CHAPTER: I

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Innovation, Deregulation and Globalization in banking sector have contributed to making banking business more complex and potentially riskier. This has presented new challenges to bank supervisors with respect to the structuring of their ongoing supervision. In response, supervisors have developed new methods and processes for monitoring and assessing banks on an ongoing basis. Particular attention is being paid in this regard to improving the quality of bank examinations and to the development of systems that can assist supervisors and examiners in identifying changes, particularly deterioration, in banks' financial condition as early as possible. Amongst the various new initiatives that have been taken or are being taken in this respect are the development of more formal, structured and quantified assessments not only of the financial performance of banks but also of the underlying risk profile and risk management capabilities of individual institutions.

The ability to monitor financial sector soundness presupposes the existence of valid indicators of the health and stability of financial systems. These macroprudential indicators (MPIs) allow for assessments to be based on objective measures of financial soundness. If MPIs are made publicly available, they enhance disclosure of key financial information to the markets. In addition, if the indicators are comparable across countries they facilitate monitoring of the financial system, not only at the national but also at the global level. The latter is crucial in view of the magnitude and mobility of international capital, and the risk of contagion of financial crises from one country to another.

Hilbers, Krueger & Moretti (September 2000) in their publication recommended CAMELS framework as one commonly used framework for analyzing the health of individual institutions, which looks at six major aspects of a FI: ***c***apital adequacy, ***a***sset quality, ***m***anagement soundness, ***e***arnings, ***l***iquidity, and ***s***ensitivity to market risk. has shown that certain macroeconomic trends have often preceded banking crises. Assessments of financial soundness, therefore, need to incorporate the broad picture—particularly an economy's vulnerability to capital flow reversals and currency crises.

On November 13, 1979, Federal Financial Institutions Examination Council (FFIEC), USA, adopted an internal rating system, the Uniform Financial Institutions Rating System (UFIRS). UFIRS is used by the Federal supervisory agencies and State supervisory agencies of USA for evaluating the soundness of FIs on a uniform basis and for identifying those institutions requiring special supervisory attention or concern. Explaining the importance of UFIRS, the FFIEC Federal Register Press Release Notice (December 1996) states that UFIRS takes into account of evaluation of managerial, operational, financial, and compliance performance factors common to all institutions and provides a means for the supervisory agencies to monitor, the types and severity of problems that institutions may be experiencing. The Fereral Register Press release further affirms in its introduction text of the revised UFIRS that it has over the years proven to be an effective internal supervisory tool for evaluating the soundness of FIs on a uniform basis and for identifying those institutions requiring special attention or concern. The press release reasons number of changes, have occurred in the banking industry and in the Federal supervisory agencies' policies and procedures, for the revision of 1979 rating system. The revisions to UFIRS with inclusion of the sixth component addressing sensitivity to market risks will be in effect from January 1, 1997.

The direct public beneficiaries of private supervisory information, such as that contained in CAMELS ratings, would be depositors and holders of banks' securities. Small depositors are protected from possible bank default. Rather than evaluating a bank's solely on its performance to date or focusing on areas of minimal risk, it is imperative to evaluate both bank's performance and management's ability to identify, measure, monitor, and control risk.

Nepal Rastra Bank (NRB), the Financial Institutions' regulatory authority in Nepal, directed this concept vide circular Bai. Bya. Pa.Pa.66/057 dated 26-04-2001 by implementing minimum capital requirement standard in Nepal.

The purpose of this research is to focus on to identify and monitor current and potential areas of risk in one of the major FIs of Nepal.

1.2 Profile of Banks

Introduction of Nabil Bank Limited: NABIL Bank Limited, previously known as 'Nepal Arab Bank Ltd., which commenced operation on 12th July, 1984 is Nepal's first major joint venture Bank established under the technical services agreement approved by Nepal Rastra Bank. Finding the potential market, Dubai Bank Ltd, Dubai in joint venture with Nepal gave birth to the first joint venture bank of Nepal. It was established on 12th

July, 1984 under the name of Nepal Arab bank Ltd. Later the Dubai bank Ltd, Dubai emerged with Emirates Bank Ltd, Dubai, with the help of a special resolution passed at the AGM, the name Nepal Arab Bank Ltd. have been changed to NABIL BANK LTD. Nabil Bank Limited had the official name Nepal Arab Bank Limited till 30st December 2001. Under this provision Dubai Bank Ltd, Dubai (Later acquired by Emirates Bank of International Limited, Dubai) was the first joint venture partner of Nabil. Nabil bank has a history and culture of its own by setting the standard of operations and providing services. It provides international quality of services to its customers and some invaluable advices to its clients with the help of professionals hired by the bank. Nabil bank has expanded its size and volume of transactions with the help of dedicated professionals working as a team for the cause of this organization.

The today Nabil bank holds one of the strongest networks in Nepal compared to other financial institutes. Nabil bank today can be termed as a full service bank in every sense which is able to meet the entire range of financial requirements and services to its customers and clients. It is the pioneer commercial bank of Nepalese economy which sets the benchmark for the industry. The management and the board members are the true assets of the organization who have made it what it is today.

Its share capital distribution is as follows.

Authorized Capital (21,000,000 shares of Rs 100) Rs 2,100,000,000

Issued Capital (20,297,694 shares of Rs 100) Rs 2,029,769,400

Paid of Capital (20,297,694 shares of Rs 100) Rs 2,029,769,400

Nepal Investment Bank Limited: Nepal investment bank Ltd. (NIBL) established in 1986 as a joint venture between Nepalese and French partners. This bank was previously Nepal Indosuez Bank Ltd. The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of one the largest banking group in the world. With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, have acquired on April 2002 the 50% shareholder of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd. The name of the bank has been changed to Nepal Investment bank Limited upon approval of the 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

The Rashtriya Banijya Bank holds 15% of the Capital.

Rashtriya Beema Sansthan holds the same percentage.

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

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

Its share capital distribution is as follows.

Authorized Capital (40,000,000 shares of Rs 100) Rs 4,000,000,000

Issued Capital (30,129,242 shares of Rs 100) Rs 3,012,924,200

Paid of Capital (30,129,242 shares of Rs 100) Rs 3,012,924,200

1.3 Focus of the Study

At this time in here 30 commercial banks are operating in this monopoly market due to policy as well as management of own banking. However, in the 2012 NRB had apply strong rules and regulation for all "A" to "D" class financial institutions on issuing loan similarly, in interest rate of loan and deposit. So, in this study I had been choosing financial performance of commercial banks in Nepal with reference of Nabil bank limited and Nepal investment bank limited to find out the which types of financial status of both banks and I had been comparing both banks to each other on the basis of financial position.

In Nepal, NRB uses the CAELS (Capital, Assets, Earnings, Liquidity, Sensitivity) system for assessing the financial soundness of commercial banks and accordingly for the first time ranked the banks based on the statistics of 3rd quarter of the FY 2061/62. However, the Office of Inspector General's (OIG) Audit report, USA (September 2002) replaced CAEL with

SCOR for review program of the FDIC-Supervised Banks. SCOR uses quarterly Reports of Condition and Income (Call Reports) to rate institutions.

In Nepal many commercial and financial companies have opened within a few years of the period. Basically, joint venture banks have given a new horizon to the financial sector of Nepal. They have achieved tremendous success in terms of market share and profitability due to their prompt service and professionalism. The research study is focused on assessing the financial condition and performance of Nepal Investment Bank Limited and NABIL Bank Limited This study focuses on the financial performance and comparative analysis of two commercial banks.

1.4 Statement of the Problem

The main objective of a Financial Institution (FI) is to increase its returns for its owners which often comes, however, at the cost of various increased risk: Credit Risk, Liquidity Risk, Interest Rate Risk, Interest, Market Risk, Off-Balance Sheet Risk, Foreign Exchange Risk, Country Risk, Technology Risk, Operational Risk and Insolvency Risk. The government owned banks in Nepal are almost running in loss. It is also very difficult to call the private sector banks sound though they are earning profit since they may be exposed to aforesaid risks. Questions are being raised over the validity of their balance sheet and profit & loss account. Should the suspicion come true, it will prove very costly to the depositors, creditors and national economy as a whole. In view of this it is important that FIs manage these risks and have appropriate policies, processes, or practices in place that management follows and uses.

This research will highlight the problems relating to the banking sector with respect to two ample joint venture banks they are Nabil Bank Limited (NABIL) and Nepal Investment Bank Limited (NIBL).

Joint venture banks have recently been set up in Nepal but in a short span of time number of JVBs are increasing rapidly. The first JVBs in Nepal is Nepal Arab Bank Limited (NABIL). However, the available banking business is not increased to that extent. But there is aggressive competition between the JVBs in terms of service, interest etc.

As every business is established with a view to maximize earning/profits. In the present competitive environment in the banking and every section it is very difficult to obtain expected earning/profits. Every commercial bank has to follow by the regulation and

provision made by Nepal Rastra Bank. They have to maintain specific capital structure. Infrastructure, cash reserve ratio, credit creation limitation, liquidity ratio etc.

The elementary problem of this research is to scrutinize the financial condition of NABIL & NIBL in the framework of CAMELS and is an attempt to come back with the following research questions:

i. How NABIL & NIBL managing its Capital Adequacy? Is it in line with the regulated minimum capital requirement?

ii. What is the level, trend of Asset Compositon and Risk Weighted Assets of NABIL & NIBL and what is the bank ‘s quality of Loans and Loan provision mix?

iii. How NABIL & NIBL are managing their expenses with respect to revenues? What control and monitoring mechanism are maintained in the bank?

iv. What are the level, trend and stability of NABIL & NIBL earnings?

v. Is the NABIL’s & NIBL's liquidity position adequate in consideration of the current level and prospective sources of liquidity compared to funding needs?

vi. How changes in interest rates can affect each bank's earnings?

1.5 Objectives of the Study

The national and international economy has undergone through drastic changes over a decade and abruptly since last 5 years. The threats imposed by Nepalese economy, have made it imperative to search for opportunities in order to curb any hindrances to the economical development. Because of the importance and relevance of banks in shaping the economy, it has become important to review the banking industry and its business strategies.

i. To analyse Capital Adequacy & Liquidity Position of NIBL & NABIL and campare with regulatory minimum capital requirement.

ii. To analyse quality of assets and evaluate Risk Weighted Assets of NIBL & NABIL.

iii. To evaluate the level, trend and stability of NIBL & NABIL's earning.

1.6 Limitations of the Study

This study is simply for partial fulfillment of the requirement of Master in Business Studies (MBS). However there are some limitations, which narrowed the generalization. For instant inadequate coverage of industries, time periods taken reliability of statistical tools

used and other variation. It is focused on the financial analysis of the study unit in the frame work of the six components of CAMELS system. . The study is completely based on the data collected from the banks.

Each and every research has some limitations. Basically, not availability of required data and information would be the major limitations of the study.

The study has been conducted with the following limitations.

i. Last five fiscal years will be the basis for the study (2007/08 to2011/12).
ii. The study would base on secondary data.
iii. The accuracy of this study would base on the response and the data available for the management of the banks.
iv. In all calculation I used financial and statistical tools.
v. Due to limited time and resource constraint, the study will neither be comprehensive nor extensive.

1.7 Organization of the Study

This study is organized into five chapters; Introduction, Review of Literature, Research Methodology, Data Processing and Analysis and Summary, Conclusions and Recommendation. Introduction chapters includes background, Focus of the study, Statement of the problem, Objectives, Significance, Delimitations of the study and Organization of the study. Similarly, the second chapter deals with conceptual review and review of related studies. Research methodology describes the methodology adopted in this study . In the same way, presentation and analysis of data is included in Chapter IV. Finally, the Summary, Conclusions and Recommendations of the work are given in Chapter V.

CHAPTER – II

REVIEW OF LITERATURE

A literature review is a body of text that aims to review the critical points of current knowledge on a particular topic. In this chapter, we find what kind of study has been done before on the related topic. What kind of conclusion and findings has made before. We can compare and make better the topic by furthermore research and find major findings. The financial performance analysis has been done but comparison study is done very little. So the study will be helpful to know the NABIL and NIBL financial position and their major differences. The study sources are books, journals, report, internet etc.

Review of literature is the study of previous research or article or book in related field or topics for finding the past studies conclusion and deficiencies that may be known for further research. This chapter will help to check the chances of duplication in the present study. Thus the gap between the previous research and current research can be filled.

Therefore, the chapter is categorized under three main heading. A conceptual framework is concerned with fundamental of supporting text that will ensure the interpretation whether it is under the principles and doctrine of the theories related to the topic. Review of related studies is about the studies is about the studies of previous thesis, related books and previous researches on similar topics. The last is research gap, which will describe the difference between the previous thesis and current thesis. The purposes of the literature review are as follows:-

i. To define and limit the problem working on.
ii. To place the study in an historical perspective.
iii. To avoid unnecessary duplication.
iv. To evaluate promising research methods.
v. To relate the findings to previous knowledge and suggest further research.

2.1 Role of the Bank

A well developed banking system is a necessary condition for the economic development of a nation. The role of bank and other financial institutions in developing countries is considered not only as leaders of development, they are considered as financial wheels of economic development. They can help to accelerate the pace of trade and commerce,

economic development and modern life system. Major roles of the banking system in an economy can be summarized as follows:-

i. Creation of Credit
ii. Mobilizing Savings
iii. Monetization of economy.
iv. To implement and expedite government policies
v. To manage foreign trade and payment.
vi. To meet the development expenditure of the govt.
vii. To create employment opportunities

2.1.1 Classification of the Banks

Bank of different objectives is established in different fields of economy as a single bank cannot perform multiple functions at a time to meet the interest of various types of customer. If it does the question of quality, efficiency and effectiveness of the bank will arise. Banking institutions are generally classified into the following types by NRB:

i. Central Bank
ii. Commercial Bank
iii. Development Bank
iv. Finance Companies
v. Micro-Finance Institutions

2.1.2 Private Commercial Banks in Nepal

The bank, which is operated, by general public or non-government financial institution under commercial bank act 2031 B.S. Is called the private commercial bank. It should follow the rules and regulation according to commercial bank act. Currently there are 30 commercial banks. Among them NABIL and NIBL are fast growing and successful banks.

Since the government has taken initiative for the growth and development of the industrial sector, it has provided a suitable environment to enable foreign investors to undertake Joint Venture operation with Nepalese investors. The government has encouraged private participation in several infrastructure activities such as private airline, hydro power, computer software, textiles, ready-made garments and carpets, telecommunication, radio services, pharmaceutical, medical companies etc. so to enable to meet the needs of capital and resources, the role of the private commercial banks has been emerging day by day.

Nepal government has formed the policy to make easy to establish the private commercial bank to meet the demand of capital and resources for the development of the economy to give the impetus to existing government owned commercial banks since late eighty. At the beginning, private commercial banks were opened as a joint venture bank getting financial and technical support with different foreign banks. They enhanced the bankable capacity through competition, modernization, efficiency, and mechanization, via computerization. Consequently traditionally operated banks were compelled to improve their service system to survive in the competition age.

2.1.3 Functions of Commercial Banks

Receiving deposits and giving loans are the two main functions of commercial banks. Commercial banks generally perform the following functions:

i. **Accepting deposits:** Accepting deposits by banks is the basic and most important function. A bank accepts deposits in three forms namely savings, current and fixed deposits. The bank is free to make use of fixed deposits for gaining loans and advances, as it is aware of the repayment of such fixed deposits.

ii. **Advancing Loans:** After collecting money by way of deposits, a bank invests it or lends it out. Money is lent to business persons and traders usually for short periods only. This is so because the bank must keep itself ready to meet the demand of the depositors, who have deposited money for short periods. Money is advanced by the banks in the form of allowing on overdrafts created a deposit of cash credit and discounting bills.

iii. **Extension of Credit:** They are extending credit to the worthy borrowers. Bank lending contributes a lot to the economy in terms of financing agricultural, commercial and industrial activities of the nation.

iv. **Facilities for the financing of foreign trade:** The commercial banks arrange for foreign exchanges required by business organizations and travelers, moreover, foreign trade transactions have been facilitated by the issuance of commercial letters of credit.

v. **Creating Money:** As per the directive of the central bank, commercial banks should have the ability to create and dispose money. The power of the commercial banking system to create money is of great economic significance as it helps to create and elastic credit system that is necessary for the economic progress.

vi. **Payment Mechanism:** Commercial banks perform this function to transfer the fund by means of checks and credit card facilities and efficient transaction.

vii. **Safe custody:** Banks arrange for the safekeeping of ornaments, jeweler, and securities important documents etc. of its customers in secure vaults.

References: They provide references about the financial position of their customers when required. They supply this information confidentially. This is done when their customers want to establish business connections with some new firms within or outside the country.

viii. **Agency function**: The bank works as an agent of their constituents. They receive payments on their behalf. They collect rent, dividends on shares etc. they pay insurance premium and make other payments as instructed by their depositors. They accept bills of exchange on behalf of their customers. They pass a bill of lading or railway receipts for the purchases of goods when they pay for them. This amount is passed on to the suppliers of goods.

Besides all these facilities, in case of commercial banks, they issue credit cards and arrange to issue of Visa International Card. Some of them have priority to lend educated and unemployed youth to small projects.

2.2 Concept of "CAMELS" Bank Rating System

Federal Reserve Bank of New York (1997*)* has defined the component of CAMEL as rating system which produces a composite rating of an institution's overall condition and performance by assessing five components: **C**apital adequacy, **A**sset quality, **M**anagement administration, **E**arnings, and **L**iquidity The CAMEL was later updated with inclusion of sixth component, **S**ensitivity to Market Risk, now is referred to as the **CAMELS** rating system.

CAMEL was originally developed by the FDIC for the purpose of determining when to schedule an on-site examination of a bank (Thomson, 1991;82) . The FFIEC is revised in January 1997, the UFIRS, which is commonly referred to as the CAMEL rating system. This system was designed by regulatory authorities to quantify the performance and the financial condition of the banks which it regulates.

The CAMELS rating system is subjective. Benchmarks for each component are provided, but they are guidelines only, and present essential foundations upon which the composite rating is

based. They do not eliminate consideration of other pertinent factors by the examiner. The uniform rating system provides the groundwork for necessary supervisory response and helps institutions supervised by all three US supervisors to be reasonably compared and evaluated. Ratings are assigned for each component in addition to the overall rating of a bank's financial condition. The ratings are assigned on a scale from 1 to 5. The CAMELS ratings are commonly viewed as summary measures of the private supervisory information gathered by examiners regarding banks' overall financial conditions, although they also reflect available public information.

The most important criteria for determining the appropriateness of FIs to act as a financial intermediary are its solvency, profitability, and liquidity. In this respect, the BCBS of the Bank of International Settlements (BIS), since 1988, has recommended using capital adequacy, assets quality, management quality, earnings and liquidity (CAMEL) as criteria for assessing FI.

During an on-site bank exam, supervisors gather private information, such as details on problem loans, with which to evaluate a bank's financial condition and to monitor its compliance with laws and regulatory policies. A key product of such an exam is a supervisory rating of the bank's overall condition, commonly referred to as a CAMELS rating. CAMELS rating system is used by the three federal banking supervisors [the Federal Reserve, the FDIC, and the Office of the Comptroller of the Currency (OCC)] and other financial supervisory agencies to provide a convenient summary of bank conditions at the time of an exam. In Nepal, the NRB plays the supervisory role for evaluating bank’s financial condition though rating the bank’s in accordance to CAMELS is still in its initial phase.

2.2.1 Significance of CAMEL Analysis

The significance of the analysis lies on the objectives of Camel Analysis of any firm. Different groups associated with the concern perceive the facts discovered by the analysis differently. The facts and relationship concerning managerial performance, corporate efficiency, financial strength and weakness and credit worthiness are interpreted based on the objective in the hand. Such an analysis leads management of an enterprise to take crucial decisions regarding operative policies, the investment value of the firm, inter-financial control system and bargaining strategy for funds from external sources.

The importance of Camel analysis is as follows:

2.2.1.1 Useful in financial position analysis:

Camel analysis is an important technique of financial analysis. It is also revealing the financial position of the concern. This helps the bank, insurance company and other financial institutions in leading and making investment decision.

2.2.1.2 Useful in comparison of performance:

Through accounting ratio comparison can be made between one department of a firm with another of the same firm in order to evaluate the performance of various departments in the firm. The manager is naturally interested in such comparison in order to know the proper sand smooth functioning of such department. Camel also helps to make any change in the organization structure.

2.2.1.3 Useful in forecasting purposes:

If the accounting ratio is calculated for a number of years then a trend is established. This trend helps in setting up at future plans and forecasting. The camels calculation of past year works as a guideline for the future.

2.2.1.4 Useful in communication:

Camels analysis provides the information about strength and weakness of concern (firm) to the internal and external parties.

2.2.1.5 Useful for Decision Making in Classification of Ratio:

1. Capital Adequacy
2. Assets Quality
3. Management Efficiency
4. Earnings
5. Liquidity
6. Sensitivity

The parties that are benefited by the results or conclusion drawn from the analysis of financial performance can be enumerated as:

i. Top Management:

The responsibility of the top management is to evaluate are as follows:

Are the resources of the firm used effectively and efficiently?

Is the financial condition of the firm should enough?

Based on past facts firms can anticipate their future. Hence, top management can measure the success or otherwise of a company's operation, determine the relative efficiency of various departments; process and products appraise the individual's performance and evaluate the system of internal audit.

ii. Creditors:

The creditors can find out the financial strengths and capacity of the borrower to meet their claims. Trade creditors are interested in the firm's ability to meet their claims over a short span of time, the suppliers of long-term debt focus upon the firm's long-term solvency and survival. A lending bank through and analysis of these statements can decide whether the borrower retains the capacity of refunding the principle and paying interest in time or not.

iii. Shareholders:

The shareholders, who have invested their money in the firm's shares, are most concerned about the firm's earning. They evaluate the efficiency of the management and determine about the necessity for the change. In large companies, the shareholder's interest is to decide whether to buy, sell or hold the shares. They wish to buy the shares in case of sound performance of the firm where as they simply intend to hold the shares in the condition of satisfactory performance. However, they are curious to sell the shares in case of poor performance.

iv. Economist:

The diagnoses the prevailing status of business and economy; economists analyze the financial statements of any firm. The government agencies analyze them for them for the purpose of price regulation; rate setting and similar other purpose.

v. Labor union:

Productivity is the synonym of well-motivated labors. Labor unions are interested in the rights and benefits of labor to enhance the moral of labors. To motivate the labors they expect increases in wages, fringe benefits and so on. These benefits are affected by the company's profitability condition. Therefore, the union assesses the financial condition of the firm to determine whether the firm is in the situation or not to make such facilities available. (*Srivastav R. M. 1993:45*)

2.2.2 Financial Performance Analysis Bank:

Traditionally, banks act as financial intermediaries to channel funds from surplus units to deficit units. Unlike other non-banking financial companies, commercial banks do not produce any physical goods. They produce loans and financial innovations to facilitate trade transactions. Because of the special role they play in the economy, concerned authorities heavily regulate them. Analysis of bank financial statements is different from threat of other companies due to the special nature of assets and liabilities. *(Paudel N.P., 2053:64-69)*

Balance sheet profit and loss account and the accompanying notes are the most widely aspects of financial statements of the bank. The bank's balance sheet includes financial claims as liabilities in the form of deposit and as assets in the form of loans. Fixed assets appear in small portion out of the total assets. Financial innovations, which are generally contingent in nature, are considered as off balance sheet items. Interest received on loans, advances and investment and paid in deposit liabilities are major components of profit and loss account. The other sources of income are fee, commission and discounts, foreign exchange income, dividend on investment, other service charge etc.

The users of financial statements of banks require relevant, reliable and comparable information to evaluate the financial performance and position and hence make economic decision regarding the bank. According to Commercial Bank Act 1974 the audited balance sheet and profit and loss account must be published in the leading national newspaper for the information of the general public.

Most of the users of financial statements seek to assess the bank's overall performance. Following factors affect the evaluation of bank overall performance:

i. The structure of balance sheet and profit and loss account.
ii. Operating efficiency and internal management system.
iii. Managerial decisions taken by the top management regarding interest rate, lending policies exchange rates etc.
iv. Environment changes such as changes in Technology, Government, Competition, and Economy etc.

2.2.3 Technique of Financial Analysis:

The fundamental of the analytical technique is to simplify or reduce the data under review to the understandable terms. There are various tools and technique of financial statement analysis, each of which is used according to the purpose for which the analysis is carried out. The widely technique used is as follows:

i. Camels Analysis
ii. Statement of changes in financial position
iii. Cash flow statement

Among them camel analysis is used by most companies. Therefore in this study we discuss only about ratio analysis.

2.2.4 CAMELS Components:

Each of the component rating descriptions in the FFIEC Press release (1996) is divided into three sections: an introductory paragraph; a list of the principal evaluation factors that relate to that component; and a brief description of each numerical rating for that component. Some of the evaluation factors are reiterated under one or more of the other components to reinforce the interrelationship between components. The listing of evaluation factors for each component rating is in no particular order of importance. The description of the CAMELS components are made as under based on the FFIEC Press release (1996).

2.2.4.1 Captial Adequacy

Bank capital performs several important functions. Most importantly they are:

Absorbs Losses: Capital allows institutions to continue operating as going concerns during periods when operating losses or other adverse financial results are experienced.

Promotes Public Confidence: Capital provides a measure of assurance to the public that an institution will continue to provide financial services even when losses have been incurred, thereby helping to maintain confidence in the banking system and minimize liquidity concerns.

Restricts Excessive Asset Growth: Capital, along with minimum capital ratio standards, restrains unjustified asset expansion by requiring that asset growth be funded by a commensurate amount of additional capital.

Provides Protection to Depositors: Placing owners at significant risk of loss, should the institution fail, helps to minimize the potential "moral hazard" and promotes safe and sound banking practices.

Capital is necessary for the bank to operate. While many areas of a bank are important and subject to scrutiny, capital adequacy is the area that triggers the most regulatory action. This action is largely based on the three major ratios used in the assessment of capital adequacy, which are:

i. The Tier 1 Risk-Based Capital Ratio.
ii. The Total Risk-Based Capital Ratio.
iii. The Tier 1 Leverage Ratio.

The capital adequacy of an institution is rated based upon, but not limited to, an assessment of the following evaluation factors:

i. Size of the bank
ii. Volume of inferior quality assets
iii. Bank's growth experience, plans and prospects
iv. Quality of capital Retained earnings
v. Access to capital markets
vi. Non-ledger assets and sound values not shown on books (real property at nominal values, charge-offs with firm recovery values, tax adjustments).

The FDIC Improvement Act of 1991, which created a link between enforcement actions and the level of capital held by a bank. This supervisory link is commonly known as Prompt Corrective Action (PCA) and aims to resolve banking problems early and at the least cost to the bank insurance fund. PCA has classified the banks as:

Well-Capitalized: To be considered well-capitalized, a bank will meet the following conditions*:*

i. Total risk-based capital ratio is 10 percent or more,
ii. Tier 1 risk-based capital ratio is 6 percent or more, and
iii. Tier 1 leverage ratio is 5 percent or more.

In addition to these ratio guidelines, to be well capitalized a bank cannot be subject to an order, a written agreement, a capital directive or a PCA directive.

Adequately Capitalized: To be considered well capitalized, a bank will meet the following conditions:

i. Total risk-based capital ratio is at least NRB minimum capital adequacy ratio requirement.
ii. Tier 1 risk-based capital ratio is at least NRB minimum Tier I capital ratio requirement.
iii. Tier 1 leverage ratio is at least 4 percent.

Undercapitalized: To be considered undercapitalized, a bank will meet the following conditions:

i. Total risk-based capital ratio is less than 8 percent,
ii. Tier 1 risk-based capital ratio is less than 4 percent, or Tier 1 leverage ratio is less than 4 percent.

Significantly Undercapitalized: To be considered significantly undercapitalized, a bank will meet the following conditions:

i. Total risk-based capital ratio is less than 6 percent,
ii. Tier 1 risk-based capital ratio is less than 3 percent, or
iii. Tier 1 leverage ratio is less than 3 percent.

Ratings Capital Component

i. A rating of 1 indicates a strong capital level relative to the institution's risk profile.
ii. A rating of 2 indicates a satisfactory capital level relative to the FI's risk profile.
iii. A rating of 3 indicates a less than satisfactory level of capital that does not fully support the institution's risk profile. The rating indicates a need for improvement, even if the institution's capital level exceeds minimum regulatory and statutory requirements.
iv. A rating of 4 indicates a deficient level of capital. In light of the institution's risk profile, viability of the institution may be threatened. Assistance from shareholders or other external sources of financial support may be required.
v. A rating of 5 indicates a critically deficient level of capital such that the institution's viability is threatened. Immediate assistance from shareholders or other external sources of financial support is required.

A FI is expected to maintain capital commensurate with the nature and extent of risks to the institution and the ability of management to identify, measure, monitor, and control these risks. The effect of credit, market, and other risks on the institution's financial condition should be considered when evaluating the adequacy of capital. The types and quantity of risk inherent in an institution's activities will determine the extent to which it may be necessary to maintain capital at levels above required regulatory minimums to properly reflect the potentially adverse consequences that these risks may have on the institution's capital.

BASEL Capital Accord

The Basel Committee on Banking Supervision (BCBS) is a committee of banking supervisory authorities that was established by the central bank governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. It usually meets at the Bank for International Settlements (BIS) in Basel, where its permanent Secretariat is located. (BIS, November 2005)

Starting with its publication of "International Convergence of Capital Measurement and Capital Standards" in July 1988, popularly known as Basel I Capital Accord, BCBS set out a minimum capital requirement of 8% for banks. Prior to that, the committee introduced 25 core principles on effective banking supervision. In 1996, the committee incorporated market risk in the 1988 capital accord. With a major revision of the 1988 accord, there followed by the revised publication of the Committee's first round of proposals for revising the capital adequacy framework in June 1999 popularly known as Basel II Capital Accord. Since then, it is revised in January 2001, April 2003 and released its final revised framework updated in November 2005. In this accord, the concept and rationale of the three pillars (minimum capital requirements, supervisory review, and market discipline) approach was introduced, on which the revised framework is based. In the revised framework BCBS retains key elements of the 1988 capital adequacy framework, including the general requirement for banks to hold total capital equivalent to at least 8% of their risk-weighted assets; the basic structure of the 1996 Market Risk Amendment regarding the treatment of market risk; and the definition of eligible capital. (BIS, 2005)

The new Basel capital accord (Basel II), shall be applicable to internally active banks all over the world with effect from end of 2006. Implementing the new accord in Nepal has been a challenging task for the supervisors as well as FIs. Hence, certain preparatory homework is

needed to Nepalese financial system to implement BASEL II. NRB and FIs need to have coordinated effort efficiently in Nepalese banks and FIs to establish certain baseline for the effective implementation of BASEL II. In this regard, second interaction program was held in Nepal with the banks executives to make them aware of the new development. The commercial banks so far has shown positive attitude towards the implementation of Basel II. "New Capital Accord Implementation Preparatory Core Committee" was drafted "NRB's Concept Paper on New Capital Accord". According to the program of New Capital Accord implementation, concept paper was forwarded to all the commercial banks for comments and recommendations. A form was also developed so that commercial banks classify their exposures as per the new approach, which was reviewed by the "Basel-II Implementation Working Group". NRB has adopted Basel Core Principles for Effective Supervision as guideline for supervision of commercial banks. Core principle methodology adopted by BCBS provides a uniform template for both self-assessment and independent assessment. It involves four part qualitative assessment system: Compliant, Largely Compliant, Materially Non-Compliant, and Non-Compliant. For each principle essential and additional criteria are defined. To achieve a "compliant' assessment with a principle, all essential and additional criteria must be met without any significant deficiencies. A "largely compliant" assessment is given if only minor shortcoming are observed, and these are not seen as sufficient to raise serious doubts about the authority's ability to achieve the objective of that principle. A "materially non-compliant assessment is given when the shortcomings are sufficient to raise doubts about the authority's ability to achieve compliance, but substantial progress has been made. A "non-compliant" assessment is given when no substantial progress towards compliance has been achieved.

There is no doubt that the new accord though complex carries a lot of virtues and will be a milestone in improving banks internal mechanism and supervisory process and beneficial to the commercial banks.

Capital Adequacy Norms by NRB

NRB has from time to time stipulated minimum capital fund to be maintained by the banks on the basis of risk weighted assets. The total capital fund is the sum of core capital and supplementary capital. According to the NRB unified directives for Banks and Non-Bank FIs issue number E. Pra.Ni.No 01/061/62 (Ashar 2062 BS), the capital funds of a bank comprise the following:

Core Capital:

Core Capital of a bank includes paid up equity, share premium, non-redeemable preference shares, general reserve and accumulated profit and loss. However, where the amount of goodwill exists, the same shall be deducted for the purpose of calculation of the core capital.

Supplementary Capital:

Supplementary capital includes general loan loss provision, exchange fluctuation reserve, assets revaluation reserve, hybrid capital instruments, unsecured subordinated term debt and other free reserves not allocated for a specific purpose.

Banking and Financial Institution Ordinance (BAFIO) (2061) also assimilates the same things, which were included and explained in NRB Act 2058, in regard of bank capital. NRB Act is effective from 1st Shrawan 2058 (July 16th 2001). According to the NRB directive, minimum paid- up capital requirement for establishment of commercial banks is as under:

i. Rs. 250 million to operate all over Nepal except Kathmandu Valley.
ii. Rs. 1000 million to operate all over Nepal.
iii. All existing commercial banks are required to raise capital base to Rs. 1000 million by mid July, 2009 through minimum 10 percent paid- up capital increment every year.

Generally, the capital measurement tool is basically represented by a ratio of primary capital to assets (Estrella,., 2000; 41),(Kiang, 1992; 45) (Elliott, 1991;22)Lane Martin, 1977;25). utilized three measures, including a more complex weighted measure, but found the simple measures of capital were relatively good explanatory power over short time horizons, while risk-weighted ratios provided relatively better explanatory power over longer horizons. (Eccher et al. 1996;154), and Sinkey (1978;74) employed an analogous ratio definition, but with a refinement to adjust for loan losses, which theoretically would account for some portion of related risk in the asset portfolio (Cantor, 2001;90).

2.2.4.2 Assets Quality

Asset quality is one of the most critical areas in determining the overall condition of a bank. The primary factor effecting overall asset quality is the quality of the loan portfolio and the credit administration program. Loans are usually the largest of the asset items and can also carry the greatest amount of potential risk to the bank's capital account. Securities can often be a large portion of the assets and also have identifiable risks. Other items which impact a

comprehensive review of asset quality are other real estate, other assets, off-balance sheet items and, to a lesser extent, cash and due from accounts, and premises and fixed assets.

Management often expends significant time, energy, and resources on their asset portfolio, particularly the loan portfolio. Problems within this portfolio can detract from their ability to successfully and profitably manage other areas of the institution. Examiners need to be diligent and focused in their review of the various asset quality areas, as they have an important impact on all other facets of bank operations.

Evaluation of Asset Quality

The evaluation of asset quality should consider the adequacy of the Allowance for Loan and Lease Losses (ALLL) and weigh the exposure to counter-party, issuer, or borrower default under actual or implied contractual agreements. All other risks that may affect the value or marketability of an institution's assets, including, but not limited to, operating, market, reputation, strategic, or compliance risks, should also be considered. Prior to assigning an asset quality rating, several factors should be considered. The factors should be reviewed within the context of any local and regional conditions that might impact bank performance. In addition, any systemic weaknesses, as opposed to isolated problems, should be given appropriate

consideration. The following is not a complete list of all possible factors that may influence an examiner's assessment; however, all assessments should consider the following:

i. The adequacy of underwriting standards, soundness of credit administration practices, and appropriateness of risk identification practices,

ii. The level, distribution, severity, and trend of problem, classified, on accrual, restructured, delinquent, and non-performing assets for both on- and off-balance sheet transactions,

iii. The adequacy of the allowance for loan and lease losses and other asset valuation reserves,

iv. The credit risk arising from or reduced by off-balance sheet transactions, such as un-funded commitments, credit derivatives, commercial and standby letters of credit, and lines of credit,

v. The diversification and quality of the loan and investment portfolios,

vi. The extent of securities underwriting activities and exposure to counter-parties in trading activities,

vii. The existence of asset concentrations,

viii. The adequacy of loan and investment policies, procedures, and practices,

ix. The ability of management to properly administer its assets, including the timely identification and collection of problem assets,

x. The adequacy of internal controls and management information systems,

xi. The volume and nature of credit documentation exceptions.

As with the evaluation of other component ratings, the above factors, among others, should be evaluated not only according to the current level but also considering any ongoing trends. The same level might be looked on more or less favourably depending on any improving or deteriorating trends in one or more factors.

Rating the Asset Quality Factor

The Asset Quality Rating definitions are applied following a thorough evaluation of existing and potential risks and the mitigation of those risks. The definitions of each rating is as follows:

i. A rating of 1 indicates strong asset quality and credit administration practices. Identified weaknesses are minor in nature and risk exposure is modest in relation to capital protection and management's abilities. Asset quality in such institutions is of minimal supervisory concern.

ii. A rating of 2 indicates satisfactory asset quality and credit administration practices. The level and severity of classifications and other weaknesses warrant a limited level of supervisory attention. Risk exposure is commensurate with capital protection and management's abilities.

iii. A rating of 3 is assigned when asset quality or credit administration practices are less than satisfactory. Trends may be stable or indicate deterioration in asset quality. The level and severity of classified assets, other weaknesses, and risks require an elevated level of supervisory concern.

iv. A rating of 4 is assigned to FIs with deficient asset quality or credit administration practices. The levels of risk and problem assets are significant, inadequately

controlled, and subject the FI to potential losses that, if left unchecked, may threaten its viability.

v. A rating of 5 represents critically deficient asset quality or credit administration practices that present an imminent threat to the institution's viability.

NRB Directives related to Assets quality

NRB unified directive for Banks & Non-Bank FIs (Ashar 2062 BS) through directive number E. Pra.Ni.No 02/061/62, requires the banks to classify outstanding loans and advances on the basis of aging of Principal amount. As per the directive the Loans and Advances should be classified into the following four categories:

Pass: Loans and Advances whose principle amount are not past due over for 3 months included in this category. These are classified and defined as performing loans.

Substandard: All loan and advances that are past due for a period of 3 months to 6 months included in this category.

Doubtful: All loans and advances, which are past due for a period of 6 monthsto 1 year, included in this category.

Loss: All loans and advances which are past due for more than 1 year and have least or thin possibility of recovery or considered unrecoverable shall included in this category. Besides this, any loan whether past due or not, in situations of inadequate security, borrower declared insolvent, no whereabouts of the borrower or misuse of borrowed fund, are to be classified as Loss category.

The directive further requires banks to provision for loan loss, on the basis of the outstanding loans and advances and bills purchased classified as above. Loan loss provision set aside for performing loans is defined as General Loan Loss Provision and that set aside for non-performing loan as Specific Loan Loss Provision.

Loan Class	Loan Loss Provision
Pass	1%
Substandard	25%
Doubtful	50%
Loss	100%

Sources: NRB directive and compliance/directive no 2 loan classification and provisioning

With the objectives of lowering the concentration risk of bank loans to a few big borrowers and to increase the access of small and middle size borrowers to the bank loans, NRB through directive number E. Pra.Ni.No 03/061/62 limits commercial banks to extend credit to a single borrower or group of related borrowers upto 25% of its core capital for fund based credit facilities and not more than 50% of its core capital for Non fund based credit facilities like letters of credit, guarantees, acceptances, commitments.

The facilities extended against bank's own fixed time deposit, HMG securities, NRB Bonds, counter guarantees of World Bank/Agricultural Development Bank/International A+ rated banks (as per list of of top 1000 world international banks published by the london based magazine, "The Banker"), are excluded from the restriction. Likewise advances and facilities to be used for the purpose of importing specified merchandise by the following public corporation are aslo excluded:

Name of the corporation	Merchandise
Nepal Oil Corporation	Petrol, Diesel, Kerosene, L.P.G.
Nepal Food Corporation	Cereals

2.2.4.3 Management Quality

The capability of the board of directors and management, in their respective roles, to identify, measure, monitor, and control the risks of an institution's activities and to ensure a FI's safe, sound, and efficient operation in compliance with applicable laws and regulations is reflected in this rating. Depending on the nature and scope of an institution's activities, management practices may need to address some or all of the following risks: credit, market, operating or transaction, reputation, strategic, compliance, legal, liquidity, and other risks. Sound management practices are demonstrated by: active oversight by the board of directors and management; competent personnel; adequate policies, processes, and controls taking into

consideration the size and sophistication of the institution; maintenance of an appropriate audit program and internal control environment; and effective risk monitoring and management information systems. This rating should reflect the board's and management's ability as it applies to all aspects of banking operations as well as other financial service activities in which the institution is involved. The capability and performance of management and the board of directors is rated based upon, but not limited to, an assessment of the following evaluation factors:

i. The level and quality of oversight and support of all institution activities by the board of directors and management.

ii. The ability of the board of directors and management, in their respective roles, to plan for, and respond to, risks that may arise from changing business conditions or the initiation of new activities or products.

iii. The adequacy of, and conformance with, appropriate internal policies and controls addressing the operations and risks of significant activities.

iv. The accuracy, timeliness, and effectiveness of management information and risk monitoring systems appropriate for the institution's size, complexity, and risk profile.

v. The adequacy of audits and internal controls to: promote effective operations and reliable financial and regulatory reporting; safeguard assets; and ensure compliance with laws, regulations, and internal policies.

vi. Compliance with laws and regulations.

vii. Responsiveness to recommendations from auditors and supervisory authorities.

viii. Management depth and succession.

ix. The extent that the board of directors and management is affected by, or susceptible to, dominant influence or concentration of authority.

x. Reasonableness of compensation policies and avoidance of self-dealing.

xi. Demonstrated willingness to serve the legitimate banking needs of the community.

xii. The overall performance of the institution and its risk profile.

Rating the Management factor

i. A rating of 1 indicates strong performance by management and the board of directors and strong risk management practices relative to the institution's size, complexity, and risk profile. All significant risks are consistently and effectively identified, measured, monitored, and controlled. Management and the board have demonstrated the ability to promptly and successfully address existing and potential problems and risks.

ii. A rating of 2 indicates satisfactory management and board performance and risk management practices relative to the institution's size, complexity, and risk profile. Minor weaknesses may exist, but are not material to the safety and soundness of the institution and are being addressed. In general, significant risks and problems are effectively identified, measured, monitored, and controlled.

iii. A rating of 3 indicates management and board performance that need improvement or risk management practices that are less than satisfactory given the nature of the institution's activities. The capabilities of management or the board of directors may be insufficient for the type, size, or condition of the institution. Problems and significant risks may be inadequately identified, measured, monitored, or controlled.

iv. A rating of 4 indicates deficient management and board performance or risk management practices that are inadequate considering the nature of an institution's activities. The level of problems and risk exposure is excessive. Problems and significant risks are inadequately identified, measured, monitored, or controlled and require immediate action by the board and management to preserve the soundness of the institution. Replacing or strengthening management or the board may be necessary.

v. A rating of 5 indicates critically deficient management and board performance or risk management practices. Management and the board of directors have not demonstrated the ability to correct problems and implement appropriate risk management practices. Problems and significant risks are inadequately identified, measured, monitored, or controlled and now threaten the continued viability of the institution. Replacing or strengthening management or the board of directors is necessary.

Researchers construct various financial ratios to capture management quality. Meyer and Pifer (1970) state that "Managerial ability is like Lord Acton's elephant — difficult to define but easy to identify. Over a period of time differences between good and poor management will be

systematically reflected by the balance sheet and income data, and analysis of such data should enable prediction of failures." Graham and Homer (1988) evaluate the factors that contributed to the failure of 162 national banks in USA and conclude that more than 60 percent of failed banks experienced poor management, measured by such variables as poorly followed loan policies, inadequate problem loan identification systems, and non-existent or poorly followed asset/liability management.

Barr and Siems (1993) provide the only direct measurement of management quality, using data envelopment analysis (DEA) to quantify the quality of management. They concluded that the predictive performance of their failure-prediction model improves markedly with the inclusion of the DEA efficiency variable.

Sinkey (1975) purported that a specific ratio representative of management is difficult to identify, but his view was that many ratios are proxies. Often, researchers (Espahbodi, 1991; 80) have not attempted to include a variable to represent management quality. (Thomson 1991;82) employed the ratio of overhead expense to total assets as representative of management operating efficiency. As none of the ratios from previous research exhibited significance.

2.2.4.4 Earning Quality

Under the UFIRS, in evaluating the adequacy of a FI's earnings performance, consideration should be given to:

i. The level of earnings, including trends and stability,
ii. The ability to provide for adequate capital through retained earnings,
iii. The quality and sources of earnings,
iv. The level of expenses in relation to operations,
v. The adequacy of the budgeting systems, forecasting processes, and management information systems in general,
vi. The adequacy of provisions to maintain the ALLL and other valuation allowance accounts,
vii. The earnings exposure to market risk such as interest rate, foreign exchange, Price risks.

From a bank regulator's standpoint, the essential purpose of bank earnings, both current and accumulated, is to absorb losses and augment capital. Earnings are the initial safeguard

against the risks of engaging in the banking business, and represent the first line of defence against capital depletion resulting from shrinkage in asset value. Earnings performance should also allow the bank to remain competitive by providing the resources required to implement management's strategic initiatives.

Evaluation of Earnings Performance

An analysis of earnings comprise of examiner reviewing each component of the Earnings Analysis Trail and Ratio Analysis. Generally, the analysis of earnings begins with the examiner reviewing each component of the earnings analysis trail. The earnings analysis trail provides a means of isolating each major component of the income statement for individual analysis. The earnings analysis trail consists of the following income statement components: net interest income, non-interest income, non-interest expense, provision for loan and lease losses, and income taxes. Each component of the earnings analysis trail is initially reviewed in isolation. Typically, ratios are examined to determine a broad level view of the component's performance. The level of progression along the analysis trail will depend on a variety of factors including the level and trend of the ratio(s), changes since the previous examination, and the institution's risk profile.

Earning Ratio Analysis: Several key ratios used in the earnings analysis are used as shown below:

i. Net Income to Average Assets Ratio [Return on Assets (ROA) ratio]

ii. Net Interest Income to Average Assets Ratio

iii. Net Interest Income to Average Earnings Assets Ratio

iv. Non-interest Income to Average Assets Ratio

v. Non-interest Expense to Average Assets Ratio

vi. Provision for Loan and Lease Losses (PLLL) to Average Assets Ratio

vii. Realized Gains/Losses on Securities to Average Assets Ratio(s)

Earnings quality is the ability of a bank to continue to realize strong earnings performance. It is quite possible for a bank to register impressive profitability ratios and high volumes of income by assuming an unacceptable degree of risk. An inordinately high ROA is often an indicator that the bank is engaged in higher risk activities. For example, bank management may have taken on loans or other investments that provide the highest return possible, but are

not of a quality to assure either continued debt servicing or principal repayment. Seeking higher rates for earning assets with higher credit risk will boost short-term earnings. Eventually, however, earnings may suffer if losses in these higher-risk assets are recognized.

In addition, certain of the bank's adversely classified and non-performing assets, especially those upon which future interest payments are not anticipated, may need to be reflected on a non-accrual basis for income statement purposes. If such assets are not placed on a non-accrual status, earnings will be overstated. Similarly, material amounts of troubled debt restructured assets may have an adverse impact on earnings.

An institution's asset quality has a close relationship to the analysis of earnings quality. Poor asset quality may necessitate increasing the PLLL to bring the ALLL to an appropriate level and must be reviewed for impact on earnings quality.

Rating the Earnings Factor

i. Earnings rated 1 are strong. Earnings are more than sufficient to support operations and maintain adequate capital and allowance levels after are given to asset quality, growth, and other factors affecting the quality, quantity and trend of earnings.

ii. Earnings rated 2 would be satisfactory and sufficient to support operations and maintain adequate capital and allowance levels after consideration is given to asset quality, growth, and other factors affecting the quality, quantity and trend of earnings. Earnings that are relatively static, or even experiencing a slight decline, may receive a 2 rating provided the institution's level of earnings is adequate in view of the assessment factors listed above.

iii. Earnings rated 3 may need to improve. Earnings may not fully support operations and provide for the accretion of capital and allowance levels in relation to the institution's overall condition, growth, and other factors affecting the quality, quantity, and trend of earnings.

iv. A rating of 4 indicates earnings that are deficient. Earnings are insufficient to support operations and maintain appropriate capital and allowance levels. Erratic fluctuations in net income or net interest margin, the development of significant negative trends, nominal or unsustainable earnings, intermittent losses, or a substantive drop in earnings from the previous years may characterize institutions so rated.

v. A rating of 5 indicates earnings that are critically deficient. A FI with earnings rated 5 is experiencing losses that represent a distinct threat to its viability through the erosion of capital.

2.2.4.5 Liquidity

In evaluating the adequacy of a FI's liquidity position, consideration should be given to the current level and prospective sources of liquidity compared to funding needs, as well as to the adequacy of funds management practices relative to the institution's size, complexity, and risk profile. In general, funds management practices should ensure that an institution is able to maintain a level of liquidity sufficient to meet its financial obligations in a timely manner and to fulfill the legitimate banking needs of its community. Practices should reflect the ability of the institution to manage unplanned changes in funding sources, as well as react to changes in market conditions that affect the ability to quickly liquidate assets with minimal loss. In addition, funds management practices should ensure that liquidity is not maintained at a high cost, or through undue reliance on funding sources that may not be available in times of financial stress or adverse changes in market conditions. Liquidity is rated based upon, but not limited to, an assessment of the following evaluation factors:

i. The adequacy of liquidity sources compared to present and future needs and the ability of the institution to meet liquidity needs without adversely affecting its operations or condition.

ii. The availability of assets readily convertible to cash without undue loss.

iii. Access to money markets and other sources of funding.

iv. The level of diversification of funding sources, both on- and off-balance sheet.

v. The degree of reliance on short-term, volatile sources of funds, including borrowings and brokered deposits, to fund longer-term assets.

vi. The trend and stability of deposits.

vii. The ability to securitize and sell certain pools of assets.

viii. The capability of management to properly identify, measure, monitor, and control the institution's liquidity position, management information systems, and contingency funding plans.

Rating the Liquidity factor

i. A rating of 1 indicates strong liquidity levels and well-developed funds management practices. The institution has reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs.

ii. A rating of 2 indicates satisfactory liquidity levels and funds management practices. The institution has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs. Modest weaknesses may be evident in funds management practices.

iii. A rating of 3 indicates liquidity levels or funds management practices in need of improvement. Institutions rated 3 may lack ready access to funds on reasonable terms or may evidence significant weaknesses in funds management practices.

iv. A rating of 4 indicates deficient liquidity levels or inadequate funds management practices. Institutions rated 4 may not have or be able to obtain a sufficient volume of funds on reasonable terms to meet liquidity needs.

v. A rating of 5 indicates liquidity levels or funds management practices so critically deficient that the continued viability of the institution is threatened. Institutions rated 5 require immediate external financial assistance to meet maturing obligations or other liquidity needs.

Liquidity Management Concepts

There are several principles which the economists have propounded to resolve the conflicts between objectives of liquidity, safety and prfitability. These concepts are discussed as under:

The Real Bills Doctrine: The Real Bills doctrine states that a commercial bank should extend only short-term self-liquidating productive loans to business firms. Self liquidating loans are those meant to finance the production, storage, transportation, and distribution. When such goods are ultimately sold, the loans are considered to liquidate themselves automatically. The short-term self liquidating productive loan has three advantages. Firstly, they possess liquidity due to which, they liquidate themselves automatically. Secondly, there is no risk of running into bad debts since they mature in the short run and are for productive purpose. Lastly, such loans earn income for the banks as they are productive.

The Shiftability Theory: H.G. Moulton propounded the shiftability theory of bank liquidity. According to this view, an asset to be perfectly shiftabilty must be immediately transferable

without capital loss when the need for liquidity arises. But in a general crisis requires that all banks should possess such assets which can be shifted on to the central bank which is the lender of the last resort. This theory has certain elements of truth.

The Anticipated Income Theory: The Anticipated Income Theory was developed by H.V. Proch in 1944 based on term loan practices by USA commercial banks. According to this theory, the bank plans for liquidation of long term loans from the anticipated income of the borrower regardless of the nature and character of a borrower's business. The bank puts restrictions on the financial activities of the borrower while granting this loan. Consequently, the bank takes into consideration not only the security but with major consideration, the anticipated earnings of the borrower. This theory is superior to the bills doctrine and the shiftability theory because it fulfills the three objectives of liquidity, safety, and profitability.

The Liabilities Management Theory: This theory was developed in the 1960s. According to this theory, there is no need for banks to grant self-liquidating loans and keep liquid assets because they can borrow reserve money in the money market in case of need. A bank can acquire reserves by creating additional liabilities against itself, from different sources. These sources includes the issuing of time certificates of deposit, borrowing from the other commercial banks, borrowing from the central bank, raising of capital funds by issuing shares, and by plowing back of profits.

Liquidity Management Techniques

Techniques for liquidity assessment have evolved over the years with the significant changes in the monetary policy operating procedures. Despite the uncertainty in predicting liquidity conditions, econometric models could be used to provide first indicative forecasts, given the estimated structure of inter-relationships based on past information. The treasury or fund manager of any banks and FIs should adopt following techniques for effective liquidity management.

Liquidity Planning: The liquidity planning entails the accurate estimation of liquidity needs and the structuring of the portfolio to meet the expected liquidity needs. To ensure that funds are available to meet the liquidity needs at the lower cost, the treasury manager of the banks and FIs must manage its money position to comply with the reserve requirements as well as managing its liquid sources.

Managing the Cash Position: A cash position refers to the amount in the process of collection and currency and demand balances due from other banks and the central bank. Numerous transactions that cause an inflow or outflow of cash during a day continually

change the cash position of the banks and FIs. Because cash yields no income, cash holdings must be limited to a minimum. The treasury/ fund manager may invest any excess cash or may acquire additional cash sources from interbank loans or from discount window at the central bank.

Managing the Liquidity Position: Once the liquidity needs of the banks and FIs have been estimated, the treasury manager must decide how these needs are to be funded. The banks and FIs must choose between two general liquidity management strategies, namely, asset management and liquidity management. In the asset management, assets are sold to meet liquidity needs. In the liability management, money is borrowed to meet liquidity needs. A combination of these strategies is normally employed. The following guidelines must be kept in mind by the treasury manager when managing the liquidity position of the banks and FIs:

i. The treasury manager must coordinate and keeps track of the activities and strategies of the funds-raising and funds-using departments within the banks and FIs.

ii. The treasury managers should know the timing of large withdrawals from big credit clients or depositors in order to plan.

iii. The priorities and objectives of liquidity management should be clear and properly communicated.

iv. The needs and decisions must be evaluated on a continuous basis to invest access liquidity and avoid liquidity shortages.

Controlling Liquidity Risk: To asses how well the banks and FIs are managing its liquidity position, the management should be cautious on the following signals from the marketplace that indicate a pending liquidity problem:

i. Public confidence in terms of withdrawal of deposits from the banks and FIs.

ii. Share price behaviour, falling share prices indicate perceived liquidity problems.

iii. Risk premiums on money market borrowings.

iv. Losses because of the hasty sale of assets for liquidity purposes.

v. Inability to meet the demands of new credits customers.

vi. More frequent and larger borrowings from the central bank.

Considering the aforementioned technique, the treasury manager must also consider the purposes of the liquidity need, the length of time for which funds are needed, the access to

liability markets, the costs and characteristics of various liquidity sources and interest rate forecast. It is revealed that the large banks have better access to liability liquidity sources due to the better quality assets and a broader capital base. The small banks have to rely more on assets for liquidity. Thus, an effective liquidity management is essential to reduce costs.

A liquidity ratio measures an entity's ability to pay its short-term obligations out of liquid assets. Liquidity (L) was generally represented in previous studies with a ratio of cash (with some adjustment for short-term liquid securities) to total assets (Lane et al., 1986;77, Martin, 1977;90, Sinkey, 1975;85).

NRB Directives related to Liquidity

NRB had given the instruction to the commercials banks since 2023 B.S. to deposit the amount the amount ratio of 8 percent from their deposit liability. In the beginning of 2047 B.S. the increase in the quantity of internal credit was very high and began to show negative effect on economy. The deflation grew up to 21 percent. So, high liquidity appeared in economy, hence, control of the negative effect that may fall on economy to improve the growth of price rate and improvement of the position of loss of running account and control the capacity of flowing the loan of the commercial banks, was necessary and the NRB second time prescribed liquidity ratio. It made compulsory to invest 24 percent the amount of the total deposit of the commercial bank in H.M.G. Bond, treasury bills, or NRB Bonds. With some signs of improvement of economy, the investment ratio was revised accordingly, since Poush 2049 B.S. Since the beginning of 2050 B.S., the economy showed improvement and the rate of deflation fell down to 8.8%. With this, the provision of investing in the government securities was removed.

With effective from, 2054, Chaitra 31st, commercial banks were required to maintain liquidity of 8% of the total Current & Saving deposits and 6% of the fixed deposits, in addition to 3% of total deposit in cash at vault. Since then the NRB reserve requirement has been changed. To ensure adequate liquidity, following arrangements have been put into force by NRB effective from 22 July 2002 (2059/04/06).

Prevailing directives as to Cash Reserve Ratio Requirement

a)	Balance at NRB	1. 7% of Current & Savings deposit liabilities. 2. 4.5% of Fixed deposit liabilities
b)	Cash at bank balance	2% of Total deposit liabilities

Sources: www.nrb.org.np

The compliance of liquidity maintenance, the NRB applies following procedures:

a. The CRR maintaned by the banks will be examined on the basis of average weekly balance of deposit liability immediately preceding 4th week. A week shall comprise from each Sunday through Saturday.
b. CRR will not be calculated for the week which is fully off.
c. Weekly statement of deposit balances to be submitted to NRB inspection and Supervision department within 15 days from the date of end of the week.
d. Weekly average of Monday to Friday of Total Deposit, Cash at bank balance and NRB balance is calculated by dividing by 5.

Penalty will be levied for failing to maintain the adequate liquidity as above under any of the following conditions:

a. In the case of shortfall in maintenance of NRB balance but Cash at bank balance is exactly 2%.
b. In case of shortfall in NRB balance but Cash at Vault is more than 2% then upto 1% excess cash of total deposit is added in the balance with NRB then on such shortfall account (after adding upto 1% excess)
c. In case of shorfall in Cash in Vault as well as shortfall in NRB balance then on total shortfall amount.

The applicable rate of penalty is as follows:

First time shortfall = Equivalent to bank rate/highest refinance rate

Second time shortfall = Equivalent to 2 times of bank rate

Third time shortfall and all subsequent shortfalls = Equivalent to 3 times of bank rate.

2.3 Reviews of Bank and Financial Institutions Act 2063 (2006)

Bank and financial institution act, 2063 which is popularly known as Umbrella Act. The act governs the functional aspect of banks and financial institutions. Some of the important provisions in the act regarding the banking sector have been analyzed as follows.

Any person wishing to incorporate a bank or financial institutions to carry on financial transactions should incorporate a bank or financial institutions as a registered public limited company under the prevailing law of Nepal with prior approval of NRB by fulfilling the conditions prescribed in section 4 of the act. The individual desiring for the incorporation of such entity is required to submit an application to NRB for prior approval with the prescribed documents. The NRB is required to conduct a necessary examination and grant permission to establish a bank or financial institution with or without terms or conditions.

If all the criteria are met and information of disapproval with reason is also to be given to the concerned person in case the application is denied. Similarly, any foreign bank or financial institution wishing to establish a bank or financial institution by making a joint venture investment with a corporate body incorporate in Nepal or with a Nepalese or subsidiary company with 100% share is eligible to furnish the application to establish a bank or financial institution.

The NRB will classify the institutions into "A" " B" "C" "D" grades on the basis of the minimum paid-up capital and provide the suitable license to the bank or financial institution. The authorized, issue and paid-up capital of license holder institution will be as prescribed by NRB from the time to time. The NRB can issue directives to the license holder entity to increase its authorized, issue and paid –up capital if it deems necessary. Similarly, the license holder entity must maintain a capital fund according to ratio prescribed by NRB based on the basis of its total assets or risk weighted assets, and other transaction. At the same time, the license holder entity must maintain a risk fund according to ratio prescribed by NRB based on the basis of liability relating to its total assets and other risk to become off balance sheet transaction. The license holder entity must maintain a general reserve fund regularly every year till the amount becomes double of the paid up capital of such entity. The bank or financial institution can be upgraded if the authorized capital is enough for the upper class, the institution was able to make profit for last five years and the non-performing assets are within the prescribed limit. Similarly, the bank of financial institution can be degraded if it fails to meet prescribed capital within the time period; it was making a loss for last five years. It has violated the directives of Rastra Bank time and again and it fails to maintain a risk management fund as prescribed by it. The NRB will make necessary investigation and avail the opportunity to clarify before taking such decisions.

The NRB is full power to deny licenses for financial transaction if the condition stipulated in are no met and it is also authorized to impose necessary conditions taking into account the existing financial position of the bank or financial institution, the interest of depositors and healthy operation of financial transaction. Similarly, it may increase, decrease or modify the terms and condition time to time, The NRB can suspend the license of the license holder for a specific period of time issued for the purpose of carrying financial activities or it may order the bank or financial institution to close the operation for their office partially or fully of such a license holder acts against the provisions of the Nepal

Rastra Bank Act2002 or the regulation made there under fail to act in accordance with the order or directives issue by it or fails to act for the welfare and in the interest of the depositors. The NRB may cancel the license issue under this to carry on the financial transactions of the license holder under the certain circumstances as stipulated in the act.

A foreign bank or financial institution desiring to open its office within Nepal must submit an application to NRB in the form as prescribed along with the fees and particular as prescribed. The NRB may issue a license to foreign bank or financial institution to carry on financial transaction by allowing them to open an office within m of Nepal taken into account the situation of competition existing in the banking sector, the contribution that could be rendered in the Nepal banking sector and the reputation of such foreign bank or financial institution. The NRB may specify necessary terms and condition in the course of granting a transaction license and it shall be the duty of the foreign bank or financial institution to company with such terms and conditions. This section 34 (4) of the reiterates that the provision of to be complied by such foreign bank or financial institution. The foreign or financial institution, which has been issued, licensed to operate the financial transition by opening its office within the kingdom of Nepal, cannot open another bank or financial institution in joint venture within the Kingdom of Nepal. However, the provision of the contact or representative office of any foreign bank or financial instruction will be as prescribed by NRB. Some of the important issues such as relationship with (parent bank and parent bank's supervisory authority have not been adequately addressed in this. Provision relations to capital requirement are also silent. So all of the provisions stipulated in subsection 1 will not be relevant to the foreign bank branches. According to the, NRB has authority to make necessary regulations in this aspect.

2.4 Reviews of Journal / Articles

National and international journals, experts views, review of previous research and study are covered in research review.

Berger and Davies (1994) evaluate the impact of CAMEL rating changes on the parent holding company's stock price. They separate stock price changes into two components: a 'private information' effect (which identifies the public's awareness of new information discovered by examiners), and a 'regulatory discipline' effect (which values the regulators' presumed ability to force a bank to change its behavior). Berger and Davies' empirical results provide only weak evidence of a regulatory discipline effect, but they find a strong private

information effect. However, the information effect applies only to CAMEL downgrades, which tend to precede stock price declines. Consistent with the findings of Hand, Holthausen and Leftwich (1992), Berger and Davies find no movement in stock prices following a CAMEL upgrade.

Hirtle and Lopez (1999) examine the usefulness of past CAMEL ratings in assessing banks' current conditions. They find that, conditional on current public information, the private supervisory information contained in past CAMEL ratings provides further insight into bank current conditions, as summarized by current CAMEL ratings. The authors find that, over the period from 1989 to 1995, the private supervisory information gathered during the last on-site exam remains useful with respect to the current condition of a bank for up to 6 to 12 quarters (or 1.5 to 3 years). The overall conclusion drawn from academic studies is that private supervisory information, as summarized by CAMELS ratings, is clearly useful in the supervisory monitoring of bank conditions.

Baral (2005), using the annual reports data set of jont venture banks and NRB supervision reports, published his paper abstract in the Journal of Nepalese Business Studies (Volume II No.1, December 2005). The paper examined the financial health of joint venture banks in the CAMEL framework for a period ranging from FY 2001 to FY 2004. The health checkup which was conducted on the basis of publicly available financial data, concludes that the financial health of joint venture banks is better than that of the other commercial banks. The study further indicates that the CAMELS component indicators of the joint venture banks are not much encouraging to manage the possible shocks.

Dhungana argues CAMEL rating system plays key role for bank supervision. According to him, the NRB as a central bank has the important task of regulating and supervising the banking system of Nepal. NRB assess the overall strength of the banking system as well as the safety and soundness of each individual bank and financial institution in order to discharge this role. To help in this endeavor, a uniform rating system for all banks and financial institution has been used. Under this modality, supervisors assign individual numerical rating to the key areas of capital, Assets, Management, Earnings, Liquidity and Sensitivity to the market risk (CAMELS) as well as assigning an overall composite rating to each banking institution. In this way, the NRB has been able to categorized banks and financial institutions into group based on their overall strength, quality and operating soundness. The rating system known as CAMEL has served as a supervision tool to help

identify those banks that are having problems and require increased supervision. To date, early warning signals are drawn and monitored from the CAMEL rating through on-site inspection and CAMEL rating through offsite supervision.

Pant argued that after 2010, there will be new international entrants in the market. We must remain very competitive, and we have to operate at international standards. However, he does not think we need to fear. He believed combined capital of all Nepalese commercial banks would not even equal to the capital of small bank in developed countries. It somehow, Nepal is able to capitalized on the growth of China and India, there is no turning back for the banking sector. There will be opportunities for all banks. So, we need to work together to address the challenges of that WTO.

2008 was an extraordinarily tumultuous year, full of shock and surprises. None of us have even quite seen the scale of dislocation and disruption in financial market that we have experienced this year. To put things in perspective, there has been more volatility in the US equity market in the three month since Lehman went bankrupt in the mid September, than in the previous 45 years put together. Moreover, with the disappearance or effective nationalization of several major palyers, and the demise of the US broker, dealer model, the global industry has changed fundamentally and irreversibly.

2.5 Reviews of Thesis:

Prior to this, several thesis works have been conducted by various researchers regarding different aspects of commercial banks like financial performance, capital structure, investment policy, interest rate structure, resources mobilization and framework of CAMEL. The excerpts from the findings of some of these reseach works are presented which are relevant for this study:

Bhandari (2006) used discriptive analysis in his research work of evaluating financial performance of Everest Bank in the framework of CAMEL during 1999 to year 2004 A.D. The analysis revealed adequate Capital of the bank. The non-performaing loans though in decreasing trend is still a matter of concern. The bank is still with better ROE however it is in decreasing trend. The decreasing trend of net interest margin shows management slack monitoring over the bank's earning assets. The liquid funds to total deposit ratio is above the industrial average ratio. NRB balance and cash in vault to total deposit ratios are below the industrial average ratio during the study period.

Sharma (2007) performed a study on *"Financial Performance Analysis of Nepal SBI Bank Ltd. in the Framework of CAMEL".* The main objective of the study is to analyse the financial performance of Nepal SBI bank Ltd. Through CAMEL framework, the secondary data covering the six years from 2001 to 2006. The researcher conducts the financial tools to analyse the six years data. He concluded that Nepal SBI bank Ltd. was well capitalized and complying with directives of NRB. The bank has maintained satisfactory level of past due loan on total loan except 2001. Earning per employees of the bank was found quite high. Net interest margin of the bank was found satisfactory. Further the liquidity position of the bank was found sound.

Kutal (2007) conducted *"CAMEL STUDY on Joint Venture Banks with Special Reference to SCBL, NABIL and HBL, A THESIS".* The main objective of the study was to analyse the financial strength, weakness and performance of competitive 1st generation banks, taking the sample of Standard Chartered, Nabil and Himalayan banks. She did her study covering three FY (2003/04 to2005/06) on the basis primary as well as secondary data. Some financial and stastical tools and techniques are applied to evaluate the performance of selected joint venture banks. She found SCBL and Nabil were maintaining CAR according to NRB rules but HBL became failure to maintainin previous FY. Regarding assets quality Nabil lead other two banks interms of NPLR, LLPR and performing loan. Nabil shows its sound performance and management. SCBL follows Nabil, HBL follows there after. HBL should put either extra effort to decrease NPL or increase LLP further. Kutal saw management of SCBL is much better than others where Nabil shows extra care to its employees by providing high bonus but HBL was again behind of these two. Study show HBL cash and bank balance was highest despite of high volume of lending which means theirs is still a lot of fund lying idle. Nabil was taking risk as compare to other and investing few in government securities. In overall analysis SCBL becomes first in position and Nabil and HBL comes thereafter. But Nabil was following more competitively. HBL have to do lots of homework for the tough competition.

2.6 Research Gap:

Commercial Bank invests its deposit in different profitable sector according to the directives and circulars of the Nepal Rastra Bank and guidelines and policy of their own bank. The financial analysis statement has to prepare according to the direction of NRB. Nepal Rastra Bank's policy and guidelines are changing according time to time. So, the up

to dated study over the changes of time frame is a major concern for the researcher and concerned organization as well as the industry as a whole. This study covers the more recent financial data and analysis is done within the latest guidelines and curriculum of Nepal Rastra Bank.

No research has been undertaken regarding the comparative analysis of financial performance between the Nabil Bank and Nepal Investment Bank. Some research has been done the comparative studies of other joint venture bank. But within this bank, study is not found. Financial analysis is the major function of every commercial bank for evaluating the financial performance. Therefore it is the major concern of stakeholders to know the financial situation of the bank.

NABIL and NIBL are the leading joint venture commercial banks of the country having the huge market share and its investment activities and these banks have significant impact on developing the economy of the country. Every year the financial performance of changing according to the environment of the country. Hence, this study fulfills the prevailing research gap about the in depth analysis of the financial performance which is the major concern of the shareholders and stakeholders.

CHAPTER – III

RESEARCH METHODOLOGY

This chapter contains research designs, data collection techniques tools and methods used method of presentation and analysis.

3.1 Research Design:

A research design is the logical and systematic planning and direction of a piece of research. Research design is like a blue-print to the researcher. There are different views regarding research design but overall it contains whole report contents. It is the overall plan of proposed study to specify the appropriate research method and procedures for obtaining specific finding valid objectively accurate and economically as possible.

Research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It is the plan, structure and strategy on investigations conceived for obtaining answers to research questions and to control variables to achieve the objective of this study, descriptive and analytical research designs have been used. Some statistical and accounting tools have also been applied to examine facts and descriptive techniques have been adopted to evaluate financial performance of the banks.

3.2 Population and Sample:

The large group about which the generalization is made is called the population under study or the universe and small portion on which the study is made is called the sample of the study. There are altogether thirty two commercial banks in Nepal. In this study, the focus will be on the analytical and comparative study of the financial performance of NABIL and NIBL. There are so many commercial banks in the market but it is impossible to study all of them so two commercial banks has been selected for the analysis among them on the basis of reputation of the banks and to limit on the organization. So the study is based on sample based on sample basis not on the population.

It is not possible to study all the data related to all banks of Nepal. There are altogether thirty two listed commercial banks in the country and their stocks are traded actively in the stock market. So the financial analysis of listed two banks is being compared with that

average of the same, which are selected from the population. From the above listed commercial banks are considered as population.

To calculate industry average the selected sample is as follows:

Nabil Bank Ltd. (NABIL)

Nepal Investment Bank Ltd. (NIBL)

3.3 Sources of Data:

This study is conducted on the basis of secondary data. The data relating to investment, deposit, loan and advances and profit are directly obtained from the balance sheet and profit and loss account of the concerned Bank's annual reports published on wed sites of concern banks. Supplementary data and information are collected from a number of institutions and regulating authorities like Nepal Rastra Bank, website www.nepalstockexchange.com and different related website.

According to the need and objectives, all the secondary data are compiled, processed and tabulated in time series. In order to judge the reliability of data provided by banks and other sources, they were complying with the annual reports' of auditor.

Similarly, various data and information are collected from the periodicals, economic journals, managerial magazines and other published and unpublished reports and documents from various sources and websites.

3.4 Data Collection Process:

As explained in previous chapters, the main sources of secondary data are the reports of the Banks published in their respective annual general meetings and web site www.nepalstockexchange.com and relevant bank's website. In addition to that some of the relevant data are also collected from the non-bank financial statistics published by the non-bank regulation department of Nepal Rastra Bank.

3.5 Methods of Analysis:

To achieve the objectives of the study, various financial, statistical and accounting tools have been used in this study. The analysis of data will be made according to the pattern of data available. With the available tools and resources, analytical statistical tools such as Karl Person's coefficient of correlation is adopted in this study. Similarly some strong

accounting tools such as ratio analysis and trend analysis have also been used for financial analysis.

The various calculated results obtained through financial, accounting and statistic tools are tabulated under different headings. Then they are compared with each other to interpret the results.

3.5.1. Financial Tools:

Financial Ratio Analysis tools are used to determine the performance of the banks in the framework CAMELS components. These ratios are categorized in accordance of the CAMELS components. Following category of key ratios are used to analyse the relevant components in terms of CAMELS:

Capital Adequacy Ratio (CAR):-

$$CAR = \frac{Core\ Capital + Supplementary\ Capital}{Total\ Risk\ Weighted\ Assets}$$

Core Capital Ratios (CCR):-

$$CCR = \frac{Core\ capital}{Total\ Risk\ Weighted\ Assets}$$

Loan Loss Provision Ratios (LLPR):-

$$LLPR = \frac{Total\ Loan\ Loss\ Provision}{Total\ Loan}$$

Loan Loss Coverage Ratio (LLCR):-

$$LLCR = \frac{Total\ Loan\ Loss\ Provision}{Total\ Non\ Performing\ Loan}$$

Non Performing Loan Ratio (NLPR):-

$$NLPR = \frac{Total\ Non\ Performing\ loan}{Total\ Loan}$$

Management Efficiency Ratio (MER):-

$$MER = \frac{Total\ Operating\ Expenses\ (TOE)}{Total\ Operating\ Income\ (TOI)}$$

Earning Per Share (EPS):-

$$EPS = \frac{Earning\ Available\ Common\ Shareholder}{No\ of\ Equity\ Share\ Outstanding}$$

Return on Equity (ROE):-

$$ROE = \frac{Net\ Profit\ After\ tax}{Total\ Shareholders\ Fund}$$

Return on Assets (ROA):-

$$ROA = \frac{Net\ Profit\ After\ tax}{Total\ Assets}$$

Cash Reserve Ratio (CRR):-

$$CRR = \frac{NRB\ Balance\ Local\ Currency\ only}{Local\ CurrencyDeposit - Margin\ Deposit}$$

Cash & Bank Balance Ratio:-

$$Cash\ \&\ Bank\ Balance\ Ratio = \frac{Total\ Cash\ \&\ Bank\ Balance}{Total\ Deposit}$$

Investment in Government Securities Ratio:-

$$Investment\ in\ Government\ Securities\ Ratio = \frac{Investment\ in\ Government\ Securities}{Total\ Deposit}$$

3.5.2 Statistical Tools

Statistical tools help to find out the trends of financial position of the bank. It also analyzes the relationship between variables and helps banks to make appropriate investment policy regarding to profit maximization and deposit collection, fund utilization through providing loan & advances or invest in other companies. Ranges of statistical tools are also used to analyze the collected data and to achieve the objectives of the study. Simple analytical tools such as standard deviation, Karl Pearson's coefficient of correlation, trend analysis adopted which are as follows:

3.5.2.1 Coefficient of Correlation (r)

Correlation analysis is the statistical tool that we can use to describe the degree to which one variable is linearly related to other variables. Two or more variables are said to be correlated if a change in the value of one variable appears to be related or line with the changes in the other variables. The relationship between age, height and weight are studied by correlation. Correlation is an analysis of the covariance between two or more variables and correlation analysis deals to determine the degree of relation between two or more variables. It refers the closeness of the relationship between two or more variables. Correlation says just the degree of relationship between two or more variables. It doesn't tell us anything about cause and effect relationship i.e. if there is a high degree of correlation between two variables; we cannot say which the cause is and which the effect is. Thus, correlation doesn't necessarily imply causation while causation always implies correlation. In the correlation analysis only one variable is treated as depended and one or more variables are treated as independent.

The degree of association between the two variables, say x and y and is defined by the correlation coefficient (r).

$$r = \frac{N\sum XY - \sum X.\sum Y}{\sqrt{N.\sum X^2 - \left(\sum X\right)^2}.\sqrt{N.\sum Y^2 - \left(\sum Y\right)^2}}$$

Where,

N=the no. of pair of observation

X= Dependent Variable

Y= Independent Variable

The value of 'r' lies between -1 to +1 and if r=1, there is a perfect positive relationship. If r=-1, there is a perfect negative relationship. If r=0, there is no correlation. If 'r' lies between 0.7 to 0.999 (+, -). There is a high degree of positive or negative correlation. If 'r' lies between 0.5 to 0.699 there is a moderate degree of correlation and if r is less than 0.5 there is a low degree of correlation.

In this section we are showing the relationship between

- Cash & bank balance and Total Deposit
- Total Operating Expenses and Total Operating Income
- CAR and CCR

3.5.2.2 Probable Error P.E. (r)

The probable error of the coefficient of correlation helps in interpreting its value. With the help of probable error it is possible to determine the reliability of the values of the coefficient in so far it depends on the condition of random sampling. The probable error of the coefficient of correlation is obtained as follows.

$$PE = 0.6745\frac{1-r^2}{\sqrt{N}}$$

Where, r^2 = Coefficient of Determination

N = the no. of pair of observation

If the value of r is less than the probable error there is no evidence of correlation i.e. value of r is not at all significant.

If the value of r is more than six times the probable error coefficient of correlation is practically certain i.e. the value of r is significant.

3.5.2.3 Mean, Standard deviation & Coefficient of Variation

Average: A simple arithmetic average is used to summarize the data as a representation of mass data. A simple arithmetic average is a value obtained by dividing the sum of the values by their numbers (Kothari, 1989). Thus, the average is expressed as:

$$\sum \quad \frac{\Sigma x}{N}$$

Where, =Mean of the values, N = Number of pairs of observation.

During the analysis of data, mean is calculated by using the statistical formula average on excel data sheet on computer.

Standard Deviation: Standard deviation is the absolute measure of dispersion of the values and shows the deviation or dispersion in absolute term (Kothari, 1989). Here, the standard deviation is used to find out the deviation in absolute term. The risk is measured in various ways. One of the popular statistical measures of an asset's risk is the standard deviation. Standard deviation is a weighted average deviation from the expected value and it given an idea of how far above and below the expected value with the actual value is likely to be. The larger standard deviation indicates a greater variation of returns. Standard deviation can be calculated by using the following formula:

Standard deviation is determined in the following way:

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

Here, n= Number of observations

x=Individual value, □= Simple Arithematic mean

During the analysis of data, standard deviation is calculated by using the statistical function *'stdev' of E*xcel data sheet on computer.

Coefficient of Variation: Coefficient of variation is the relative measure of dispersion based on the standard deviation (Kothari, 1989). It is most commonly used to measure the variation of data and more useful for the comparative study of variability in two or more series or graphs or distribution. Coefficient of variation is defined as the ratio of the standard deviation to the expected return. It is a relative measure of variability, since it measures the risk per unit of expected rate. As the coefficient of variation increases, so does the risk of an assets.

Symbolically, the coefficient of variation is defined as:

$$CV = \frac{sd}{\square}$$

Here, sd = standard deviation , □ =Mean , CV = Coefficient of variation

CHAPTER – IV

DATA PRESENTATION AND ANALYSIS

There is a common saying that the banking sector mirrors the large economy and has a direct relationship with all other sectors that makes it a substitute to understand the dynamics of the economy as a whole. Indeed, the Nepali banking sectors are at a boiling point as the number of local financial institutions has increased, the international market are in disarray and the international players are also invited in the domestic market and most of all there is a great depression in the financial sector around the world. The common hearing that all the commercial banks are making profits is not the myth. Despite the country struggling to prosper and the industrial sector not doing well, banks show large profit. Thanks to the strict norms prescribed by the regulators, there is transparency in the banks.

In the following section, we review the performance of two leading players of the banking industry- Nabil Bank Limited (Nabil) and Nepal Investment Bank Limited (NIBL); that includes an interpretation of the ratio analysis, Income and Expenditure Analysis, Correlation Analysis and Trend Analysis.

4.1 Concept of "CAMELS" Bank Rating System

Federal Reserve Bank of New York (1997*)* has defined the component of CAMEL as rating system which produces a composite rating of an institution's overall condition and performance by assessing five components: **C**apital adequacy, **A**sset quality, **M**anagement administration, **E**arnings, and **L**iquidity The CAMEL was later updated with inclusion of sixth component, **S**ensitivity to Market Risk, now is referred to as the **CAMELS** rating system.

CAMEL was originally developed by the FDIC for the purpose of determining when to schedule an on-site examination of a bank (Thomson, 1991;82) . The FFIEC is revised in January 1997, the UFIRS, which is commonly referred to as the CAMEL rating system. This system was designed by regulatory authorities to quantify the performance and the financial condition of the banks which it regulates.

The CAMELS rating system is subjective. Benchmarks for each component are provided, but they are guidelines only, and present essential foundations upon which the composite rating is

based. They do not eliminate consideration of other pertinent factors by the examiner. The uniform rating system provides the groundwork for necessary supervisory response and helps institutions supervised by all three US supervisors to be reasonably compared and evaluated. Ratings are assigned for each component in addition to the overall rating of a bank's financial condition. The ratings are assigned on a scale from 1 to 5. The CAMELS ratings are commonly viewed as summary measures of the private supervisory information gathered by examiners regarding banks' overall financial conditions, although they also reflect available public information.

The most important criteria for determining the appropriateness of FIs to act as a financial intermediary are its solvency, profitability, and liquidity. In this respect, the BCBS of the Bank of International Settlements (BIS), since 1988, has recommended using capital adequacy, assets quality, management quality, earnings and liquidity (CAMEL) as criteria for assessing FI.

During an on-site bank exam, supervisors gather private information, such as details on problem loans, with which to evaluate a bank's financial condition and to monitor its compliance with laws and regulatory policies. A key product of such an exam is a supervisory rating of the bank's overall condition, commonly referred to as a CAMELS rating. CAMELS rating system is used by the three federal banking supervisors [the Federal Reserve, the FDIC, and the Office of the Comptroller of the Currency (OCC)] and other financial supervisory agencies to provide a convenient summary of bank conditions at the time of an exam. In Nepal, the NRB plays the supervisory role for evaluating bank’s financial condition though rating the bank’s in accordance to CAMELS is still in its initial phase.

Composite Ratings

The FFIEC press release, USA (1996) describes the composite rating and defines the six compnents ratings. According to the press release, Composite ratings are based on a careful evaluation of an institution's managerial, operational, financial, and compliance performance. The six key components used to assess an institution's financial condition and operations are: capital adequacy, asset quality, management capability, earnings quantity and quality, the adequacy of liquidity, and sensitivity to market risk. The rating scale ranges from 1 to 5, with a rating of 1 indicating: the strongest performance and risk management practices relative to the institution's size, complexity, and risk profile; and the level of least supervisory concern. A 5 rating indicates: the most critically deficient level of performance; inadequate risk

management practices relative to the institution's size, complexity, and risk profile; and the greatest supervisory concern. The composite ratings are defined in the FFIEC press release (1996) are as follows:

Composite 1: FIs in this group are sound in every respect and generally have components rated 1 or 2. Any weaknesses are minor and can be handled in a routine manner by the board of directors and management. These FIs are the most capable of withstanding the vagaries of business conditions and are resistant to outside influences such as economic instability in their trade area. These FIs are in substantial compliance with laws and regulations. As a result, these FIs exhibit the strongest performance and risk management practices relative to the institution's size, complexity, and risk profile, and give no cause for supervisory concern.

Composite 2: FIs in this group are fundamentally sound. For a FI to receive this rating, generally no component rating should be more severe than 3. Only moderate weaknesses are present and are well within the board of directors' and management's capabilities and willingness to correct. These FIs are in substantial compliance with laws and regulations. Overall risk management practices are satisfactory relative to the institution's size, complexity, and risk profile.

Composite 3: FIs in this group exhibit some degree of supervisory concern in one or more of the component areas. These FIs exhibit a combination of weaknesses that may range from moderate to severe; however, the magnitude of the deficiencies generally will not cause a component to be rated more severely than 4. FIs in this group generally are more vulnerable to outside influences than those institutions rated a composite 1 or 2. Additionally, these FIs may be in significant noncompliance with laws and regulations.

Composite 4: FIs in this group generally exhibit unsafe and unsound practices or conditions. There are serious financial or managerial deficiencies that result in unsatisfactory performance. The problems range from severe to critically deficient. The weaknesses and problems are not being satisfactorily addressed or resolved by the board of directors and management. FIs in this group generally are not capable of withstanding business fluctuations. There may be significant noncompliance with laws and regulations. Risk management practices are generally unacceptable relative to the institution's size, complexity, and risk profile. Close supervisory attention is required, which means, in most cases, formal enforcement action is necessary to address the problems. Institutions in this group pose a risk

to the deposit insurance fund. Failure is a distinct possibility if the problems and weaknesses are not satisfactorily addressed and resolved.

Composite 5: FIs in this group exhibit extremely unsafe and unsound practices or conditions; exhibit a critically deficient performance; often contain inadequate risk management practices relative to the institution's size, complexity, and risk profile; and are of the greatest supervisory concern. The volume and severity of problems are beyond management's ability or willingness to control or correct. Immediate outside financial or other assistance is needed in order for the FI to be viable. Ongoing supervisory attention is necessary. Institutions in this group pose a significant risk to the deposit insurance fund and failure is highly probable.

4.1.1 Capital Adequacy

Capital adequacy component analysis of Nabil & NIBL is made based on the regulations and standard ascertain by NRB as to maintaining minimum risk-based Core & Total Capital Standard, and maximum risk based Supplementary capital standard. The minimum risk-based capital standard which includes a definition for Risk Based Capital, a system for calculating Risk Weighted Assets (RWA) by assigning on and off balance sheet items to broad risk categories. Capital Adequacy Ratios take into account the most important financial risks-foreign exchange, credit and interest rate risks, by assigning risk weightings to the institution’s assets.

4.1.1.1 Capital Adequacy Ratio (CAR)

CAR reflects the overall capital of the banks and also the ability of the management to meet additional capital requirement. It defines relationship between capital fund and total risk weighted assets of the bank.

According to NRB guidelines, banks in Nepal should maintain 11% CAR. These ratio have been maintained to make strong capital base which banks to enjoy public confidence. If the CAR is higher than the NRB minimum requirement then it is considered as that the interest of depositors is safe. But in concern to shareholders, the excess of CAR means less earning per share.

$$\text{CAR} = \frac{\text{Core Capital} + \text{Supplementary Capital}}{\text{Total Risk Weighted Assets}}$$

Table: 4.1

Capital Adequacy Ratio

Rs in Million						
Nabil Bank				**NIBL**		
FY	Total Capital	Risk Weighted Asstes	Ratio	Total Capital	Risk Weighted Asstes	Ratio
2007/08	2999	27,010	11.10	3891	34,485	11.28
2008/09	3727	32,501	10.70	5095	42,975	11.24
2009/10	4390	39,016	10.50	5651	50,042	10.55
2010/11	5173	44,469	10.58	6325	52,030	10.91
2011/12	6087	50,022	11.01	6963	55,874	11.10
Mean			**10.78**			**11.02**
SD			**0.24**			**0.27**
CV			**2.20%**			**2.42%**
Source: Annual Reports (2007/08- 2011/12) & Appendix 1&2						

In table 4.1: Nabil & NIBL, both banks ratios are fluctuating. Nabil has got the highest CAR in F/Y 2007/08 i.e., 11.10 and the lowest in F/Y 2009/10 i.e. 10.50. NIBL has remained highest in FY 2007/08 i.e. 11.28 % & lower in FY 2009/10 i.e. 10.55 %. Regarding, the nature of total capital and total risk weighted assets of commercial banks, the ratio above the stated standard may be accepted as satisfactory, but it signifies that the bank has acceptable capital position. The mean of Nabil is 10.78 whereas the mean of Nibl is 11.02 which reflects that the capital adequacy of Nibl is better than Nabil. Similarly, coefficient of variation of Nibl is greater than Nabil which shows that the Nabil has less uniform throughout the period .

Figure: 4.1

Capital Adequacy Ratio

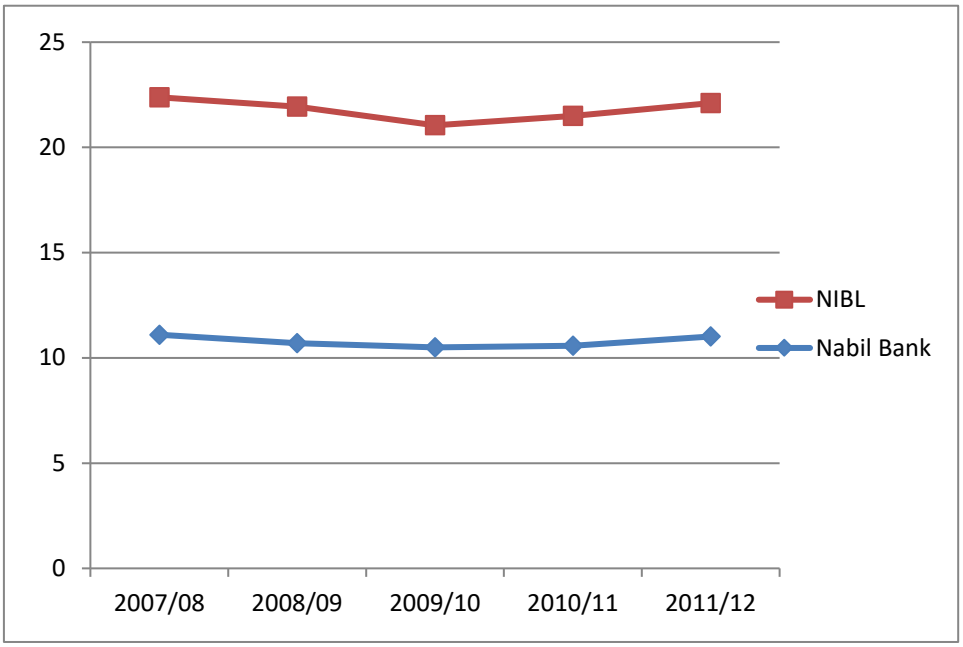


Figure 4.1: The ratio of both banks seems to be in fluctuating trend. Nabil has got the highest in FY 2007/08 i.e. 11.10 % & lower in FY 2009/10 i.e. 10.50 % whereas NIBL remained highest in FY 2007/08, i.e. 11.28 % & lower in FY 2009/10 i.e. 10.55 %. Regarding the nature of total capital and total risk weighted assets of commercial banks, the ratio below the stated standard may be accepted as satisfactory, but it signifies that the bank has got the acceptable capital position. The banks has maintained over the NRB guidelines of 11% which shows the strong capital base which reflects the public confidence. If the CAR is higher than the NRB minimum requirement than it is considered as that the interest of depositors is safe. But in concerns to shareholders, the excess of CAR means less earning per share.

4.1.1.2 Core Capital Ratio (CCR)

Core Capital is the capital of owners which is not used for specific purpose. More core capital fund indicates more owners fund being utilized by the bank. According to NRB, banks in Nepal should maintain 5.5% CCR. These ratio have been maintained to make strong capital base which banks to enjoy public confidence. If the CCR is higher than the NRB minimum requirement then it is considered as that the interest of depositors is safe.

CCR indicates how much owners or promoters capitals are used on risky weighted assets. It is calculated as follows:

$$CCR = \frac{Core\ Capital}{Total\ Risk\ Weighted\ Assets}$$

Table: 4.2

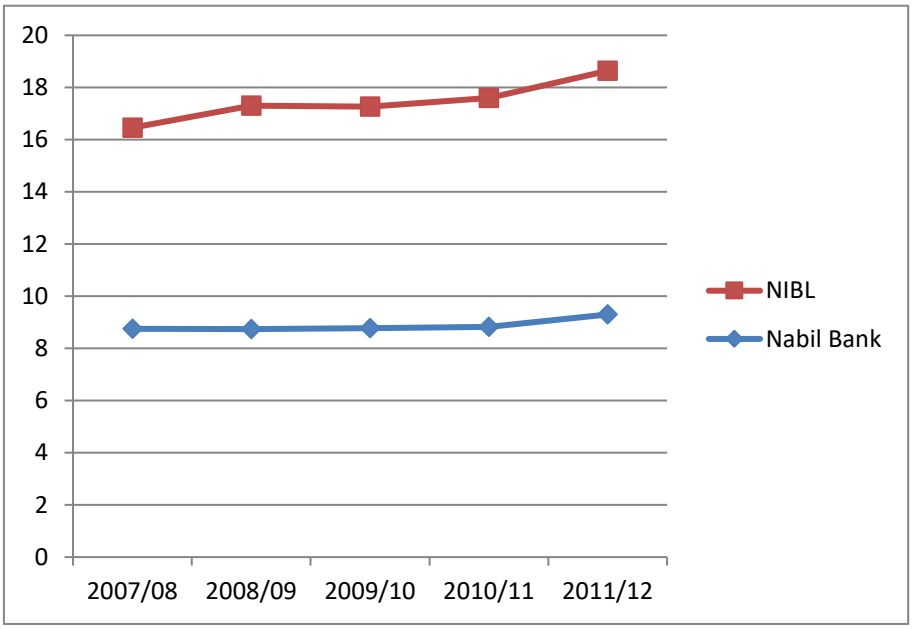
Core Capital Ratio

Rs in million						
	Nabil			**NIBL**		
FY	Core Capital	Risk Weighted Assets	Ratio	Core Capital	Risk Weighted Assets	Ratio
2007/08	2364	27,011	8.75	2659	34,485	7.71
2008/09	3044	32,501	8.74	3880	42,975	8.56
2009/10	3668	39,016	8.77	4554	50,042	8.50
2010/11	4319	44,469	8.83	5084	52,030	8.77
2011/12	5139	50,022	9.30	5859	55,874	9.34
Mean			**8.89**			**8.58**
SD			**0.21**			**0.53**
CV			**2.40%**			**6.12%**
Source: Annual Reports (2007/08- 2011/12) Appendix 1&2						

Table 4.2: The ratio of Nabil starts low in first then it raises upward trend. Similarly, the trend of NIBL is upward from the begining. The Nabil has got the highest core capital ratio in F/Y 2011/12 i.e. 9.30 % and lowest in FY 2008/09 i.e. 8.74% whereas the highest core capital ratio of NIBL is 9.30 % in 2011/12 and lowest is 7.71 % in FY 2007/08. In above table, Nabil have greater mean than Nibl i.e 8.89>8.58 which shows that Nabil has maintained good core capital than Nibl.

Figure 4.2

Core Capital Ratio



According to Figure 4.2, the ratios of Nabil and NIBL are seen in upward trend. The highest ratio of Nabil is 9.30 % in FY 2011/12 and lowest is 8.74 % in FY 2008/09. Similarly, the highest ratio of NIBL is 9.34 % in 2011/12 and lowest is 7.71 % in FY 2007/08. The standard core capital ratio maintained by NRB is 5.5%. The two banks have maintained above the standard of NRB each year which indicates that the depositors are safe. Similarly, the cv of Nibl is greater than Nabil which shows that Nibl has less uniformity throughout the period.

4.1.2 Assets Quality

Asset quality is one of the most critical areas in determining the overall condition of a bank. The primary factor effecting overall asset quality is the quality of the loan portfolio and the credit administration program. Loans are usually the largest of the asset items and can also carry the greatest amount of potential risk to the bank's capital account. Securities can often be a large portion of the assets and also have identifiable risks. Other items which impact a comprehensive review of asset quality are other real estate, other assets, off-balance sheet items and, to a lesser extent, cash and due from accounts, and premises and fixed assets.

Management often expends significant time, energy, and resources on their asset portfolio, particularly the loan portfolio. Problems within this portfolio can detract from their ability to successfully and profitably manage other areas of the institution. Examiners need to be

diligent and focused in their review of the various asset quality areas, as they have an important impact on all other facets of bank operations.

4.1.2.1 Loan Loss Provision Ratio (LLPR)

It indicates to percent of loan loss provision interms of total loan value. In other words, how much provision a bank has created for the given loan? The LLPR shows how much effectively the company manages its loan and advances and makes effort for the loan recovery. More delay the company gets to collect the loan more provision has to make and ratio will be higher. Lower ratio is better the financial position and vice-versa.

$$LLPR = \frac{Total\ Loan\ Loss\ Provision}{Total\ Loan}$$

Table: 4.3

Loan Loss Provision Ratio (LLPR)

Rs in million

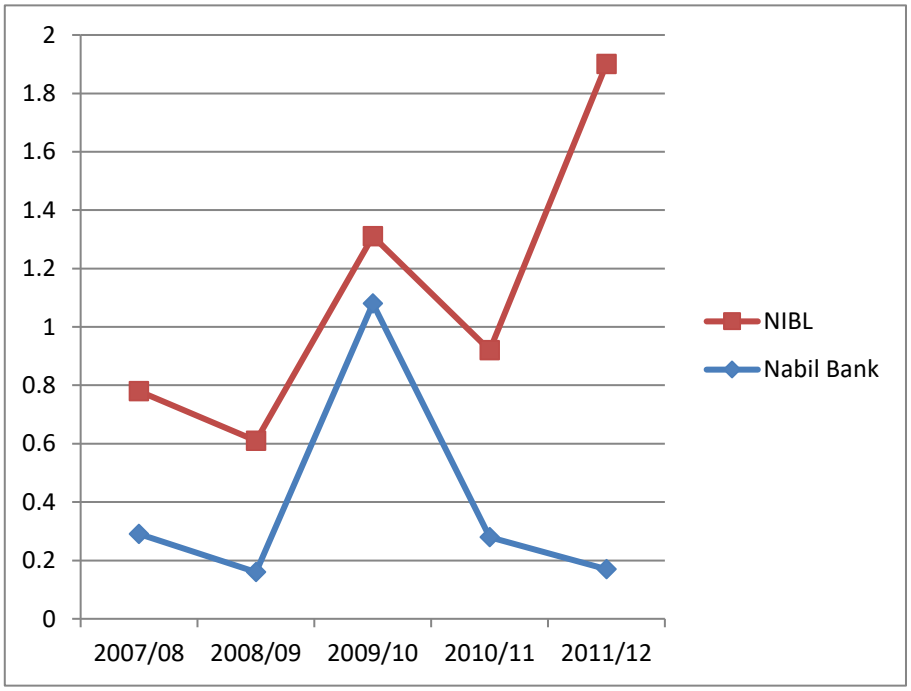
	Nabil			NIBL		
FY	Loan Loss Provision	Total Loan	Ratio	Loan Loss Provision	Total Loan	Ratio
2007/08	64	21,760	0.29	136	27,529	0.49
2008/09	46	27,999	0.16	166	36,827	0.45
2009/10	356	33,031	1.08	93	40,948	0.23
2010/11	110	38,906	0.28	267	41,888	0.64
2011/12	74	42,868	0.17	744	42,907	1.73
Mean			**0.40**			**0.71**
SD			**0.35**			**0.53**
CV			**87.5%**			**74.65%**
Source: Annual Reports (2007/08- 2011/12) Appendix 7.3						

Table 4.3: The ratio of Nabil and Nibl are fluctuating. The Nabil has got the highest Loan Loss Provision Ratio in F/Y 2009/10 i.e. 1.08 % and lowest in FY 2008/09 i.e. 0.16% whereas the highest Loan Loss Provision Ratio of NIBL is 1.73 % in 2011/12 and lowest

is 0.23 % in FY 2009/10. In above table, Nibl have greater mean than Nabil i.e 0.71>0.40 which shows that Nabil has better financial position than Nibl.

Figure: 4.3

Loan Loss Provision Ratio (LLPR)



According to Figure 4.3, the ratios of Nabil and NIBL are in fluctiating trend. The highest ratio of Nabil is 1.08 % in FY 2009/10 and lowest is 0.16 % in FY 2008/09. Similarly, the highest ratio of NIBL is 1.73 % in 2011/12 and lowest is 0.23 % in FY 2009/10. The cv of Nabil is greater than Nibl which shows that Nabil has less uniformity throughout the period.

4.1.2.2 Loan Loss Coverage Ratio (LLCR)

It is mandatory that for every bank need to keep some provision for the loan they providing. It indicates the provision made by bank for exposure of loan losses interms of non-performing loan. Higher the LLCR better the financial position and vice-versa. LLCR is calculated as follows:

$$LLCR = \frac{Total\ Loan\ Loss\ Provision}{Total\ Non\ Performing\ Loan}$$

Table: 4.4

Loan Loss Coverage Ratio (LLCR)

Rs in million						
Nabil				**NIBL**		
FY	Loan Loss Provision	Non Performing Loan	Ratio	Loan Loss Provision	Non Performing Loan	Ratio
2007/08	64	161	39.77	136	304	43.94
2008/09	46	225	20.34	166	214	77.70
2009/10	356	486	73.17	93	254	36.63
2010/11	110	690	15.87	267	395	67.63
2011/12	74	1,000	7.37	744	1,425	52.18
Mean			**31.30**			**55.62**
SD			**23.48**			**15.10**
CV			**75.02%**			**27.15%**
Source: Annual Reports (2007/08- 2011/12) Appendix 1,2&7.2						

Table 4.4: The ratio of Nabil and Nibl are fluctuating. The Nabil has got the highest Loan Loss Coverage Ratio in F/Y 2009/10 i.e. 73.17 % and lowest in FY 2011/12 i.e. 7.37% whereas the highest Loan Loss Coverage Ratio of NIBL is 77.70 % in 2008/09 and lowest is 43.94 % in FY 2007/08. In above table, Nibl have greater mean than Nabil i.e 55.62>31.30 which shows that Nibl has maintained greater loan loss coverage than Nabil.

Figure:4.4

Loan Loss Coverage Ratio

According to Figure 4.4, the ratios of Nabil and NIBL are in fluctiating trend. The highest ratio of Nabil is 73.17% in FY 2009/10 and lowest is 7.37% in FY 2011/12. Similarly, the highest ratio of NIBL is 77.70 times in 2008/09 and lowest is 43.94% in FY 2007/08. The cv of Nabil is greater than Nibl which shows that Nabil has less uniformity throughout the period.

4.1.2.3 Non Performing Loan Ratio (NPLR)

Non performing loan consist of sub-standard, doubtful and bad debt loans. Higher NPLR shows bad management of assets. If the ratio is low it indicates a favourable credit management position. NPLR ratio is calculated as follows:

$$NPLR = \frac{Total\ Non\ Performing\ Loan}{Total\ Loan}$$

Table: 4.5

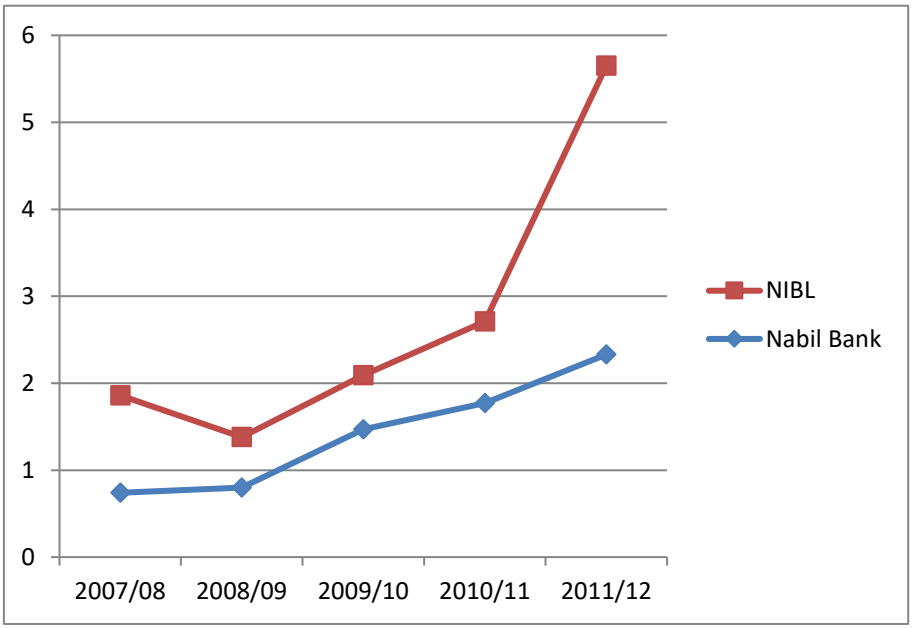
Non Performing Loan Ratio (NPLR)

Rs in million						
Nabil				**NIBL**		
FY	Non Performing Loan	Total Loan	Ratio	Non Performing Loan	Total Loan	Ratio
2007/08	161	21,760	0.74	304	27,529	1.12
2008/09	225	27,999	0.80	214	36,827	0.58
2009/10	486	33,031	1.47	254	40,948	0.62
2010/11	690	38,906	1.77	395	41,888	0.94
2011/12	1,000	42,868	2.33	1,425	42,907	3.32
Mean			**1.42**			**1.32**
SD			**0.60**			**1.02**
CV			**42.25%**			**77.27%**
Source: Annual Reports (2007/08- 2011/12) Appendix 1,2&7.2						

Table 4.5: The ratio of Nabil is increasing trend whereas Nibl ratio are in fluctuating. The Nabil has got the highest Non Performing Loan Ratio in F/Y 2011/12 i.e. 2.33% and lowest in FY 2007/08 i.e. 0.74% whereas the highest Non Performing Loan Ratio of NIBL is 3.32% in 2011/12 and lowest is 0.58% in FY 2008/09. In above table, Nabil have greater mean than Nabil i.e 1.42>1.32 which indicates a favourable credit management of Nibl than Nabil.

Figure:4.5

Non Performing Loan Ratio (NPLR)



According to Figure 4.5, the ratios of Nabil are in increasing trend whereas NIBL are in fluctiating trend. The highest ratio of Nabil is 2.33% in FY 2011/12 and lowest is 0.74% in FY 2007/08. Similarly, the highest ratio of NIBL is 3.32% in 2011/12 and lowest is 0.58% in FY 2008/09. The cv of Nibl is greater than Nabil which shows that Nibl has less uniformity throughout the period.

4.1.3 Management Quality

Management role is very important in the performance of FIs. The key distinct areas that reflect the overall quality of management are governance, general management, human resource policy, management information system, internal control and audit strategic planning and budgeting.

While the others factors can be quantified fairly easily from current financial statements, management quality being subjective is difficult to quantify. As such no particular factor can be pointed out as a concrete measure for assessing Management quality. The qualitative assessment of aspects like Depth and succession of top management, Technical Aspects, Internal Control decisions, Operating and Lending decisions, Involvement of Board of Directors, Willingness to serve community needs etc, illustrate the level of management quality as these decisions are reflected in the final balace sheet. There is one measure that is relevant to management is the ratio of Total expenses to Total revenue. Since the profitability

of an institution is determined by the gap of Total Revenues and Total Expenses which are well in direct control and monitoring of the management, it is used to represent the management quality. Another measure that is also relevant to management is the ratio of earnings per employee is used as a proxy of management quality.

4.1.3.1 Earning per Employee in Rupees

Earning per Employee is calculated by dividing net profit after taxes by number of employees. Low or decreasing earnings per employee can reflect inefficiencies as a result of overstaffing, with similar repercussions in terms of profitability (IMF, 2001).

$$Earning\ per\ Employee = \frac{Net\ Profit\ After\ Tax(NPAT)}{Total\ Number\ of\ Staffs}$$

Table:4.6

Earning Per Employee in Rupees

NABIL

FY	2007/08	2008/09	2009/10	2010/11	2011/12
Net Profit (Rs)	635,262,349	673,959,698	746,468,394	1,031,053,098	2,039,543,203
No. of Employees	416	505	557	657	650
Earning per Employees (Rs)	1,527,072.95	1,334,573.66	1,340,158.70	1,569,335.00	3,137,758.77

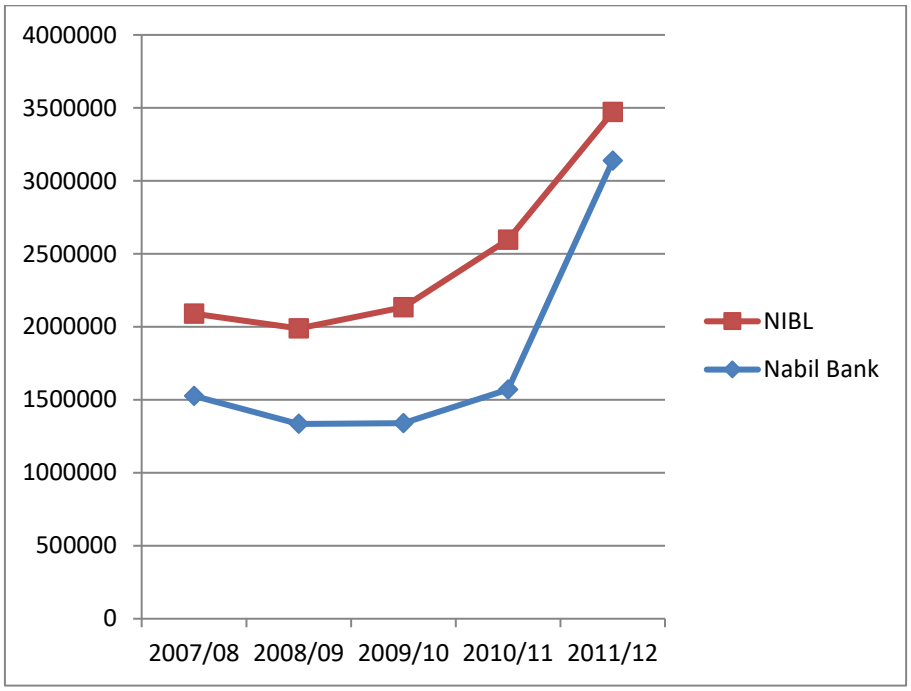
NIBL

FY	2007/08	2008/09	2009/10	2010/11	2011/12
Net Profit (Rs)	350,536,413	501,398,852	696,731,516	900,619,072	294,621,295
No. of Employees	622	766	877	877	877
Earning per Employees (Rs)	563,563.37	654,567.61	794,448.71	1,026,931.67	1,026,931.67

Table 4.6 shows the Earnings per Employee in rupees during the study period. Nabil's Earning per Employee is highest in FY 2011/12 i.e Rs 3,137,758.77 and lower in FY 2008/09 i.e Rs 1,334,573.66. Similarly, for NIBL Earning per Employee is highest in FY 2010/11 i.e 1,026,931.67 and lower in FY 2011/12 i.e 333,659.45.

Figure: 4.6

Earning Per Employees in Rupees



According to the Figure 4.6 shows the Earnings per Employee in rupees during the study period. Nabil's Earning per Employee is highest in FY 2011/12 i.e Rs 3,137,758.77 and lower in FY 2008/09 i.e Rs 1,334,573.66. Similarly, for NIBL Earning per Employee is highest in FY 2010/11 i.e 1,026,931.67 and lower in FY 2011/12 i.e 333,659.45. 7. The slope of the curve of NIBL is positive, which indicates the Earning per Employee is increasing over the study period. This indicates that the review period, the increased number of staff have increased the earnings per employee with similar repercussion in terms of profitability. Whereas, the slope of the curve of NABIL is negative, which indicates the earning per employee is declining first and then it goes up over the study period, however the decline is not sharp, this indicates that low or decresing earning per employee can reflect inefficeincies as a result of overstaffing, with similar repercussions in terms of profitability.

4.1.3.2 Total Operating Expenses (TOE) to Total Operating Income (TOI)

The ratio of total expenses to total revenue is used as a proxy measure of the management quality. This ratio is calculated by dividing the total expenses by total revenues. A high level of expenditures in un-productive activities may reflect an inefficient management. A high or increasing ratio of expenses to total revenues may give indication of ineffcient operation.

This can be, but necessarily due to management deficiencies. In any case. it is likely to negatively affect profitability (IMF, 2000).

Commercial bank's earnings originate from interest on Loans & Advances, Investments, Commissions & Discounts, Foreign Exchange Rate Gains and other miscellaneous income. Conversely, it expends on, Depositors' Interest, Staff Salary, Provident Fund allowances and other operating expenses like rent, water & electricity, fuel expenses, audit fee expenses, management expenses, depreciation, miscellaneous expenses, and all other expenses directly related to the operation of bank. Expenses such as loss on sale of assets, write off expenses, losses shortage, written off, provision for income tax are non-operating expenses. It can be calculated as follows:

$$Total\ Operating\ Expenses\ to\ Total\ Operating\ Income = \frac{Total\ Operating\ Expenses}{Total\ Operating\ Income}$$

Table: 4.7

Total Operating Expenses (TOE) to Total Operating Income (TOI)

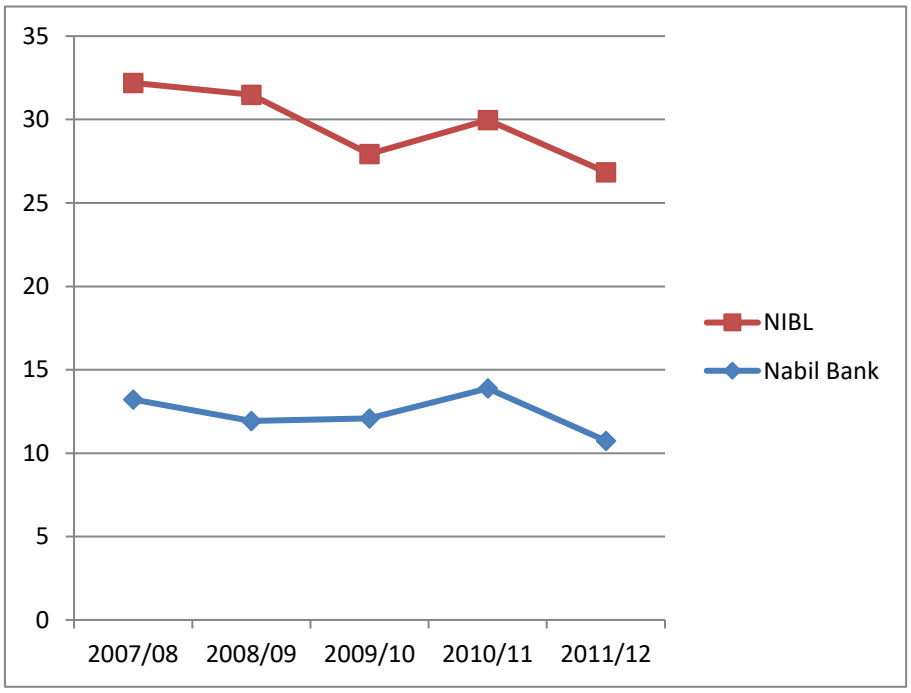
Rs in million						
Nabil				**NIBL**		
FY	TOE	TOI	Ratio	TOE	TOI	Ratio
2007/08	221	1670	13.22	313	1650	18.98
2008/09	265	2221	11.94	414	2117	19.55
2009/10	334	2764	12.09	434	2735	15.85
2010/11	401	3046	13.18	456	2834	16.10
2011/12	429	3991	10.74	469	2910	16.11
Mean			**12.23**			**17.32**
SD			**0.92**			**1.60**
CV			**7.52%**			**9.24**
Source: Annual Reports (2007/08- 2011/12) Appendix 1,2&7.2						

As shown in Table 4.7, the ratios of Nabil showed the fluctuating trend. It reached 13.22% in FY 2007/08 at highest point & 10.74% in FY 2011/12 at lowest. The total operating

expenses (TOE) to total revenue ratio (TOI) of NABIL has decreased in 2007/08 from 13.22% to 10.74% at 2011/12. The ratio however has continuously fluctuating thereafter to reach 10.74% in 2011/12 which is the minimum ratio of the observed years. The mean ratio of the review period was 12.23%. It can be concluded that the ratios are in decreasing trend. Whereas, the ratios of Nibl showed the fluctuating trend first and then it stays in same line. It reached 19.55% in FY 2008/09 at highest point & 15.85% in FY 2009/10 at lowest. TOE to TOI ratio of EBL is in slightly increased in first year from 18.98% in FY 2007/08 to 19.55% in FY 2008/09 then decresed upto 15.85% in FY 2009/10 which is minimum during the study period. The mean ratio of the review period was 17.32 which indicates the ratio are stable and consistent.

Figure: 4.7

Total Operating Expenses (TOE) to Total Operating Income (TOI)



As shown in Table 4.7, the ratios of Nabil showed the fluctuating trend. It reached 13.22% in FY 2007/08 at highest point & 10.74% in FY 2011/12 at lowest. The observed TOE to TOI ratio of NABIL and NIBL within the study period of last five years. As shown in the chart, the observed ratio of Nabil fluctuated downwards upto 2009/10 else it increases and suddenly it again decreases to reach at the all time minimum of 10.74% in FY 2011/12. In case of NIBL the slope of the curve is in slightly decreasing trend. It reached 19.55% in FY

2008/09 at highest point & 15.85% in FY 2009/10 at lowest. Hence, he negative slope of both bank thus indicates decreasing expenses with respect to income which is accredited to good management quality.

4.1.4 Earning Capability

Earning represents the first line of defense against capital depletion resulting from shrinkage in asset value. Earnings performance also allows the bank to remain competitive by providing the resources. The main objectives of bank is to earn profit and their level of profitability is measured by Profitability ratios. Profitability ratios measures the efficiency of banks, higher profit ratios indicate higher efficiency and vice-versa.

4.1.4.1 Return on Assets (ROA)

The ratio is useful in measuring the profitability of all financial resources invested in the firm's assets. It is also called net profit or loss of total assets or working fund ratio and denoted by ROA. It is calculated as;

$$Return\ on\ Assets(ROA) = \frac{Net\ Profit\ After\ Tax(NPAT)}{Total\ Assets}$$

Table: 4.8

Return on Assets (ROA)

Rs in million

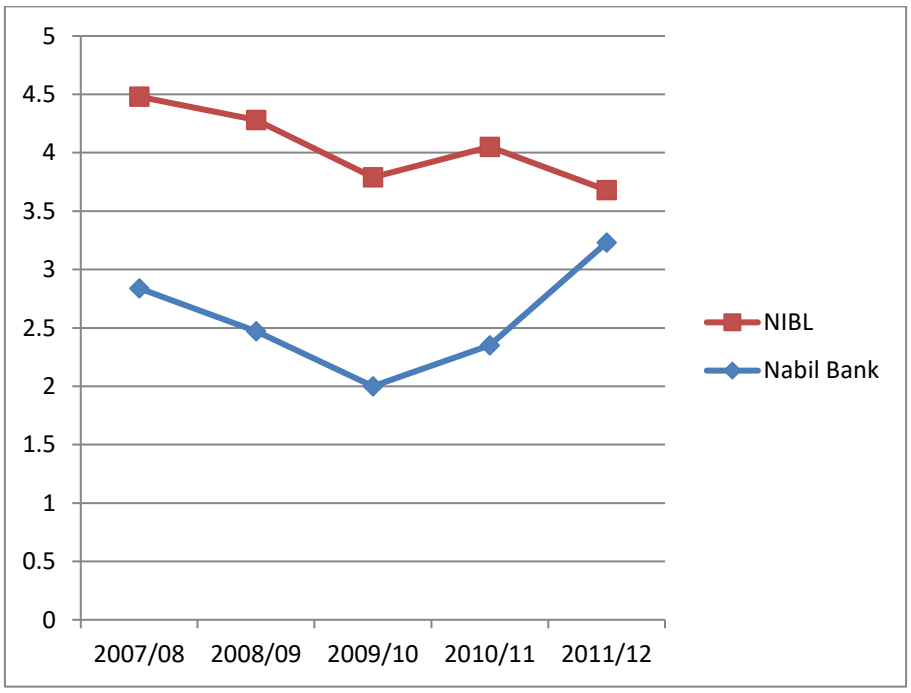
Nabil				**NIBL**		
FY	NPAT	Total Assets	Ratio %	NPAT	Total Assets	Ratio %
2007/08	635	22330	2.84	350	21330	1.64
2008/09	674	27253	2.47	501	27591	1.81
2009/10	746	37133	2.00	697	38873	1.79
2010/11	1031	43867	2.35	901	53011	1.70
2011/12	2039	63200	3.23	294	65756	0.45
Mean			**2.58**			**1.48**
SD			**0.42**			**0.52**
CV			**16.28%**			**35.14%**

Source: Annual Reports (2007/08- 2011/12) Appendix 7.3

Table 4.8 shows that Nabil bank is highest in FY 2011/12 i.e. 3.23% & lower in FY 2009/10 2%. Similar was the case for NIBL, which has highest ratio in FY 2008/09 i.e. 1.81% & lowest in FY 2011/12 0.45%.

Figure: 4.8

Return on Assets (ROA)



Above figure 4.8 states that the ratios of Nabil showed the increasing trend in FY 2009/10. It reached 3.23% in FY 20011/12 at highest point & 2% in FY 2009/10 at lowest. The ratios of NIBL are in decreasing trend. It is highest in FY 2008/09 i.e. 1.81% and lowest in FY 2011/12 i.e. 0.45. The mean ratio is considerably higher in the Nabil bank than that of NIBL, which signifies that the profitability position of Nabil in relation to this ratio is better than that of NIBL. If bank earns high profit, it will increase its goodwill in the competitive market as it can give attractive bonus and dividend to staff and shareholders respectively. From the above analysis overall profitability of Nabil is better than that of NIBL.

4.1.4.2 Return on Net Worth / Shareholders' Equity (ROE)

The ratio is tested to see the profitability of owners' investment. It reflects the extent to which the objective of the business is accomplished. So, all commercial banks have its main objectives to earn the maximum profit, so that they can run smoothly and get the name and fame. The ratio of great interest to present as prospective shareholders and also of great significance to management has the responsibility to maximizing the owner's welfare. So, higher is desirable. Net worth refers the owner's claim on banks, also called net profit to shareholders equity ratio on shareholder equity simply denoted by ROE. It is calculated as;

$$Return\ on\ Net\ Worth = \frac{Net\ Profit\ After\ Tax(NPAT)}{Net\ Worth}$$

Table 4.9

Return on Net Worth (ROE)

Rs in million

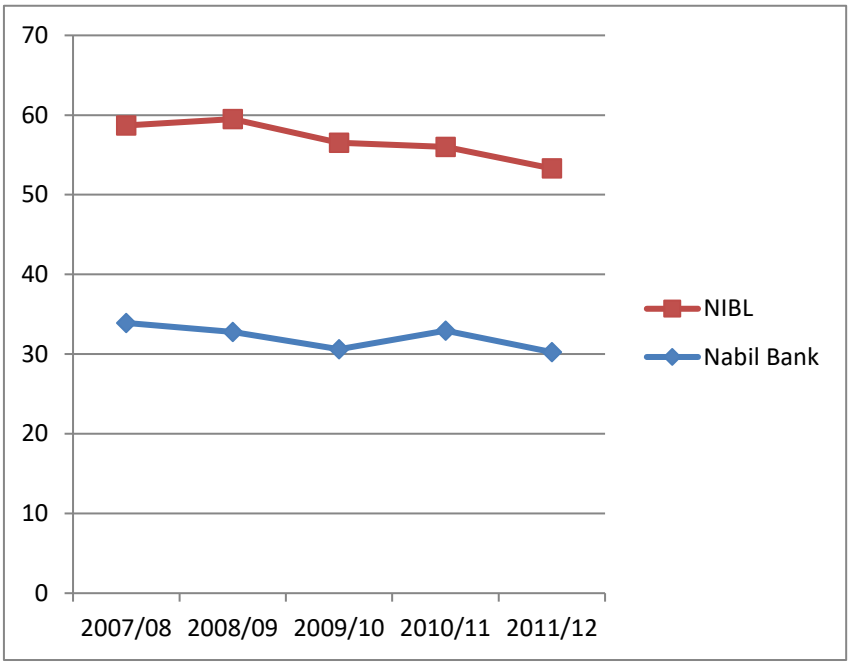
Nabil				**NIBL**		
FY	NPAT	Net Worth	Ratio %	NPAT	Net Worth	Ratio %
2007/08	635	1873	33.91	350	1415	24.77
2008/09	674	2055	32.79	501	1878	26.7
2009/10	746	2440	30.6	697	2687	25.93
2010/11	1031	3129	32.95	901	3908	23.05
2011/12	2039	6742	30.25	294	4058	7.25
Mean			**32.10**			**21.54**
SD			**1.43**			**7.25**
CV			**4.46%**			**33.66%**

Source: Annual Reports (2007/08- 2011/12) Appendix 4&7.2

Table 4.9 shows that Nabil bank is highest in FY 2007/08 i.e. 33.91% & lowest in FY 2011/12 i.e, 30.25%. NIBL also showed fluctuating trend. It has the highest ratio in FY 2008/09 i.e. 26.7% & lowest in FY 2011/12 7.25%.

Figure: 4.9

Return on Net Worth (ROE)



The figure 4.9 shows that the ratio in Nabil got fluctuating trend. It was highest in FY 2007/08 i.e. 33.91% and lowest in FY 2011/12 i.e. 30.25%. In NIBL, the ratio is in fluctuating trend and then it started to fall. It ranged from minimum in FY 2011/12 i.e. 7.25% of maximum in FY 2008/09 i.e. 26.70%. The mean ratio of Nabil appeared more than that of NIBL, which indicates that Nabil has effectively utilized the owners' capital and is able to give regular & significant return to them.

4.1.4.3 Earning Per Share (EPS)

It measures the profit available to the equity shareholders as per share basis i.e the amount that they can get on each share hold. In other words, the ratio measures the earning available to equity shareholders on per share basis. It is computed as:

$$Earnings\ Per\ Share\ = \frac{Earning\ Available\ Common\ Shareholder}{No\ of\ Equity\ Share\ Outstanding}$$

Table: 4.10

Earnings Per Share (EPS)

Rs in million

FY	2007/08	2008/09	2009/10	2010/11	2011/12	**Mean**	**S.D**	**C.V**
Nabil	115.86	113.44	83.81	70.67	83.57	**93.47**	**17.95**	**19.20%**
NIBL	57.9	37.4	52.5	39.1	27.6	**42.90**	**10.92**	**25.46%**

Source: Annual Reports (2007/08- 2011/12)

Appendix 7.21

Figure 4.10

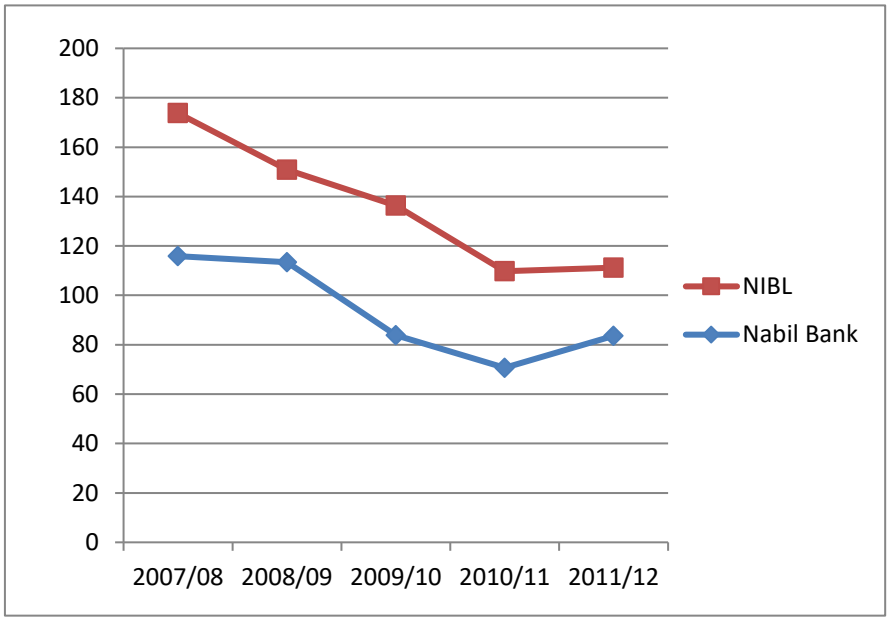


Figure 4.10 indicates that EPS of Nabil Bank showed an decreasing trend up to 4rd year. They have highest in FY 2007/08 i.e. Rs 115.86 & and lowest in FY 2010/11 i.e. Rs 70.67 in Nabil. Similarly, NIBL shows fluctuating trend in respective years. The highest in FY 2007/08 i.e 57.9 and lowest in FY 2011/12 i.e 27.6. The mean of the EPS is much higher in Nabil Bank in contrast to NIBL. This indicates that the profitability position of the former is far better than that later. In this sense, Nabil bank seemed more successful to attract the investors. Net profit earned by Nabil is greater than that of NIBL but number of equity shares outstanding in NIBL is greater than Nabil. So, EPS of Nabil seemed well than NIBL.

4.1.5 Liquidity

The level of liquidity influences the ability of a banking system to withstand shocks. Liquidity risk arises when an FI's liability holders like depositors demand immediate cash for the financial claims they hold with an FI. The most liquid asset is cash, which FIs can use directly to meet liability holders' demands to withdraw funds. Day to day withdrawals by liability holders are generally predictable and large FIs can expect to borrow additional funds on the money and financial markets to meet any sudden shortfalls of cash. At times FIs face a liquidity crisis due to either a lack of confidence on the FIs problem or some unexpected need for cash, the liability holders may demand larger withdrawals than usual. This turns the FIs' liquidity problem into a solvency problem and cause it to fail.

4.1.5.1 Cash Reserve Ratio (CRR)

According to NRB directives all commercial banks are required to maintain 5.5% of their deposit as CRR in their 'NOSTRO' accounts maintained with NRB. NRB has issued this guidelines to the bank maintain their adequate liquidity. NRB has prescribed this mandatory requirement because all commercial banks can face unexpected liquidity risk. It can be calculated as follows:

$$Cash\ Reserve\ Ratio\ (CRR) = \frac{NRB\ Balance\ Local\ Currency\ Only\ (LYC)}{Local\ Currency\ Deposit\ (LYC) - Margin\ Deposit}$$

Table: 4.11

Cash Reserve Ratio (CRR)

Rs in million

FY	2007/08	2008/09	2009/10	2010/11	2011/12	**Mean**	**S.D**	**C.V**
Nabil	8.37	9.03	3.02	4.90	8.60	**6.78**	**2.39**	**35.25%**
NIBL	10.90	10.30	7.80	7.70	13.60	**10**	**2.19**	**21.90%**

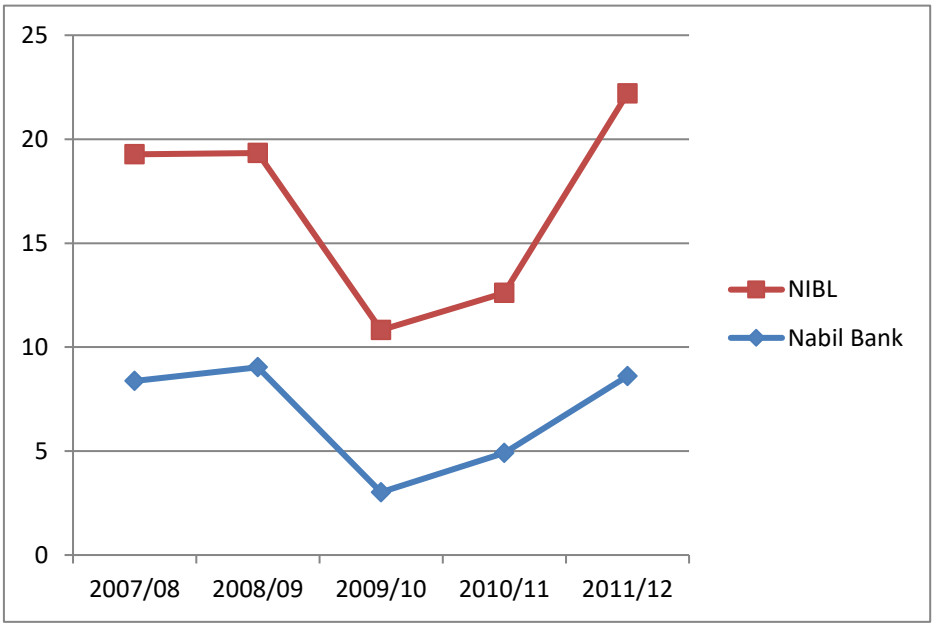
Source: Annual Reports (2007/08- 2011/12)

Appendix 7.21

Table 4.11 shows that in Nabil bank, the ratio ranges from minimum in FY 2011/12 i.e. 8.60% of maximum in FY 2009/10 i.e. 3.02%. In NIBL, the ratios showed an decreasing trend first and then it increases. It ranges from minimum in FY 2010/11 i.e. 7.70% of maximum in FY 2011/12 i.e. 13.60%.

Figure: 4.11

Cash Reserve Ratio (CRR)



The figure 4.11 exhibits that the ratios in Nabil followed fluctuating trend. It ranges from minimum in FY 2009/10 i.e. 3.02% of maximum in FY 2011/12 i.e. 8.60%. In NIBL, the ratios showed an decreasing trend except in FY 2011/12 and 2011/12. It ranged 7.70% minimum in FY 2010/11 to 13.60% in the FY 2011/12. The maximum mean ratio is higher in Nibl than Nabil which signified that the cash reserve of Nibl is stronger than that of Nabil. Similarly, the cv of Nabil is greater than Nibl i.e 35.25% > 21.90% which shows that the risk getting cash reserve of Nabil is higher than Nibl.

4.1.5.2 Cash and Bank Balance Ratio

The bank must be able to meet its immediate obligation of customers. Cash and bank balance ratio shows the percent of deposit maintained as liquid assets. A higher ratio represents a great ability to meet any unexpected demand made by the customers. If the

bank cannot keep adequate amount of deposit then it cannot operate its daily transaction. But maintaining very high ratio indicates the losses of opportunity cost. So, the bank should manage cash and bank balance ratio properly.

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

Table 4.12

Cash and Bank Balance

Rs in million

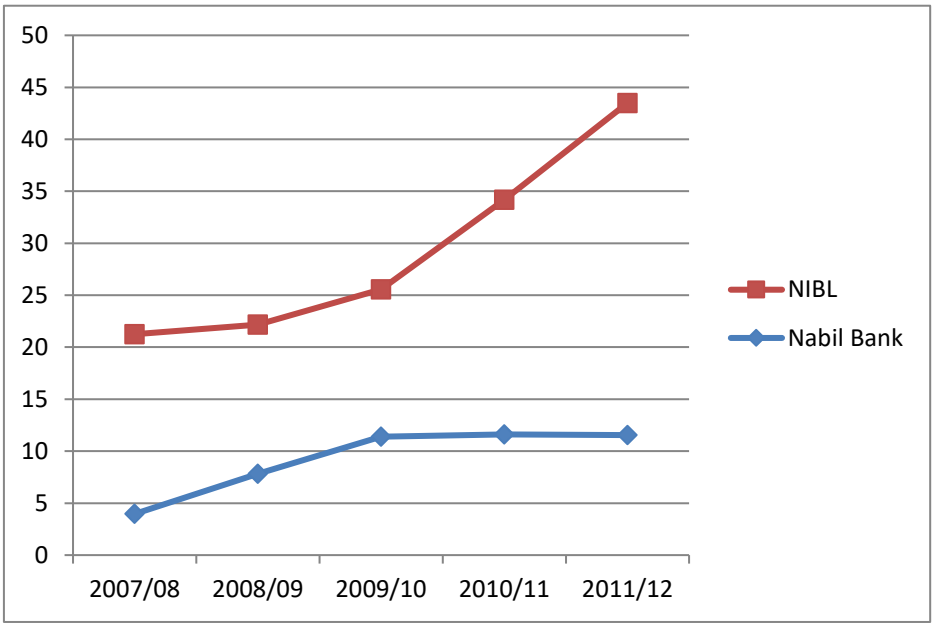
	Nabil			**NIBL**		
FY	Cash & Bank Balance	Total Deposit	Ratio %	Cash & Bank Balance	Total Deposit	Ratio %
2007/08	630	15898	3.96	2337	13514	17.29
2008/09	1400	17907	7.82	2442	16972	14.36
2009/10	2671	23451	11.39	3755	26508	14.17
2010/11	3373	29038	11.61	7918	35065	22.58
2011/12	4733	40979	11.55	11804	36953	31.94
Mean			**9.26**			**20.07**
SD			**3**			**6.67**
CV			**32.40%**			**33.23%**

Source: Annual Reports (2007/08- 2011/12) & Appendix 7.5

Table 4.12 shows that in Nabil bank, the ratio showed an increasing trend from year 2007/08 to 2010/11. The ratio ranges from minimum in FY 2007/08 i.e. 3.96% of maximum in FY 2010/11 i.e. 11.61%. Similarly, in NIBL, the ratios showed fluctuating trend. It ranges from minimum in FY 2009/10 i.e. 14.17% of maximum in FY 2011/12 i.e. 31.94%.

Figure: 4.12

Cash and Bank Balance



The figure 4.12 exhibits that the ratios in Nabil followed increasing trend from FY 2007/08 to 2010/11. It ranges from minimum in FY 2007/08 i.e. 3.96% of maximum in FY 2010/11 i.e. 11.61%. Similarly, in NIBL, the ratios showed fluctuating trend. It ranges from minimum in FY 2009/10 i.e. 14.17% of maximum in FY 2011/12 i.e. 31.94%. The maximum mean ratio is higher in Nibl than Nabil which signified that the average cash and bank balance of Nibl is stronger than that of Nabil. Similarly, the cv of Nibl is greater than Nabil i.e 33.23% > 32.40% which shows that the risk of maintaining cash and bank balance of Nibl is higher than Nabil.

4.1.5.3 Investment in Government Secutities Ratio

Government securities are those securities which are risk free and can be easily converted in cash at anytime. The banks instead of keeping their fund idle invest in various government securities which are liquid in nature as they can be traded anytime. And this investment in government securities ratio shows how much fund is invested in government securities. Only maintaining cash reserve ratio and cash and bank balance ratio cannot be considered sufficient for immediate liquidity obligation.

Investment in Government Securities Ratio

$$= \frac{Investment\ in\ Government\ Securities}{Total\ Deposit}$$

Table 4.13

Investment in Government Securities

Rs in million

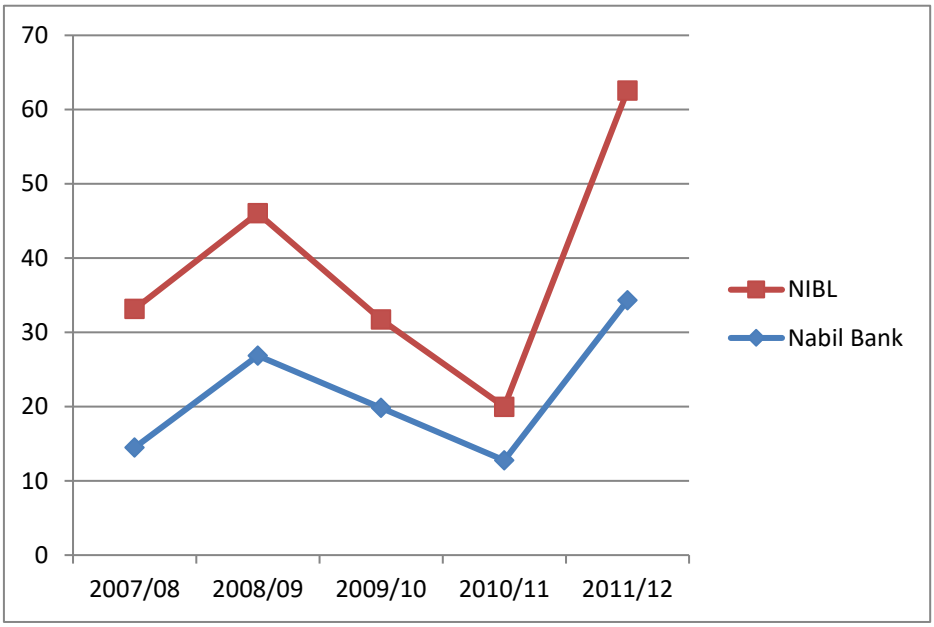
	Nabil			**NIBL**		
FY	Investment in Govt. Securities	Total Deposit	Ratio %	Investment in Govt. Securities	Total Deposit	Ratio %
2007/08	2302	15898	14.48	2522	13514	18.66
2008/09	4808	17907	26.85	3256	16972	19.19
2009/10	4647	23451	19.82	3155	26508	11.90
2010/11	3706	29038	12.76	2531	35065	7.22
2011/12	14056	40979	34.30	10439	36953	28.25
Mean			**21.64**			**17.04**
SD			**8.01**			**7.15**
CV			**37.02%**			**41.96%**

Source: Annual Reports (2007/08- 2011/12) & Appendix 7.5

Table 4.13 shows that in Nabil and Nibl bank, the ratios showed fluctuating trend. The ratio of Nabil ranges from minimum in FY 2010/11 i.e. 12.76% of maximum in FY 2011/12 i.e. 34.30%. Similarly, in Nibl it ranges from minimum in FY 2010/11 i.e. 7.22% of maximum in FY 2011/12 i.e. 28.25%.

Figure: 4.13

Investment in Government Securities



The figure 4.13 exhibits that in Nabil and Nibl bank, the ratios showed fluctuating trend. The ratio of Nabil ranges from minimum in FY 2010/11 i.e. 12.76% of maximum in FY 2011/12 i.e. 34.30%. Similarly, in Nibl it ranges from minimum in FY 2010/11 i.e. 7.22% of maximum in FY 2011/12 i.e. 28.25%. The maximum mean ratio is higher in Nibl than Nabil which signified that the average investment in government securities of Nibl is stronger than that of Nabil. Similarly, the cv of Nibl is greater than Nabil i.e 41.96% > 37.02% which shows that the risk in investment in government securities is higher at Nibl.

4.2 Correlation Analysis

The correlation coefficient is the statistical tools that measure the degree of relationship between two sets of figures. The correlation coefficient (r) between two variables X and Y can be obtained by using the following formula:

$$r = \frac{N\sum XY - \sum X.\sum Y}{\sqrt{N.\sum X^2 - \left(\sum X\right)^2}.\sqrt{N.\sum Y^2 - \left(\sum Y\right)^2}}$$

Where,

n= number of observations in series X and Y

Ex = Sum of observations in series X

EY = Sum of observation in series Y

Ex^2 = Sum of squared observations in series X

Ey^2 = Sum of squared observations in series Y

EXY = Sum of the product of observations in series.

Here,

r = +1 implies that two variables are positively and perfectly correlated.

r = -1 implies that two variables are negatively and perfectly correlated.

r = 0, does not necessarily mean that the variables are independent. They may, however be related in some other form such as quadratic, logarithm or exponential.

Under the correlation analysis, the intensity of linear relation between the following variables has been measured:

a. Loans & Advances and Total Deposit
b. Net Profit and Total Deposit
c. Cash & Bank Balance and Total Deposit
d. Investment in Government Securities and Total Deposits
e. Total Operating Expenses and Total Operating Income

4.2.1 Correlation Analysis between Loans & Advances and Total Deposit

In this Correlation Analysis, the Total Deposit is the independent variable (Y) and loan and advances is dependent variable (X). The purpose of computing the coefficient of correlation is to justify whether the Total Deposit are significantly to Loans & advances or not and whether there is any relationship between these two variables.

Table 4.14

Correlation Coefficient and Probable Error between Loans & Advances and Total Deposit of Nabil and NIBL.

Banks	r_{xy}	PE(r)	6PE(r)	Condition
Nabil	0.9980	0.0012	0.0072	$r_{xy} < 6PE(r)$
NIBL	0.9929	0.0043	0.0258	$r_{xy} < 6PE(r)$

(See Appendix 3.1 A & B)

Table 4.14 denotes that the correlation coefficient of Nabil & NIBL is low. Also they have a insignificant relationship between Total Deposit & Loan & Advances because of correlation coefficient came smaller than 6 times the probable error i.e. r_{xy} <6PE (r). Since the correlation coefficient is low and insignificant, it seems that both bank have less Loans & Advances to Total Deposit. This indicates that the deposit is higher than loans and advances of both banks.

4.2.2 Correlation Analysis between Net Profit & Total Deposit

In this Correlation Analysis Net profit is the independent variable (Y) and Total Deposit is dependent variable (X). The purpose of computing the coefficient of correlation is to justify whether the banks significantly the utilization of deposits for income generating purposes or not and whether there is any relationship between these two variables. To find out the correlation (r) various calculations are done.

Table 4.15

Correlation Coefficient and Probable Error between Total Deposits and Net Profit of Nabil & NIBL.

Banks	r_{xy}	PE(r)	6PE(r)	Condition
Nabil	0.9534	0.0274	0.1644	r_{xy} > 6PE(r)
NIBL	0.8548	0.0881	0.5286	r_{xy} > 6PE(r)

(See Appendix 3.2 A & B)

As shown in table 4.15, the coefficient of correlation is highly strongly of sample banks. This indicates the positive relation between deposit and net profit. The empirical test of significance of correlation with the help of probable error shows that the relation is significant for Nabil & NIBL. In other words, in two banks the net profit depends upon deposit. But between two banks, Nabil seems more efficient regarding the utilization of the deposit for income generating purposes as revealed by the greater coefficient.

4.2.3 Correlation Analysis between Net Profit and Loans Advances

In Correlation Analysis, loans and advances are the independent variable (Y) and net profit is dependent variable (X). The purpose of computing the coefficient of correlation is to

justify whether the bank loans and advances are significantly generated a profit or not and whether there is any relationship between two variables. To find out the correlation (r) various calculations are done.

Table 4.16

Correlation Coefficient and Probable Error between Net Profit and Loans & advance of Nabil & NIBL.

Banks	r_{xy}	PE (r)	6PE (r)	Condition
Nabil	0.9603	0.0234	0.1406	r_{xy} > 6PE (r)
NIBL	0.7911	0.1127	0.6761	r_{xy} > 6PE (r)

(See Appendix 3.3 A & B)

Table 4.26 , the coefficient of correlation is highly strongly of sample banks which indicates there is a proportional relationship between the net profit and loan & advances for all the banks. While testing of 6 PE (r) for all sample banks found to be 'significant'' as the r_{xy} value for all the banks are greater than 6PE (r) valued. This implies they're found to be perfect correlation. It shows that the loan & Advance depend upon net profit and net profit depends upon loan & advances.

4.2.4 Correlation Analysis between Cash & Bank Balance and Total Deposit

In Correlation Analysis, performing assets is the independent variable (Y) and net profit is dependent variable (X). The purpose of computing the coefficient of correlation has justified whether the banks performing assets are significantly generating profit or not and whether there is any relationship between these two variables. To find out the correlation (r) various calculations are done.

Table 4.17

Correlation Coefficient and Probable Error between Cash & Bank Balance and Total Deposit of Nabil & NIBL.

Banks	r_{xy}	PE (r)	6PE (r)	Condition
Nabil	0.8636	0.0765	0.4593	r_{xy} > 6PE (r)
NIBL	0.8207	0.0983	0.5899	r_{xy} > 6PE (r)

(See Appendix 3.4 A & B)

Table 4.27 explains that the coefficient of correlation of all banks is highly strong. This indicates the proportional relationship between Performing Assets and Net Profit. The testing of significance empirically proves this significant relationship for all the banks since r_{xy} > 6P.E (r) for all of them. It signifies that the net profit and performing assets of the bank are highly and positively related. Furthermore, all the banks can raise its net profit by increasing the performing assets.

4.2.5 Correlation Analysis between Investment in Government Securities and Total Deposit

The correlation coefficient between total deposits and performing assets to measure the relationship between major financial sources i.e. total deposits and major component of total assets i.e. loans and advances. In Correlation Analysis, the deposit is the independent variable (Y) and performing asset is dependent variable (X). The purpose of computing the coefficient of correlation has justified whether the deposits are significantly used in performing assets or not and whether there is any relationship between these two variables. To find out the correlation (r) various calculations are done.

Table 4.18

Correlation Coefficient and Probable Error between Investment in Government Securities and Total Deposit of Nabil & NIBL.

Banks	r_{xy}	PE (r)	6PE (r)	Condition
Nabil	0.9901	0.0059	0.0345	r_{xy} > 6PE (r)
NIBL	0.9971	0.0017	0.0105	r_{xy} > 6PE (r)

(See Appendix 3.5 A & B)

Table 4.28 depicts that the correlation coefficient appeared greater than six times the probable error i.e. r_{xy} > 6PE (r) for al sample banks, this indicates a highly positive relation between total deposits and performing assets. The empirical test of significance of correlation with the help of probable error shows that the relation is significant of Nabil and NIBL. It implies that all two banks have utilized its total deposits on the income generating assets effectively.

4.2.6 Correlation Analysis between Total Operating Expenses (TOE) and Total Operating Income (TOI)

The correlation coefficient between MVPS and EPS measures the degree of the relationship between two variables. In correlation Analysis, EPS is the independent variable (Y) and MVPS is dependent variables (X). The purpose of computing the coefficient of correlation has justified whether the MVPS significantly relation in EPS or not and whether there is any relationship between these two variables. To find out the correlation (r) various calculations are done.

Table 4.19

Correlation Coefficient and Probable Error between Total Operating Expenses and Total Operating Income of Nabil and NIBL.

Banks	r_{xy}	PE (r)	6PE (r)	Condition
Nabil	0.4115	0.2501	1.5000	r_{xy} < 6PE (r)
NIBL	0.6449	0.1759	1.0554	r_{xy} < 6PE (r)

(See Appendix 3.6 A & B)

Table 4.29 exhibits that the coefficient of correlation of Nabil & NIBL is moderately or negative. The relationship between EPS and MVPS is insignificant due to r_{xy}<6PE (r). To sum up, the relation between EPS and MVPS is negative & insignificant.

4.3 Trend Analysis

Trend analysis is very useful to predict the future events on the basis of the past tendencies. This method is based on the assumption on that past tendency continues in the future. The future trend of any variable is forecasted using the equation,

The trends of related variables can be calculated as, Y= a + bx

4.3.1 Trend Analysis of Total Deposits

Table 4.21

Least Square Trend Equation & Its Determinant of Total Deposits

Bank	A	B	Yc = a + bX
Nabil	33,792,712,372.60	8,535,853,213.90	33,792,712,372.60+8,535,853,213.90X
NIBL	36,315,318,343	9,837,583,999.9	36,315,318,343+9,837,583,999.9X

(See Appendix 4.1)

Table 4.31 depicts that total deposits in Nabil & NIBL showed an increasing trend. On the average, total deposit in Nabil & NIBL increased by Rs. 8,535,853,213.90 and Rs. 9,837,583,999.9 per year in the past period respectively. Therefore, the trend equation of the total deposit in Nabil & NIBL are, Yc=33,792,712,372.60+ 8,535,853,213.90X & Yc= 36,315,318,343 + 9,837,583,999.9X respectively.

Between two banks, average deposit and rate of the increment in total deposit seem higher in NIBL. In other words, total deposit of NIBL will increase in higher rate for the forecasted period if the past trend continues.

4.3.2 Trend Analysis of Loans and Advances

Table 4.22

Least square trend equation & its determinant of loans and advances

Bank	A	B	Yc = a + bX
Nabil	24,109,192,212.60	6,874,978,905.60	24,109,192,212.60 + 6,874,978,905.60X
NIBL	27,388,142,537.80	7,597,575,149.20	21,151,375,573.8+7,597,575,149.20X

(See Appendix 4.2)

Table 4.32 highlights that loans and advances of all banks revealed an increasing trend throughout the study period. On the average, loans and advances in Nabil & NIBL increased by Rs. 6,874,978,905.60& Rs. 7,597,575,149.20 respectively per year in the past period. Therefore, the trend equation of loans and advances in Nabil & NIBL is, Yc=24,109,192,212.60+ 6,874,978,905.60X & Yc=27,388,142,537.80+ 7,597,575,149.20X respectively.

On the basis of above trend equation, the forecasted value of the loan and advances for FY 2012/13 are Rs. 30,984,171,118.20 & Rs. 34,985,717,687 respectively and for FY 2013/14 is Rs. 37,859,150,023.80 & Rs. 42,583,292,836.2 respectively.

Between two banks, average Loans and advances and rate of the increase both seem higher in NIBL. In other words, Loans and Advances will higher rate in NIBL forecasted periods if the past trend continues.

4.3.3 Trend Analysis of Cash & Bank Balance

Table 4.23

Least square trend equation & its determinant of Total Cash & Bank Balance

Bank	A	B	Yc = a + bX
Nabil	2,561,271,359.20	1,017,748,710.60	2,561,271,359.20 + 1,017,748,710.60X
NIBL	5,650,946,376.60	7,597,575,149.20	5,650,946,376.60 +2,441,094,855.60X

(See Appendix 4.3)

Table 4.2 highlights that Total Cash & Bank balance of all banks revealed an increasing trend throughout the study period. On the average, Cash & Bank balance in Nabil & NIBL increased by Rs. 1,017,748,710.60 & Rs. 7,597,575,149.20 respectively per year in the past period. Therefore, the trend equation of loans and advances in Nabil & NIBL is, Yc=2,561,271,359.20 + 1,017,748,710.60X & Yc=5,650,946,376.60 +2,441,094,855.60X respectively.

On the basis of above trend equation, the forecasted value of the Cash & Bank balance for FY 2012/13 are Rs. 3,579,020,069.8 & Rs. 13,248,521,525.8 respectively and for FY 2013/14 is Rs. 4,596,768,780.4 & Rs. 20,846,096,675 respectively.

Between two banks, average Cash & Bank balance and rate of the increase both seem higher in NIBL. In other words, Cash & Bank balance will higher rate in NIBL forecasted periods if the past trend continues.

4.3.5 Trend Analysis of Net Profit

Table 4.25

Least Square Trend Equation & Its Determinant of Net Profit

Bank	A	B	Yc = a + bX
Nabil	1,025,257,348.4	316,565,510.80	1,025,257,348.40+316,565,510.80
NIBL	548,781,429.60	28,738,998.40	548,781,429.60+28,738,998.40X

(See Appendix 4.4)

Table 4.25 explores that net profit of all banks showed an increasing trend. The average rate of increase in the amount of net profits in Nabil & NIBL is Rs 316,565,510.80 & Rs 28,738,998.40 respectively per year. Therefore, trend equations of net profit are Yc=1,025,257,348.40+ 316,565,510.80X & Yc= 548,781,429.60 + 28,738,998.40X respectively. From the trend above equation, the forecasted values of the net profit 2012/13

are Rs. 1,341,822,859.20 & Rs. 577,520,428 respectively and for FY 2013/14 is Rs. 1,658,388,370 & Rs. 606,259,426.40 respectively.

Between two banks, the average of the net profit appeared higher in Nabil and the rate of increase is also higher in Nabil. It means net profit will increase in higher rate in Nabil for forecasted periods if the past trend continues.

4.4 Major Findings

Major findings of this study during the period of five years in Nabil and NIBL from the analysis are summarized as:

- The Nabil bank maintained maximum Tier I ratio i.e capital adequacy ratio i.e. 11.10% in FY 2007/08 and the minimum ratio of 10.50% was found in in FY 2009/10. The Tier I ratio decreased continuously till FY 2010/11 and increased thereafter in FY 2011/12. The reason of this increase was due to compartively high decrease of RWA in FY 2011/12. In all the 5 years of the review period, the Tier I capital ratio was above the NRB standard with maximum positve variance of 2.20%. The bank was able to maintain above the NRB requierment in Tier I ratio during the period 2007/08 to 2011/12 however it has slightly decreased in 2008/09. In general, the bank has maintained Tier I capital adequately above the NRB standard during the study period. Similarly, Tier I ratio of NIBL is distributed from the minimum of 10.55% in FY 2009/10 to maximum of 11.28% in FY 2007/08. The Core Capital (Tier I) of the bank in the decreasing trend over the study period. The bank was able to maintain more than 6% NRB standard in last 5 FY, 2007/08 to 2011/12. Hence, the core capital adequecy ratio of NIBL is adequete and sufficient.
- The Tier II ratio i.e core capital ratio of NABIL was maximum in FY 2011/12 with 9.30% and minimum in FY 2008/09 with 8.74%. The ratio is in continuous increasing trend since 2008/09 till 2011/12. The continuous increase owed due to increase in supplementry capital and regular decreasing in RWA during the period. Tier II capital of the bank in all years, is below the Tier I capital. Likewise, Tier II ratio of NIBL is distributed from minimum of 7.71% in FY 2007/08 to maximum of 9.34% in FY 2011/12. The ratios of NIBL were 7.71%, 8.56%, 8.50%, 8.77% and 9.34% in FY 2007/08 to 2011/12. Hence, the Supplementry capital ratio of both bank are within the boundry of NRB during the period.

- Assets composition of Nabil bank like in every banks remained largely in the loans and investment in the last five financial years. In the study period of 5 years, the average composition of Cash & Bank Balance were 3.96%, 7.82%, 11.39%, 11.61%, and 11.55% respectively. In the same way, the average composition of Cash & Bank Balance of NIBL were 17.29%, 14.36%, 14.17%, 22.58%, and 31.94% respectively during the study period.
- The NPL ratios of NABIL were distributed 0.74%, 0.80%, 1.47% , 1.77% and 2.33% during the FY 2007/08 to 2011/12. Likewise, the NPL ratios of NIBL were 1.12%, 0.58%, 0.62%, 0.94% & 3.32% for the same period of review. Despite the industrial benchmark not appropriately justifiable due to high proportion of NPL of two biggest government banks, the trend speaks of NPL ratio of NABIL and NIBL well in control and below international standard of 5% in general. It also shows efficient credit management and recovery efforts.
- The loan loss proivisioning ratio of NABIL for the study period is in continuous fluctuating trend. The ratio ranges from 1.08% in FY 2009/10 to 0.16% in FY 2008/09. The fluctuating trend of NPL to total loan ratio also requires lower provisioning hence Loan loss ratio also decreased accordingly. It also indicates bank's quaity of loan assets is getting better. Differently, the loan loss provisioning ratio of NIBL for the study period was also in fluctuating trend. The highest ratio ranges from 1.73% in FY 2011/12 to 0.23% in FY 2009/10 with an average of 0.71%. Hence, the fluctuating trend of NPL of NIBL also requires the higher provision for loan loss. Hence, Loan loss provisioning also fluctuates accordingly.
- The observed TOE to TOI ratio of NABIL fluctuating trend. The ratio has reached 13.22% in 2007/08 which is the maximum and 10.74% at 2011/12 which implies decreasing expenses with respect to income and is credited to good management quality. Likewise, the observed TOE to TOI ratio of NIBL decreasing trend. Upto 2008/09 it increases and then start to decrease from 2009/10. The ratios distributed from a minimum of 15.85% in FY 2009/10 to maximum of 19.55% in FY 2008/09. Decreasing trend of ratio is favourable on measure management quality of NIBL.
- The Earnings per Employee in rupees during the study period, the ratio of NABIL at first decreased at 2008/09 and threafter abruptly increased in 2009/10. Following 2 years showed continuous decrease. The trend is positive, which indicates the Earning per Employee is increasing over the study period. This indicates that, in the later half of the review period the increased number of staff have increased the earnings per employee

with similar repercussion in terms of profitability. Whereas, the earning per employee of NIBL were increasing over the study period. The trend of ratio is positive, which indicates the earning of the employee is increasing over the study period. However, the increasing is not so sharp. This indicates that increasing earning per employee can reflect efficiencies as a result of managing the staffs, with similar repercussions in term of profitability.

- The mean ROE of NABIL was 32.10%. The ratio is fluctuating in downward trend. The decreasing trend of ratios implies that earning quality of bank is getting low. Hence the bank's ROE ratio is sound. In the same way, the mean value of ROE of NIBL is 21.54% which is above the 15% bench mark, it indicates the bank's ratio is better but it is in decreasing trendency.
- The mean ROA ratio of NABIL is 2.58%. The fluctuating movement of ROA since FY 2007/08 is also supported by the positive slope of the trend line. Whereas, the mean ROA ratio of NIBL is 1.48%. The ratio of the bank is in decresing trend but mean ratio is above the benchmark 1%. Hence, both banks' mean ratio is above the 1% benchmark, which shows the quality of assets and their efficiency to generate return is better.
- The investment in government securities of NABIL were fluctuation trend. The ratio ranges from 34.30% at FY 2011/12 and 12.76% at FY 2010/11 similarly, the investment in government securities of NIBL were fluctuation trend. The ratio ranges from 28.25% at FY 2011/12 and 7.22% 2010/11 which indicates that NABIL and NIBL has invested in government securities rather than invest in high risk investment and keeping idle money.
- EPS of NABIL bank decreases over the year of the review period. The decreasing trend of EPS is also supported by negative slope of the trend line. In contrary, the EPS of NIBL is fluctuated over the study period. The slope of the trend line is decresing, indicates more volatility of EPS during the study period.
- The liquid assets to total deposit ratio of NABIL negatively variated with the industrial average in 2002/03. Thereafter, for the next four years till 2006/07, it variated positively with the industrial average. In 2006/07, the variance with the industrial average decreased to +9.16%. Overall, the bank held liquid assets percentage above the industrial average except in the initial period of 2002/03. This fact implies that the overall liquidity position of the bank is better than industrial average ratio. However the liquidity is in decreasing trend as the bank has switched to investing on more profitable assets. On the other hand, the ratio of EBL is above the industrial average in all the years of studyperiod. Hence, the performance measured in terms of this ratio is better than that of industry average. This

implies that the bank's liquidity position in overall better out but this impacts in profitability negatively.

- NABIL has maintained cash reserve with NRB directive. This implies the bank is not strictly following the directives of NRB in respect to balance must held in NRB. Likewise, NIBL also has not maintained adequete cash reserve with NRB, which indictes the bank has not following the NRB directions in respect of balance must be maintained with NRB. But in case of both banks the lack of balance in NRB does not conclude inadequate Cash Reserve Ratio at NRB. Since the calculation is based on year end volumes of deposit and NRB balances and NRB calculates CRR on weekly average balances, ratio is observed low which is a limitation of the study. However the ratio is increasing getting below the industry average.

C) Correlation Analysis

In correlation analysis, Karl Pearson's coefficient of correlation is used and also calculated the probable error of them. Total deposit and loan & advances, total deposit & net profit, loans and advances & net profit, performing assets & Net profit, total deposit & performing assets all are positively correlated at significant levels in Nabil & NIBL, where r_{xy} >6PE (r), but the relation between MPS & NWPS and EPS & MVPS gives no result because r_{xy} >6PE (r) which means negative or insignificant to all two banks.

D) Trend Analysis

In trend analysis, least squared trend analysis is analyzed by calculating the parameters a and b. Total deposits, loans and advances, Performing Assets , Net worth and Net profit show increasing trend in all two banks. Average amount of Total deposits, Loan & advances, Performings and Net worth are higher in NIBL than Nabil.

CHAPTER- V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONDS

5.1 Summary

It has identified the problem and set objectives to solve problems about the financial performance of sampled commercial bank i.e. Nabil Bank Limited, Nepal Investment Bank Limited. To make this study more effective, related literatures have been reviewed. The review of literature provides the foundation of knowledge in order to undertake this study more precisely. Research methodology has been described in the third chapter, which is a way to solve the problems with the help of various tools and techniques. This chapter includes the research design, population and sample data collection procedure, data period covered and method of analysis.

The presentation and analysis of data has been made comparative analysis and their interpretation has done in chapter four by applying the wide varieties of methodology as stated in chapter three. It includes the various financial and statistical tools. In case of financial tools camel analysis is done. Various statistical tools such as the arithmetic mean, standard deviation, coefficient of correlation and trend analysis have been applied to fulfill the objectives of this study. The major findings of the study are also included in the final section of the presentation and analysis chapter.

Bank is an institution that deals with money by accepting various types of deposits, disbursing loan and rendering other financial services. Since banks are rendering a wide range of services to the people from different walk of life, they have become an essential part of modern society. Commercial banks are the real intermediaries who transfer the savings to the borrowers so that the money can be used in the productive sector. As a financial intermediary, commercial banks are giving greater contribution to GDP for economic development i.e. 9.9% (Radesh Pant: NRB Arthik Mimansha2064; column C; 57). They are guided & regulated under the Company Act 2053, Commercial Bank Act 2031 & NRB directives.

The structure of modern economy will be no better than an ancient period of better system without financial intermediary. They have played an important role in giving a direction to the economy's development over time by financing the requirement of trade and industry in the country. Financial analysis shows the relationship between the various components

from Balance Sheet and Profit & Loss statement. The analyzed statements contain such information which is useful for management, shareholders, creditors, investors, depositors, etc. As in other industries, banking industries also need financial analysis for evaluating a bank's performance as compare to the other and also with own past performance.

Therefore, the study has been conducted to evaluate the financial performance of Nabil Bank Limited & Nepal Investment Bank Limited (NIBL) and to find out their strength and weakness. The main objective of the study is an analysis of financial performance of the private sector commercial banks which are fully managed and ownership of Nepalese entrepreneur. To fulfill these objectives and other specific objectives as described in Chapter one, an appropriate research methodology has been adopted which includes financial tools – camel analysis and statistical tools- mean, S.D; C.V, correlation coefficient, trend analysis has been used. The major study consists of Capital Adequacy, Assets Quality, Management Quality, Earning Capability, and Liquidity. Under these main ratios, their mean, Coefficient of variation is analyzed. In order to test the relationship between various components of financial indicates Karl Person's correlation coefficient 'r' is calculated and analyzed.

The necessary data are derived from the balance sheets and profit and loss accounts of Nabil and NIBL for the period of five years from FY 2007/08 to FY 2011/12. Chapter-V includes the summary of major findings, conclusions and recommendations.

5.2 Conclusions

Based on the findings, the performance of NABIL and NIBL in the framework of CAMELS is concluded as under:

- The both banks' Core capital adequacy ratio variated positively NRB standard during the review period. Supplementary capital ratio of the banks is with in the boundary of NRB regulation over the study period though the proportion of Supplementary capital in the total capital fund is in declining trend. The total capital adequacy ratio is above NRB norms. This means the bank has adequately maintained its internal sources during the past five years. The bank is running with adequate capital and the capital fund of the bank is sound and sufficient to meet the banking operation as per NRB standard.
- Assets composition of both banks like in every banks remained largely in the loans and investment. The increasing and fluctuating trend of non-performing loans and advances ratio of both banks helps to conclude that the bank is not aware of non-performing loans

and not adopting the appropriate policies to manage this problem and to increase the quality of asset. The performing loans are increasing steadily and conversely the NPL are decreasing during the review period. A unique movement of chronic substandard loans being converted to doubtful, doubtful into loss loans, despite the overall NPL ratio is in decreasing trend was observed. The NPL ratio trend speaks of NPL ratio well in control and below international standard of 5% in general. It can therefore, concluded that bank has placed efficient credit management and recovery efforts. Here in case of NABIL the decreaing trend of loan loss provisioning ratio speaks of good quality loans are increasing i.e., it seems that amount default associated in loans is decreasing in future. Whereas, the decreasing trend of loan loss provisioning ratio of NIBL indicates that the quality of loans becoming increasing year by year i.e. it seems that amount of non-performing loans and possibilities of default in future is decreasing.

- The both banks is managed and operating efficiently since the total expenses to total revenues ratios are in decreasing trend. This could be, but is not limited to management efficiencies. In any case, the decreasing trend will positively affect the bank's profitability in future. The increasing trend of earning per employee of NABIL depicts management capacity to control overhead expenses due to overstaffing with similar repercussions in terms of profitability. Overall it can be concluded that the management decisions related to operation and investment have assisted in controlling control and recovery of bad debt. In the otherside, the increasing trend of earning per employee of NIBL reflects inefficiencies as a result of overstaffing, with similar repercussioins in terms of profitability. But the increasing trend is not so sharp.
- The ROE ratio of NABIL is above the universal benchmark. The fluctuating trend of ROE shows that the return per unit of equity invested by the shareholders is fluctuated year by year. The bank's mean ROA ratio is two folds above the 1% benchmark. The bank's ROA is in continuous increasing trend. The bank has net interest margin above the benchmark in all years. The earnings per share held by the shareholders is decreasing. Based on these findings it can thus be concluded that bank is not able to establish investor's and public faith. It has bad quality of assets and inefficient to generate increasing return in future. The management hasn't been able to control the interest spread and cost effective sources of funds. This has helped the bank in decreasing the market strength. On the contrary, the decreasing trend of ROE of NIBL shows that the rate of return flowing to the bank's shareholders' is degrading year by year. Still the bank

has better return on equity. Similarly, decreaing trend of Return on Assets concludes that the net income for each unit of asset of the bank is depreciating, still the bank has better return on asset comparing with benchmark. Likewise, decreasing trend of NIBL shows that spread between interest revenues and interest cost of management has been not able to achieve by close control over the banks earning assets and pursuit of the cheapest sources of funding. EPS of the bank depicts that the returns flowing to the bank's owner is declining which impacts the strength of the share in the market is also declining.

- The investment in liquid assets of NABIL is in decreasing trend and switched into more profitable but high risk assets. The NRB balance to total deposits ratio is below the industrial average during the study period. The NRB balance is however in decreasing trend. However it does not imply inadequate NRB CRR requirement. The cash and bank balance to total deposit ratio is fluctuating and at two instances it was above 2% NRB requierment. However the calculations are based on year end balances whereas NRB takes average weekly balances for Cash at Vault calculation which is a limitation of the study. On the other hand, the liquid funds to total deposit ratio of NIBL is above the industrial average ratio, which indicates the very high proportion of liquid funds than the proportion of investment in income generating asset and shows lack of specific policy of invest of additional ideal funds to high income generating assets in the form of investment. Likewise, the NRB balance to total deposit ratio of the bank is below industrial average during the study period which indicates that the bank is not maintain sufficient amount of balance must held in NRB and the cash and bank balance to total deposit ratio of the bank is also below the industrial average that depicts the bank is not maintaining the adequete balance at vault to satisfy the short-term obligation, that might create the financial crunch at the bank sometimes. Similarly, investment in government securities of NABIL were increasing and slightly decreased and then increased which indicates that at 2009 to 2011 it slightly decreased at investing in risk free assets. This indicates that it forces to invest in risky assets. On the contrary, investment in government securities of NIBL were firstly increasing and then it decreased and it boost up which indicates that it invested on risky assets rather than risk free assets.

5.3 Recommendations

The private financial institutions can survive if they earn better net profit. With an objective to maximize the economic profit banks compete in the industry. It is applicable to both domestic run and joint venture banks. Their profit depends on how many customers they

can attract in a competitive way. Both types of banks can increase their clients if they have a good management team, efficient technology, and good public relations. In the light of the above facts and figures, the objective of the study is to find out to what extent these banks have succeeded in realizing the stated objectives. Such in depth study will provide the basis for evaluating financial success or failure and also suggest suitable measures to improve their operating financial performance of Nabil & NIBL are listed below:

1. The proportion of Tier II Capital in the Total Capital fund of NABIL bank is decreasing as compared to Tier I capital. This means the bank is increasing capital of permanent nature. The bank need to keep additional cushion reserve in the form of Interest spread and exchange fluctuation reserve. The variance of CAR from NRB standard is postive but in decreasing trend and may adversely affect if NRB benchmark fixed above. This requires the bank to increase its capital fund either through internal sources or decrease investment in risky assets in the coming days. Similarly, the proportion of Tier II capital in the total capital fund of NIBL also in decreasing as compared to Tier I capital . This means the bank's capital adequecy ratio is not sufficient. So the recommendation is provided to maintain stable capital adequecy ratios in the bank and strictly follow the NRB directives is better.
2. Although the bank has been decreasing the proportion on non-performing loans to total loans and advances of NABIL during the study period, the bank requires checking this tendency before they are ultimately written-off from the books. The loan loss provision to total loans and advances is decreasing which is a good sign however the provision for Doubtful Loans has increased in later years which is a matter of concern. The bank need to give attention in recovering the Doubtful and Loss Loans and lower the provision accordingly. In the same way, EBL is advised to give more attention to decrease the level as it can to meet the international standards although the bank has been decreasing the proportion of non-performing loans to total loans and advances during the study period. For this bank management has to give serious attention towards the recovery and timely follow-up of the disbursed loan and bank management is recommended to formulate an effective powerful loan recovery committee. Likewise, the loan loss provision to total loans and advances is increasing regularly during the study period, which shows there is high probability of loan default in future. So the bank is recommended to lower the proportion of loan loss provision by increasing the quality of assets by stregthning the credit appraisal and follow-up measures.

3. The total expenses to total revenue and the earning per employee on NABIL bank in the later years has both shown decreasing trend. The bank need to generate additional operating revenues in the coming years and to maintain the current level. The decreasing earning per employee ratio needs attention. However, the earning per employee is decreasing trend during the study period so the necessary corective actions should be implemented by NIBL to enhance the earning per employee.
4. During the study period, the earning quality ratios i.e. return on equity, return on assets, and earning per share of NABIL bank are sound and the bank need to maintain this level. The bank need to increase the revenues and further control the operating expenses which would cushion in competitive environment. Whereas, the earning quality ratios i.e. return on equity, return on assets, and earning per share are decreasing trend. Of course, profit is essential and a crucial part of any business, without it no form can survive and grow. To increase profit the bank should minimised its operating cost by increasing the operating efficiencies of its employees. Thus, the bank is recommended to increase its yield as its net profit. The decresing trend of profit of the bank may loose the confidence of the shareholders and other stakeholders.
5. NABIL Bank Ltd. is recommended to explore new investments opportunities for proper utilization of the idle liquid assets. Likewise depsite limitation of calculating the NRB balance and Cash and bank balance need to be monitored and complied in accordance with the NRB requirements. As the liquidity position of NIBL is to be high, especially in liquid funds, the bank is recommended to look upon new area of lending and investment that helps in minimizing the idle funds. Otherwise, this may impact the profitability negatively. And the bank's cash and bank balance to total deposits ratio and NRB balance to total deposits ratio are below the industrial average during the study periods so strictly following the NRB directions in respects to the balance should be maintained is better for regularoty mandatory.
6. Government Securities such as Treasury bills, Development bonds, saving certificates etc. are risk free investment alternatives because they are free of default risk as well as liquidity risk and can be easily sold in the market. In this study, it has found that the sampled banks have made some amount of fund in Government securities. But Nabil & NIBL are recommended to invest more funds in Government securities instead of keeping them idle.
7. From the above analysis, NIBL is maintaining more amount as money at call and short notice than Nabil. So, NIBL is recommended to decrease its amount to call by

increasing loan and advances. Similarly, it is also recommended to these two banks to hold its amount in the form of cash and cash equivalent items only to extend of requirement. Though it difficult to find exactly the suitable liquidity ratio: estimation can be done on the basis of past experience, nature of depositors, situation of the financial market and the nature of competition.

8. The bank must collect more funds from current deposits, compared to other interest bearing deposits. The bank must locate and explore new technique and facilities for the collection. There should be a continuous flow of financial information among various groups of employees. The goal and objective of banks should be carefully communicated to lower levels of management.
9. All the two banks have maintained NRB Balance total deposit ratio remarkable higher than standard prescribed by NRB. The fund tied in NRB balance cannot yield a good return. So these banks are suggested to lower this ratio and invest the surplus fund in other current assets such as loans and advances, bill purchase discount & money at call and short notice. The banks have employed a considerably greater portion of debt in their capitals. Therefore they should be aware of the possible risk that may arise due to slackness in the business activities.
10. The capital adequacy position of NIBL seems less satisfactory than that of two banks. So NIBL needs to raise its net worth. It will be better for the banks to distribute the stock dividend rather than the cash dividend.
11. The imbalance between the operating income and operating expenses has made banks less profitable. So, from the operating profit view Nabil is better than NIBL in average. So every commercial bank should increase the operating income and cut down the unnecessary expenses by using modern banking technology, computer networking, expert and well trained personnel. Introducing the latest and sophisticated banking system, developing the high motivational strength in management and increasing turnovers etc. are some of the techniques to techniques to improve and increase the gap between income and expenses.
12. Political instability directly affects the economic sector such as hotels & tourism, manufacturing & trading sector. Bank loan & advances are decreasing in this sector. So, banks should give priority to these sectors as well as banks should create a new investing sector to mobilize deposits.
13. Different systematic, modern & statistical tools should be used for the thesis in order to find out the actual financial performance of concern bank as clearly as previously. A

sampled must be taken more than three banks to gain the knowledge and comparative analysis of sampled banks.

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Appendix 1

Nabil Bank Ltd.

	2007/08	2008/09	2009/10	2010/11	2011/12
Core Capital	2,363,598,989	3,044,340,637	3,667,854,525	4,318,697,617	5,139,280,637
Capital Fund	2,998,730,164	3,727,082,787	4,390,228,607	5,173,399,192	6,086,741,224
RWA	27,010,564,315	32,500,502,288	39,016,206,023	44,468,804,901	50,021,684,138
NPL	161,085,995	224,817,413	486,281,521	689,851,773	1,000,059,138
ROI	1,670,427,262	2,220,983,026	2,764,088,060	3,046,127,914	3,990,479,187
ROE	220,750,570	265,158,033	334,186,213	401,425,357	428,597,152
Total Loan	21,759,460,334	27,999,012,071	33,030,968,688	38,905,487,889	42,867,767,793
Loan Loss Provision	64,055,186	45,722,434	355,829,115	109,470,414	73,718,336
NPAT	635,262,349	673,959,698	746,468,394	1,031,053,098	2,039,543,203
Number of Staffs	416	505	557	657	650
Number of Shares	6,892,160	9,657,470	14,491,240	20,297,694	20,297,694
Total Assets	37,132,759,149	43,867,397,504	52,150,237,343	58,141,437,401	63,200,298,255
C & B Balance	630,238,588	1,399,825,851	2,671,141,055	3,372,512,471	4,732,638,831
Total Deposit	18,364,175,593	21,338,213,485	3,022,354,647	3,630,972,038	55,829,712,813
Investment in Govt. Securities	2,301,463,338	4,808,348,503	4,646,883,136	3,706,102,662	14,055,850,055

(Sources: Annual Reports of Nabil from FY 2007/08 to 2011/12)

Nepal Investment Bank Ltd.

	2007/08	2008/09	2009/10	2010/11	2011/12
Core Capital	2,658,914,910	3,879,969,000	4,554,094,000	5,083,617,000	5,858,857,000
Capital Fund	3,891,235,470	5,095,353,000	5,651,045,000	6,324,627,000	6,963,182,000
RWA	34,484,541,420	42,975,192,000	50,041,481,000	52,029,461,000	55,874,347,000
NPL	309,470,983	213,907,394	254,034,452	395,282,853	1,425,394,070
TOI	1,649,624,924	2,116,661,581	2,734,929,605	2,833,593,749	2,909,843,356
TOE	313,153,795	413,883,755	433,596,280	456,056,633	468,862,988
Total Loan	27,529,304,736	36,827,157,409	40,948,440,033	41,887,693,911	42,906,691,054
Loan Loss Provision	135,989,237	166,201,383	93,056,584	267,331,490	743,723,808
NPAT	350,536,413	501,398,852	696,731,516	900,619,072	294,621,295
Number of Staffs	622	766	877	877	883
Number of Shares	12,039,154	24,070,689	24,090,977	30,113,721	37,661,553
Total Assets	38,873,306,084	53,010,803,126	57,305,413,482	58,356,827,501	65,756,231,954
C & B Balance	2,336,521,396	2,441,514,200	3,754,941,568	7,918,003,890	11,803,750,829
Total Deposit	18,591,121,49	25,285,786,79	35,473,537,24	48,460,537,627	61,697,452,682
Investment in Govt. Securities	2,522,300,000	3,256,400,000	3,155,000,000	2,531,300,000	10,438,487,115

(Sources: Annual Reports of NIBL from FY 2007/08 to 2011/12)

Appendix 2

2.1 Capital Adequacy Ratio (CAR)

Calculation of Mean ($\bar{X}$), Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
11.10	0.32	0.1024	11.28	0.26	0.0676
10.70	-0.08	0.0064	11.24	0.22	0.0484
10.50	-0.28	0.0784	10.55	-0.47	0.2209
10.58	-0.20	0.0400	10.91	-0.11	0.0121
11.01	0.23	0.0529	11.10	0.08	0.0064
$\sum X=53.89$		**$\sum(X-\bar{X})^2 =0.2801$**	**$\sum X=55.08$**		**$\sum(X-\bar{X})^2 =0.3554$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{53.89}{5} = 10.78$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{0.2801}{5}}$$

$$sd = 2.20$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{0.24}{10.78}$$

$$= 2.20\%$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{6.42}{5} = 1.28$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{0.3554}{5}}$$

$$sd = 2.42$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{0.27}{11.02}$$

$$= 2.24\%$$

2.2 Core Capital Ratio (CCR)

Calculation of Mean $(\overline{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**	**Ratio (X)**	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**
8.75	-0.14	0.0196	7.71	-0.87	0.7569
8.74	-0.15	0.0225	8.56	-0.02	0.0004
8.77	-0.12	0.0144	8.50	-0.08	0.0064
8.83	-0.06	0.0036	8.77	0.19	0.0361
9.30	0.41	0.1681	9.34	0.76	0.5776
$\sum X=44.39$		**$\sum(X-\overline{X})^2 =0.2282$**	**$\sum X=42.88$**		**$\sum(X-\overline{X})^2 =1.3774$**

Calculation of Mean $(\overline{X})$,

$$(\overline{X}) = \frac{\sum X}{N} = \frac{44.39}{5} = 8.89$$

Calculation of Mean $(\overline{X})$,

$$(\overline{X}) = \frac{\sum X}{N} = \frac{42.88}{5} = 8.58$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{0.2282}{5}}$$

$$sd = 2.40$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{1.3774}{5}}$$

$$sd = 6.12$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\overline{X}}$$

$$= \frac{0.21}{8.89}$$

$$= 2.40\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\overline{X}}$$

$$= \frac{0.53}{8.58}$$

$$= 6.12\%$$

2.3 Loan Loss Provision Ratio (LLPR)

Calculation of Mean $(\overline{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**	**Ratio (X)**	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**
0.29	-0.11	0.0121	0.49	-0.22	0.0484
0.16	-0.24	0.0576	0.45	-0.26	0.0676
1.08	0.68	0.4624	0.23	-0.48	0.2304
0.28	-0.12	0.0144	0.64	-0.07	0.0049
0.17	-0.23	0.0529	1.73	1.02	1.0049
$\sum X=1.98$		**$\sum(X-\overline{X})^2 = 0.5994$**	**$\sum X=3.54$**		**$\sum(X-\overline{X})^2 = 1.3917$**

Calculation of Mean $(\overline{X})$,

$$(\overline{X}) = \frac{\sum X}{N} = \frac{1.98}{5} = 0.40$$

Calculation of Mean $(\overline{X})$,

$$(\overline{X}) = \frac{\sum X}{N} = \frac{3.54}{5} = 0.71$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{0.5994}{5}}$$

$$sd = 87.5$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{1.3917}{5}}$$

$$sd = 74.65$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\overline{X}}$$

$$= \frac{0.35}{0.40}$$

$$= 87.50\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\overline{X}}$$

$$= \frac{0.53}{0.71}$$

$$= 74.65\%$$

2.4 Loan Loss Coverage Ratio (LLCR)

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
39.77	8.47	71.7409	43.94	-11.68	136.4224
20.34	-10.96	120.1216	77.70	22.08	487.5264
73.17	41.87	1753.0969	36.63	-18.99	360.6201
15.87	-15.43	238.0849	67.63	12.01	144.2401
7.37	-23.93	572.6449	52.18	-3.44	11.8336
$\sum X=156.52$		**$\sum(X-\bar{X})^2$ =2755.6892**	**$\sum X=278.08$**		**$\sum(X-\bar{X})^2$ =1140.6426**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{156.52}{5} = 31.30$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{278.08}{5} = 55.62$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{2755.6892}{5}}$$

$$sd = 75.02$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{1140.6426}{5}}$$

$$sd = 15.10$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{23.48}{31.30}$$

$$= 75.02\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{15.10}{55.62}$$

$$= 27.15\%$$

2.5 Non Performing Loan Ratio (NLPR)

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
0.74	-0.68	0.4624	1.12	-0.20	0.0400
0.80	-0.62	0.3844	0.58	-0.74	0.5476
1.47	0.05	0.0025	0.62	-0.70	0.4900
1.77	0.35	0.1225	0.94	-0.38	0.1444
2.33	0.91	0.8281	3.32	2.00	4.0000
$\sum X=7.11$		**$\sum(X-\bar{X})^2 =1.7999$**	**$\sum X=6.58$**		**$\sum(X-\bar{X})^2 =5.2220$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{7.11}{5} = 1.42$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{6.58}{5} = 1.32$$

Calculation of standard deviation (sd),

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

$$sd = \sqrt{\frac{1.7999}{5}}$$

$$sd = 0.60$$

Calculation of standard deviation (sd),

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

$$sd = \sqrt{\frac{5.2220}{5}}$$

$$sd = 1.02$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{0.60}{1.42}$$

$$= 42.25\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{1.02}{1.32}$$

$$= 77.27\%$$

2.6 Total Operating Expenses to Total Operating Income

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
13.22	0.99	0.9801	18.98	1.66	2.7556
11.94	-0.29	0.0841	19.55	2.23	4.9729
12.09	-0.14	0.0196	15.85	-1.47	2.1609
13.18	0.95	0.9025	16.10	-1.22	1.4884
10.74	-1.49	2.2201	16.11	-1.21	1.4641
$\sum X=61.17$		**$\sum(X-\bar{X})^2 = 4.2064$**	**$\sum X=86.59$**		**$\sum(X-\bar{X})^2 = 12.8419$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{61.17}{5} = 12.23$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{86.59}{5} = 17.32$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{4.2064}{5}}$$

$$sd = 0.92$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{12.8419}{5}}$$

$$sd = 1.60$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{0.92}{12.23}$$

$$= 7.52\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{1.60}{17.32}$$

$$= 9.24\%$$

2.7 Cash and Bank Balance ratio

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
3.96	-5.30	28.0900	17.29	-2.78	7.7284
7.82	-1.44	2.0736	14.36	-5.71	32.6041
11.39	2.13	4.5369	14.17	-5.90	34.8100
11.61	2.35	5.5225	22.58	2.51	6.3001
11.51	2.25	5.0625	31.94	11.87	140.8969
$\sum X=46.29$		**$\sum(X-\bar{X})^2 =45.2855$**	**$\sum X=100.34$**		**$\sum(X-\bar{X})^2 =222.3395$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{46.29}{5} = 9.26$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{100.34}{5} = 20.07$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{45.2855}{5}}$$

$$sd = 3$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{222.3395}{5}}$$

$$sd = 6.67$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{3}{9.26}$$

$$= 32.40\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{6.67}{20.07}$$

$$= 33.23\%$$

2.8 Investment in Government Securities Ratio

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
14.48	-7.16	51.2656	18.66	1.62	2.6244
26.85	5.21	27.1441	19.19	2.15	4.6225
19.82	-1.82	3.3124	11.90	-5.14	26.4196
12.76	-8.88	78.8544	7.22	-9.82	96.4324
34.30	12.66	160.2756	28.25	11.21	125.6641
$\sum X=108.21$		**$\sum(X-\bar{X})^2 =320.8521$**	**$\sum X=85.22$**		**$\sum(X-\bar{X})^2 =255.7630$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{108.21}{5} = 21.64$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{85.22}{5} = 17.04$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{320.8521}{5}}$$

$$sd = 8.01$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{255.7630}{5}}$$

$$sd = 7.15$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{8.01}{21.64}$$

$$= 37.02\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{7.15}{17.04}$$

$$= 41.96\%$$

2.9 Cash Reserve Ratio (CRR)

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Ratio (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
8.37	1.59	2.5281	10.90	0.9	0.81
9.03	2.25	5.0625	10.30	0.3	0.09
3.02	-3.76	14.1376	7.80	-2.2	4.84
4.90	-1.88	3.5344	7.70	-2.3	5.29
8.60	1.82	3.3124	13.60	3.6	12.96
$\sum X=33.92$		**$\sum(X-\bar{X})^2 =28.58$**	**$\sum X=50.30$**		**$\sum(X-\bar{X})^2 =24$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{33.92}{5} = 6.78$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{50.30}{5} = 10$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{28.58}{5}}$$

$$sd = 2.39$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{24}{5}}$$

$$sd = 2.19$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{2.39}{6.78}$$

$$= 35.25\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{2.19}{10}$$

$$= 21.90\%$$

2.10 Return on Assets (ROA)

Calculation of Mean $(\overline{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Ratio (X)	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**	**Ratio (X)**	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**
2.84	0.26	0.0676	1.64	0.16	0.0256
2.47	-0.11	0.0121	1.81	0.33	0.1089
2.00	-0.58	0.3364	1.79	0.31	0.0961
2.35	-0.23	0.0529	1.70	0.22	0.0484
3.23	0.65	0.4225	0.45	-1.03	1.0609
$\sum X=12.89$		**$\sum(X-\overline{X})^2 = 0.8915$**	**$\sum X=7.39$**		**$\sum(X-\overline{X})^2 = 1.3399$**

Calculation of Mean $(\overline{X})$,

$$(\overline{X}) = \frac{\sum X}{N} = \frac{12.89}{5} = 2.58$$

Calculation of Mean $(\overline{X})$,

$$(\overline{X}) = \frac{\sum X}{N} = \frac{7.39}{5} = 1.48$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{0.8915}{5}}$$

$$sd = 0.42$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{1.3399}{5}}$$

$$sd = 0.52$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\overline{X}}$$

$$= \frac{0.42}{2.58}$$

$$= 16.28\ \%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\overline{X}}$$

$$= \frac{0.52}{1.48}$$

$$= 35.14\%$$

2.11 Return on Equity (ROE)

Calculation of Mean $(\bar{X})$, Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
Times (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**Times (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
1.48	0.12	0.0144	1.52	0.04	0.0016
1.46	0.10	0.0100	1.55	0.07	0.0049
1.46	0.10	0.0100	1.61	0.13	0.0169
1.51	0.15	0.0225	1.80	0.32	0.1024
0.88	-0.48	0.2304	0.94	-0.54	0.2916
$\sum X=6.79$		**$\sum(X-\bar{X})^2 = 0.2873$**	**$\sum X=7.42$**		**$\sum(X-\bar{X})^2 = 0.4174$**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{6.79}{5} = 1.36$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{7.42}{5} = 1.48$$

Calculation of standard deviation (sd),

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

$$sd = \sqrt{\frac{4.2064}{5}}$$

$$sd = \sqrt{\frac{4.2064}{5}}$$

Calculation of standard deviation (sd),

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

$$sd = \sqrt{\frac{4.2064}{5}}$$

$$sd = \sqrt{\frac{4.2064}{5}}$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{0.24}{1.36}$$

$$= 17.65\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{0.29}{1.48}$$

$$= 19.60\%$$

2.12 Earnings per Share (EPS)

Calculation of Mean ($\bar{X}$), Standard Deviation (sd) and coefficient of Variation (cv)

NABIL			NIBL		
EPS (X)	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**	**EPS (X)**	**$(X-\bar{X})$**	**$(X-\bar{X})^2$**
115.86	22.39	501.3121	57.90	15.00	225.00
113.44	19.97	398.8009	37.40	-5.50	30.25
83.81	-9.66	93.3156	52.50	9.60	92.16
70.67	-22.80	519.84	39.10	-3.80	14.44
83.57	-9.90	98.01	27.60	-15.30	234.09
$\sum X$=467.35		**$\sum(X-\bar{X})^2$ =1611.2786**	**$\sum X$=214.50**		**$\sum(X-\bar{X})^2$ =595.94**

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{467.35}{5} = 93.47$$

Calculation of Mean $(\bar{X})$,

$$(\bar{X}) = \frac{\sum X}{N} = \frac{214.50}{5} = 42.90$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{1611\ .2786}{5}}$$

$$sd = 17\ .95$$

Calculation of standard deviation (sd),

$$sd = \sqrt{\frac{\sum \left(X - \overline{X}\right)^2}{n}}$$

$$sd = \sqrt{\frac{595\ .94}{5}}$$

$$sd = 10\ .92$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{17.95}{93.47}$$

$$= 19.20\%$$

Calculation of coefficient of variation (cv),

$$cv = \frac{sd}{\bar{X}}$$

$$= \frac{10.92}{42.90}$$

$$= 25.46\%$$

Appendix-3

3.1 (A) Calculation of Correlation Coefficient between Total Deposit and Loan and advances of Nabil

Year	Loan & Advance (X)	X^2	Total Deposit (Y)	Y^2	XY
2007/08	13,278.78	176,326,051.40	19,347.40	374,321,848.07	256,909,868.20
2008/09	15,903.02	252,906,172.34	23,342.29	544,862,269.02	371,212,918.57
2009/10	21,759.46	473,474,099.49	31,915.05	1,018,570,225.01	694,454,188.59
2010/11	27,999.01	783,944,560.98	37,348.27	1,394,893,272.00	1,045,714,585.21
2011/12	41,605.68	1,731,032,608.00	55,023.68	3,027,605,361.00	2,289,297,623.00
	$\sum X$=120,545.95	**$\sum X^2$=3,417,683,492.21**	**$\sum Y$=166,976.69**	**$\sum Y^2$=6,360,253,439**	**$\sum XY$=4,657,589,183**

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

$$rxy = \frac{5 \times 4,657,589,183 - 166,976.69 \times 120,545.95}{\sqrt{5 \times 6,360,253,439 - (166,976.69)^2}\ \sqrt{5 \times 3,417,683,492.21 - (120,545.95)^2}}$$

$$rxy = \frac{23,287,945,915 - 20,128,363,723.91}{\sqrt{31,801,267,195 - 27,881,215,003.36}\ \sqrt{17,088,417,461.05 - 14,531,326,061.40}}$$

$$rxy = \frac{3,159,582,191.09}{62,610.32 \times 50,567.69}$$

$rxy = 0.9980$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1 - (0.9980)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.0040}{2.24} \qquad P.E(r) = 0.0012$$

And, $6PE(r) = 6 \times 0.0012 = 0.0072$

3.1 (B) Calculation of Correlation Coefficient between Total Deposit and Loan and advances of NIBL

Year	Loan & Advance (X)	X^2	Total Deposit (Y)	Y^2	XY
2007/08	13,178.15	173,663,690.14	18,927.31	358,242,912.42	249,426,915.42
2008/09	17,769.10	315,740,914.81	24,488.86	599,704,068.19	435,144,931.15
2009/10	27,529.31	757,862,633.78	34,451.73	1,186,921,424.38	948,432,072.83
2010/11	36,827.16	1,356,239,714.00	46,698.10	2,180,712,544.00	1,719,758,400.00
2011/12	41,637.00	1,733,639,769.00	57010.61	3,250,209,653.00	
	$\sum X$=136,940.72	**$\sum X^2$=4,337,146,722**	**$\sum Y$=181,576.61**	**$\sum Y^2$=7,575,790,602**	**$\sum XY$=5,726,513,088**

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

$$rxy = \frac{5 \times 5{,}726{,}513{,}088 - 181{,}576.61 \times 136{,}940.72}{\sqrt{5 \times 4{,}528{,}773{,}828.52 - (138{,}820.56)^2}\ \sqrt{5 \times 2{,}712{,}775{,}590.00 - (105{,}756.88)^2}}$$

$$rxy = \frac{2{,}863{,}256{,}544 - 2{,}486{,}523{,}171}{\sqrt{3{,}787{,}895{,}301 - 3{,}297{,}006{,}530}\ \sqrt{2{,}168{,}573{,}361 - 1{,}875{,}276{,}079}}$$

$$rxy = \frac{376{,}733{,}373}{22{,}156 \times 17{,}125.92}$$

$rxy = 0.9929$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1 - (0.9929)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.0142}{2.24} \qquad P.E(r) = 0.0043$$

And, $6PE(r) = 6 \times 0.0043 = 0.0258$

3.2(A) Calculation of Correlation Coefficient between Total Deposit and Net profit of Nabil

Year	Total Deposit (X)	X^2	Net Profit (Y)	Y^2	XY
2007/08	635.26	403,557.81	19,347.40	374,321,848.07	12,290,667.38
2008/09	673.96	454,222.08	23,342.29	544,862,269.02	15,731,766.40
2009/10	746.47	557,214.48	31,915.05	1,018,570,225.01	23,823,561.30
2010/11	1,031.05	1,063,064.10	37,348.27	1,394,893,271.99	38,507,933.78
2011/12	2,039.54	4,159,723.41	55,023.68	3,027,605,361.00	112,222,996.31
	∑Y=5,126.28	**∑Y2=6,637,782.32**	**∑X=166,976.68**	**$\sum X^2$=6,360,253,439**	**∑XY=202,576,925.17**

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

$$rxy = \frac{5 \times 202,576,925.17 - 166,976.68 \times 5126.28}{\sqrt{5 \times 6,360,253,439 - (166,976.68)^2}\ \sqrt{5 \times 6,637,782.32 - (5,126.28)^2}}$$

$$rxy = \frac{1,012,884,625.85 - 855,969,215.15}{\sqrt{31,801,267,195 - 27,881,211,663.82}\ \sqrt{33,188,911.60 - 26,278,746.64}}$$

$$rxy = \frac{156,915,410.70}{\sqrt{3,920,055,531.18}\ \sqrt{6,910,164.96}}$$

$rxy = 0.9534$

Probable Error of Correlation Coefficient PE(r)

$$P.E(r) = 0.6745 \times \frac{1-r^2}{\sqrt{n}} \qquad P.E(r) = 0.6745 \times \frac{1-(0.9534)^2}{\sqrt{5}}$$

$$P.E(r) = 0.6745 \times \frac{0.0910}{2.24} \qquad P.E(r) = 0.0274$$

And, $6PE(r) = 6 \times 0.0274$ $\qquad 6PE(r) = 0.1644$

3.2(B) Calculation of Correlation Coefficient between Total Deposit and Net profit of NIBL

Year	Total Deposit (X)	X^2	Net Profit (Y)	Y^2	XY
2007/08	18,927.31	358,242,912.42	350.54	122,875.49	6,634,702.14
2008/09	24,488.86	599,704,068.19	501.4	251,400.96	12,278,687.91
2009/10	34,451.73	1,186,921,424.38	696.73	485,435.48	24,003,619.96
2010/11	46,698.10	2,180,712,543.61	900.62	811,116.38	42,057,242.82
2011/12	57,017.61	3,250,209,652.57	2,946.21	8,680,153.36	167,965,229.29
	$\sum X$=181,576.61	**$\sum X^2$=7,575,790,601.17**	**$\sum Y$=5,395.59**	**$\sum Y^2$=10,350,981.67**	**$\sum XY$=252,939,482.12**

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

$$rxy = \frac{5 \times 252,939,482.12 - 181,576.61 \times 5,395.59}{\sqrt{5 \times 7,575,790,601.17 - (181,576.61)^2}\ \sqrt{5x10,\ 350,981.67 - (5,395.59)^2}}$$

$$rxy = \frac{1,264,697,410.60 - 979696545.30}{\sqrt{37,878,953,005.85 - 32,970,065,299.09}\ \sqrt{51,754,908.35 - 29,111,420.25}}$$

$$rxy = \frac{285,000,865.30}{70,063.46 \times 4,758.52} \qquad rxy = 0.8548$$

Probable Error of Correlation Coefficient PE(r)

$$P.E(r) = 0.6745 \times \frac{1-r^2}{\sqrt{n}} \qquad P.E(r) = 0.6745 \times \frac{1-(0.8548)^2}{\sqrt{5}} \qquad P.E(r) = 0.6745 \times \frac{0.2693}{2.24}$$

P.E(r) = 0.0881

And, 6PE(r) = 6 x 0.0881 6PE(r) =0.5286

3.3(A) Calculation of Correlation Coefficient between Net profit and Loan and advances of Nabil

Year	Net Profit (X)	X^2	Loan & Advance (Y)	Y^2	XY
2007/08	635.26	403,557.81	13,278.78	176,326,051.40	8,435,505.61
2008/09	673.96	454,222.08	15,903.02	252,906,172.34	10,718,002.06
2009/10	746.47	557,214.48	21,759.46	473,474,099.49	16,242,740.59
2010/11	1,031.05	1,063,064.10	27,999.01	783,944,560.98	28,868,379.26
2011/12	2039.54	4,159,723.41	41,605.68	1,731,032,608.26	84,856,448.59
	$\sum X$=5,126.28	**$\sum X^2$=6,637,788.88**	**$\sum Y$=120,545.95**	**$\sum Y^2$=3,417,683,492.47**	**$\sum XY$=149,121,076.11**

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

$$rxy = \frac{5 \times 149,121,076.11 - 5,126.28 \times 120,545.95}{\sqrt{5 \times 6,637,788.88 - (5,126.28)^2}\ \sqrt{5 \times 3,417,683,492.47 - (120,545.95)^2}}$$

$$rxy = \frac{745,605,380.55 - 617,952,292.57}{\sqrt{33,188,944.40 - 26,278,746.64}\ \sqrt{17,088,417,462.35 - 14,531,326,061.4}}$$

$$rxy = \frac{127,653,087.98}{2628.73 \times 5\ 0567.69}$$

$$rxy = 0.9603$$

Probable Error of Correlation Coefficient PE(r)

$$P.E(r) = 0.6745 \times \frac{1-r^2}{\sqrt{n}}, \quad P.E(r) = 0.6745 \times \frac{1-(0.9603)^2}{\sqrt{5}}, \quad P.E(r) = 0.6745 \times \frac{0.0778}{2.24}$$

$$P.E(r) = 0.0234$$

And, $6PE(r) = 6 \times 0.0234$,$6PE(r) = 0.1406$

3.3(B) Calculation of Correlation Coefficient between Net profit and Loan and advances of NIBL

Year	Net Profit (X)	X^2	Loan & Advance (Y)	Y^2	XY
2007/08	350.54	122,875.49	13,178.15	173,663,690.14	4,619,416.69
2008/09	501.4	251,400.96	17,769.10	315,740,914.81	8,909,408.97
2009/10	696.73	485,435.48	27,529.31	757,862,633.78	19,180,547.73
2010/11	900.62	811,116.38	36,827.16	1,356,239,713.67	33,167,276.84
2011/12	294.21	8,680,153.36	41,637.00	1,733,639,769.00	122,671,345.77
	$\sum X$=5395.50	**$\sum X^2$=10,350,981.67**	**$\sum Y$=136,940.72**	**$\sum Y^2$=4,337,146,721.40**	**$\sum XY$=188,547,996**

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

$$rxy = \frac{5 \times 188,547,996 - 5395.50 \times 136,940.72}{\sqrt{5 \times 10,350,981.67 - (5395.50)^2}\ \sqrt{5 \times 4,337,146,721.40 - (136,940.72)^2}}$$

$$rxy = \frac{942,739,980 - 738,863,654.76}{\sqrt{51,754,908.35 - 29,111,420.25}\ \sqrt{21,685,733,607 - 18,752,760,794.12}}$$

$$rxy = \frac{203,876,325.24}{4758.52 \times 54,156.93}$$

$$rxy = 0.7911$$

Probable Error of Correlation Coefficient PE(r)

$$P.E(r) = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}, \quad P.E(r) = 0.6745 \times \frac{1 - (0.7911)^2}{\sqrt{5}}$$

$$P.E(r) = 0.6745 \times \frac{0.3742}{2.24}, \quad P.E(r) = 0.1127$$

And, $6PE(r) = 6 \times 0.1127$ $\quad 6PE(r) = 0.6761$

3.4 (A) Calculation of Correlation Coefficient between Cash & Bank Balance and Total Deposit of Nabil

in million

Year	C&B Balance (X)	X^2	Total Deposit (Y)	Y^2	XY
2007/08	630	396,900	19,347	374,306,409	12,188,610
2008/09	1400	1,960,000	23,342	544,848,964	32,678,800
2009/10	2671	7,134,241	31,915	1,018,567,225	85,244,965
2010/11	3373	11,377,129	37,348	1,394,873,104	125,974,804
2011/12	4733	22,401,289	55,024	3,027,640,576	260,428,592
	$\sum X$= 12,807	**$\sum X^2$= 43,269,559**	**$\sum Y$= 166,976**	**$\sum Y^2$= 6,360,236,278**	**$\sum XY$= 516,515,771**

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

$$rxy = \frac{5 \times 516,515,771 - 12,807 \times 166,976}{\sqrt{5 \times 43,269,559 - (12,807)^2}\ \sqrt{5 \times 6,360,236,278 - (166,976)^2}}$$

$$rxy = \frac{2,582,578,855 - 2,138,461,632}{\sqrt{216,347,795 - 164,019,249}\ \sqrt{31,801,181,390 - 27,880,984,576}}$$

$$rxy = \frac{444,117,223}{7233.85 \times 62,611.48}$$

$rxy = 0.9806$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1 - (0.9806)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.0384}{2.24} \qquad P.E(r) = 0.0116$$

And, $6PE(r) = 6 \times 0.0116$ $\qquad 6PE(r) = 0.0696$

3.4 (B) Calculation of Correlation Coefficient between Cash & Bank Balance and Total Deposit of NIBL

in million

Year	C&B Balance (X)	X^2	Total Deposit (Y)	Y^2	XY
2007/08	2337	5,461,569	18,927	358,231,329	44,232,399
2008/09	2442	5,963,364	24,489	599,711,121	59,802,138
2009/10	3755	14,100,025	34,451	1,186,871,401	129,363,505
2010/11	7918	62,694,724	46,698	2,180,703,204	369,754,764
2011/12	11,804	139,334,416	57,011	3,250,254,121	672,957,844
	$\sum X$= 28,256	**$\sum X^2$= 227,554,098**	**$\sum Y$= 181,576**	**$\sum Y^2$= 7,575,771,176**	**$\sum XY$= 1,276,110,650**

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

$$rxy = \frac{5 \times 1,276,110,650 - 28,256 \times 181,576}{\sqrt{5 \times 227,554,098 - (28,256)^2}\ \sqrt{5 \times 7,575,771,176 - (181,576)^2}}$$

$$rxy = \frac{6,380,553,250 - 5,130,611,456}{\sqrt{1,137,770,490 - 798,401,536}\ \sqrt{37,878,855,880 - 32,969,843,776}}$$

$$rxy = \frac{1,249,941,794}{18,421.97 \times 70,064.34}$$

$rxy = 0.9684$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1-(0.9684)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.0622}{2.24} \qquad P.E(r) = 0.0187$$

And, $6PE(r) = 6 \times 0.0187$ $\qquad 6PE(r) = 0.1124$

3.5 (A) Calculation of Correlation Coefficient between Investment in Government Securities and Total Deposit of Nabil

in million

Year	Inv. in Govt. Sec. (X)	X^2	Total Deposit (Y)	Y^2	XY
2007/08	2302	5,299,204	19,347	374,306,409	44,536,794
2008/09	4808	23,116,864	23,342	544,848,964	112,228,336
2009/10	4647	21,594,609	31,915	1,018,567,225	148,309,005
2010/11	3706	13,734,436	37,348	1,394,873,104	138,411,688
2011/12	14,056	197,571,136	55,024	3,027,640,576	773,417,344
	$\sum X$= 29,519	**$\sum X^2$= 261,316,249**	**$\sum Y$= 166,976**	**$\sum Y^2$= 6,360,236,278**	**$\sum XY$= 1,216,903,167**

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

$$rxy = \frac{5 \times 1,216,903,167 - 29,519 \times 166,976}{\sqrt{5 \times 261,316,249 - (29,519)^2}\ \sqrt{5 \times 6,360,236,278 - (166,976)^2}}$$

$$rxy = \frac{6,084,515,835 - 4,928,964,544}{\sqrt{1,306,581,245 - 871,371,361}\ \sqrt{31,801,181,390 - 27,880,984,576}}$$

$$rxy = \frac{1,155,551,291}{20,861.69 \times 62,611.48}$$

$rxy = 0.8847$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1-(0.8847)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.2173}{2.24} \qquad P.E(r) = 0.0654$$

And, $6PE(r) = 6 \times 0.0654$ $\qquad 6PE(r) = 0.3924$

3.5 (B) Calculation of Correlation Coefficient between Investment in Government Securities and Total Deposit of NIBL

in million

Year	Inv. in Govt. Sec. (X)	X^2	Total Deposit (Y)	Y^2	XY
2007/08	2522	6,360,484	18,927	358,231,329	47,733,894
2008/09	3256	10,601,536	24,489	599,711,121	79,736,184
2009/10	3155	9,954,025	34,451	1,186,871,401	108,692,905
2010/11	2531	6,405,961	46,698	2,180,703,204	118,192,638
2011/12	10,439	108,972,721	57,011	3,250,254,121	595,137,829
	$\sum X$= 21,903	**$\sum X^2$= 142,294,727**	**$\sum Y$= 181,576**	**$\sum Y^2$= 7,575,771,176**	**$\sum XY$= 949,493,450**

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

$$rxy = \frac{5 \times 949,493,450 - 21,903 \times 181,576}{\sqrt{5 \times 142,294,727 - (21,903)^2}\ \sqrt{5 \times 7,575,771,176 - (181,576)^2}}$$

$$rxy = \frac{4,747,467,250 - 3,977,059,128}{\sqrt{711,473,635 - 479,741,409}\ \sqrt{37,878,855,880 - 32,969,843,776}}$$

$$rxy = \frac{770,408,122}{15,222.75 \times 70,064.34}$$

$rxy = 0.7223$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1-(0.7223)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.4783}{2.24} \qquad P.E(r) = 0.1440$$

And, $6PE(r) = 6 \times 0.1440$ $\qquad 6PE(r) = 0.8641$

3.6 (A) Calculation of Correlation Coefficient between Total Operating Expenses (TOE) and Total Operating Income (TOI) of Nabil

in million

Year	TOE (X)	X^2	TOI (Y)	Y^2	XY
2007/08	221	48,841	1670	2,788,900	369,070
2008/09	265	70,225	2821	4,932,841	588,505
2009/10	334	111,556	2764	7,639,696	923,176
2010/11	401	160,801	3046	9,278,116	1,221,446
2011/12	429	184,041	3991	15,928,081	1,712,139
	$\sum X$= 1650	**$\sum X^2$= 575,464**	**$\sum Y$= 13,692**	**$\sum Y^2$= 40,567,634**	**$\sum XY$= 4,814,396**

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

$$rxy = \frac{5 \times 4{,}814{,}396 - 1650 \times 13{,}692}{\sqrt{5 \times 575{,}464 - (1650)^2}\ \sqrt{5 \times 40{,}567{,}634 - (13{,}692)^2}}$$

$$rxy = \frac{24{,}071{,}980 - 22{,}591{,}800}{\sqrt{2{,}877{,}320 - 272{,}250}\ \sqrt{202{,}838{,}170 - 187{,}470{,}864}}$$

$$rxy = \frac{1{,}480{,}180}{1614.02 \times 3920.12}$$

$rxy = 0.2339$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1 - (0.2339)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.9453}{2.24} \qquad P.E(r) = 0.2847$$

And, $6PE(r) = 6 \times 0.2847$ $\qquad 6PE(r) = 1.7079$

3.6 (B) Calculation of Correlation Coefficient between Total Operating Expenses (TOE) and Total Operating Income (TOI) of NIBL

in million

Year	TOE (X)	X^2	TOI (Y)	Y^2	XY
2007/08	313	97,969	1650	2,722,500	516,450
2008/09	414	171,396	2117	4,481,689	876,438
2009/10	434	188,356	2735	7,480,225	1,186,990
2010/11	456	207,936	2834	8,031,556	1,292,304
2011/12	469	219,961	2910	8,468,100	1,364,790
	$\sum X$= 2086	**$\sum X^2$= 885,618**	**$\sum Y$= 12,246**	**$\sum Y^2$= 31,184,070**	**$\sum XY$= 5,236,972**

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

$$rxy = \frac{5 \times 5{,}236{,}972 - 2086 \times 12{,}246}{\sqrt{5 \times 885{,}618 - (2086)^2}\ \sqrt{5 \times 31{,}184{,}070 - (12{,}246)^2}}$$

$$rxy = \frac{26{,}184{,}860 - 25{,}545{,}156}{\sqrt{4{,}428{,}090 - 4{,}351{,}396}\ \sqrt{155{,}920{,}350 - 149{,}964{,}516}}$$

$$rxy = \frac{639{,}704}{276.94 \times 2440.46}$$

$rxy = 0.9465$

Probable Error of Correlation Coefficient PE(r)

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

$$P.E(r) = 0.6745 \times \frac{1 - (0.9465)^2}{\sqrt{5}} \qquad P.E(r) = \frac{0.6745 \times 0.1041}{2.24} \qquad P.E(r) = 0.0314$$

And, $6PE(r) = 6 \times 0.0314$ $\qquad 6PE(r) = 0.1884$

Appendix - 4

4.1 Calculation of Least Square Trend Value of Total Deposit

Year	X (Year 09/10)	X^2	Nabil Bank		NIBL	
			Y_1	XY_1	Y_2	XY_2
2007/08	-2	4	19,347,399,440	-38,694,798,880	18,927,305,974	-37,854,611,948
2008/09	-1	1	23,342,285,327	-23,342,285,327	24,488,855,696	-24,488,855,696
2009/10	0	0	31,915,047,467	0	34,451,726,191	0
2010/11	1	1	37,348,255,840	37,348,255,840	46,698,100,065	46,698,100,065
2011/12	2	4	55,023,695,253	110,047,390,506	57,010,603,789	114,021,207,578
∑	**0**	**10**	**168,963,561,863**	**85,358,532,139**	**181,576,591,715**	**98,375,839,999**

Nabil

$$a = \frac{\sum Y_1}{N} = \frac{168,963,561,863}{5} = 33,792,712,372.6$$

$$, b = \frac{\sum XY_1}{N} = \frac{85,358,532,139}{10} = 8,535,853,213.9$$

NIBL

$$a = \frac{\sum Y_2}{N} = \frac{181,576,591,715}{5} = 36,315,318,343$$

$$, b = \frac{\sum XY_2}{N} = \frac{98,375,839,999}{10} = 9,837,583,999.9$$

4.2 Calculation of Least Square Trend Value of Total Loans and Advance

Year	X (Year 09/10)	X2	Nabil Bank		NIBL	
			Y_1	**XY_1**	**Y_2**	**XY_2**
2007/08	-2	4	13,278,782,259	-26,557,564,518	13,178,151,824	-26,356,303,648
2008/09	-1	1	15,903,023,765	-15,903,023,765	17,769,099,903	-17,769,099,903
2009/10	0	0	21,759,460,334	0	27,529,304,736	0
2010/11	1	1	27,999,012,071	27,999,012,071	36,827,157,409	36,827,157,409
2011/12	2	4	41,605,682,634	83,211,365,268	41,636,998,817	83,273,997,634
∑	**0**	**10**	**120,545,961,063**	**68,749,789,056**	**136,940,712,689**	**75,975,751,492**

Nabil

$$a = \frac{\sum Y_1}{} = \frac{120,545,961,063}{}$$

$$, b = \frac{\sum XY_1}{} = \frac{68,749,789,056}{}$$

N 5 N 10

= 24,109,192,212.6 = 6,874,978,905.6

NIBL

$a = \frac{\sum Y_2}{N} = \frac{136,940,712,689}{5}$, $b = \frac{\sum XY_2}{N} = \frac{75,975,751,492}{10}$

= 27,388,142,537.8 = 7,597,575,149.2

4.3 Calculation of Least Square Trend Value of Total Cash & Bank Balance

Year	X (Year 09/10)	X^2	Nabil Bank		NIBL	
			Y_1	XY_1	Y_2	XY_2
2007/08	-2	4	630,238,588	-1,260,477,176	2,336,521,396	-4,673,042,792
2008/09	-1	1	1,399,825,851	-1,399,825,851	2,441,514,200	-2,441,514,200
2009/10	0	0	2,671,141,055	0	3,754,941,568	0
2010/11	1	1	3,372,512,471	3,372,512,471	7,918,003,890	7,918,003,890
2011/12	2	4	4,732,638,831	9,465,277,662	11,803,750,829	23,607,501,658
∑	**0**	**10**	**12,806,356,796**	**10,177,487,106**	**28,254,731,883**	**24,410,948,556**

Nabil

$a = \frac{\sum Y_1}{N} = \frac{12,806,356,796}{5}$, $b = \frac{\sum XY_1}{N} = \frac{10,177,487,106}{10}$

= 2,561,271,359.20 = 1,017,748,710.60

NIBL

$a = \frac{\sum Y_2}{N} = \frac{28,254,731,883}{5}$, $b = \frac{\sum XY_2}{N} = \frac{24,410,948,556}{10}$

= 5,650,946,376.60 = 2,441,094,855.60

4.4 Calculation of Least Square Trend Value of Net Profit						
			Nabil Bank		**NIBL**	
Year	**X (Year 09/10)**	**X^2**	**Y_1**	**XY_1**	**Y_2**	**XY_2**
2007/08	-2	4	635,262,349	-1,270,524,698	350,536,413	-701,072,826
2008/09	-1	1	673,959,698	-673,959,698	501,398,852	-501,398,852
2009/10	0	0	746,468,394	0	696,731,516	0
2010/11	1	1	1,031,053,098	1,031,053,098	900,619,072	900,619,072
2011/12	2	4	2,039,543,203	4,079,086,406	294,621,295	589,242,590
∑	**0**	**10**	**5,126,286,742**	**3,165,655,108**	**2,743,907,148**	**287,389,984**

Nabil

$$a = \frac{\sum Y_1}{N} = \frac{5,126,286,742}{5} = 1,025,257,348.40$$

$$, b = \frac{\sum XY_1}{N} = \frac{3,165,655,108}{10} = 316,565,510.8$$

NIBL

$$a = \frac{\sum Y_2}{N} = \frac{2,743,907,148}{5} = 548,781,429.60$$

$$, b = \frac{\sum XY_2}{N} = \frac{287,389,984}{10} = 28,738,998.4$$