.wikipedia.com)

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

3.2 Research designs

Research designs are concerned with turning the research question into a testing project. The best design depends on your research questions. Every design has its positive and negative sides. The research design has been considered as a "blueprint" for research, dealing with at least four problems: what questions to study, what data are relevant, what data to collect, and how to analyze the results.

3.3 Population and Sample

A small portion chosen from the population for studying its properties is called a sample and the number of units in the sample is known as the sample size. The method of selecting for study a small portion of the population to draw conclusion about characteristics of the population is known as sampling. Sampling may be defined as the selection of part of the population on the basis of which a judgment or inference about the universe in made.

Here only 2 sample commercial banks are taken out of 32 commercial banks. For selecting the samples, non-random sampling method is used here among different methods. The samples are taken only from commercial banks. Organization under study is as follows, whose general introduction and major objectives are presented in chapter one. The sample organizations are as follows:

- NABIL Bank Limited
- Nepal Investment Bank Limited

3.4 Sources of Data

There are two types of data; Primary data and Secondary data. The primary data are those which are collected a fresh and the first time, and thus happen to be original in character. Secondary data are those which are extracted from published annual reports of the bank, published articles, journals, reports, previous related studies etc. To achieve the objectives of the study, only secondary data has been used.

3.5 Data Collection Techniques

In order to collect the secondary data, annual report published by banks and NRB economic report and other published statistical are used. Similarly information is collected from bulletin, booklets, journals, different websites, journals published from banks and other sources are used.

3.6 Method of Data Analysis

Analysis of data is a process of inspecting, cleaning, transforming, and modeling data with the goal of highlighting useful information, suggesting conclusions, and supporting decision making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, in different business, science, and social science domains.

In this study, various financial, mathematical as well as statistical tools have been used to make the analysis more convenience, reliable and authentic too.

3.6.1 Financial Tools

Financial tools are used to examine the financial strength and weakness of the bank. In this study, the basic tools used for analysis is Ratio Analysis. Beside this Risk Index also has been used. A tool used by individuals to conduct a quantitative analysis of

information in a company's financial statements. Ratios are calculated from current year numbers and are then compared to previous years, other companies, the industry, or even the economy to judge the performance of the company. Ratio analysis is predominately used by proponents of fundamental analysis.

Ratio analysis has various uses as it is useful position which helps the banks and other financial institution in lending and making investment decisions; for forecasting purpose and making plans; for locating weak spot in business and also in comparison of performance with the contemporary firm or department. In spite of uses, there are some limitations, which restrict its uses. If data are incorrect, it present false result; there is no common standard of comparison. But despite that its significance is much accepted in analyzing the financial performance of any firm.

A large number of ratios can be generated from the components of profit and loss accounts, and balance sheet. For the study, ratios are categorized into the following major heading:

A. Activity Ratio

Accounting ratios that measure a firm's ability to convert different accounts within their balance sheets into cash or sales. Companies will typically try to turn their production into cash or sales as fast as possible because this will generally lead to higher revenues. Such ratios are frequently used when performing fundamental analysis on different companies. The asset turnover ratio and inventory turnover ratio are good examples of activity ratios. The greater the ratio is the more efficient the utilization of resources. Various ratios are examined under this ratio. Some of them which are useful for this study shown as below.

Credit and Advances to Total Deposits Ratio:

Commercial banks utilize the outsider's fund for profit generation purpose. Credit and advances to deposit ratio shows whether the banks are successful to utilize the outsider's fund for profit generation on the credit and advances or not. Generally, a high ratio reflects higher efficiency in utilization of outsiders fund and vice-versa. The ratio can be calculated by using the following formula:

Credit and Advances to Total Deposits = Credit and Advances

Total Deposits

Credit and Advances to Total Assets Ratio:

It measures the ability in mobilizing total assets into credit and advances for generating income. A higher ration is considered as and adequate symbol for effective utilization of total assets of banks to credit and advances of which creates opportunity to earn more and more. This ratio can be calculated as follows:

Credit and Advances to Total Assets Ratio = Credit and Advances

Total Assets

Performing Assets to Total Assets Ratio:

It tells the percent of performing assets on total assets. It is useful to know the fact that whether the good credit is increasing or not. We can generate more earning by increasing good credit and can be reducing bad and inferior credit. It reaches us to invest sources of final only on good credit. This ratio can be calculated as follows:

Performing Assets to Total Assets Ratio = Performing Assets

Total Assets

B.   **Profitability Ratio**

A class of financial metrics that are used to assess a business's ability to generate earnings as compared to its expenses and other relevant costs incurred during a specific period of time. For most of these ratios, having a higher value relative to a competitor's ratio or the same ratio from a previous period is indicative that the company is doing well. Profitability ratios show the combined effects of liquidity, assets management, and debt on operating results. Profitability ratios are very helpful to measure the overall efficiency of operations of a firm. It is a true indication of the financial performance of each and every business organization.

Return on Total Assets Ratio:

Return on total assets explains the contribution of assets to generating net profit. This ratio indicates efficiency towards of assets mobilization. In other word, ROA is an overall profitability rate, which measures earning power and overall operation efficiency of a firm. This ratio can be calculated as follows:

$$\text{Return on Total Assets} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

Return on Equity:

The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. The higher ratio represents the higher efficiency of the bank in utilizing long term funds of shareholders. It can be calculated as follows:

$$\text{Return on Equity} = \frac{\text{Net Profit after Tax}}{\text{Shareholder's Equity}}$$

3.6.2 Statistical Tool

Statistical tool such as co-efficient of correlation, probable error, regression analysis and hypothesis techniques have been used under this study.

Karl Pearson's Correlation Coefficient:

The Karl Pearson's correlation coefficient is one of the widely used mathematical methods of calculating the correlation or relationship between two different variables. These method summaries in one figure the degree of relationship as well as direction. Correlation is of three types i.e. simple, partial, and multiple correlations. Correlation may be positive, negative, and zero too.   Correlation may be linear and non linear. Karl Pearson's Correlation Coefficient between variable X and Y is usually denoted by "r" and it is defined by

$$r = \frac{N\ XY - (\ X)(\ Y)}{\{N\ X^2 - (\ X)^2\}\ \{N\ Y^2 - (\ Y)^2\}}$$

Where

  N = No. of observation of X and Y.

   X = Sum of the observations in series X.

   Y = Sum of the observations in series Y.

   X^2 = Sum of Square of the observations in series X.

   Y^2 = Sum of square of the observations in series Y.

XY=Sum of the product of the observations in series X and Y.

Interpretation of Correlation Coefficient:

a) It lies always between +1 and -1.

b) When r = +1; there is perfect positive(+ve) Correlation

c) When r = -1; there is perfect negative (-ve) Correlation.

d) When r = 0; there is no Correlation.

e) When r lies between 0.7 to 0.999 or -0.7 to -0.999; there is a high degree of +ve Correlation (or high degree of –ve Correlation).

f) When r lies between 0.5 to 0.699; there is a moderate degree of Correlation.

g) When r is less than 0.5; there is a low degree of Correlation.

Probable Error:

Probable error of the correlation coefficient denoted by P>E is the measure of testing the reliability of the calculated value of correlation coefficient(r). P.E is defined by:

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

With the help of P.E, it is possible to determine the reliability of the value of the co-efficient.

Decision rule for significances test are:

If r<P.E, it is insignificant. So, perhaps there is no evidence of correlation.

If r>P.E, it is significant.

If r doesn't satisfy either of the above two conditions then the relation is inconclusive.

Regression Analysis:

In statistics, regression analysis includes any techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables. More specifically, regression analysis helps one understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed.

Regression analysis is also used to understand which among the independent variables are related to the dependent variable, and to explore the forms of these relationships. In restricted circumstances, regression analysis can be used to infer causal relationships between the independent and dependent variables.

The general form of simple regression line is

$Y = a + bX$

Where,

> Y = Dependent Variable
>
> X = Independent Variable
>
> a = Intercept of Y on X
>
> b = Slope of the regression line of the coefficient of independent variable.

In this study, simple regression analysis has been used to study the influence of PLL to ROA as well as ROE. Therefore PLL is the dependent variable while ROA and ROE are concerned as independent variables.

CHAPTER -IV
PRESENTATION AND ANALYSIS OF DATA

Presentation and analysis of data is very important stage of research study. Its main purpose is to change the unprocessed data into understandable form. It is the process of organizing the data by tabulating and then placing that data in presentable form by using various tables, figures and sources.

Credit risk management is chiefly responsible for the protection of an organization's lending assets. It must also provide internal communication to its credit representatives with policies and procedures that reduce ambiguity and allow them to best fulfill their duties. Another important objective for credit risk management is customer retention. Other objectives must be met while keeping customers loyal to insure current and future sales.

The purpose of this chapter is to introduce to the mechanics of data analysis and interpretation. Data analysis is the relationships or differences supporting or conflicting with original or new hypothesis should be subjected to statistical test of significance to determine with what validity data can be served to indicate any conclusion. This chapter deals with secondary data of selected commercial bank and its finding have been discussed.

4.1 Presentation and Analysis of Secondary Data

4.1.1 Company wise Analysis

As per directives issued by NRB loan and advances should be categories into performing loan and non performing loan. Non performing loan also must be categories into substandard, doubtful and losses. For these loans provision should be maintained which must be 25, 50 and 100% respectively.

Table 4.1

Loan and loss provision of NABIL Bank

(Rs. In millions)

F.Y.	2005/06	2006/07	2007/08	2008/09	2009/10
Performing Loan	13,096	15,725	21,598	27,774	32,545
Non-Performing Loan	183	178	161	225	486
Total Provision	356	357	394	409	762

Source: Annual Report of NABIL from 2005 to 2010.

Table 4.1 of loan loss provision of NABIL Bank, its performing loan is in increasing trend, while non- performing loan is slightly increasing up to 2008/09 where as in 2009/10 increases rapidly, similarly total provision amount also slightly with non performing loan. The difference between performing loan and non-performing loan is very high which indicates that bank is maintaining good loan position and its credit position is also maintained.

Figure 4.1

Loan and Loss Provision of NABIL Bank
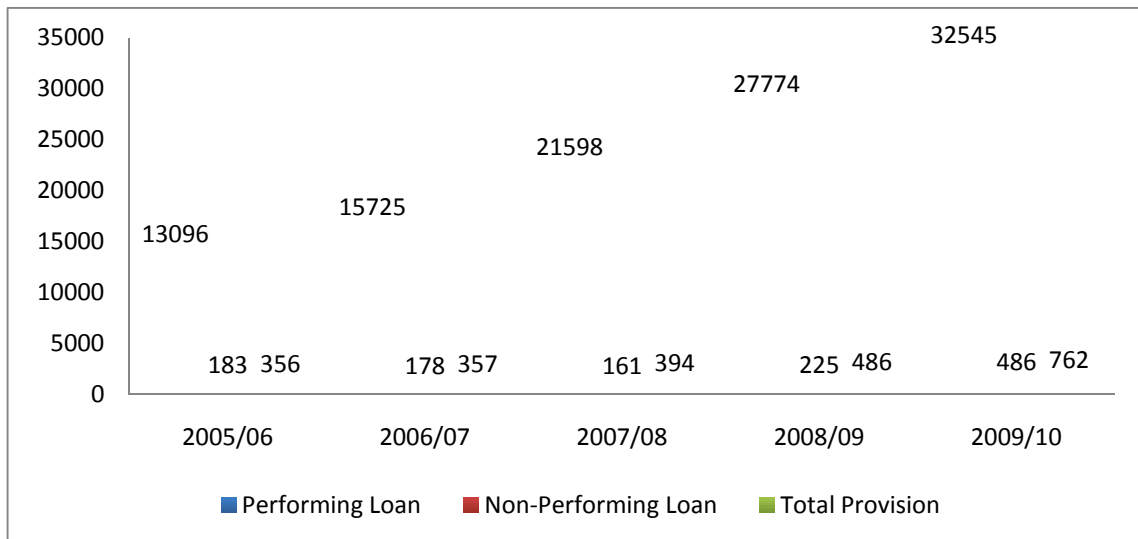
Table 4.2

Return Analysis of NABIL Bank

(Rs. In millions)

F.Y.	2005/06	2006/07	2007/08	2008/09	2009/10
R.O.A.	2.84	2.47	2.01	2.35	2.19
R.O.E.	33.88	32.76	30.61	32.94	29.68
P.L.L.	2.68	2.24	1.81	1.46	2.31

Source: Annual Report of NABIL from 2005 to 2010.

Table 4.2 of return analysis of NABIL Bank, it exhibits that there is no negative effect of loan loss provision on return on assets and return on equity. Trend of equity and assets are stable. It is slightly high in fiscal year 2008/09 which is good sign for the bank.

Figure 4.2

Return Analysis of NABIL Bank
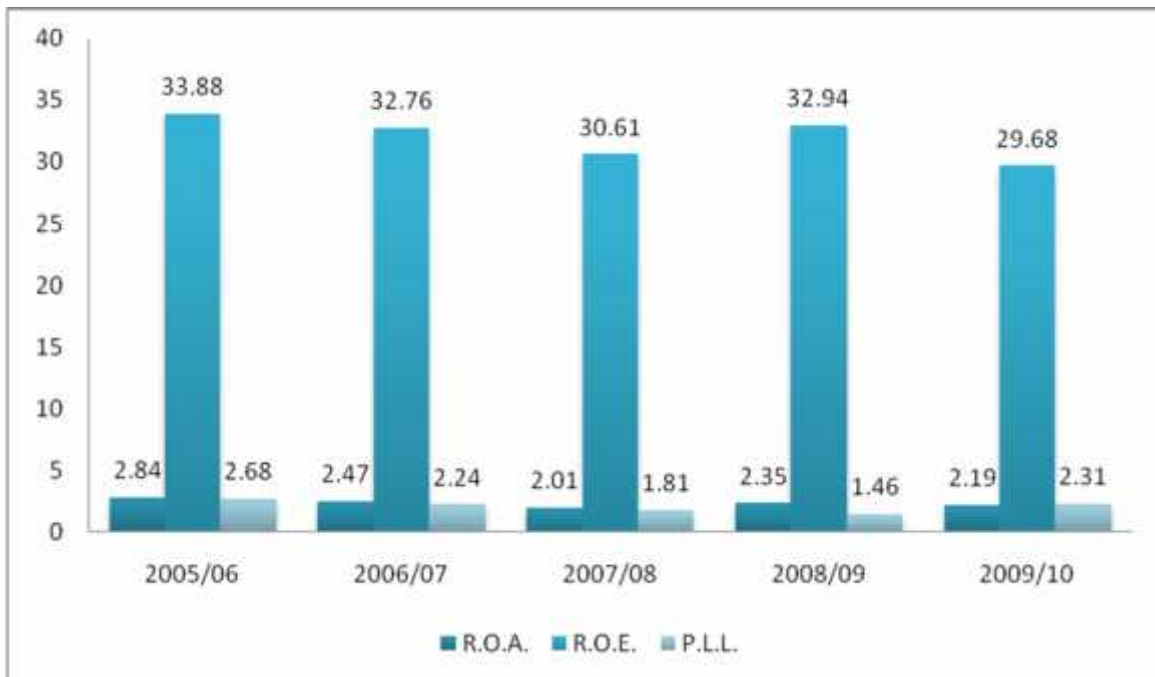
Table 4.3

Loan and Loss provision of NIBL

(Rs. In millions)

F.Y.	2005/06	2006/07	2007/08	2008/09	2009/10
Performing Loan	12,906	17,347	27,220	36,613	40,694
Non-Performing Loan	272	421	309	213	254
Total Provision	401	482	533	586	630

Source: Annual Report of NIBL from 2005 to 2010.

Table 4.3 shows that loan loss provision of NIBL, its performing loan is in increasing trend and difference between the performing loan and non-performing loan is very high which shows that the bank is able to maintain the good ratio of performing loan and the percentage of loan loss provision is also as per NRB rules and its credit risk position is also maintained. In case of non-performing loan in F.Y.2007/08 is higher and lower in F.Y.2008/09.

Figure 4.3

Loan and Loss Provision of NIBL
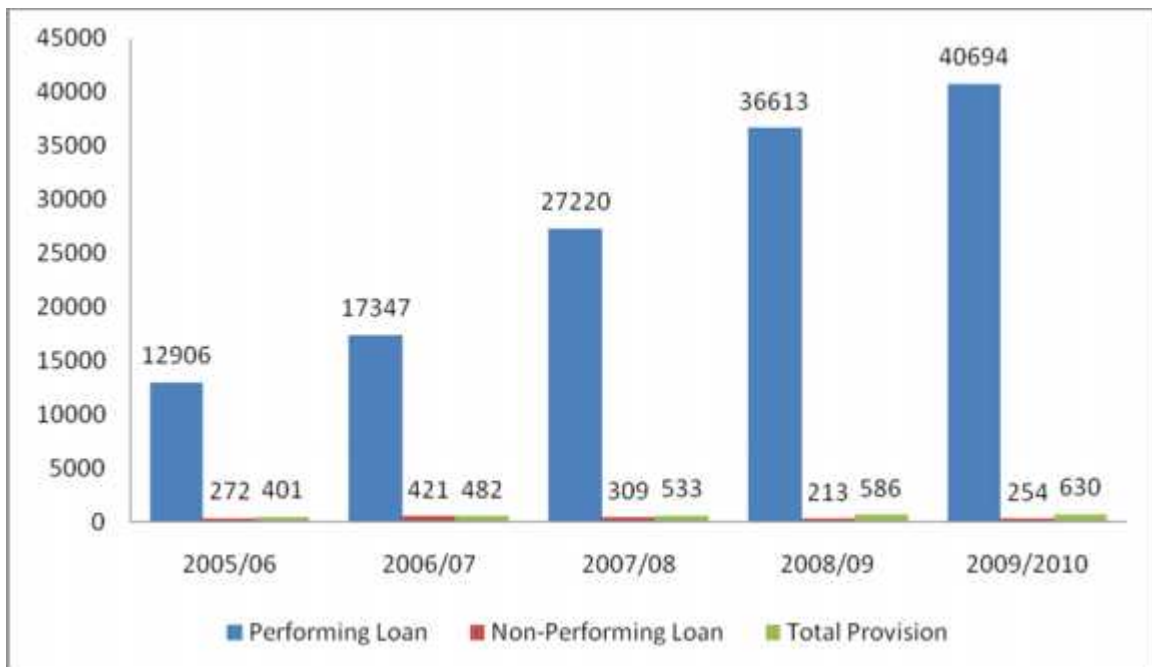
Table 4.4

Return Analysis of NIBL

(Rs. In millions)

F.Y.	2005/06	2006/07	2007/08	2008/09	2009/10
R.O.A.	1.65	1.82	1.79	1.7	2.21
R.O.E.	29.10	26.68	30.50	22.96	27.45
P.L.L.	3.04	2.71	1.94	1.59	1.54

Source: Annual Report of NIBL from 2005 to 2010.

Table 4.4 of NIBL shows that the trend of Return of Asset and Return on Equity increases smoothly, in F.Y 2009/10, R.O.A is higher i.e. 2.21 and the R.O.E is higher in F.Y.2007/08 is 30.50. Where as P.L.L is decreasing slightly every year highest in F.Y.2005/06 is 3.04 and lowest in F.Y. 2009/10 is 1.54. There is no negative impact of P.L.L on R.O.A and R.O.E.

Figure 4.4

Return Analysis of NIBL
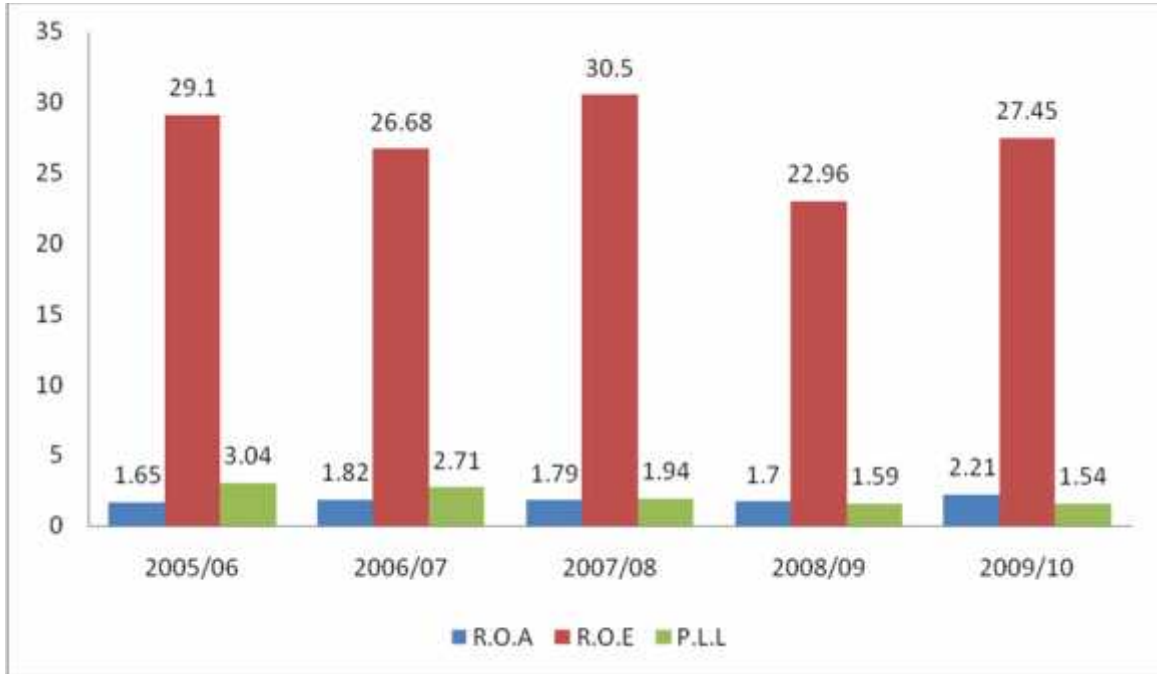
4.1.2 Financial Statement Analysis

The concept of financial statement analysis has been already discussed in previous chapter. Here we study and analyze the data by using financial tools.

Table 4.5

Analysis of Credit and Advance to Total Deposit Ratio

F.Y.	NABIL	NIBL
2005/06	66.80	69.63
2006/07	66.60	72.56
2007/08	66.94	79.91
2008/09	73.87	78.86
2009/10	69.53	81.74
Total	**343.74**	**382.70**
Average	**68.75**	**76.54**
S.D.	2.78	4.63
C.V.	4.04	6.05

Source: Annex 1

Table 4.5 shows that the ratio of credit and advances to total deposit ratio of NABIL was 66.80, 66.60, 66.94, 73.87 & 69.53% respectively. Similarly the ratio of NIBL was 69.63, 72.56, 79.91, 78.86 & 81.74% respectively. In overall comparison NIBL has highest ratio in F.Y.2009/10 i.e. 81.74% NABIL observed the lowest ratio in F.Y. 2006/07 with 66.60%.

From mean point of view, NIBL has maintained higher credit and advance to total deposit ratio than NABIL which was 76.54% & 68.75% respectively. Standard deviation of NABIL and NIBL was 2.78 & 4.63 respectively whereas the coefficient of Variation of NABIL and NIBL was 4.04 % & 6.05% respectively; similarly the consistency of the bank was 95.96% & 93.5% respectively.

Figure 4.5

Analysis of Credit and Advance to Total Deposit Ratio
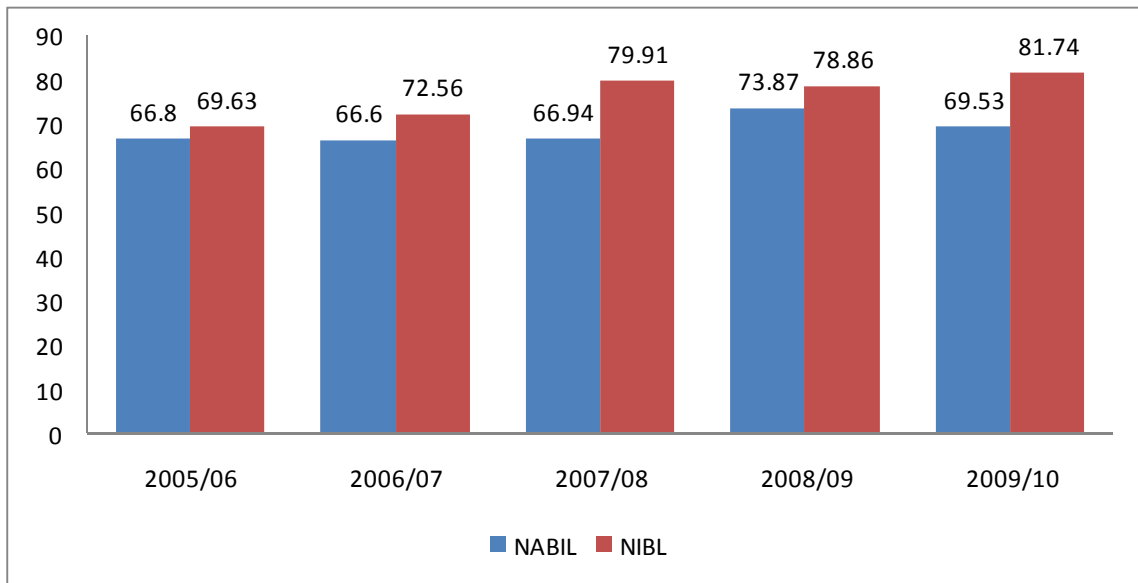
Table 4.6

Analysis of credit and Advances to Total Asset Ratio

F.Y.	NABIL	NIBL
2005/06	57.87	61.78
2006/07	57.04	64.40
2007/08	57.54	70.82
2008/09	62.89	69.47
2009/10	61.96	71.46
Total	**297.31**	**337.93**
Average	**59.46**	**67.59**
S.D.	2.45	3.82
C.V.	4.12	5.65

Source: Annex 2

Table 4.6 shows that the ratio of credit and advances to total asset ratio of NABIL was 57.87, 57.04, 57.54, 62.89 & 61.96% respectively. Similarly the ratio of NIBL was 61.78, 64.40, 70.82, 69.47 & 71.46% respectively. In overall comparison NIBL has highest ratio

41

in F.Y.2009/10 i.e. 71.46% NABIL observed the lowest ratio in F.Y. 2006/07 with 57.04%.

From mean point of view, NIBL has maintained higher credit and advance to total asset ratio than NABIL which was 67.59% & 59.46% respectively. Standard deviation of NABIL and NIBL was 2.45 & 3.82 respectively whereas the coefficient of Variation of NABIL and NIBL was 4.12% & 5.65% respectively; similarly the consistency of the bank was 95.96% & 93.5% respectively.

From the table, it is clear that the combined average ratio was 63.53%. Similarly, standard deviation and the coefficient of variation are 3.14 & 4.89% respectively. It shows that in an average the selected commercial bank of Nepal have utilized their total asset as credit and advances to around 64% which will be the good investment for bank if there is not any default situation emerge. It also shows that NIBL uses total asset as credit and advances higher than NABIL Bank. Combined consistency level of both banks was around 95%.

Figure 4.6

Analysis of credit and Advances to Total Asset Ratio
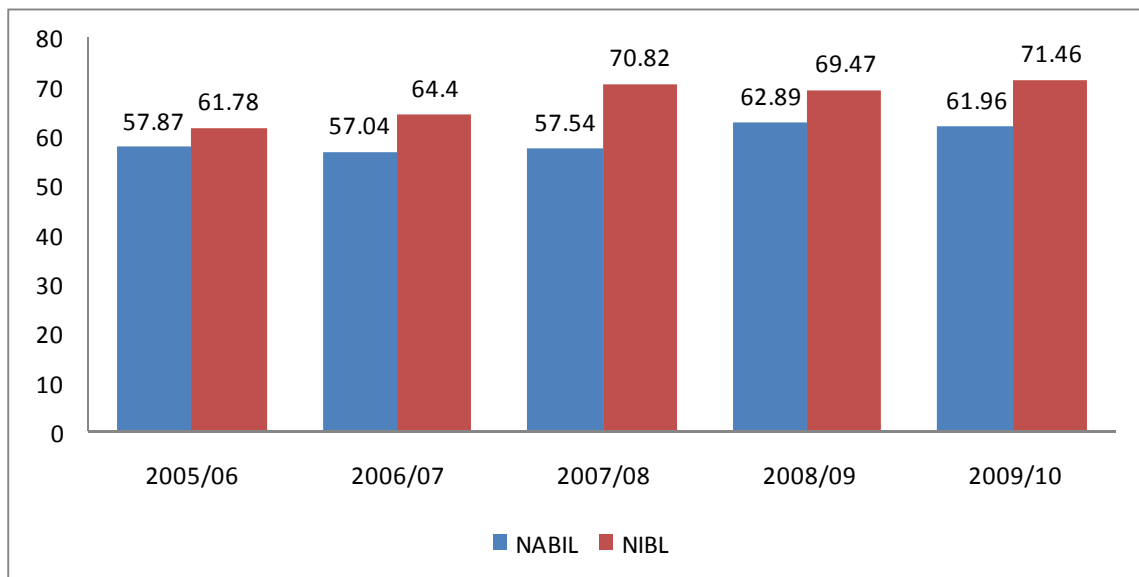
Table 4.7

Analysis of Performing Assets to Total Assets Ratio

F.Y.	NABIL	NIBL
2005/06	58.65	60.51
2006/07	57.70	62.87
2007/08	58.16	70.02
2008/09	63.31	69.07
2009/10	62.49	71.01
Total	300.32	333.48
Average	60.1	66.7
S.D.	2.35	4.2
C.V.	3.91	6.3

Source: Annex 3

Table 4.7 shows that the ratio of performing asset to total asset ratio of NABIL was 58.65, 57.70, 58.16, 63.31& 62.49% respectively. Similarly the ratio of NIBL was 60.51, 62.87, 70.02, 69.07 & 71.01% respectively. In overall comparison NIBL has highest ratio in F.Y.2009/10 i.e. 71.01% NABIL observed the lowest ratio in F.Y. 2006/07 with 57.70%.

From mean point of view, NIBL has maintained higher performing asset to total asset ratio than NABIL which was 66.7% & 60.1% respectively. Standard deviation of NABIL and NIBL was 2.35 & 4.2 respectively whereas the coefficient of Variation of NABIL and NIBL was 3.91% & 6.3% respectively.

The combined average ratio was 63.4%, similarly standard deviation and the coefficient of variation was 3.3% & 5.01% respectively.

Figure 4.7

Analysis of Performing Assets to Total Assets Ratio
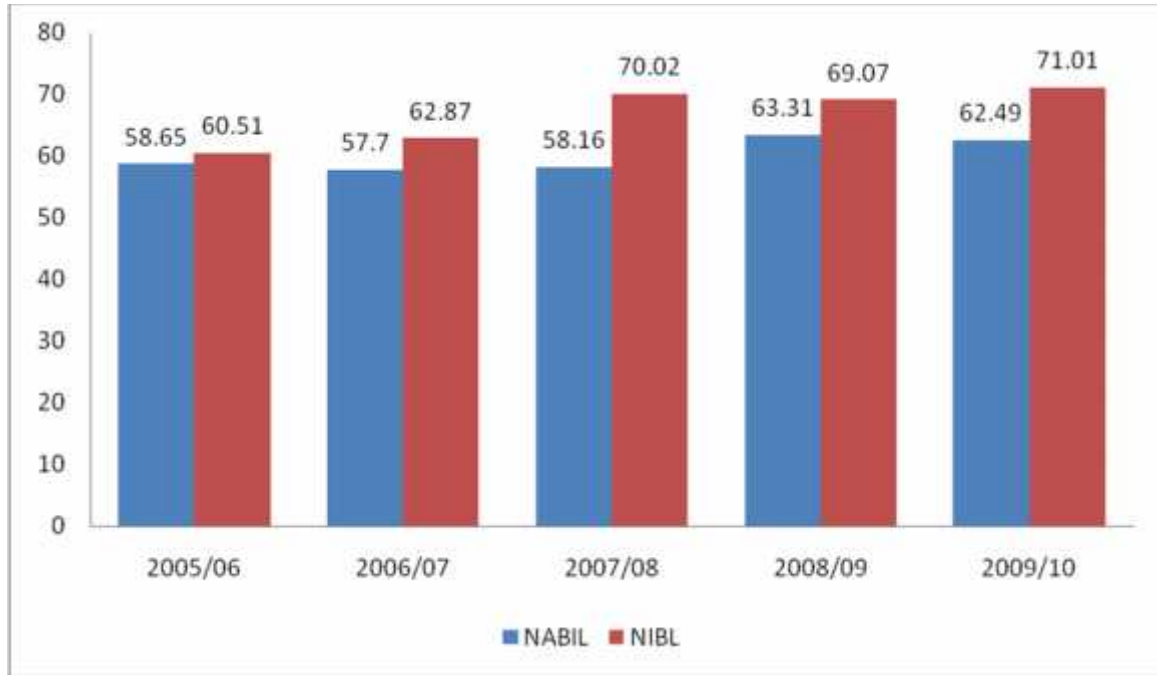
4.1.3 Statistical Analysis

A. NABIL Bank Limited

The data related to overall credit risk management is given below. The following table shows the calculation of Correlation Coefficient and Regression Analysis of NABIL Bank Limited.

Table 4.8

Correlation Coefficient of NABIL

S.N.	P.L.L	Correlation(r)	P.E.	Conclusion	Remarks
1	R.O.A.	0.6115	0.1889	Significant	r > P.E.
2	R.O.E	0.1550	0.2944	Insignificant	r < P.E.

Source: Annex 5

Figure 4.8

Correlation Coefficient of NABIL

Table 4.8 shows that the correlation coefficient between loan loss provision to R.O.A. & R.O.E. from the table we know that the correlation between P.L.L & R.O.A as well as P.L.L & R.O.E. both are positive. In case of correlation between P.L.L and R.O.A, correlation (r) is higher than P.E. hence it is significant. Similarly, in case of correlation between P.L.L & R.O.E, Correlation (r) is smaller than P.E. hence it is insignificant

Table 4.9

Regression Coefficient of NABIL

S.N.	Independent Variable	Dependent Variable	Beta(b) Coefficient	Constant (a)	T-Value	Remarks
1.	P.L.L.	R.O.A	0.4208	1.4883	1.389	Significant
2.	P.L.L.	R.O.E	0.74	30.42	0.0410	Significant

Source: Annex 5 & 6

Table 4.9 shows that the regression coefficient of loan loss provision for R.O.A and R.O.E, both are positive, hence the value is not significant at 5% level of Significance which indicates that there is a low degree of relationship between P.L.L and dependent

variable R.O.A and P.L.L and dependent variable R.O.E respectively. There is low degree of relationship between P.L.L on R.O.A and R.O.E so null hypothesis should be rejected and alternative hypothesis should be accepted.

B. NIBL Limited

The data related to overall credit risk management is given below. The following table shows the calculation of Correlation Coefficient and Regression Analysis of Nepal Investment Bank Limited.

Table 4.10

Correlation Coefficient of NIBL

S.N.	P.L.L	Correlation(r)	P.E.	Conclusion	Remarks
1	R.O.A.	-0.5086	0.2236	Insignificant	r < P.E.
2	R.O.E	0.3770	0.2588	Significant	r > P.E.

Source: Annex 5

Figure 4.9

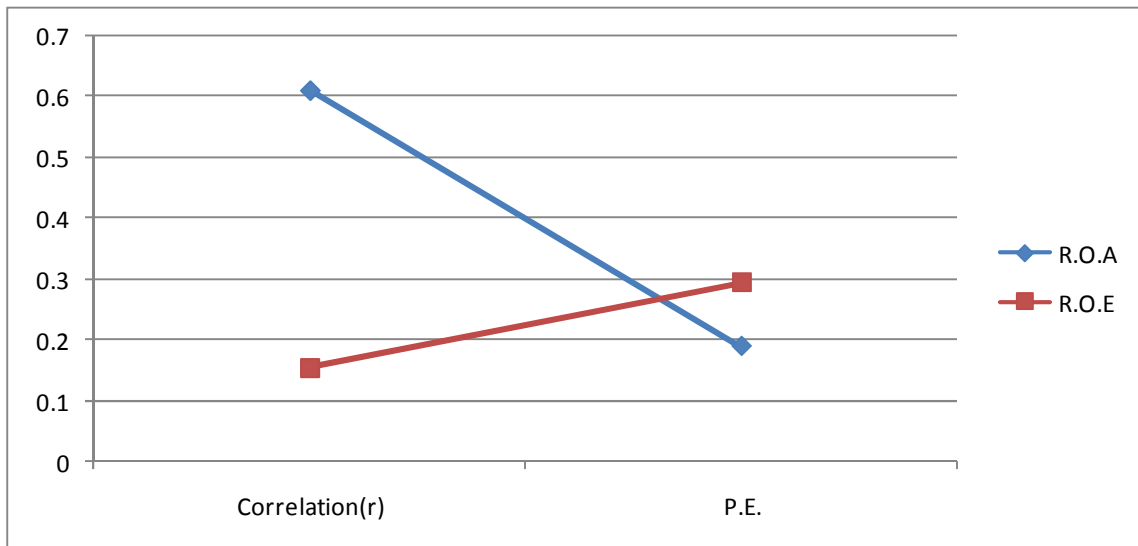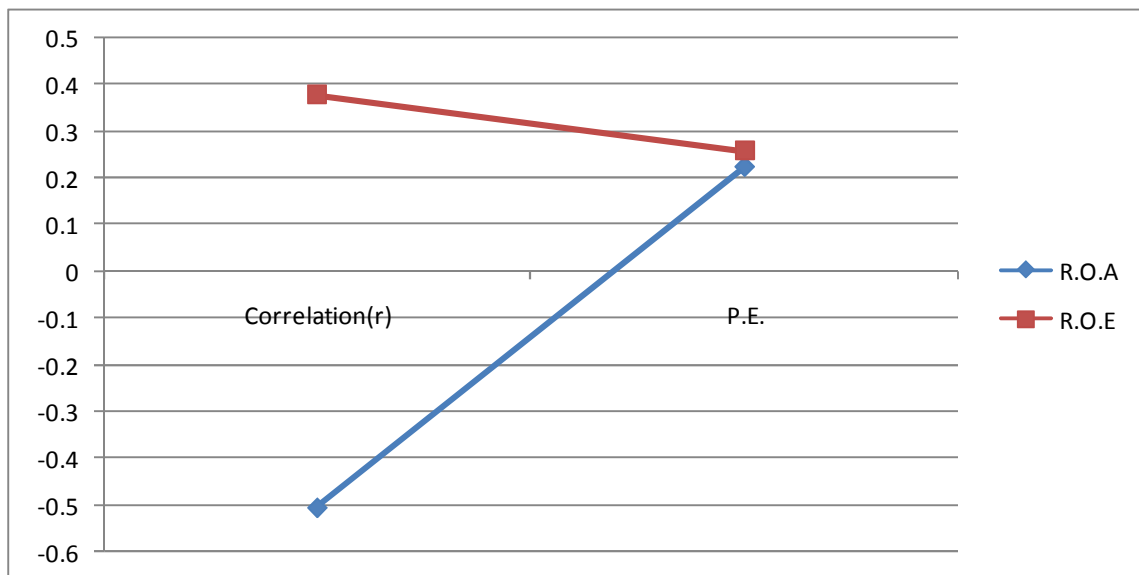**Correlation Coefficient of NIBL**

Table 4.10 shows that the correlation coefficient between loan loss provisions to R.O.A. & R.O.E. from the table we know that the correlation between P.L.L & R.O.A is negative, while in the case of correlation between P.L.L & R.O.E is positive relationship.

46

In case of correlation between P.L.L and R.O.A, Correlation (r) is smaller than P.E. hence it is insignificant. Similarly, in case of correlation between P.L.L & R.O.E, Correlation (r) is higher than P.E. hence it is significant.

Table 4.11

Regression Coefficient of NIBL

S.N.	Independent Variable	Dependent Variable	Beta(b) Coefficient	Constant (a)	T-Value	Remarks
1.	P.L.L.	R.O.A	-0.1713	2.204	-1.0607	Insignificant
2.	P.L.L.	R.O.E	1.589	23.9	0.7079	Significant

Source: Annex 5& 6

Table 4.11 shows that the regression coefficient of loan loss provision for R.O.A is negative but the value is not significant at 5% level of Significance which indicates that there is low relationship between P.L.L and dependent variable, hence null hypothesis should be rejected and alternative hypothesis is accepted similarly, the regression coefficient of L.P.P. for R.O.E is positive but the value is not significant at 5% level of Significance which indicate there is a low degree of relationship between P.L.L and R.O.E, hence null hypothesis should be rejected and alternative hypothesis should be accepted.

4.2 Major Findings:

After analyzing the credit portfolio of the NABIL and NIBL banks of Nepal from both financial and statistical aspects, the major findings of the study are described below.

1. The ratio of credit and advances to total deposit of NIBL bank has higher than NABIL which shows that, NIBL takes higher risk to earn higher profit as compare to NABIL, if NIBL don't able to recover the loan as certain period it will difficult to maintain liquidity. From the mean point of view NIBL has 7 6.54% where as NABIL has only 68.75%.

2. C.V measures the per unit risk. NABIL has lower C.V than NIBL in this case NIBL bear higher liquidity risk and able to earn higher return and NABIL has

lower C.V as credit risk and earn more profit by utilizing its loan and advances properly.

3. The ratio of credit and advances to total asset ratio of NABIL bank was lower than NIBL bank, the average mean ratio was 59.46% and 67.59% respectively. NIBL utilize more assets to lend the credit, to gain higher profit as compare to NABIL bank. Standard deviation and Coefficient of variation of NABIL bank has lower than NIBL bank.

4. The ratio of performing asset total asset ratio of NIBL bank has higher than NABIL bank, it shows that NIBL invest good loan as compare to NABIL. Hence NABIL bank kept higher provision loan loss as compare to NIBL.

5. As compare to return analysis of selected bank, R.O.A of NIBL is lower in previous year F.Y. 2005/06, gradually increases up to F.Y.2009/10 while in the case of NABIL in previous year F.Y. 2005/06 R.O.A was higher and gradually decreases up to F.Y.2009/10 under study period. The data shows that NIBL improve their condition day by day and NABIL didn't able to show the good performance as previous year. P.L.L of NIBL was lower than NABIL under study period.

6. Non performing loan of NIBL was higher in F.Y. 2006/07 and then after slightly decreases the non performing loan of NIBL where as in the case of NABIL in previous study period non performing loan is small in figure and gradually increase the non performing loan till F.Y. 2009/10. The figure suggest that NIBL used potential energy to loan recovery but NABIL didn't able to loan recovery as compare to NIBL, to reduce non performing loan NABIL should use expertise, experienced staff for loan recovery.

7. In case of NABIL bank the correlation coefficient between P.L.L and R.O.A i.e. 0.6115 which is moderate relationship between P.L.L and R.O.A, similarly, correlation between P.L.L and R.O.E i.e. 0.1550 which is low degree of correlation between P.L.L and R.O.E.

8. In case of NIBL bank the correlation coefficient between P.L.L and R.O.A i.e. -0.5086 which shows that there is moderate degree of negative correlation ship

between P.L.L and R.O.A, similarly, the correlation coefficient between P.L.L and R.O.E i.e. 0.3770 which shows that there is a low degree of correlation between P.L.L and R.O.E.

9. In case of NABIL, the regression coefficient of loan loss provision for R.O.A and R.O.E, both are positive, hence value is not significant at 5% level of Significance which indicates that there is a low degree of relationship between P.L.L and dependent variable R.O.A and P.L.L and dependent variable R.O.E respectively. There is a low degree of relationship between P.L.L on R.O.A and R.O.E.

10. In case of NIBL, the regression coefficient of loan loss provision for R.O.A is negative but the value is not significant at 5% level of Significance which indicates that there is low degree of relationship between P.L.L and dependent variable, similarly, the regression coefficient of L.P.P. for R.O.E is positive but the value is not significant at 5% level of Significance which indicate there is a low degree of relationship between P.L.L and R.O.E.

11. The trend of combined credit and ratios of the commercial banks are increasing. With the increasing in the ratio of credit, the non-performing assets have also increased it means that performing assets of the commercial banks have increasing regularly.

12. In terms of activity, all the commercial banks are able to satisfy the demand of various depositors, creditors and shareholders as well as government. All the banks provided modern facilities to its customers and used modern technology. Therefore they can attract good customers; it can be taken as strength of the commercial banks. In other hand, overdue creditors of commercial banks have increased day by day which are slow poisons for bank which directly hit the profit of the bank and total provision amount should be increased.

13. Nowadays, the many customers suggested the bank should decreases deposit interest rate and decreases the lending interest rate also which helps to do invest in new sector, which play vital role for development of the country. Due to liquidity crunch, there is a marathon competition for increasing interest rate and customer don't able to higher lending rate as a result number of loan becomes default as well as lack of good governance in financial institution   number of financial institution is in critical condition and begins to collapse one by one day by day. Due to unhealthy competition of commercial banks of Nepal, depositor uncomfortable to deposit the amount in bank.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Present study seems very successful to meet the stated objectives designed for study. The present study has been designed to overcome the issues relating to credit risk management in commercial banks. It was aimed to find out comparative credit risk management in NABIL Bank & NIBL Bank. Credit risk management, in finance terms, refers to the process of risk assessment that comes in an investment. Risk often comes in investing and in the allocation of capital. The risks must be assessed so as to derive a sound investment decision. Likewise, the assessment of risk is also crucial in coming up with the position to balance risks and returns.

5.1 Summary

Present study is very successful to meet the stated objectives designed for the study. The researcher highlights or introduces the meaning and importance of research paper and meets the objectives followed by various sequential steps.

First chapter of the study deals about basic assumption of the study. Basically it highlights the concept and importance or significance of the study. It also presents research issues, research problems, basic objectives of the study, limitation of the study, process of the study and introduction of the study. Lastly it discusses about the organizational structure of the study.

Second chapter helped the researcher to provide knowledge about the development and progress made by the earlier researcher on the concerned field or topic of the study. It helped to know the research work undertaken by them. It also tried to know the some concept used in this study. Moreover, it summarized the finding of the previous findings of the study to provide knowledge about the background of the work done by them and to step the duplicate of previous work.

Third Chapter of the study discussed about various research methodologies used for the study. Basically, research methodology here signifies the research design, sources of

data, population and sample of data, method of data analysis, data collection methods and tools and techniques employed etc.

Fourth chapter of the study deals about data presentation and analysis. It first presented the generated data in tabular form and analyzed. It is systematically as per the objectives mentioned above.

For the details analysis of NABIL & NIBL banks of Nepal in this study, the data are collected through secondary sources and different data analysis tools have been used. The hypothesis tests are done and various limitations are found out. For the analysis of data, mainly this focuses on loan loss provision, ratio analysis and their relation with the return on assets and return on equity. On an average of 5 years of research period, credit and advances to total deposit ratio of NABIL and NIBL are 68.75 & 76.54% respectively. NIBL has maintained higher credit and advances to total deposit ratio than NABIL Which shows that it has able to utilize more deposit for lending by taking higher risk to earn more profit. From the analysis, NIBL seems to be the best performer in utilizing its collected resources in the form of deposits much efficiently, which may definitely increase in income and profit for NIBL.

Similarly, mean average ratio of credit and advances to total asset ratio of NABIL & NIBL are 59.46 & 67.59% respectively. This ratio also shows that NIBL utilize more assets to earn more return. At the same time the average performing asset to total asset ratio of NABIL & NIBL are 60.1 & 66.7% respectively. This indicates that the performing assets are increasing regularly in the 5 year research period. As the non-performing credit has been decreases year by year, banks are generating lower credit risk which is good sign for any bank.

The Pearson's Correlation Coefficient of NABIL between P.L.L and R.O.A & P.L.L and R.O.E are 0.6115 & 0.1550 respectively, similarly, the Correlation Coefficient of NIBL between P.L.L and R.O.A & P.L.L and R.O.E are -0.5086 & 0.3770 respectively. The moderate degree of correlation between P.L.L and R.O.A of NABIL where as low degree of correlation between P.L.L and R.O.E. Likewise, the negative degree of moderate correlation between P.L.L and R.O.A of NIBL similarly, low degree of correlation between P.L.L and R.O.E.

5.2 Conclusion

After analyzing the credit portfolio of commercial banks of Nepal from both financial and statistical aspects we can draw some conclusion from the study which is as follows.

Present study successfully explored the result to meet the stated objectives of the study and found meaningful. In the context of commercial bank of Nepal, most of the banks have insufficiently liquidity, it shows that they haven't got proper investment sector to utilize their liquid money. Many banks and financial institution are functioning to collect deposit and invest money somewhere. After liberalization policy taken by government many banks and financial institution started to establish not only this international joint venture bank was established. Heavy remittances, foreign investment, Foreign Loan, Foreign Grant, INGOs, and NGOs also helped to increases the amount of deposits of the banks. On the other hand due to political instability, economics crisis, heavy decrease the value of share market, security problem, slowdown of flow of government expenditure, lack of good governance of financial institution etc. bring the liquidity crunch in the Nepalese market nowadays.

The commercial bank utilized most of the funds in the form of credit and advances therefore it is the major part of utilizing deposits for income generating purpose. Provisions for credit and advances have been increasing year by year for all commercial banks in Nepal due to small economic growth rate of the country, from credit amount the customer unable to earn higher return and they didn't able to pay the installment amount to the bank in the stipulated time period, due to this risk of default risk increase day by day in the result of this bank should increases its provision for credit loss.

5.3 Recommendations

Present analysis can be a valuable piece of research works in credit risk management topic. It explored the existing situation and identified the various components for future improvement in credit risk management. It may be useful for academicians especially to bank management and/or any others who are directly or indirectly involved in banking activities. Based on the findings of the study, the researcher recommended highlighting the guidelines to put forward for further improvement. These entire figure suggests that the commercial banks overall management of credit risk is good and reasonable.

According to this analysis, the following points are highlighted to put forward for the future improvement of all commercial banks.

1. A credit practice of NIBL was found relatively better than NABIL during study period. It is suggested NABIL banks management for better improvement, to increase the credit to earn higher return.

2. Cash and Bank balance of commercial banks are high. Unused cash and bank balance do not provide return to the bank. Therefore some percentage of cash and bank balance should be invested somewhere in profitable sectors which gives higher return. There must be good investment decision which increases the cooperative value of the firm. It should be carried out by effective identify, organized and manage, discrete and diverse segmenting order to serve particulars status of customers more effectively.

3. Good liquidity position is very necessary for commercial banks as it should be enough to meet the depositor's obligations as well as for good investment and for expansion.

4. Bank should be sensitive to adverse movements in external factors such as interest rates, exchange rate and commodity prices as it has direct disruption on cash trends of the bank.

5. Bank should take historical financial analysis and trade record as well as cash flows projections should be obtained for purpose arrangement of the proposal. Banks also should regularly follow up and frequently visit to credit customer to confirm that whether the customers have utilized their credit for the same purpose for the same committed at the time of taking credit from the bank.

6. Every bank should established recovery unit to recovery the loan within stipulated time frame as well as customer fails to pay the amount within limit, the recovery unit should start the legal process to recover the loan.

7. Most of the customer weren't satisfied with the services charges and increasing the lending rate of credit without inform to customer.

8. Banks should strictly follow the rules and regulation and avoid the policy of nepotism and favoritism. On the basis of capability and efficiency, employee's recruitment, placement and promotion should be executed.

9. Nowadays due to lack of good governance in the Nepalese market, few financial institution start to collapse and didn't able to run the bank smoothly.

BIBLIOGRAPHY

Books:

Bajracharya, B.C. (2056 B.S.). *Business Statistics and Mathematics,* Kathmandu. M.K. Publisher.

Benerjee, S.K. (2004). *Financial Management*, Ram Nagar, New Delhi. S.Chand & Company Ltd.

Kothari C.R. (2007). *Research Methodology, Methods and Techniques*, New Delhi Willey Eastery Limited.

Kothari C.R. (2008). *Quantitative Techniques*, New Delhi, Vikash Publishing House Pvt. Ltd.

Pandey, I.M. (2004). *Financial Management*, 7th Revised Edition, New Delhi, Vikash Publishing House Pvt. Ltd.

Pradhan, R.S. (2006). *Financial Management Practice in Nepal*, New Delhi, Vikash Publishing House.

Santimero, A.(1997), *Commercial Bank Risk Management ; An Analysis of Process*, University of Pennsylvania, U.S.A.

Shrestha and Silwal, (2057). *Statistical Methods in Management*, 2nd Edition, Kathmandu, Taleju Prakashan.

Sinkey, Josheph F.Jr.(1998), *Commercial Bank and Financial Management*, Prentice Hall, New Jersey.

Van Horne, J.C.(1999), *Financial Management and Policy*, Prentice Hall of India, New Delhi.

Varshney, N.P. and Swaroop, G.(1994), *Banking Law and Practices*, New Delhi.

Journal, Official Publication and Relevant Studies:

Annual Report of NABIL from 2005/06 to 2009/10

Annual Report of Nepal Investment Bank Limited from 2005/06 to 2009/10

Bajracharya, B. B. (2061). *Monitory Policy and Deposit Mobilization in Nepal*, Rajat Jayanti Smarika, Kathmandu, Rastriya Banijya Bank.

Froot, Kenneth A., David S.Scharfstein and Jeremy C.Stein (1994) "*A Framework for Credit Risk Management*" Harvard Business Review.

Nepal Rastra Bank Directives, (2066/67) Kathamandu Banking Operation Division,

NRB (2005), *Banking and Financial Statistics: A Journal of Banking Operation Department*, Kathmandu, Nepal Rastrya Bank.

Pradhan, S. B. (2063). *Deposit Mobilization, its Problem and Prospects*, Kathmandu Nepal Bank Patrika,

Sharma, B. (2008). *Banking the future on Competition*, Business Age.

Sharma, M.R. (1998*). Joint Venture Banks in Nepal Co-existing or Crowing Out*, The Nepalese Journal of Public Administration.

Shrestha, R. L. (2006). *A Study on Deposit and Credits of Commercial Banks in Nepal*, Nepal Rastra Bank Samachar,

Unpublished Masters Degree Thesis:

Lamichhane. K. (2010). *Credit Risk Management of Joint Venture Banks of Nepal*, T.U. Kathamandu an Unpublished Masters Degree Thesis.

Nepal. (2009). *Credit Management of Commercial Banks in Nepal* , T.U Kathmandu, an Unpublished Master Degree Thesis.

Regmi. K. (2004) *Credit Management of Commercial Banks with references of Nepal Bangladesh Bank Ltd & Bank of Kathmandu,* T.U Kathmandu, an Unpublished Master Degree Thesis.

Shrestha. N. (2006), *A Study on Non-Performing Loans and Loan Loss Provisioning of Commercial Banks,* T.U Kathmandu, an Unpublished Master Degree Thesis.

Yadav. S. K. (2010). *Comparative credit management of Nepalese commercial banks*, T.U Kathamandu, an Unpublished Master Degree Thesis.

Website

www.nrb.org.np
www.nepalstock.com
www.wikipedia.com
www.investopedia.com
www.sas.com/industry/financial

Annex 1.

Credit and Advances to Total Deposit Ratio (Fig. in million Rs.)

A) NABIL Bank

F.Y.	Credit &Advance	Total Deposit	Ratio %
2005/06	12923	19347	66.80
2006/07	15546	23342	66.60
2007/08	21365	31915	66.94
2008/09	27590	37348	73.87
2009/10	32269	46411	69.53

B) NIBL Bank

F.Y.	Credit & Advance	Total Deposit	Ratio %
2005/06	13178	18927	69.63
2006/07	17769	24488	72.56
2007/08	27529	34452	79.91
2008/09	36827	46698	78.86
2009/10	40948	50094	81.74

Annex 2.

Credit and Advances to Total Asset Ratio (Fig. in million Rs.)

A) NABIL Bank

F.Y.	Credit &Advances	Total Assets	Ratio %
2005/06	12923	22330	57.87
2006/07	15546	27253	57.04
2007/08	21365	37133	57.54
2008/09	27590	43867	62.89
2009/10	32269	52080	61.96

B) NIBL Bank

F.Y.	Credit & Advance	Total Asset	Ratio
2005/06	13178	21330	61.78
2006/07	17769	27591	64.40
2007/08	27529	38873	70.82
2008/09	36827	53010	69.47
2009/10	40948	57305	71.46

Annex 3.

Performing Assets to Total Asset Ratio (Fig. in million Rs.)

A) NABIL Bank

F.Y.	Performing Assets	Total Assets	Ratio
2005/06	13096	22330	58.65
2006/07	15725	27253	57.70
2007/08	21598	37133	58.16
2008/09	27774	43867	63.31
2009/10	32545	52080	62.49

B) NIBL Bank

F.Y.	Performing Assets	Total Asset	Ratio
2005/06	12906	21330	60.51
2006/07	17347	27591	62.87
2007/08	27220	38873	70.02
2008/09	36613	53010	69.07
2009/10	40694	57305	71.01

Annex 4.

Calculation of Standard deviation and Coefficient of Variation

A) NABIL

F.Y.	For Credit & Advances to Total Deposit Ratio		For Credit & Advances to Total Asset Ratio	
	X	(X-X)2	X	(X-X)2
2005/06	66.8	3.8	57.87	2.53
2006/07	66.6	4.62	57.04	5.86
2007/08	66.94	3.28	57.54	3.72
2008/09	73.87	26.21	62.89	11.76
2009/10	69.53	0.61	61.96	6.25
Total	343.74	38.52	297.31	30.12
Mean(X)	68.75		59.46	
S.D.	2.78		2.45	
C.V.	4.04		4.12	

F.Y.	For Performing Asset to Total Asset Ratio	
	X	(X-X)2
2005/06	58.65	2.1
2006/07	57.7	5.76
2007/08	58.16	3.76
2008/09	63.31	10.3
2009/10	62.49	5.71
Total	300.31	27.63
Mean(X)	60.1	
S.D.	2.35	
C.V.	3.91	

Calculation of Standard deviation and Coefficient of Variation

B) NIBL Bank

F.Y.	For Credit & Advances to Total Deposit Ratio		For Credit & Advances to Total Asset Ratio	
	X	(X-X)2	X	(X-X)2
2005/06	69.63	47.75	61.78	33.76
2006/07	72.56	15.84	64.40	10.18
2007/08	79.91	11.36	70.82	10.43
2008/09	78.86	5.38	69.47	3.53
2009/10	81.74	27.04	71.46	14.98
Total	382.70	107.37	337.93	72.88
Mean(X)	76.54		67.59	
S.D.	4.63		3.82	
C.V.	6.05		5.65	

F.Y.	For Performing Asset to Total Asset Ratio	
	X	(X-X)2
2005/06	60.51	38.32
2006/07	62.87	14.67
2007/08	70.02	11.02
2008/09	69.07	5.62
2009/10	71.01	18.58
Total	333.48	88.21
Mean(X)	66.7	
S.D.	4.2	
C.V.	6.3	

Calculation of Correlation and Regression Coefficient

Correlation(r) $= \dfrac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$

Probable Error (P.E.) $= \dfrac{[0.6745(1-r)^2]}{N}$

NABIL Bank

F.Y.	P.L.L (X)	R.O.A (Y_1)	R.O.E (Y_2)	X^2	XY_1	XY_2	Y_1^2	Y_2^2
2005/06	2.68	2.84	33.88	7.18	7.61	90.80	8.07	1147.85
2006/07	2.24	2.47	32.76	5.02	5.53	73.38	6.10	1073.22
2007/08	1.81	2.01	30.61	3.28	3.64	55.40	4.04	936.97
2008/09	1.46	2.35	32.94	2.13	3.43	48.09	5.52	1085.04
2009/10	2.31	2.19	29.68	5.34	5.06	68.56	4.80	880.90
Total	10.5	11.86	159.87	22.94	25.27	336.24	28.53	5123.99

We have,

r(R.O.A) $= \dfrac{N\sum XY_1 - (\sum X)(\sum Y_1)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y_1^2 - (\sum Y)^2\}}}$ = 0.6115

P.E.(R.O.A) $= \dfrac{[0.6745(1-r)^2]}{N} =$

r(R.O.E) $= \dfrac{N\sum XY_1 - (\sum X)(\sum Y_1)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y_1^2 - (\sum Y)^2\}}}$ = 0.1550

P.E.(R.O.A) $= \dfrac{[0.6745(1-r)^2]}{N} =$

Regression Analysis of R.O.A on P.L.L and R.O.E on P.L.L.

Regression equation of Y_1 on X i.e. R.O.A. on P.L.L.(Y = a + bx)

To determine the value of a & b, the following two normal equation are to be solved.

$Y_1 = Na + b \sum X$ i.e. $11.86 = 5a + 10.5b$………………1st

$\sum XY_1 = a \sum X + b \sum X^2$ i.e. $25.27 = 10.5a + 22.94b$…………..2nd

Multiplying equation 1st by 2.185 and subtracting equation 2 from equation 1st, then we get,

     a = 1.4883

Now put the value of a in equation 1st then we get,

     b = 0.4208

Regression equation of Y_2 on X i.e. R.O.E and P.L.L. (Y = a + bX)

To determine the value of a & b, the following two normal equation are to be solved.

$Y_1 = Na + b \sum X$ i.e. $159.87 = 5a + 10.5b$………………1st

$\sum XY_1 = a \sum X + b \sum X^2$ i.e. $336.24 = 10.5a + 22.94b$…………..2nd

Multiplying equation 1st by 2.185 and subtracting equation 2nd from equation 1st then we get,

     a = 30.42

Now put the value of a in equation 1st then we get,

     b = 0.74

NIBL Bank

F.Y.	P.L.L (X)	R.O.A (Y_1)	R.O.E (Y_2)	X^2	XY_1	XY_2	Y_1^2	Y_2^2
2005/06	3.04	1.65	29.1	9.24	5.02	88.46	2.72	846.81
2006/07	2.71	1.82	26.68	7.34	4.93	72.30	3.31	711.82
2007/08	1.94	1.79	30.5	3.76	3.47	59.17	3.20	930.25
2008/09	1.59	1.7	22.96	2.53	2.70	36.51	2.89	527.16
2009/10	1.54	2.21	27.45	2.37	3.40	42.27	4.88	753.50
Total	10.82	9.17	136.69	25.25	19.53	298.72	17.01	3769.55

We have,

$$r(R.O.A) = \frac{N \sum XY_1 - (\sum X)(\sum Y_1)}{\sqrt{\{N \sum X^2 - (\sum X)^2\}\{N \sum Y_1^2 - (\sum Y)^2\}}} = -0.5086$$

$$P.E.(R.O.A) = \frac{[0.6745(1-r^2)]}{\sqrt{N}} =$$

$$r(R.O.E) = \frac{N \sum XY_1 - (\sum X)(\sum Y_1)}{\sqrt{\{N \sum X^2 - (\sum X)^2\}\{N \sum Y_1^2 - (\sum Y)^2\}}} = 0.3770$$

$$P.E.(R.O.A) = \frac{[0.6745(1-r^2)]}{\sqrt{N}} =$$

Regression Analysis of R.O.A on P.L.L and R.O.E on P.L.L.

Regression equation of Y_1 on X i.e. R.O.A. on P.L.L.(Y = a + bx)

To determine the value of a & b, the following two normal equation are to be solved.

$\sum Y_1 = Na + b \sum X$ i.e. $9.71 = 5a + 10.82b$………………1st

$\sum XY_1 = a \sum X + b \sum X^2$ i.e. $19.53 = 10.82a + 25.52b$…………..2nd

Multiplying equation 1st by 2.334 and subtracting equation 2 from equation 1st, then we get,

     a = 2.204

Now put the value of a in equation 1st then we get,

     b = - 0.1713

Regression equation of Y_2 on X i.e. R.O.E and P.L.L. (Y = a + bX)

To determine the value of a & b, the following two normal equation are to be solved.

$\sum Y_1 = Na + b \sum X$ i.e. $136.69 = 5a + 10.82b$………………1st

$\sum XY_1 = a \sum X + b \sum X^2$ i.e. $298.72 = 10.82a + 25.25b$…………..2nd

Multiplying equation 1st by 2.185 and subtracting equation 2nd from equation 1st then we get,

     a = 23.9

Now put the value of a in equation 1st then we get,

     b = 1.589

T-test calculation of NABIL & NIBL Bank Limited

A. **NABIL Bank Limited**

1. **T-test calculation between R.O.A & P.L.L.**

F.Y.	P.L.L(X)	R.O.A(Y)	XY	Y^2	(X-EX/N)	$(X-EX/N)^2$
2005/06	2.68	2.84	7.61	8.07	0.58	0.34
2006/07	2.24	2.47	5.53	6.10	0.14	0.02
2007/08	1.81	2.01	3.64	4.04	-0.29	0.08
2008/09	1.46	2.35	3.43	5.52	-0.64	0.41
2009/10	2.31	2.19	5.06	4.80	0.21	0.04
Total	**10.5**	**11.86**	**25.27**	**28.53**	**0.00**	**0.89**

We have,

$a = 1.4883$ and $b = 0.4208$ from Annex

Where,

Null Hypothesis (H_0)   : b = 0, the slope of line is equal to zero.

Alternative Hypothesis (H_1)   : b ≠ 0, the slope of line is not equal to zero.

Now, by using the formula of standard error of Y, then, we have,

$S_y = \dfrac{\sum (Y)^2 - a \sum (Y) - b \sum (XY)}{N-2}$

$S_y = 0.2858$

Putting the value of standard error of "Y" in calculating the standard error of estimate for the slope of line, we have,

$S_b = \dfrac{S_y}{\sum (X - \sum X/N)^2}$

$= \dfrac{0.2858}{0.89}$

$S_b = 0.3029$

Therefore, t-value of bet(b)

$T_b = \dfrac{b-0}{S_b}$

$= \dfrac{0.4208-0}{0.3029}$

$T_b = 1.389$

Since, the calculated "t" is less than tabulated "t" at 5% level of significance, so null hypothesis should be accepted.

1 T-test calculation between R.O.E and P.L.L

F.Y.	P.L.L(X)	R.O.E(Y)	XY	Y^2	(X- X/N)	(X- X/N)^2
2005/06	2.68	33.88	90.80	1147.85	0.58	0.34
2006/07	2.24	32.76	73.38	1073.22	0.14	0.02
2007/08	1.81	30.61	55.40	936.97	-0.29	0.08
2008/09	1.46	32.94	48.09	1085.04	-0.64	0.41
2009/10	2.31	29.68	68.56	880.90	0.21	0.04
Total	**10.5**	**159.87**	**336.24**	**4243.09**	**0.00**	**0.89**

We have,

a = 30.42 &

b =0.74

where,

Null Hypothesis (H_0) : b = 0, the slope of line is equal to zero.

Alternative Hypothesis (H_1) : b 0, the slope of line is not equal to zero.

Now, by using the formula of standard error of Y, then, we have,

S_y = $\dfrac{(Y)^2 -a (Y) -b (XY)}{N-2}$

S_y = 17.02

Putting the value of standard error of "Y" in calculating the standard error of estimate for the slope of line, we have,

S_b = $\dfrac{S_y}{(X- X/N)^2}$

= $\dfrac{17.02}{0.89}$

S_b = 18.04

Therefore, t-value of bet(b)

T_b = $\dfrac{b-0}{S_b}$

= $\dfrac{0.74-0}{18.04}$

T_b = 0.0401

Since, the calculated "t" is less than tabulated "t" at 5% level of significance, so null hypothesis should be accepted.

B. NIBL Bank

1. T-test calculation between R.O.A & P.L.L.

F.Y.	P.L.L(X)	R.O.A(Y)	XY	Y^2	(X- X/N)	(X- X/N)^2
2005/06	3.04	1.65	5.02	2.72	0.88	0.77
2006/07	2.71	1.82	4.94	3.31	0.55	0.30
2007/08	1.94	1.79	3.47	3.20	-0.23	0.05
2008/09	1.59	1.70	2.71	2.89	-0.57	0.32
2009/10	1.54	2.21	3.40	4.88	-0.63	0.40
Total	**10.82**	**9.17**	**19.53**	**17.01**	**0**	**1.85**

We have,

a = 2.204 and b = -0.1713 from Annex

Where,

Null Hypothesis (H$_0$)   : b = 0, the slope of line is equal to zero.

Alternative Hypothesis (H$_1$)   : b   0, the slope of line is not equal to zero.

Now, by using the formula of standard error of Y, then, we have,

$$S_y = \frac{(Y)^2 - a (Y) - b (XY)}{N-2}$$

$S_y = 0.2197$

Putting the value of standard error of "Y" in calculating the standard error of estimate for the slope of line, we have,

$$S_b = \frac{S_y}{(X- X/N)^2}$$

$$= \frac{0.2197}{1.85}$$

$S_b = 0.1615$

Therefore, t-value of bet(b)

$$T_b = \frac{b-0}{S_b}$$

$$= \frac{-0.1713-0}{0.1615}$$

$T_b = -1.0607$

Since, the calculated "t" is less than tabulated "t" at 5% level of significance, so null hypothesis should be accepted.

2. T-test calculation between R.O.E and P.L.L

F.Y.	P.L.L(X)	R.O.E(Y)	XY	Y^2	(X- X/N)	$(X- X/N)^2$
2005/06	3.04	29.10	88.55	846.81	0.88	0.77
2006/07	2.71	26.68	72.37	711.82	0.55	0.30
2007/08	1.94	30.50	59.05	930.25	-0.23	0.05
2008/09	1.59	22.96	36.53	527.16	-0.57	0.32
2009/10	1.54	27.45	42.23	753.50	-0.63	0.40
Total	**10.82**	**136.69**	**298.74**	**3769.55**	**0**	**1.85**

We have,

a = 23.9 and b = 1.589 from Annex

Where,

Null Hypothesis (H_0)   : b = 0, the slope of line is equal to zero.

Alternative Hypothesis (H_1)   : b   0, the slope of line is not equal to zero.

Now, by using the formula of standard error of Y, then, we have,

$$S_y = \frac{(Y)^2 - a \ (Y) - b \ (XY)}{N-2}$$

$S_y = 3.053$

Putting the value of standard error of "Y" in calculating the standard error of estimate for the slope of line, we have,

$$S_b = \frac{S_y}{(X- X/N)^2}$$

$$= \frac{3.053}{1.85}$$

$S_b = 2.2446$

Therefore, t-value of beta (b)

$$T_b = \frac{b-0}{S_b}$$

$$= \frac{1.589-0}{2.2446}$$

$T_b = 0.7079$

Since, the calculated "t" is less than tabulated "t" at 5% level of significance, so null hypothesis should be accepted.