

CHAPTER - I

INTRODUCTION

1.1 Background

The institutional development of modern banking in Nepal has just emerged 76 years before. In B.S.1993, the Tejarath Adda was established to provide credit facilities at a low rate; especially to the government officials; on collateral of gold and silver. It was only in Kartik 30, 1994 B.S. that the first commercial bank was established with the name of Nepal Bank Ltd as a semi-government organization. In Baisakh14, 2013 B.S., the first central bank named as Nepal Rastra Bank was established with an objective of supervising, protecting and directing the functions of commercial banking activities. With the growing activities in the country, the necessity of an additional commercial bank was realized in the country. Consequently, another commercial bank fully owned by the government, named as Rastriya Banijya Bank was established in 2022 B.S. under the Commercial Bank Act 2021 B.S.

A new banking policy was introduced in fiscal year 2039/40 for the establishment of new banks by the joint investment of foreign nations. The new policy allowed joint venture banks with foreign collaboration to operate in Nepal. It's objective was to create healthy competitive banking system and to provide cheap banking facilities. Nepal Arab Bank Limited (Nabil) was the pioneer Joint Venture Banks (JVBs) of Nepal making the history of joint venture banks twenty eight years old, 2041 B.S. marked the beginning of a new era in Nepalese banking industry. In 2043 B.S., the second JRBS, Nepal Indosuez Bank Ltd. (currently Nepal Investment Bank Ltd) was established. In the same year, Nepal Grindlays Bank Ltd. (currently Standard Chartered Bank Nepal Ltd.) in the form of JVB was also established. But more JVBs came into existence after the initiation of government's policy of economic liberalization and privatization in 2049 BS. They are Himalayan Bank Ltd. (2049); Nepal SBI Bank Ltd.(2052) came into existence in chronological order. Under

favorable environment, various other banks were established thereafter. In the current scenario, there are 32 commercial banks.

Nepalese banking sector has faced drastic change. From few government banks providing limited services, Nepalese banking sector has come a long way with large number of banks offering wide range of services. At present, the industry is witnessing a phase of intense competition. Consumers have seen a quantum leap in the quality and variety of service offered by the commercial banks. The role of commercial bank in every nation of the world is in pursuit of attaining the goal of rapid economic development.

The market share of the commercial banks clearly shows that government banks are the largest commercial bank in terms of capital fund, deposit mobilization, and loans and advances. However, the private sectors banks are more profitable than the government owned banks. Thus although the market share shows strong hold of government banks, they are actually being outperformed by the private banks and the market share of these two banks is on a decline.

The American Institute of Banking defines "commercial bank" as a corporation that accepts demand deposits subjects to check and makes short-term loans to business enterprise regardless of the scope of its other services.

In the Nepalese context, the Nepal Commercial Bank Act 2031B.S. defines a commercial bank as one that exchange money, accepts deposit, grants loans and performs commercial banking function.

The main function of commercial bank is accepting deposits and advancing loan. Bank is a financial institution that deals with monetary transaction. It acts as intermediaries between those who have surplus money and those who need it.

Banks attract the inoperative saving of the public in the form of deposits. These deposits are maintained by banks as current accounts, saving accounts or fixed

accounts according to the wish of their customers. Banks further invest these deposits or lend it to businessmen and traders for interest earning. Due to this function, bank is contributing a lot in boosting the economy of the nation in various activities of agricultural, commercial and industrial sectors. The commercial bank arranges the amount of foreign exchange required by various organizations and travelers. Moreover, foreign trade transactions are facilitating through the issuance of letter of credit. Locker facilities are also provided by banks to the customers to keep valuable ornaments and documents. Banks also provides references about the financial position of their customers as and when required. The bank works as an agent of its customers to receive and make payments, pay and collect rent, pay insurance premium, pay mobile bills etc. internationally valid credit cards, debit cards and ATM cards are issued by commercial banks these days.

1.2 Focus of the study

This study is focused in “The financial performance of leading Commercial Banks in Nepal”: Standard Chartered Bank Nepal Limited, Nabil Bank Limited, Himalayan Bank Limited, and Everest Bank Limited.

Standard Chartered Bank Nepal Limited (SCBNL); formerly named as Nepal Grindlays Bank Ltd.; was established in 1987 A.D. as the second foreign joint venture bank under the company act. Its ownership is 75% of the shares held by Standard Chartered Grindlays Bank, 25% of shares by local ownership. Standard Chartered Bank completes 150 years of operation in 2003. This was considered a unique opportunity to refresh the brand.

The bank is in a position to service customers through a large domestic network. In addition to which the global network of Standard Chartered Bank gives the Bank the unique opportunity to provide truly international banking in Nepal. SCBNL focuses mainly on corporate and consumer banking, catering to a wide range of customers from individuals, to mid-market local corporate to multinationals and large public sector companies as well as embassies, aid

agencies, airlines, hotels, and government corporations. The Bank has been the pioneer in introducing consumer-focused product and services in the country. (Shrestha, 2003)

Nabil Bank Limited (Nabil); the first JVB of Nepal, commenced its operations in 12th July 1984 A.D. Dubai bank Ltd, Dubai (later acquired by Emirates Bank International Limited, Dubai-EBIL) was the first joint venture partner of NABIL. Later EBIL sold its entire stock to National Bank Ltd, Bangladesh (NBL). NABIL Bank Ltd. Had the official name Nepal Arab Bank Limited till 31stDec 2001. Hence 50% equity shares of NABIL are held by NBL and out of another 50% shares, 20% shares has been hold by financial institutions and remaining 30% shares were issued to general public of Nepal. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 24 points of representation across the kingdom and over 170 reputed correspondent banks across the globe. (Shrestha, 2003)

Himilayan Bank Limited (HBL) was incorporated in 1992 A.D. by a few distinguished business personalities of Nepal in partnership with Employees Provident Fund and Habib Bank Limited, one of the largest commercial bank of Pakistan. Banking operation commenced from January 1993 A.D. It is the first commercial bank of Nepal whose maximum shares are held by the Nepalese private sector. Besides commercial banking services, the Bank also offers industrial and merchant banking services.

The Bank has five branches in Kathmandu Valley at the following locations: Themel, New Road, Maharajgunj, Pulchowk (Patan) and Suryavinayak (moved from Nagarkot). In addition, the bank also has nine other branches outside Kathmandu Valley in Banepa, Tandi, Bharatpur, Birgunj, Hetauda, Bhairahawa, Biratnagar, Pokhara and Dharan. The bank also operates a counter in the premises of the Royal Palace. To further extend the reliable and efficient

services to its valued customers, Himalayan Bank has adopted the latest banking technology. This has not only helped the Bank to constantly improve its service level but also prepared the Bank for future adaptation to new technology. The Bank already offers unique services such as SMS Banking and Internet Banking to customers. (Ghimire, 2003)

Everest Bank Limited (EBL) was established in 1994 A.D. with a view to extend professional and efficient banking services to various segments of the society. EBL joined hands with Punjab National Bank (PNB), India as its joint venture partner in 1997. PNB is the largest Public Bank of India having 109 years of banking history with more than 4400 officers' all over India and is known for its strong system and procedures and a distinct work culture. The local Nepalese promoters hold 50% stake in the Bank's equity, while joint venture partner PNB contributes 20% of equity, whereas the public holds remaining 30%. (Acharya, 2005)

Drawing its strength from its joints venture partner, EBL has been steadily growing in its size and operations ever since its inception and today it has established itself as leading private sectors bank of the nation, reckoned as one of the fastest growing Commercial Bank of the country. It has a main policy is to grant a loan as possible rate and through easy procedures, beside many other commercial activities. The Bank provides a wide range of banking facilities through a wide network of 22 branches covering all 5 regions of the country and over more than 250 reputed correspondent banks across the globe.

Financial performance covers the financial analysis and other portfolio of SCBNL, NABIL, HBL and EBL. Financial analysis is the process of determining the significant operating and financial characteristics of a firm from accounting data and financial statements. The goal of financial analysis is to determine the efficiency and the performance of the firm's management as reflected in the financial records and reports.

Besides the financial analysis, the study is also focused on income and expenditure analysis, NPA, and bankruptcy score analysis.

Financial ratio has helped the researcher to make a qualitative analysis about the financial performance of the banks. The income and expenditure analysis is the percentage in relation to total assets or total sales, which has helped the researcher to study trends in financial statement items over time. Bankruptcy score is the statistical tool to predict the financial status of the firm with the help of the financial ratios. (Poudel, 1997)

1.3 Statement of the problem

Financial Performance Analysis or Financial Management is the main indicator of the success or failure of any financial institution and commercial banks. Financial condition of the business firm should be sound from the viewpoint of shareholders, debenture holders, financial institution and nation as a whole. The survival of the existing commercial bank and other financial institutions depend upon how they manage their assets and liabilities to maximize their profits with the minimum exposure of assets to risk, and are guided by three important conflicting criteria of solvency, liquidity and profitability. Commercial banks deal with other people's deposits, adequate cash flow, liquidity, and better utilization of assets.

Saving mobilization and effective credit management system is must for economic development especially for a country like Nepal where the economic growth rate is very low. In this regard, the good banking system can play a vital role in accelerating the pace of economic development through the mobilization of scattered savings and channeling it in the productive sector of the economy. The adaptation of open and free market economic and financial policies is believed to generate more savings as well as improve investment opportunities. Adequate infrastructure development in saving mobilization and investment is therefore the demand of the day. Therefore the bank can contribute a lot by savings and investing it in the productive and development

sector of the economy of Nepal through bringing in appropriate and new innovative banking technologies. Keeping in pace with the development in the banking industry, the leading commercial banks SCBNL, NABIL, HBL, EBL have been regularly coming up with new and innovative service to attract customers as well as doing its level best to satisfy the existing customers. They have been able to maintain the position as the market leaders in the banking industry. In compare to other commercial banks, they are getting success in terms of recognize and profitability.

Nepal has become 147th member of World Trade Organization (WTO). In general, there is much curiosity in people about the opportunities and threats after the accession of membership of WTO. Many questions may arise at once. It is crystal clear that Nepal as to face various challenges in different aspects in coming days. Liberalization in services sector is inevitable. We cannot escape from the ground reality of globalization, widespread acceptance of WTO and necessity of membership in this international trade institution. It should not be opposed to hide our inefficiencies or governance problems. Rather it is right time to find out the impacts, continue and finish the reform process making the service sector really competitive. Otherwise, we will lose the opportunities. Transparency and disclosure practices are must for the sustainable liberalization process and for the growth and development of financial services sector especially commercial banks. In short, SWOT analysis is necessary in this sector.

In spite of full-fledge liberalization process conducted in Nepal, financial system faces a number of problems and challenges. Negative net worth and huge accumulated losses, higher proportions of NPA, high interest rate differential, large interest rate spread are the major ones. Nepalese banking industry is currently going through a phase of intense competition. Financial sector has really suffered because of the political and economical turmoil prevalent in the country. At present situation, country is facing poor

performance in industrial, trading, tourism and in other fronts of the economy. The vicious circle of low income, low savings and low investment; which is the key factor responsible for low growth rate of the country enhances the need for vigorous efforts to increase the level of saving. On the basis of this background the following are as:

- What is the status of different ratio?
- What is the position of non-performing assets?
- What is the comparative financial position of SCBNL, NABIL, HBL and EBL?

1.4 Objectives of the Study

The main objective of the study is to analyze, examine, compare and interpret the financial performance of SCBNL, NABIL, HBL and EBL. Besides this, the following objectives of the study have enlightened the progress and efficiency of the bank.

- To measure liquidity, leverage, activity, profitability ratio and ownership/solvency ratios of SCBNL, NABIL, HBL and EBL.
- To analyze and compare the position of Non-performing assets.
- To analyze the comparative financial position of SCBNL, NABIL, HBL and EBL.
- To examine whether these commercial banks are following NRB directives or not.

1.5 Significance of the Study

Commercial banks are one of the major components of modern economy. They give greater contribution to GDP too. The production of finance and real-estate sub-sector is increasing comparatively. However various financial sector liberalization programmes such as SAP and ESAP has been initiated with the loan and assistance of World Bank, IMF and ADB, the banking sector

continued to be in though in this situation too. The slowdown in the economic segments has a definite impact on the banking sector too. Globalization and accession to WTO, SAFTA and BIMSTEC membership has invited more challenges as well as opportunities. In addition, Branches of foreign companies will be allowed insurance services and wholesale banking after Jan.1, 2010.

At this situation, the commercial banks should be more competitive. They should become financially strength/healthy and must have growth potentiality. And they have to shape their plans and strategies accordingly. In such a situation, this study tried to analyze and indicate the overall financial health whether they are capable to compete the challenges and grab to opportunities or not.

So, the study basically covered the commercial banks falling in the same strategic group to be more meaningful. No single measure can tell much. Thus, a case study is conducted based on leading four private sector commercial banks ranking by NEPSE according to their market capitalization ratio. Thus the study may be more fruitful and rationale to their stakeholders at present situation, where the commercial bank becomes advancing through IT-integration.

Hence, the study endeavors to evaluate the financial performance of leading commercial banks SCBNL, NABIL, HBL and EBL by using various measures of financial and statistical tools such as financial ratios, income and expenditure statement analysis, NPA and bankruptcy score. This study will be valuable to shareholders, stock brokers, management of the banks, depositors, perspective customers, investors and other policy making bodies which are concerned with banking business. Especially shareholders will have keen interest in how these banks are performing, whether their fund are better utilized or not. In terms of profitability, safety and liquidity all investors will be interested in the performance of the banks. This study, thus, tries to recommend some suggestions for improvement in financial performance.

1.6 Limitations of the Study

Every study has its own limitations. This study is also not an exception. The following are the main limitations of the study:

- The study is carried out on the basis of the published financial documents such as balance sheet, P/L accounts, related journals, magazines and books. These published documents have their own limitations.
- The study is based on the secondary data only.
- The study considers only past five years data.
- The study is mainly focused on the financial performance of the SCBNL, NABIL, HBL and EBL among various commercial banks.
- Time and resources put constraints for the study.

1.7 Organization of the Study

For the systematic presentation of the report, the research is divided into following five chapters:

1. Introduction: It includes general background of the study, focus of the study, statement of the problem, objectives of the study, significance of the study and limitations of the study.

2. Review of Literature: Review of literature is the study of previous research or 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 preset study. Thus the gap between the previous research and current research can be filled.

3. Research Methodology: Research methodology is a sequential procedure and collection of scientific methods to be adopted in a systematic study. In

other words, research methodology describes the methods and process applied in the entire of the study. It is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his/ her research problem along with the logic behind them. Thus, this deals with the research design, nature of procedures and tools of analysis.

4. Presentation and Analysis of Data: This is the main body of research. In this chapter, collected and processed data are presented, analyzed and interpreted with using financial tools as well as statistical tools.

5. Summary, Conclusion and Recommendation: It includes summary of whole study, main conclusion that flow from the study, and offers suggestions & recommendations for the improvement in future.

CHAPTER - II

REVIEW OF LITERATURE

Review of literature is the study of previous research or 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 preset study. Thus the gap between the previous research and current research can be filled.

Therefore, the chapter is categorized under three main heading. Conceptual framework is concern with fundamental of supportive 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 legislations related to commercial banks studies of previous thesis, related books and previous researcher in similar topics. The last is research gap which will describe the difference between the previous thesis and current thesis.

2.1 Theoretical Framework

2.1.1 Concept of Commercial Bank

A bank is a business organization that receives and holds deposits and funds from other, makes loans and extends credits, and transfers fund by written order depositors. A Bank is an undertaking that carries on the business of banking (Lawson et al; 1997:276).

"The more developed financial system of the world characteristically falls the three parts: the central bank, commercial banks and other financial institution. They are also known as financial intermediations" (Sayer; 1976:16).

Commercial Banks are mainly established to facilitate the development of trade and commercial sector of the country. The first commercial bank in the world was "Bank of England", established in 1694 A.D, as the form of central Bank of Britain. Commercial banks are those financial institutions, which deal

in accepting deposits of persons and trade, industry and even to agricultural sectors. Moreover commercial banks also provide technical and administrative assistance to industries, trades and business enterprises. The main purpose of priority sector investment scheme is to uplift the backward sector of the economy.

According to the "Nepal Commercial bank Act, 2031 B.S", "A commercial bank is one which exchanges money, deposits money, accept deposits, grant loans and performs commercial banking functions and which is not a bank meant co-operation, agriculture, industries or for such specific purpose."

Under the commercial bank Act 2031 B.S, it has also mentioned that, "The commercial banks are those banks, which provide short term and long-term debts whenever necessary for trade and commerce. They accept deposits from the public and grant loans in different forms. They purchase and discount the bill for exchange promissory notes, and exchange foreign currency".

The American institute of banking has laid down the four major functions of the commercial bank such as receiving and handling deposits, handling payments for its clients, making loan and investments, and creating money by extension of credit.

Commercial banks are the heart of the financial system. They hold the deposits of many persons, government establishment, and business units. They make fund available through their lending and investing activities to borrows, individual's business firms, and services from the producers to customers and the financial activities of the government. They provide a large portion of the medium of facts show that the commercial banking system of the nations is important for the functioning of the economy (Cotter and Smith, 1975:145).

"A commercial Bank is defined by law as a depository institution that takes deposits and makes business loans" (William & Sartories, 1995:52).

The commercial Bank can also be defined as an "Investment bank". The investment banker is the link between the corporation in need of funds and the investor. As a middleman, the investment banker is responsible for designing and packaging a security offering and selling the securities to the public (Block & Hirt, 1997:428).

There are various studies on financial aspect, which deals in the context of Nepalese commercial and joint ventures banks.

To highlight some of the important factors, which have contributed to the efficiency and performance of joint venture banks a study has been carried out. the writher concluded that the establishment of joint venture banks have brought out in many new banking techniques such as computerization hypothecation, consortium finance and modern fee based activities into the economy (Bista, 2048 B.S:214).

At present in Nepal, there are 1 central bank, 23 commercial banks, 50 development banks, 74 finance companies and five rural development banks operating across the country. Additionally, 19 cooperatives and around four dozen NGOs are involved in micro finance activities (Arthik Mimansa 2009 NRB).

2.1.2 Function of Commercial Banks

Commercial Banks are the important type of financial institution for the nation in term of aggregate assets. The business of banking is very broad in modern business age. The number and variety of services provided by commercial bank will probably expand. Recent innovation in banking includes the introduction of credit cards, accounting services in banking business firms, factoring, and leasing participation in the Euro dollar market and lock-box banking (Cotter and Smith, 1976:123).

The function of commercial banks can be defined as in several areas and disburse cash, they provide short-term credit, they offer several kinds of short-term investments, they serve as a fiduciary, they provide consulting services in cash management and other fields, they may provide as brokerage function that permits customers to buy and sell securities like commercial papers, bonds and stocks, and they can offer some kinds of insurance. The following sections discuss some of these functions in more brief :- (Hill & Sartoris, 1995:049).

2.1.2.1 Depository Function

Banks offer several types of depository accounts. There are two basic types of depository accounts, time and demand. For the deposits, the cash in the account receives interest and must be held in a bank for a specified time period. Demand deposits may be withdrawn at any time by the account holder or other party on presentation of a valid draft or cheque drawn on the account.

2.1.2.2 Collection, Concentration, and Disbursement Functions

Banks serve as clearing house for cheques. When a firm receives a cheque in payment for some good or service, the firm deposits the cheque in a bank. The bank gives the firm credit for the cheque and returns the cheque to the bank on which it was drawn. Banks also serve as initiating receiving points for wires and automated clearing house transfers.

After cash has been collected in one bank, the cash balance generation is usually concentrated or pooled into a larger account at a centralized bank. Banks offer a number of services to assist firms in concentrating their cash. On the outflow side, disbursement cheques sent to vendors are drawn on banks.

2.1.2.3. Short-Term Credit Function

Banks provide financing to corporations to help meet short-term cash needs. Since banks take in cash in the form of short-term deposits, they in turn lend cash primarily in the form of short-term loans. The short-term loans may be as

the form of a credit line, revolving credit line, and term loans acceptance financing, letter of credit etc.

2.1.2.4 Investment Function

In addition to be the interest-bearing deposits mentioned, commercial banks provide other opportunities for cash managers to invest short-term funds. They are major brokers of notes and bonds, government agency securities, and municipal notes note and bonds. They also sell bank commercial paper and deal extensively in repurchase agreements.

2.1.2.5 Fiduciary Function

Many banks are empowered to operate a trust department. A fiduciary acts on behalf of another party. Banks that provide trust services invest, manage and distribute money as requested in wills, trusts, estates and retirement plans. A trust department may be appointed to serve as a corporate trustee or overseer for a corporate bond or preferred stock issue. The bank monitors compliance with indenture agreements, ensures that the corporation pays interest to the bondholders, and redeems bond as required by the agreement. In addition, a bank may serve as a transfer agent to keep records of the sale and purchase of a corporations stocks and bonds, or as a registrar to maintain lists of current stockholders and bondholders for the purpose for remitting dividend and interest payments.

2.1.2.6 Consulting services Function

Large banks generally offer consulting services, especially in the area of cash management. Such services are used in designing optimal collection, disbursement and concentration systems.

2.1.2.7 Brokerage and Insurance Function

Banks were permitted to purchase brokerage firm to help their customers buy and sell stocks and bonds. The law states, however, that a bank can own only a discount brokerage firm one that performs transactions but does not give investment advice. Additionally, banks can now offer certain types of insurance to bank customers.

2.1.3 Historical Development of Banking System in Nepal

In the context of Nepal formally depositing and lending is new phenomenon, where as informally. It was existed from the very beginning. The historical records shows that Gunakam Dev. The king of Kathmandu borrowed money to rebuild his kingdom in 723 A.D. After 62 years a merchant 'Shankhadhar' introduced 'Nepal sambat' by clearing all the indebtedness of the people in 808 A.D. This is proof for the practice of money lending prevalent at that time.

After Jayasthiti Malla's classification and declaration 'Tanakdhari' as the people engaged in money lending business. Money lending business became quite popular. Thus the role of Tanakdhari was similar to that of banking agent. Even though, the practice of Tankdhari activities was not free of problem. The history of banking Nepal may be described as a component of the gradual and orderly evaluation in the financial and economic sphere of Nepalese line. The existence of an organize money market consisting landlords, Shanukars, shopkeepers and other indigenous individual money lenders has acted as barrier to institutionalized credit.

During the prime minister of 'Ranodip Sing' around 1877 A.D. 'Tejarath Adda'. Fully subscribed by the government was established in Kathmandu. This is the first financial institution of the country. The primary tasks of the 'Tejarath Adda' was granting of loans and safeguarding of total national deposits. At the time Indian currency was commonly used in most part of the Terai. The primary task of 'Tajerath Adda' was to attract deposit in government exchequer

at the beginning but later on general public were also allowed to take the loan at same rate of interest with gold and silver ornaments as securities or collateral. Although role in development process of banking system in Nepal.

However, the institution of 'Kausi Toshi Khana' as a banking agency during the regime of king Prithiviarayan shah could also claim to be regarded as the first step toward initiating banking development in Nepal.

So, to eliminate these drawbacks in 1937 A.D. Tajarath Adda was replaced by commercial banks. Nepal Bank limited, which marked the beginning of a new era in the history of modern banking of Nepal. At the time of Rana prime minister 'Juddha Shamsar', He was established as a semi government bank with the authorized capital of Rs. 10 million and the paid of capital 8.42 lakhs, Nepal bank limited, however was controlled by the private shareholders till 1951 A.D in 1952, HMG/N increased its share ownership in NBL up to 51 percent in the total share capital of bank in order to hold to control over its management.

'Sadar Mulukikhana' started to issue currency notes since 1954 A.D. After that Nepal Rastra bank as the central bank is established in 14 Baishakh, 2013 under Nepal Rastra bank 2012. The main objective of NRB is to ensure to facilities and to maintain economic interest of general public for safeguarding the issue of paper money to secure country wise circulation of the Nepalese currency to achieve stable system in its exchange rate and to develop banking system in its exchange rate and to development banking system in the country. Hence, NRB a regulatory body is the banks of the loans, which provides necessary directives to the other bank.

After a long gap, the second commercial bank was established in 1964 A.D. as Rastriya Baniya Bank fully government ownership. It's authorized capital of Rs 10 millions and paid of capital of Rs. 3 million. Of course, the purpose of bank is to provide facilities and help economic welfare of the general public

likewise, for the purpose of developing agriculture sector, government established agriculture development bank in 2024 B.S.

When the government adopted liberal and market oriented economic policy in 2041 B.S. Since joint venture commercial banks are welcomed in Nepal in early three joint Venture banks like Nepal Arab Bank Ltd. Nepal Indo-suez Bank (renamed Nepal investment bank), Nepal Grind-lays bank (remand standard chartered bank) limited was established. At present, there are 74 finance companies & 5 rural development bank operating across the country. Additionally 19 co-operatives and around four dozen NGOs are involved in microfinance activities.

2.1.4 Financial Performance Analysis

Traditionally, banks act as financial intermediaries to channel funds 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 special role they play in the economy, concerned authorities heavily regulate them. Analysis of banks financial statement different from that 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 statement 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 statement of bank require relevant, reliable and comparative information to evaluate the financial performance and position and hence make economic decision regarding the bank. According to 'Commercial Bank Act 2031' the audited balance sheet and profit and loss account must be published in the leading national; newspaper for the information of general public. (Paudel, 2053: 64-69)

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

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

2.1.5 Financial Statement analysis

Financial statement is the indicator of business performance that whether business is profitable or not. Therefore, financial analysis reflects the financial position of a firm, which is the process of determining the operational and financial characteristics of firm. Different types of financial statement analysis can be used on the basis of this research's objectives. Financial statement analysis is helpful to the decision maker for finding out favorable or unfavorable situation of a business concern. Financial performance is the main indicator of success or failure of the company.

The main function of financial analysis is the pinpointing of the strengths and weakness of a business undertaking by regrouping and analysis of figures

contained in financial statements, by making comparison of various components and by examining their content. This can be used by financial managers as the basis to plan future financial requirements by means of forecasting and budgeting procedures (Man Mohan and Goyal S.N., 1997:356).

According to the Hampton "Financial analysis is used primarily to gain insight in the operating and financial problems conforming the firms, with respect to these problems we must be careful to distinguish between the cause of problem and symptom of it". It is thus an attempt to direct the financial statements in to their components on the basis of purpose in hand and establish relationship as between these components on the one hand as between individual components and totals of these items on the other. Along with this, a study of various important factors over the past several years is also undertaken to have clear understanding of changing profitability and financial condition of the business organization (Hampton J.J., Op. Cit: 99).

Financial analysis is the process of determining financial strengths and weakness of Analysis Company by establishing strategic relationship between the components of analysis balance sheet and other operative data (Pandey I.M., 1994:96).

Weston, Basley and Brigham have stated, "Financial statement analysis involves a comparison of analysis firm's performance with that of other firms in the same line of business which often is identified by the firm's industry classification. Generally speaking, the analysis is used to determine the firm's financial position in order to identify its current strengths and weakness and to suggest actions that might enable the firm to take advantage of the strength and correct its weakness (Weston, Besley S. & Brigham, 1996:78).

Financial statement analysis is largely is largely analysis study of relationship among the various financial factors in analysis business as disclosed by the single set of statement and analysis study of the trend of these factors as shown in analysis series of statement (Myer, 1961:4).

Financial analysis is process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items of the balance sheet, which represents analysis snapshot of the firm's financial position analysis at analysis moment in time and next, income statement, that depicts analysis summary of the firm's profitability overtime (Vanhorn, J.C. & Watchowcz, J.M. 1997:120).

Interest parties in financial statement analysis are management, investors or shareholders or owner, creditors, employees and trade union, bankers and lender and government etc. (Dongol & Dangol, 2061:593) financial statement analysis technique of answering various questions regarding the performance of a firm in the past, present and the future (Pradhan, 2004:45).

2.1.6 Financial Statement

Financial statements provide information about a firm's position at a point in time as well as its operation over some past period. However the real value of financial statement lies in the fact that they can be used to help predict the firm's financial position in the future, and to determine expected earnings and dividends from an investor's standpoint, predicting the future is what financial statement analysis is useful both as a way to anticipate future conditions and more important as a starting point for planning actions that will influence the future course of events (Weston & Brigham, 1990:93).

Financial statements are vital sources of information to a company's stakeholders in learning about the financial health of the company and how their respective interest is there by affected. (Chitrakar, 2003:8) Financial statements are prepared primarily for users outside an organization; managers also find their organization's financial statements useful in making decision (Hilton & Ronald, 2002:9-5).

There are primarily four components of financial statement:

1. Balance Sheet
2. Income Statement
3. Statement of Retained Earnings
4. Statement of cash Flows

1. Balance Sheet

The balance sheet shows the balances in the organization's assets, liabilities and owners equity as of the balance sheet date. It represents an organizational financial position at a point in time.

2. Income Statement

The income statement reports the income for the period between two-balance-sheet dates.

3. Statement of Retained Earnings

The retained earnings statement shows how income and dividends for the period have changed the organizations retained earnings.

4. Cash flow Statement

It shows how cash obtained during the period and how it was used. The cash flow statement is designed to convert the accrual basis of accounting used to prepare the income statement and balance sheet back to a cash basis. This may sound redundant but it is necessary .The accrual basis of accounting generally is preferred for the income statement and balance sheet because it more accurately matches revenue sources to the expenses incurred generating those specific sources.

However, it also is important to analyze the actual level of cash flowing into and out of the business. Like the income statement, the statement of cash flow

measures financial activity over a period of time. And the cash flow statement also tracks the effects of changes in balance sheet accounts. The cash flow statement is one of the most useful financial management tools to run business.

It is useful in providing information to the users of financial statements about the ability of the enterprise to generate cash and cash equivalents and the need of the enterprise to utilize those cash flows (Wagle & Dahal, 2008:11.1-11.2).

2.1.6.1 Importance of Financial Statement Analysis

- To measure the firm's liquidity, profitability and solvency position.
- To assess the firm's operating, efficiency financial position and performance.
- To fulfill the objectives and interest of short-term creditors, present and potential investors, Long-term creditors, management and regulating authorities.

2.1.6.2 Objectives of Financial Statement Analysis

- To judge the financial health of the firm.
- To judge the profitability of the business undertaking.
- To evaluate the capacity to repay the loans and interests there on.
- To evaluate the solvency position of the firm.
- To examine and evaluate the return on investment and or capital employed.

2.1.6.3 Limitations of Financial Statement Analysis

Analysis of financial statement suffers from certain limitations. The major limitations of financial analysis can be summarized as follows:

- Financial analysis fails to disclose the current worth of the enterprise.

- Financial analysis is based on financial statements, which record historical facts. They do not record the changes in the price level.
- The financial analysis is based on facts and figures contained on financial statements. Hence the limitations of financial statements such as influence of personal judgment, disclose of monetary facts only are the limitations of financial analysis (Munankarmi, 2006:467).

2.1.6.4 Analytical Technique Used

Four analytical tools are used in widespread in analyzing financial statements.

1. Horizontal Analysis
2. Trend Analysis
3. Common-size/ Vertical analysis
4. Ratio Analysis

Horizontal Analysis

Horizontal analysis is the analysis of financial statement over a series of years. The calculation of changes in absolute amount or percentage changes in the statement item or totals is horizontal analysis (Bajracharya, et.al, 2004:1016).

When the financial statement of previous year along with current year are presented horizontally with added columns to reflect absolutely changes in amount and percentage for each item from the previous year to current year, it forms the horizontal analysis (Wagle & Dahal, 2008:10.2) for example, assume that the sales figure for the previous year and current year amounts to Rs. 200000 and Rs 300000 respectively. This can be reflected in comparative income statement as:

Trend Analysis

Trend analysis is nothing more than the extension of horizontal analysis for several years. It is carried out by assigning a value of 100 to the items of base

year (Year with normal financial and operating environment) financial statements and then expressing the financial statements items in the following years as a percentage of base year value. it is also known as time series analysis (Wegle : Dahal, 2008:10.2).

Trend ratios involve a comparison of the ratios of a firm over time that is present ratios are compared with past ratios for the same firm. trend ratios indicate the direction of change in the performance-improvement, deterioration or constancy-over the years (Khan & Jain, 2009:4.2). Trend analysis is the comparison over the three or more years (Hilton & Ronald, 2006:920).

Common- Size Statement Analysis

Common size analysis is a vertical analysis. It expresses all items in the statement as percentage of a selected item (the base) in the statement. Financial statement that shows only percentage and no absolute amounts are common-size statements. This is the first step in a comprehensive ratio analysis. Management performance can be evaluated through common-size statement analysis. It should be evaluated from the perspective of liquidity, profitability and stability, activity & possibility management itself can be using these parameters to improve the organization's performance of future. it is also known as vertical analysis. Financial analysts use vertical analysis to gain insight into the relative importance or magnitude of various items on the financial statements (Hilton & Roland, 2006:921).

2.1.7 Ratio Analysis

Ratios are the tools for measuring liquidity, solvency, profitability and management efficiency of the firm and it is also equally useful to the internal management, prospective investors and creditors and outsiders etc. An analysis of the firm's ratios generally is the first step in financial analysis (Weston & Brigham, 1990:93).

Ratio analysis uses financial report and data summarizes the key relationship in order to appraise financial performance. The effectiveness will greatly improve when trends are identified, comparative ratios are available and inter-related ratios are prepared (Munakarmi, 2006:468).

Ratio analysis is widely used tool of financial analysis to interpret the financial statement so that the strength and weakness of a firm as well s its historical performance and current financial condition can be determined. The term ratio refers to the numerical or quantitative relationship between two items/variables. The relationship can be expressed as; percentage, fraction and proportion of numbers. Alternative methods of expressing items, which are related to each other, are for the purpose of financial analysis referred to as ratio analysis. A rationale of ratio analysis lies in fact that makes related information comparable. Single figure by itself has no meaning but when expressed in items of a related figure. It yields significance instances (Khan and Jain, 1996:60).

Ratio analysis is a tool of scanning the financial statements of the firm. Through this one comes to know in which areas of the operation the organization is strong and in which areas it is weak (Bajracharya, et.al. 2007:1017). Ultimately, ratio analysis is a tool of scanning the financial statement of the firm.

Nature of Ratio Analysis

In financial analysis, ratio analysis is used as an index of yardstick for evaluating the financial position and performance of the firm. It helps in making decisions as it helps establishing relationship between various ratios and interprets there on. It helps analysts to make quantitative judgment about the financial position an performance of the firm. Ratio analysis involves the following four steps.

1. Selection of relevant data from the financial statement depending upon the objectives of the analysis.
2. Calculation of required ratio from the data presenting them either in pure ratio form or in percentage.
3. Comparison of calculated ratios with:
 - i. The ratio of the same concern over a period of year to know upward or downward trend or static position to help in estimating the future or
 - ii. The ratio of another firm in the same line or
 - iii. The ratio of projected financial statements or
 - iv. The ratio of the industry average
 - v. The pre-determined standards of
 - vi. The ratio between the department of the same concern assessing either the financial position or the profitability or both
4. Interpretation of the ratio

The ratio analysis is classified into seven broad groups for better understanding and analysis:

1. Liquidity Analysis
2. Profitability Analysis
3. Activity ratio analysis
4. Long-Term Debt and Solvency Analysis
5. Market value Analysis
6. Other Relevant ratio
7. NPA Analysis

2.1.7.1 Liquidity Analysis/ Working Capital Analysis

It measures the adequacy of a firm's resources to meet its near term cash obligations. It is pre-requisite for the very survival of firm. Liquidity analysis measures the liquidity position and short-term obligation.

To meet the current or short-term obligations, commercial banks must maintain adequate out in commercial banking. NRB has directed all the banks to maintain adequate CRR to meet its current obligations. Thus to measures the banks liquidity positions. CRR assumes the key indicator has other ratios. It is also found that central banks practically pay more attention towards the CRR of commercial banks.

Cash Reserve Ratio (CRR)

CRR measures the ability to meet short-term obligation and reflect the short-term financial strength and solvency of the bank. The cash reserve ratio (CRR) is being used as a prime and effective instrument to inject liquidity to and absorb liquidity from the economy. The CRR, which has been used particularly for last few to reduce the cost of resources of commercial banks and to manage necessary liquidity in the economy, has been gradually lowered in the neighboring countries as well as the majority of the countries in the world in complement to the prevalent use of indirect monetary instruments and prudential regulatory measures. "In this context, the CRR has been maintained at 5.0% for FY 2010/11"(Monetary Policy, 2010/11 NRB).

2.1.7.2 Profitability Ratio Analysis

A company should earn profit to service and grow over a long-term period of time. Profits are essential but it would be wrong to assume that every action initiated by management of a company should be aimed at maximizing profits irrespective of social consequences.

Profit is the differences of revenues and expenses over a period of time. Profit is the ultimate output of a company and it will have no future if it fails to make sufficient profits. Therefore the financial manager should continuously evaluate the efficiency of its company. So the profitability ratio measures the net income of the firm relative to its revenue and capital. The following major profitability ratios are calculated to measure the efficiency of banks.

Net Profit Margin

This ratio measures the overall profitability of the firm by establishing relationship between profit and sales revenue. The relationship between the net profit and sales indicated management's ability to operate the business with sufficient success not only to recover the cost of production, operating expenses of business and cost of borrowed mat also to leave margin of reasonable compensation to the owners for providing their capital at risk. This ratio is calculated by:

$$\text{Net profit Margin} = \frac{\text{Net Profit}}{\text{Total Income}} \times 100$$

$$= \dots\dots\dots\%$$

Return on Assets (ROA)

It measures the productivity of the assets. It is a measure in terms of relationship between net profit and assets. The income figure used in computing this ratio should be operating income (Munakarmi, 2006:485). This ratio is calculated by:

$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100$$

$$= \dots\dots\dots\%$$

Interest Income on Loan and Advances

The major source of operating income of any commercial bank is interest income. Among the interest income should, loans and advance and overdraft are the major source of interest income. Investment on government securities and debentures are also the major source of interest income. Interest income to loan and advance ratio shows the high utilization of loan and advances. Higher percentage income reflects better operational efficiency or higher level of risk due to higher volume of investment in loan and advances (Shrestha, 2003: 124). This ratio is calculated by:

$$\begin{aligned} \text{Interest income on loan and advances} &= \frac{\text{Interest Income}}{\text{Total Loan and Advance}} \times 100 \\ &= \dots\dots\dots\% \end{aligned}$$

Operating Ratio

Operating ratio of banks tries to establish relationship between operating expenses and total income. Operating expenses include administrative expenses, interest on short-term loan, discount allowed and bad debts (Munakarmi, 2006:484). This ratio is calculated as follows:

$$\begin{aligned} \text{Operating Ratio} &= \frac{\text{Operating Expenses}}{\text{Total Assets}} \times 100 \\ &= \dots\dots\dots\% \end{aligned}$$

2.1.7.3 Activity Ratio Analysis

Funds of creditors and owners are invested in various assets to generate sales and profits. The better the management of assets the large the amount of sales. Activity ratios are employed to evaluate the efficiency with which the firm manages and utilized its assets. These ratios are also called turnover ratios because they indicate the speed with which assets are being converted or turned over ratio into sales. Activity ratios, thus involve a relationship between sales and assets. A proper balance between sales and assets generally reflects that

assets are managed well. Several activity ratios can be calculated to judge the effectiveness of asset utilization (Pandey, 1997:119). Various activity ratios are calculated to find out the degree of effective utilization of resources by the bank.

Credit Deposit Ratio

Loan and advances to total deposit ratio is calculated by dividing total function isto be mobilize the funds from the depositors to the borrowers. To measures the activity position of commercial banks, loan and advances to total deposit ratio is calculated (Shrestha, 2003:96). This ratio is calculated by:

$$\text{Credit Deposit Ratio} = \frac{\text{Total Loan and Advances}}{\text{Total Deposits}} \times 100$$

$$= \dots\dots\dots \%$$

2.7.1.4 Long-term Debt & Solvency Analysis

It is also known as "Leverage or Capital Structure Ratio". Solvency analysis may be defined as financial ratios, which through light on the long-term solvency of a firm reflected in its ability to assure the long-term creditors with regard to (a) periodic payment of investors during the period of loan and (b) payment of principal on maturity or in predetermined installments at due dates. There are aspects of the long-term solvency of the firm:

1. Ability to repay the principal when due and
2. Regular payment of the interest. (Khan & Jain, 1996:98).

To measure banks capacity of borrowing as means of capital accumulation i.e. over extension of credit and borrowing power, which determine the long-term solvency of the banks; several capital structure ratios are calculated. These ratios help to calculate the proportion of outsides and owners contributions of

these banks. To highlight on debt serving capacity financial health, strength and weakness assets of the bank, it is better to calculate capital-structure ratio.

Capital Adequacy Ratio

Capital adequacy ratio is calculated by dividing total capital fund (Net worth) by total deposits. Capital adequacy has remained one of the biggest issues in banking industry and the appropriate capital adequacy ratio for commercial banks has always been a controversial issue. According to capital adequacy principal, safety and stability fragile system ultimately rests upon the confidence of the depositors and creditors. NRB emphasizes upon capital as cushion to absorb unexpected losses arising from various risks that can create instability in banks earnings. Thus they prescribe a ratio of capital to total assets.

As per the directions of NRB, the commercial banks must maintain minimum percentage of adequacy of capital fund on risk weighted assets of the bank. NRB has provided a risk of on balance that and off-balance sheet of assets with risk rates on the basis of which commercial bank should calculate risk weighted assets. As per the directive of NRB in the 2007/08, capital adequacy ratio (CAR) to be maintained by the banks and financial institutions on the basis of risk-weighted assets (RWA) will be continued at 11.0%, with core capital at 5.5% (Monetary Policy, 2007/08, NRB). The ratio of core capital supplementary capital and total capital fund on risk-weighted assets in case of the banks has been as follows:

- 1. Core Capital:** It is the combination of paid up capital, share premium, non-redeemable preference share, general retained fund and retained earnings of banks.
- 2. Supplementary Capital:** It is combination of general loan loss provision, exchange equalization reserve, assets re-valuation reserves,

hybrid capital instrument, unsecured sub-ordinates term debt and other free reserves.

- 3. Total Capital Fund:** It is the addition of core capital and supplementary capital (Panta, 2005:63). In other words, it is total assets minus current liabilities or the net worth.

Interest Expenses to total Deposit Ratio

Ratio measures the cost of the deposits with borrowing in relative term. Interest expenses are the major expenses of the operation expenses of the commercial banks. Interest expenses consist of interest paid on various deposits (saving fixed call) etc and borrowings.

The performance banks independent upon its ability to generate cheaper fund. The cheaper the fund, more profitability on generating loan and advances and vice-versa. High ratio is indicative of costly fund and his adversely affects the lending activities o bank. It is calculated by:

$$\begin{aligned} \text{Interest Expenses to Total Deposit Ratio} &= \frac{\text{Interest Expenses}}{\text{Total Deposit}} \times 100 \\ &= \dots\dots\dots \% \end{aligned}$$

2.1.7.5 Market Value Analysis

The market value ratios represent a group of ratio that relate to the firms stock price to its earning and book value per share. These ratios give management an indication of what investors think of the company/banks past performance and future prospectus. If the firm's liquidity, asset management, debt management and profitability ratios are all good then its market value ratio will be high its price will be probably be as high as can be expected (Weston & Brighan, 1996:104).

Earning Per Share

Apart from the return of return, the profitability of a firm from the profit view of the ordinary shareholders is the earning per share (EPS). It measures the profit available to the equity shareholders on per share basis i.e the amount they can get on each share held. In other words, this ratio measures the earning available to an equity shareholder on a per share basis. The objectives of computing this ratio is to measure the profitability of the firm on per equity share basis. There are two components of this ratio that are as under:

1. Net profit after preference dividend.
2. Number of equity shares outstanding

It is computed by dividing the net profit after preference dividend by the number of equity shares outstanding. It is expressed as an absolute figure.

$$\text{Earning per Share} = \frac{\text{Net Profit after Tax - Preference Dividend}}{\text{No. of Equity Shares Outstanding}}$$

= Rs.

Price-Earning Ratio

Price –earning ratio is widely used by the security analyst to value the firm's performance as expected by investors. It reflects investors' expectation about the firm's growth in the firm's earning. This ratio measures investors' expectation and the market appraisal of the performance of the firm (Munakarmi, 2006:490).

Price-earning ratio shows how much investor are willing to pay per dollar of reported profits (Westom & Brigham, 1996:296).

This ratio is calculated as follows:

$$\text{P-E Ratio} = \frac{\text{Market Price Per Share}}{\text{EPS}} \times 100$$

= %

So, calculation of P/E ratio of commercial banks is more appreciate by an investor's point of view.

Cash Dividend on share Capital

The amount of earning distributed and paid as cash dividend is considered as the cash dividend on share capital or dividend per share. The net profit after taxes belongs to the equity shareholder (Munakarmi, 2006:489). This ratio is computed by dividing the amount of dividend distributed to shareholders by the number of common shares outstanding. It may be expressed as under:

$$\text{Dividend per Share} = \frac{\text{Earning Dividend Paid to Shareholders}}{\text{No.of Equity Shareholders}}$$

= Rs.

2.1.7.6 Other Relevant Ratios

To measures commercial bank's performance it is necessary to study other relevant ratios too. This ratio includes:

- Staff Expenses to Total operating Expenses
- Staff Bonus to total staff expenses.
- Weighted average interest rate spread
- Exchange/ Fx - fluctuation gain to Total Income

Staff Expenses to Total Operating Expenses Ratio

Staff expenses to total operating ratio are the contribution of total staff expenses in total operating expenses. It is conclude that higher ratio means the bank has provided better salary and other allowances. It is also the f\sign of highly motivated staff (Panta, 2005:60). On the other hand, the high ratio affects the net profit. This ratio is calculated as follows:

$$\text{Staff expenses to Total Staff Expenses Ratio} = \frac{\text{Staff Expenses}}{\text{Total Operating Expenses}} \times 100$$

$$= \dots\dots\dots \%$$

Staff Bonus to Total Staff Expenses Ratio

This ratio is calculated with provision for staff bonus in terms of expenses. Provision of staff bonus. One of the important operating expenses of the banks, refers to the extra incentives services. Bonus helps to uplift the morale of the staff as well as make them prompt for the next operation. Bonus is distributed if the banks have more profit. A high portion of staff bonus shows that bank has high operating profit. This ratio is calculated as follows:

$$\text{Staff Bonus to Total Staff Expenses Ratio} = \frac{\text{Staff Bonus}}{\text{Total Staff Expenses}} \times 100$$

$$= \dots\dots\dots \%$$

Weighted Average Interest Rate Spread

It is the difference between interest rate charged by a bank on loan and advances and interest rate offered on deposits. Generally commercial banks charge more interest rate on lending than they provide interest rate on deposits. Interest rate spread is calculated as follows:

$$\text{Interest Rate Spread} = \text{Spread Rate on Lending} - \text{Interest Rate on Deposits}$$

High spread shows the bank charges rate for the borrowers than they provide for depositors.

Exchange Gain to Total Income Ratio

Foreign exchange gain is another source of income, which includes trading income and re-valuation income. This ratio is computed by dividing exchange gain by total income of the commercial bank. NRB has given instruction to allocate a portion of these incomes as "Foreign exchange Fluctuation Fund"

and to retain one third of his income and show it in the balance that as payable to NRB. This ratio is income of commercial bank. It also represents high foreign currency transactions. The higher transactions give the higher percentage of ratio.

$$\text{Fx- fluctuation Gain to Total Income Ratio} = \frac{\text{Fx-fluctuation Gain}}{\text{Total Income}} \times 100$$

$$= \dots\dots\dots \%$$

2.1.7.7 Non-Performing Asset (NPA)

Non- performing asset (NPA) in terms of banking sectors consists of those loans and advances which are not performing well and likely to be turn as bad loan. It may be simply define as bad loan. As per NRB directives, it has been categorized all classifieds loans and advances. NPA has several impacts on the financial institution. On the one hand investment becomes worthless, as expected return cannot be realizable. The profitability is directly affected.

NPA as categorized by NRB are classified as loans and advances. For the probable loss on lending that cannot be recovered even after liquidation. NRB has directed to maintain loan loss provision. The loan loss provision is to be maintained by debiting profit and loss account. Thus as the quality of loan degrades the ratio of loan loss provision is increased.

Table 2.1 NPA of commercial banks on different fiscal years:

Fiscal Year	NPA%
2065/066	9.77%
2066/067	6.83%
2067/068	5.07%

Source: Banking & financial Statistics- mid Jan, 2010, NRB

This shows that, NPA reduction is still tough challenge for banking industry due to high rate than international standards. So, NPA is becoming imminent challenge for banking industry.

2.1.7.7.1 Causes of NPA in Nepalese Commercial Banks

1. Lack of clear lending policy.
2. Lack of proper analysis of loan and advances.
3. Lack of good governance debt management inside the bank.
4. Overall economic crisis in the country
5. Weakness in consortium financing
6. Lack in internal control and auditing system.
7. Lack of proper supervision of central bank.
8. Bad intention of borrowers.

2.1.7.7.2 NRB Directives on Classification of Loan and Provisioning

Nepal Rastra bank has issued Unified Directives to bank and financial institution for implementation effective 16 July 2005. This also contains the new directive (No. 2) concerning classification of loan portfolios and provisioning. Except a few important changes, this directive has retained most of the provisions.

Classification of Loan and Advances

The classification criteria are as follows:

1. Pass category: all loans and advances the principal of which are not past due or past for a period up to 3 (three) months. Only loans falling under Pass category are termed as "Performing Loan".
2. Substandard category: all loans and advances the principal of which are past due for a period of more than 3 months and up to 6 months.

3. Doubtful category: all loans and advances the principal of which are past due for a period of more than 6 months and up to 1 (one) year.
4. Loss category: all loans and advances the principal of which are past due for a period of more than 1 (one) year.

The respective overdue periods of pass, sub-standard and doubtful loans shall be considered for higher classification from the next day of the date of expiry of the overdue period provided for each category.

Lending institutions are not restricted from classifying the loan and advances from low risk category to high-risk category. For instance, loans falling sub-standard may be classified into Doubtful or Loss, and loans falling under Doubtful may be classified into loss category.

Loan Loss Provisioning

1. The loan loss provisioning on the outstanding loans and advances and bills purchases shall be done on the basis of classification as follows:

Table 2.2 Loan Loss Provision as per Loan Classification:

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

2. Provision on restructured or rescheduled loans shall be made as follows:

- i. A minimum of 12.5% provision shall be made on restructured or rescheduled loans.

- ii. In respect of restructuring or rescheduling of deprived sector loan and guaranteed of insured priority sector loan, the requisite provisioning shall be only 25% of the rates stated above.
- iii. Where the installment of principal and interest of restructured or rescheduled loan is services regularly for two consecutive years, such loan can be converted into pass loan.

Rescheduling/restructuring of loan resulting improvement in classification to lowest risk category (pass) is not prohibited. However, such rescheduled loan shall require provisioning of at least 12.5%. The upper limit of such provisioning requirement is not specified even if a loss loan is reclassified and categorized as pass loan. However, adjustments to loan loss provisioning is allowed only on satisfactory service of the loan up to 2 consecutive years.

3. Full provisioning shall be made against the uninsured priority, deprived sector loans and small and medium scale industrial loans.

However, in case of insured loans the provisioning requirement will be only 25% of the prescribed normal rates. Concession provisioning is not limited to priority/ deprived sector and small/medium industries only as was the case earlier. The condition is purchase of insurance cover. According all loans, including priority sector/ deprived sector, not covered by the insurance (presumably with Deposit insurance and credit Guarantee Corporation) fall under normal category. The norms of classification remain same for these loans and advances also.

In the case of rescheduling/ restructuring of insured credit, the proportion of loan loss provisioning would be 3.125% (being 25% of 12.5%). However, in the case of recommended sick industries, the minimum provisioning requirement wick is 6.25% (25% of 25%).

4. Where the loan is extended only against personal guarantee, a statement of the assets and equivalent to the personal guarantee amount not claimable by any other shall be obtained. Such loans shall be classified as per above and where the loans fall under the category of pass, Substandard and Doubtful in addition to the normal loan loss provision applicable for the category, an additional provision by 20 % point shall also be provided "Additional loan loss provision" as above shall also be provided for the loans which is partly covered by collateral of physical assets and personal/ institutional guarantee is obtained to cover the shortfall. Classification of Such loan and advances shall be prepared separately.

By virtue of above the loan loss provision required against a personal guarantee loan will 21%, 45% and 70% for pass, sub-standard and Doubtful category respectively. Such an additional loan loss provisioning will be required where loan is extended against the personal guarantee only without having obtained other form of collateral. The directive also requires additional provisioning where the value of partial collateral falls short of the loan amount and partially covered by personal guarantee.

NPA as categorized by NRB are classifieds loans and advances; for the probable loss on lending that cannot e recovered even after liquidation. NRB has directed to maintain loan loss provision. The loan loss provision is to maintain by debiting profit and loss account. Thus as the quality of loan degrades the ratio of loan loss provision is increased.

2.1.7.7.3 Effect of NPA on Profitability of the Bank

Under the circumstance assets that do not earn any income to the bank affects the profit in a number of ways. The resources locked up in NPA are borrowed at a cost and have to earn minimum return to service this cost.

- NPA on the one hand do not earn any income but on the other hand drain the profits earned by performing assets through the claim on provisioning requirements.
- Since they do not earn interest they bring down the yield on advances and the net interest margin or the spread.
- NPA has a direct impact on return on assets and return on equity.
- NPA bring down the profits, affect the shareholder value and thus adversely affect the investor confidence.

2.2 Review of Related Studies

2.2.1 Review of Journal and Articles

Some of the journals and articles published by management experts in financial aspects have been reviewed in this section:

Edward I. Altman (1968) in "Journal of finance" employed financial ratios to predict corporate bankruptcy through multiple discriminate analyses. Out of the twenty two financial ratios examined, Altman selected the five that did the best combine job in predicting bankruptcy. These ratios were working capital to assets, retained earnings to total assets, earnings before interest and taxes to total assets, market value of equity to book value of total debt, and sales to total sales to total assets, market value of equity to book vale of to total debt & sale to total assets. Using these ratios. Altman found the discriminate model to be an accurate predictor bankruptcy.

Dambolena and Khoury (1980), in "Journal of finance" the main focus of their study was to know the stability of all financial ratios over time as well as their ratios as explanatory variables in the derivation of a discriminate function. The data were collected from 68 firms half of them failed and half of them did not fail. The study revealed: Profitability ratios, Activity and turnover ratios, liquidity ratios, Indebtedness ratios. The major findings of this study were: (i)

Standard deviation of ratios over times appeared to be the strongest measure of ratio stability. (ii) The ratios of net profit to sales net profit total asset, fixed assets to net worth funded debt to net working capital total debt to net working capital and fixed assets to net worth funded debt to net working capital relevant in predicting corporate failure.

Beaver (1996), in "Journal of Accounting Research" tested the ability of financial ratios to predict failure. This study revealed five ratios which could discriminate between failed and non-failed firms. The ratios are case; case flow to total debt; net income to total asset; total debt total asset; total debt to total assets; working capital to total asset and current ratios. It was obvious that failed firms had more debt and low return on asset. They had less cash but more receivable as well as low current ratios.

Poudel, in the journal entitled, "Financial statement Analysis: An Approach to Evaluate bank's Performance" which was published NRB Samachar (An annual publication-2053) is reviews as follows:

According to Poudel, Balance sheet, profit and loss a/c and the accompanying notes are the most useful aspects of the banks. It needs to understand the major characteristics of bank's balance sheet and profit and loss a/c. The bank's balance sheet is composed of financial claims as liabilities in the form of deposits and as assets in the form of loans. Fixed assets accounts form a small portion of the total assets. Financial innovations, which are generally contingent in nature, are considered as off-balance sheet item.

According to Mr. Poudel the principle objectives of analyzing financial statement are to identify: Liquidity, Profitability and solvency. Most of users of the financial statements are interest in assessing the bank's overall performance which is affected by the following factors:

- The structure of Balance sheet and profit and Loss account
- Operating efficiency and internal management system

- Managerial decision taken by top management regarding interest rate, exchange rate, lending policies etc.
- Environmental changes (Technology, Government, Competition and economy).

The other factors to be considered in analyzing the financial statement of bank are to assess the capital adequacy ratio and liquidity position. In the line of adequacy of bank is assessed on the basis of risk weighted assets. It indicates a bank's strength and solvency. Bank facing with capital adequacy problem may increase capital or reduce assets or reallocate the existing assets structure in order to maintain the desired level of capital base.

Yadav (2009), Rameshwor Yadav in the articles "The growing trend of consumer banking" summarized some newly adopted policy by the commercial banks in favors of consumer. While long term investment opportunities remain uncertain in the country, the Nepalese banks are starting to diversify the loans in order to reduce excess liquidity and other financial risks. Nepalese banks are moving towards a new era of banking so that the relatively recent concept of consumer banking is swiftly becoming popular and flourishing among the middle to high national jobholders private companies to corporate houses and national to multinational companies. The banks are offering all kind of personal as well as commercial facilities. These days, Nepalese banks are coming up with new products and consumer package on a regular basis. They are increasing collaborating with the international banks too, embracing their banking models, learning lesson from their traditional and latest concept and keeping up to date with the new technologies coming in, hence giving added facilities to the consumers too, Nepalese bank, rapidly expanding their reach through the country are expanding their service hours keeping the customer's convenience in mind.

Govinda Bahadur Thapa in his articles "Nepal banking system: can on the mess be managed" stated that the joint venture banks have been earning a huge

profit not from fund based lending but from investing outsidess. That is why, there banks have been less interested to lending aggressively in the domestic market. Economics activities have slowed down in Nepal for several years; however commercial banks have not lowered their lending rate to revitalize the economy. On the contrary, the commercial banks have been discouraging the deposit to get rid of excess liquidity. And new avenue that is investing aboard has been opened for the commercial banks to earn profit rather then motivating then to invest locally.

The above journals & articles focus in the various aspects of the bank's economic environment. What over aspects of the bank the above journals target, they all have to be combinable assessed and kept in strict consideration for effective & efficient financial performance of the banks in the Nepalese economy.

2.2.2 Review of Previous Thesis

Gurung (1995), in his study entitled "A financial study of joint venture banks in Nepal: a comparative study of Nepal Grindlsya Bank LTD and Nepal Indosuez Bank Ltd" with the basic objectives to evaluate the performance of two joint venture banks: Nepal Grindllays Bank LTD and Nepal Indosuez Bank LTD time period covered by the research was five years from fiscal year 1989/90 to 1993/94. He concluded that:

- Both joint venture banks indicate unsatisfactory in liquidity position and interest coverage ratios.
- The capital structure of both the banks are extremely leverage but they have been maintaining sound capital adequacy ratio as directed by Nepal Rastra Bank.
- Both the joint venture banks have been efficient in utilizing most of their total assets.

- Profitability records of both banks have registered an increasing trend during the first half in the study period and have decreased there after.

He has recommended maintaining improved capital structure by increasing equity base. Both banks should pay due attention in liquidity and coverage position. He further suggested extending their banking facilities even in rural areas by opening up branches.

Mr. Resta Jha (1998), has conducted a research on a topic "Comparative Analysis of financial performance of the selected Joint Venture Banks". Mr. Jha has mainly focused his research in examining different financial ratios of four commercial banks namely NABIL, NIBL, NGBL & HBL.

Time period covered by the research was five years from fiscal year 1993/94 to 1996/97. Necessary data and other information had been collected mainly from secondary sources of data. In this research, Mr. Jha had pointed out the major findings as:

- ROA of NIBL was highest as compared to other sample banks respectively. Return on total deposits was also highest in case of NIBL. Interest earned on total assets was also highest in case of NIBL.
- Return on net worth or shareholders fund was highest in case of HBL.
- Current cash and bank balance to deposit ratio found that NIBL's current ratio at the end of FY 1996/1997 stood highest as compared to other banks.
- Among the analysis of leverage ratio (total debt to total asset ratio, long-term debt to total asset ratio, total debt to net worth ratio & long-term debt to net worth ratio) the total debt to total assets ratio was above 85 percentage for all the selected banks during 1996-1997,

which signifies the excessive use of debts or outsider to finance total assets.

Mrs. Brinda Shrestha (2003), had conducted a research on a topic "A comparative Analysis of financial performance of the selected joint venture banks". She had mainly focused her research on comparative examining the overall performance of NABIL, HBL and NB Bank through financial analysis.

Time period covered by the research was five years from 1997/1998 to 2001/2002. Necessary data and other information had been collected mainly from the secondary sources of data. Mrs. Shrestha had pointed out various findings. Some remarkable findings of the research were:

- Liquidity analysis indicates better liquidity position of NB Bank. Although liquidity position of HBL and NABIL are lower, they were still able to meet their current obligations.
- Activity/Turnover analysis that the loan and advance to total deposit and to saving deposit ratio of NB bank was the highest with NABIL in the second place while that of HBL was the least. This implied NB Bank was efficiently utilizing its deposit on loan and advances.
- Leverage/ Capital structure analysis indicated the long-term debt to net worth ratio of NB Bank was the highest and NABIL was the lowest. An unbalanced capital structure was the common situation in all the commercial banks. The banks were using excessive debt capital.
- Capital adequacy ratio calculated for these banks below the prescribed ratio by NRB.
- Profitability of these were reflected by the determination of return on investment, return on shareholder equity, interest earned to total assets ratio, interest income to interest expenses ratio.

- The market value ratio such as price-earning ratio dividend payout ratio of NBIL was the highest and HBL was the second highest.

Mr. Gopal Prasad Ghimire (2003), had conducted a research on a topic "Financial Performance of Commercial Banks: A Comparative case study of NB Bank, HBL and EBL". He had mainly focused on his study in examining the financial performance of those three banks such as profitability, liquidity, activity and capital structure analysis.

Time period covered by the research was five years from 1996/97 to 25001/02. Necessary data and other information were primarily based on secondary data such as annual reports and other related journals and books etc. In this research, Mr. Ghimire had pointed out various findings:

- The liquidity position of banks was not satisfactory.
- The HBL was more efficient in utilizing the deposits in loans and advances or other more profit-generating sector.
- The banks did not do a lot of exercises in more credit creation and reducing the interest rate for loan and advance for more competitiveness.
- The banks did not maintain the CRR as per NRB directives.
- The EPS of HBL had been rapidly decreasing over the period. However the EPS of another two banks were in increasing trend.

Mr. Prasun Acharya (2005), had conducted a research on a topic. "A comparative study on financial performance of Nepal SBI Banks and Everest Bank Ltd". He had mainly focused on his study in examining financial performance of those banks through profitability, liquidity and activity analysis.

Time period covered by the research was five years from fiscal year 052/53 to 056/57. Necessary data and other information was primarily base on secondary data. In this research Mr. Acharya had pointed out various findings:

- They had not a special attention towards NPA
- Both banks had higher operating expenses.
- Both banks had not found out the new productive sectors for their investment purpose.
- Both banks had not given attention towards attracting new deposits.

Mr. Yug Basnet (2005), had conducted a research on a topic "A comparative study on financial performance between the commercial banks". The study had covered only two banks i.e. NB Bank and Nepal SBI bank. He had mainly focused on his study in examining the financial performance of these two banks.

Time period covered by the research was five years from fiscal year 1998/99 to 2002/03. Necessary data was primarily based on secondary sources of data. In this rsearch, Mr. Basnet had pointed out some remarkable findings:

- Liquidity analysis indicates the banks did not maintain sufficient liquidity.
- The efficiency analysis showed that the ratio is in fluctuating trend of Nepal SBI Bank and decreasing trend of NB Bank.
- The profitability position of NB Bank was comparatively better than the same of Nepal SBI Bank.
- Capital structure ratio of both banks was highly levered.

Mr. Ishwori Prasad Panta (2005), had conducted a research on a topic "A comparative study of Everest bank Ltd. and Nepal Industrial & Commercial Bank Ltd." He had mainly focused on his study in comparing and analyzing liquidity, profitability, solvency and activity ratio analysis as well as so other major ratio a\such as weighted avg. interest rate spread Fx-fluctuation gain to total income ratio etc.

Time period covered by the research was six years data from FY 1998/99 to 2003/04. Necessary data and other information has been collected from the secondary sources of data. In this research, Mr. Panta had pointed out various remarkable findings were:

- CRR of the banks were maintained as per the directives of NRB.
- Both banks had maintained NRB balance to deposits ratio remarkable higher than the standard prescribed by the NRB.
- Both banks were maintaining lower capital adequacy ratio. The total assets, net worth to total deposit and not worth to total credit seemed less satisfactory.
- They should encourage to small, medium an large-scale organizations to avail their services.
- Both banks were suggested to review their overall structure and investment portfolio to make better mix in capital structure as well as investment portfolio.

2.3 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. Financial analysis statement has to prepare according to direction of NRB. Nepal Rastra Bank's policy and guidelines are changing according time. So, the up to dated study over the change of time frame is

major concern for the researcher and concerned organization as well as industry as a whole. This study covers the more recent financial Data and analysis is done within the latest guidelines of NRB.

There is a certain gap between the present research and past research. Previous research conducted generally on comparative financial analysis of two or three banks. Those analyses expressed all items in the statement in the form of amount. The previous researchers was not able to present the practical comparative analysis, which is practiced by the commercial banks. Therefore to fulfill this gap the present research is conducted. The analysis based on expressing all items in the statement as a percentage taking the most recent data.

Most important point to remember about performance analysis is that every financial measure should be compared across time and across over same line of companies to be meaningful. Banks as a service-organization, only few financial ratios would be sufficient to compare the performance, however different sources and different analyses use different lists or combination of financial ratio analysis. Prior research has been conducted on the basis of traditional financial ratio analysis. The value of the approach was quantitative relations.

The world is becoming more dynamic and subject to rapid changes. This research will be based upon the modern approaches to financial analysis; in which comparable group approach and include consideration of economic and strategic factors where feasible.

Even the study will base upon those core indicators especially related with banking sector as well as it will compares across time and across same line of banks i.e. maximum of leading four commercial banks (SNBL, Nabil, HBL & EBL). This research will be an interest to a wide range of its stakeholders and other government regulatory interest.

CHAPTER - III

RESEARCH METHODOLOGY

Research methodology is a sequential procedure and collection of scientific methods to be adopted in a systematic study. In other words, research methodology describes the methods and process applied in the entire of the study. It is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his/ her research problem along with the logic behind them. Thus, this deals with the research design, nature of procedures and tools of analysis.

3.1 Research Design

The present research tries to analyze the comparative performance of commercial banks in the present e-generation. The research followed analytical and descriptive research design. The study was based on most recent financial data provide by the concerned banks i.e. the data become secondary sources to the research work. Only leading four comparative data of commercial banks presented in such a way, so as to make the research informative to the readers. Financial as well as statistical tools were used to analyze and interpret.

3.2 Population and Sample

There are many financial institutions in Nepal; however the research basically covered leading four commercial banks ranked by NEPSE. All commercial banks i.e. 32 commercial banks operating in the country were the total population for the study. Only leading four commercial banks ranked by NEPSE were selected as a sample using purposive sampling technique. The sampled banks were:

- Standard Chartered Bank Nepal Ltd.
- NABIL Bank td.

- Himalayan Bank Ltd.
- Everest Bank Ltd.

3.3 Nature and Sources of Information/ Data Collection Procedure

The main sources of information were the concerned Banks and their published reports. NRB and its published reports, Experts views, Newspaper and many other published and non-published sources. Mainly the secondary sources of data were collected in order to achieve the real and fact data as far as available.

The secondary sources of data the information received from books, journals, newspapers, published reports and dissertations and concerned websites etc. The major sources of secondary data were as follows:

- Annual reports of the concerned banks.
- Related websites of concerned banks.
- Economic survey, Ministry of finance
- NRB Samachar, NRB Directives.
- Bank and financial Institution Ordinance 2062.
- Banking and financial statistics of NRB.
- Survey, reports, journals issued by NRB.
- Annual reports, NEPSE.
- Book related to financial performance analysis.
- Previous Dissertations.
- News paper, Journals and Business magazines.
- Other publications etc.

3.4 Data Processing and Presentation Procedure

The information or data obtained from the different sources were in raw form. From that information, direct presentation was not possible so it was necessary to process data and convert it into required form. Only after then, the data were presented for this study. For this study, only required data were taken from the secondary sources (Bank's publications) and presented in this study. For presentation different tables were used. Similarly in some cases graphical presentation was also made. For reference, the photocopies of raw data were annexed. So far as computation was concerned, it has been done with the help of scientific calculator and computer software program.

3.5 Tools for Analysis and Presentation

Various percentage data were collected as per the nature of the study and this study required more financial tools cum statistical tools for analysis and presentation of used data to attain the objectives of the study.

3.5.1 Financial Tools

Several financial tools were used to measure the strength and weakness of commercial banks. In addition, Non-performing asset and weighted average interest rate spread also been studied under this research work.

1. Liquidity analysis

- i. Cash Reserve Ratio

2. Solvency analysis

- i. Capital adequacy ratio
- ii. Interest expense to total deposit ratio.

3. Profitability analysis

- i. Net profit to total income ratio
- ii. Return on assets.

- iii. Interest income on loan and advances.
- iv. Operating ratio.

4. Activity or Turnover analysis

- i. Loan and advances to total deposits ratio

5. Market value analysis

- i. Per share income
- ii. Market value per share
- iii. P-E ratio
- iv. Cash dividend in share capital
- v. Dividend in share capital (including bonus)

6. Other relevant ratios analysis

- i. Staff express to total operating expenses
- ii. Staff bonus to total staff expenses.
- iii. Weighted average interest rate spread.
- iv. Exchange- Fluctuation gain to total income

7. Non-Performing Assets

3.5.2 Statistical Tools

1. Arithmetic Mean

An arithmetic mean of a gain given set of observations is the sum of the observation divided by the number by the number of observations. In such a case all the items are equally important. Simple arithmetic mean is used in this study a per necessary for analysis.

We have,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n}$$

Where,

$\sum X$ = Sum of all values of the observations.

n = Number of observations.

X = Values of variables.

2. Standard Deviation

The standard deviation usually denoted by the letter sigma (σ). Karl Pearson suggested it as a widely used measure of dispersion and is defined as the given observation from their arithmetic mean of a set of value. it is also known as root mean square deviation. Standard deviation in this study has been used to measure the degree of fluctuation of interest rate and that of other variables as per the necessity of the analysis (Gupta, 2002:238).

We have,

$$\text{Standard deviation} = \sqrt{\frac{\sum(X-\bar{X})^2}{n}}$$

3. Coefficient of Variation (C.V)

The relative measure of dispersion based on standard deviation is called coefficient of standard deviation and 100 times coefficient of standard deviation is called coefficient of variation. It is denoted by C.V. Thus,

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100$$

Where,

σ = Standard deviation

\bar{X} = Mean value of variables

Coefficient of variation being a pure number is independent of the units of measurement and thus is suitable for comparing the variability or uniformity of two or more distributors. The distribution having less C.V. is said to be less variable or more consistent or more stable. A distribution having greater C.V. is said to be more variable or less consistent or less stable. C.V. is used in this for comparing the variable of sample banks.

4. Correlation Analysis

Correlation is the statistical tool, which studies the relationship between two variables. Two variables are said to be correlated when the change in the value of one variable is accompanied by the change of another variable. There are different methods of correlation analysis but in this research, Karl Pearson's coefficient of correlation has been used. It is simply denoted by 'r_{xy}' or 'r' has been calculated in this study for two purposes. First, to check the calculation whether the obtained value of 'r' is beyond the limit of 1 to 1, which means that there is some mistake in the calculation. Second, to know the degree direction of the relationship between two variables, if the value of r is +1, there is perfect positive correlation, if the value of r is -1, there is perfect negative correlation and if the value of r is "0" there is perfect co-variation (i.e. no relationship) between the variables. In practice, perfect correlation cannot be found.

The correlation is calculated as follows:

$$r_{xy} = \frac{N \sum XY - \sum X \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

Where:

N= No. of observations of X and Y

$\sum XY$ = sum of the product of the observations in series X and Y

$\sum X$ = sum of the observations in series X

ΣY = sum of the observations in series Y

ΣX^2 = sum of square of variables in series X

Σy^2 = sum of square of variables in series Y

Probable Error of Correlation Coefficient:

Probable error of correlation coefficient usually denoted by P.E. (r) is an old measure of testing the reliability of an observed value and test of significance of correlation coefficient in so far as it depends upon the conditions of random sampling. If r is the observed correlation coefficient in a sample of n pairs of observations than its standard error, usually denoted by S.E. (r) is given by:

$$\text{S.E. (r)} = \frac{1 - r^2}{\sqrt{N}}$$

Probable error of the correlation coefficient is given by:

$$\text{P.E. (r)} = 0.6745 \times \text{S.E. (r)}$$

Where,

r = the value of correlation coefficient

n = number of pairs of observations.

P.E. is used in interpretation whether the calculated value of r is significant or not.

- i. If $r < \text{P.E. (r)}$ i.e. if the observed value of r is less than its P.E., then correlation is not at all significant.
- ii. If $r < 6\text{P.E. (r)}$ i.e. if observed value of r is greater than 6 times its P.E., then r is definitely significant.
- iii. If $\text{P.E.} < r < \text{PE}$, nothing can be concluded with certainty.

5. Regression /Trend Analysis

'Trend Analysis is an analysis of financial ration over time used to determine the improvement of deterioration of this financial situation" (Weston Et.al.: 297). Trend analysis informs about the expected future return, future achievement of the banks, future credit, worthiness of the bank, financial capability of the bank and many other information which would be helpful to concerned parties of the banks such as shareholders, professional bankers, depositor and borrowers. In this stud, the method of least square is selected as a statistical tool for the analysis of selected banks. The formula of least square method for the straight line is represented by the equation.

$$Y_t = a + bX_t$$

Where,

Y= Dependent Variable

X=independent Variable

a= Y intercept of X when Y=0

b= slope of the change in Y associated with change in X

t= years of observation (t=1.....,n)

In order to determine the values of the constants 'a' and 'b' the following two normal equations are to be solved:

$$\sum Y = a + b \sum X \dots \dots \dots (i)$$

$$\sum XY = a \sum X + b \sum X^2 \dots \dots \dots (ii)$$

The constant 'a' is simply equal to the mean of Y value (Y intercept) and the constant 'b' gives the rate of change or the slop of the trend line.

The straight line trend is represented by the equation $Y_c = a + bx$

Whereas, in multiple regression it may take more then one independent variables and its slope such as $Y_c = a + b_1X_1 + b_2X_2$

Where Y_c is used to designate the trend values to distinguish them from the actual Y values.

Coefficient of Determination (r^2)

The coefficient of determination is a measure of the degree of linear association or correlation between two variables one of which happens to be independent and the other being a dependent variable. In other words, r measures that percentage of total variation in dependent variables. The coefficient of determination value can range from zero to one. A value of one can occur only if the unexplained variation is zero, which simply means that all the data points in the scatter diagram fall exactly on the regression line.

Regression Constant (a)

The value of constant, which is the intercept of the model, indicates the average level of the dependent variable when the independent variable is zero. In other words, it is better to understand that 'a' (constant) indicates the mean or average effect on the dependent variable of all the variables omitted from the model.

Regression Coefficient (b)

The regression coefficient of each independent variable indicates the marginal relationship between the variable and the value of the dependent variable, holding constant the effect of all other independent variables in the regression model. In other words, the coefficient describes how a change in the independent variable affects the values of the dependent variables.

Standard Error of Estimate (SEE)

With the help of a regression equation, a perfect fit is practically impossible. The standard error of estimate measures the dispersion about an average line. It also measures the accuracy of the estimated figures. The smaller the value of SEE, the closer will be the data points to the regression line, and the better the estimate based on the equation of the line. If the standard error of estimate is zero, then there is no variation.

about the line and the correlation will be perfect. The with the help of standard error of estimate, it is possible for us to ascertain how goes and representative the regression line is a description of the average relationship between two series.

T-Statistics

To test the validity of our assumption of sample size is less than 30 t-test is used applying t-test in the context of small sample, the t-value is calculated first and compared with the table value of 't' at a certain level of significance for given degree freedom. If the calculated value of 't' exceeds the table value (say 0.05) we infer t the difference is significant at present level. But if 't' is less than the concerning to value of 't' the difference is not treat as significant.

'F' Statistics

The ratios of two independent chi-square varieties divided by their respective degree of Freedom is known as F-statistic and the distribution of F-statistic is called fisher's F-distribution. The sampling distribution of F-statistic does not involve in population parameters and depends only on the degree of freedom. The range of values of F is from 0 to infinity. The value of F cannot be negative since both value of the F ratio are squared values. F test is for testing the linearity of regression. It is for testing the significance of an observed sample correlation ration. if the calculated value of 'F' > tabulated value n certain level of significance and given degree of freedom we conclude the there is significantly different. If the calculated value of than the table value of it concludes that the different is not significant.

Test of Hypothesis

Hypothesis is usually considered as the principal instrument in research. It can also be considered as suggested solution of the research problems. Its main function is to suggest new experiments and observation. With the available data decision makers applied the hypothesis testing and given the decision

accordingly. It may not be proved absolutely but in practice it is accepted if has withstood a critical testing. Usually the statically hypothesis is tested at 1%, 5% and 10% level of significance. Thus, the significance test will be conducted in the analysis of the date.

The hypothesis tests of this research work are:

1. First Hypothesis

Null hypothesis (Ho) : i) $\mu_1 = \mu_2 = \mu_3 = \mu_4$

ie. There is not significant difference in CRR on sample commercial banks.

ii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$

ie. There is significant difference in CRR among sample commercial banks.

2. Second Hypothesis

Null hypothesis (Ho) : i) $\mu_1 = \mu_2 = \mu_3 = \mu_4$

ie. There is not significant difference in net profit margin on sample commercial banks.

ii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$

ie. There is significant difference in net profit margin on sample commercial banks.

Analysis of Variance Test (F-Test): The analysis of variance is used to test whether the difference between the means of three or more populations is significant or not (Shrestha and Silwal 2057:261). So, the researcher used F-Test i.e. two way ANOVA to find out differences among the sample means.

Two-way ANOVA: The sum of squares of variation in columns (SSC) plus the sum of squares of variations in row (SSR) plus the sum of square as the residual value (SSE) make up the total sum of squares of variations (SST) ie.

$$SST = SSC + SSR + SSE$$

The total no. of degree of freedom = $Cr - 1$

Where C and r = No. of columns and no. of rows respectively.

Degree of freedom between columns = $C - 1$

Degree of freedom between rows = $r - 1$

Degree of freedom between residual = $(C - 1)(r - 1)$

Table 3.1 Two Way ANOVA Table:

Source of Variations	D.F.	Sum of Square	Mean sum of Square	F-Ratio
Due to column factor	$C - 1$	SSC	$MSC = SSC / C - 1$	$F_c = MSC / MSE$
Due to rows factor	$r - 1$	SSR	$MSR = SSR / r - 1$	$F_r = MSR / MSE$
Residual (error)	$(c - 1)(r - 1)$	SSE	$MSE = SSE / (c - 1)(r - 1)$	

3.5.3 Diagrammatic Representation

Diagrams & graphs are visual aids that give birds eye view of a given set of numerical data. They represent the data in simple and readily comprehensive form. Multiple bar diagrams are used for presenting a comprehensive picture of the four banks selected for the research study.

CHAPTER - IV

DATA PRESENTATION & ANALYSIS

Raw Data were properly processes, tabulated and analyzed in this chapter to appraise the performance of selected commercial banks. For better understanding and presentation; financial cum statistical tools were used. Tables were based on data provided by concerned banks & charts were also created according the selected table. An attempt has been made to analyze & interpret financial data of the subject matter in sequential order.

4.1. Ratio Analysis

4.1.1 Liquidity/ Working Capital Analysis

Basically, commercial banks need liquidity to meet loan demand and deposit withdraws. Liquidity is also needed for the purpose of meeting cash reserve ratio (CCR) requirement prescribed by NRB. The failure of the bank to meet its cash obligation due to lack of sufficient liquidity will result bad credit worthiness and loss of creditors confidence. A very high degree of liquidity is also bad: idle or non-performing assets earn nothing. Therefore, it is necessary to strike a proper balance between liquidity crunch and liquidity crisis.

4.1.1.1 Cash Reserve Ratio (CRR)

A bank must ensure that it has a sound liquidity position to face the instant claims by its creditors. So, CRR measures the ability to meet short term obligation and reflect the short term financial strength and solvency of the bank.

Adequate liquidity is must also in the baking sector in order to protect its solvency and to honor its short term obligations & liabilities. Failing to do so, banks might have gone for liquidation and hence to protect the creditors interest. Central Bank (NRB) has directed all the banks to maintain the adequate CRR by the provisioning of 5.5 percent of total deposit.

Table 4.1 (a)
Cash Reserve Ratio (in percentage)

Year	SCBNL	NABIL	HBL	EBL
2005/06	9.07	8.51	8.30	2.0
2006/07	9.46	6.87	8.28	1.6
2007/08	8.77	3.83	7.86	1.9
2008/09	6.86	3.26	5.92	1.9
2009/10	5.46	6.00	5.92	2.9
Mean	7.92	5.69	7.26	2.06
S.D.	1.70	2.17	1.23	0.49
C.V.	21.48	38.08	16.98	23.93

Source: Annual Reports (2005/06 - 2009/10)

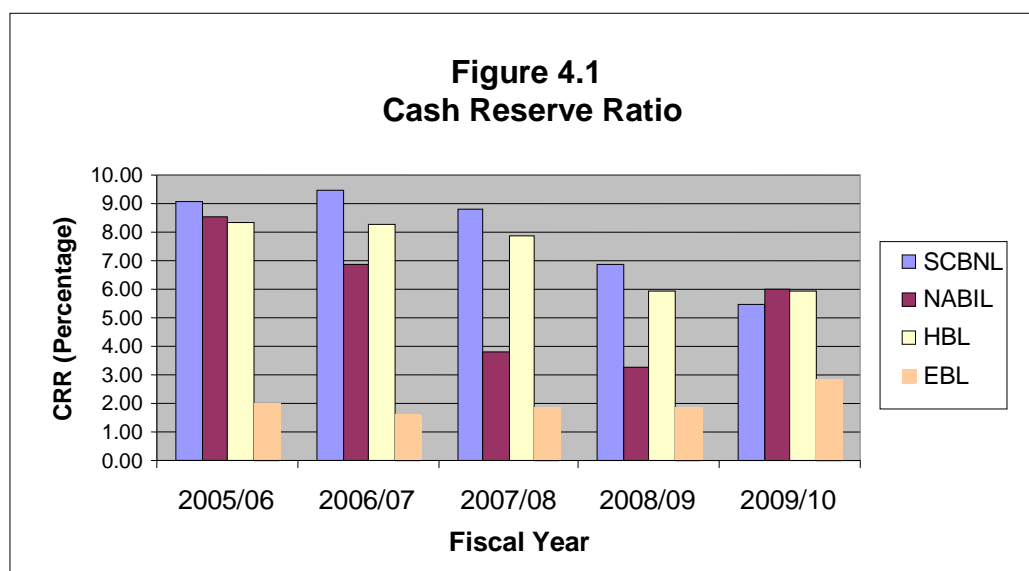


Table 4.1(a) is computed using scientific calculator. This shows the average CRR of SCBNL, Nabil, HBL & EBL is 7.92, 5.69, 7.26 & 2.06 percent respectively. Similarly the CV of the same banks are 21.48, 38.08, 16.98 & 23.93 percent respectively. This shows that the average CRR of SCBNL & HBL is almost same. This has also been depicted in Figure 4.1. It is above NRB directive in case of Nabil bank. But the average CRR of EBL is 2.06%, which is less than 5%. It means, EBL was unable to maintain CRR as per the

directives. On the basis of CV, It indicates that the value of HBL is more consistent due to lower CV than other banks.

Test of Hypothesis (Two-way ANOVA)

- Null Hypothesis (Ho):
- i) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is not significant different in CRR (among four different banks) in five different years.
 - ii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ ie. there is significant different in CRR among four different banks.

Alternative Hypothesis (H1):

- i) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ ie. there is not significant different in CRR (among four different banks) in five different years.
- ii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ ie. there is significant different in CRR among four different banks.

Level of significance = 5%

Test Statistics:

The test is based on significance of CRR among four different banks in five different years. So, we use two-way ANOVA.

Table 4.1 (b)

Two-Way ANOVA

Source of Variation	d.f.	Sum of Square	Mean Sum of Square	F-Ratio
Due to Column Factor	$(c-1)=4-1=3$	SSC=103.06	MSC=34.35	$F_c=20.05$
Due to Row Factor	$(r-1)=5-1=4$	SSR=16.88	MSR=4.22	$F_r=2.46$
Due to Error	$(c-1)(r-1)=12$	SSE=20.57	MSE=1.71	

The detail calculation of the above table is presented in the Appendix-1.

Area of Critical Region :

The tabulated value of F at 5% level of significance for (3,4) d.f. is 6.59.

Decision:

- i. The calculated F (20.05) > tabulated F (6.59). Therefore, we reject null hypothesis and conclude that there is significant difference in CRR (among four banks) in five different years.
- ii. The calculated F (2.46) < tabulated F (6.59). Therefore, we accept null hypotheses and conclude that there is no significant difference in CRR among four different banks.

4.1.2 Profitability Analysis

The operating efficiency of the banks and its ability to ensure adequate return to its shareholders depends ultimately on the profit earned by the banks. Sufficient profits must be obtain find from investors for expansion and growth and to continue towards the social overheads for welfare of the society" (Pandey, 1997:124). Thus profitability ratios are computed to measure to

efficiency of banks in terms of profit margin, return on assets, interest on loan & advance and operating ratio.

4.1.2.1 Net Profit Margin (NPM)

Net profit margin indicates margin of cooperation left to the owners for providing their capital after all expenses have been net. It helps in determining the efficiency with which the affairs of the business are being managed. A net profit would enable the firm to withstand adverse economic conditions and low margin will have opposite implications.

Table 4.2 (a)
Net Profit Margin (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	33.71	29.16	27.51	14.8
2006/07	33.95	31.92	30.75	18.3
2007/08	34.01	34.33	32.98	19.9
2008/09	37.06	35.32	35.16	22.2
2009/10	34.55	32.16	34.90	21.6
Mean	34.66	32.58	32.26	19.36
S.D.	1.38	2.39	3.19	2.97
C.V.	3.98	7.34	9.89	15.34

Source: Annual Reports (2005/06 - 2009/10)

Table 4.2(a) depicts the computation of average net profit margin of SCBNL (i.e.3466) has higher value than that of other banks. The average NPMs of Nabil, HBL are almost same. Whereas, it is lowest in case of EBL(i.e.1936) which is such below than the other banks. On the basis of CV of NPM; EBL is greatest among all, showing greater inconsistency. The CV of SCBNL, Nabil & HBL are 3.98, 7.24 and 9.89 percent respectively. Figure 4.2 reveals it more obvious.

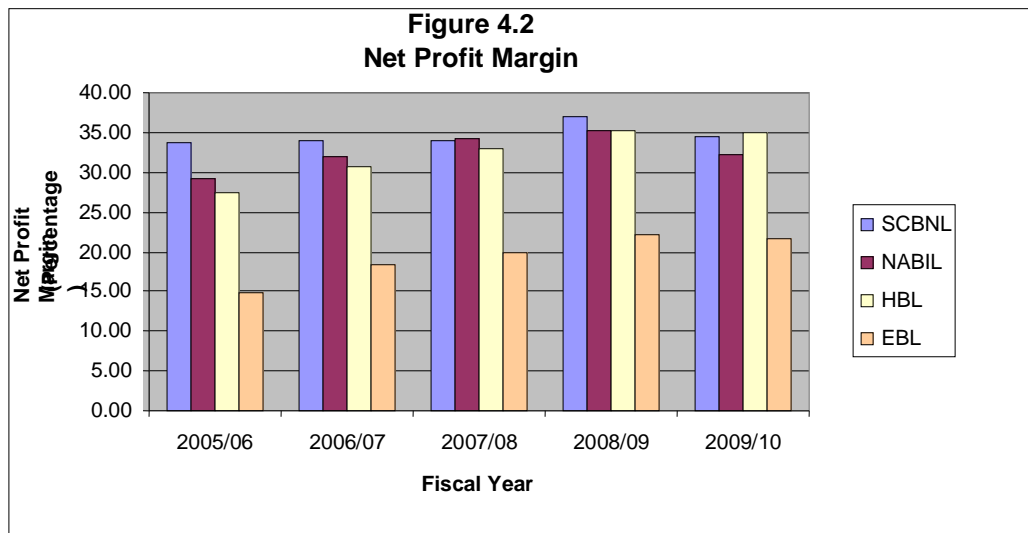


Figure 4.2 shows that the NPM of SCBNL is increasing slightly. The variations on increase of NPM increase more and more on NABIL, HBL & much higher on EBL.

Test of Hypothesis (two-way ANOVA)

Null Hypothesis (H₀):

- i) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is not significant difference in Net Profit Margin of different banks in five different years.

- iii) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is significant difference in NPM in five different banks.

Alternative Hypothesis (H₁):

- i) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$

- ii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$

ie. there is significant difference in NPM in five different years as well as among four different banks.

Level of significance = 5%

Test Statistics : The test is based on significance of net profit margin among four different banks in different years. Therefore we used tow-way ANOVA.

Table 4.2 (b)

Two-Way ANOVA

Source of Variation	d.f.	Sum of Square	Mean Sum of Square	F-Ratio
Due to Column Factor	$(c-1)=4-1=3$	SSC=731.57	MSC=243.86	$F_c=145.37$
Due to Row Factor	$(r-1)=5-1=4$	SSR=86.38	MSR=21.60	$F_r=12.87$
Due to Error	$(c-1)(r-1)=12$	SSE=20.13	MSE=1.68	

The details calculation of the above table is presented in the Appendix-2.

Area of critical region : The tabulated value of F at 5% level of significance for (3,4) d.f. is 6.59.

Decision:

- i) The calculated F (145.37) > tabulated F (6.59). Therefore, we reject will hypothesis and conclude that there is significant different in NPM of selected banks in five different years.
- ii) The calculated F (12:87) > tabulated F (6.59). Therefore we accept alternative hypothesis that there is significant difference in NPM among four different banks.

4.1.2.2 Return on Assets (ROA)

The effectiveness in using the total fund supplied by the owners and creditors is judged by this ration. Higher ratio shows the higher return on assets used in business thereby indicating effective use of the resources available and vice-versa.

Table 4.3
Return on Assets (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	2.42	2.43	0.91	1.2
2006/07	2.27	2.73	1.06	1.5
2007/08	2.46	3.06	1.11	1.4
2008/09	2.56	3.23	1.55	1.5
2009/10	2.42	2.72	1.47	1.4
Mean	2.43	2.83	1.22	1.40
S.D.	0.10	0.31	0.28	0.12
C.V.	4.30	11.09	22.64	8.75

Source: Annual Reports (2005/06 - 2009/10)

Table 4.3 shows the average ROA of SCBNL, Nabil, HBL & EBL are 2.43, 2.83, 1.22 & 1.40 percent respectively. As such SIBNL & Nabil has similar line up of ROA, so is the case with HBL & EBL. this show the similar ROA earning banks has similar efficiency in utilizing their assets. The table shows that the ROA of all banks are higher in the year 2008/09. On the basis of C.V., the ratio seems more consistent with SCBNL consistency in ROA is considerable for EBL (8.75) and Nabil (11.09). Whereas HBL has the greatest fluctuation of ROA being 22.64%. It becomes more clear in the figure below.

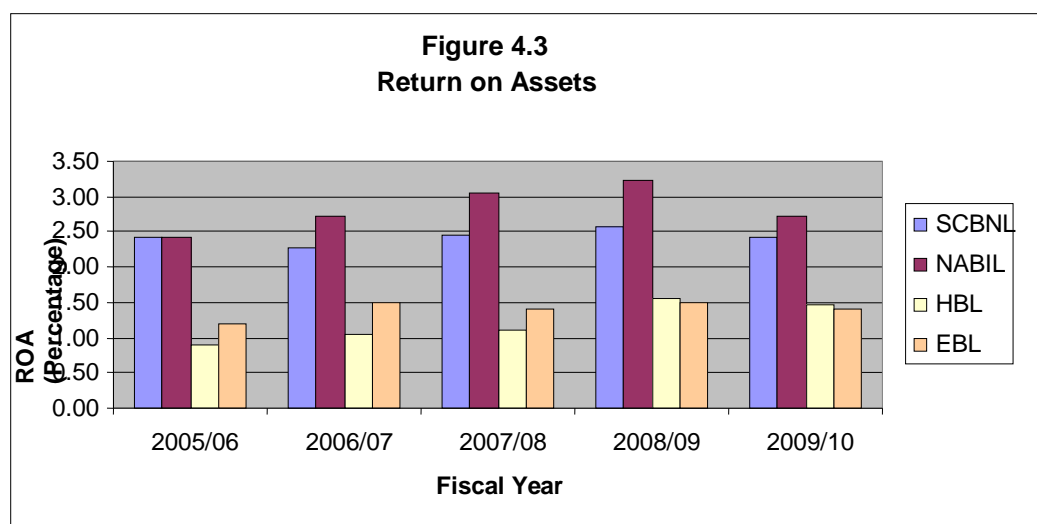


Figure 4.3 shows that the ROA of SCBNL & EBL are fluctuating, due to its fluctuate nature of ROA..

4.1.2.3 Interest Income on Loan & Advances

Interest income is the major source of income from loan and advances that comprises higher rate of interest income. It shows higher utilization of loan & advances.

Table 4.4
Interest Income on Loan & Advances (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	10.11	9.83	11.08	10.5
2006/07	8.83	9.45	9.64	9.2
2007/08	7.43	8.70	10.75	8.0
2008/09	6.23	8.29	10.32	7.6
2009/10	6.49	8.14	9.98	6.9
Mean	7.82	8.88	10.35	8.44
S.D.	1.64	0.73	0.58	1.42
C.V.	20.93	8.26	5.58	16.85

Source: Annual Reports (2005/06 - 2009/10)

Table 4.4 shows that, the average interest income on loan & advances of HBL has higher value than other banks i.e. 10.35%. The average interest on loan & advances of SCBNL, Nabil & EBL seems 7.82, 8.88 & 8.44 percent respectively. It indicates that HBL is able to get high rate of interest income on Loan & Advances than others. Besides its interest Income on loan & advance is most consistent among related banks, which is depicted by lowest CV i.e. 5.58%. Nabil also has less fluctuating interest income (i.e.CV=8.26). However, SCBNL and EBL have more fluctuating Interest income on and EBL on loan & advances i.e. 20.93% & 16.85% respectively. Following diagram makes it more clear.

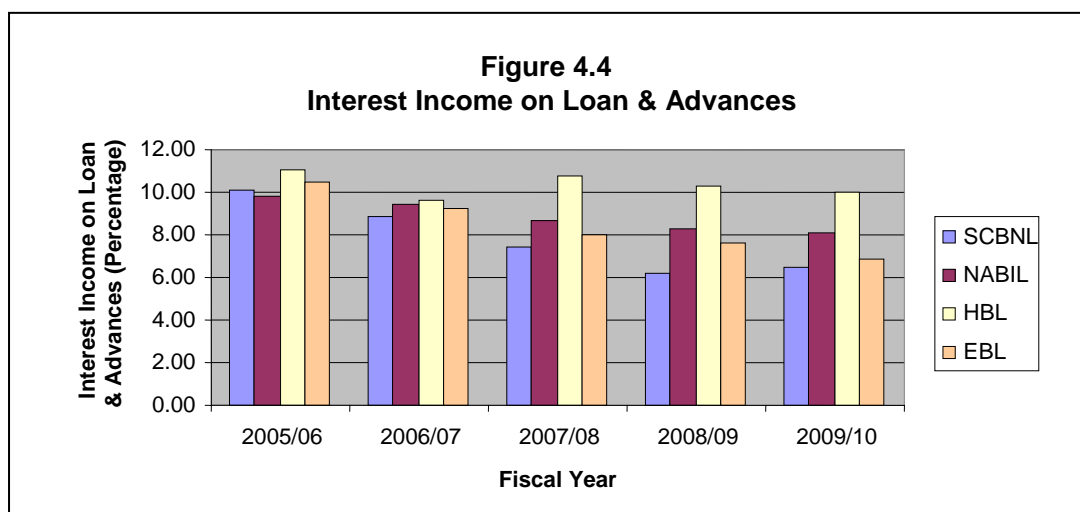


Figure 4.4 shows that all banks have highest interest income on loans & advances in the fiscal year 2005/06. Afterwards, it is more or less lower and fluctuating in the following years. This is due to lowered interest rate with the increasing number of banks & competition.

4.1.2.4 Operating Ratio

The operating ratio indicates on operating efficiency increased on total assets. It determines the operational efficiency.

Table 4.5
Operating Ratio (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	3.32	4.06	23.19	5.4
2006/07	2.92	3.69	27.00	6.0
2007/08	3.03	3.73	29.19	4.1
2008/09	2.69	3.86	30.02	3.9
2009/10	2.94	3.97	30.32	3.6
Mean	2.98	3.86	27.94	4.60
S.D.	0.23	0.16	2.96	1.04
C.V.	7.64	4.05	10.59	22.64

Source: Annual Reports (2005/06 - 2009/10)

Table 4.5 shows that the average operating ratio SCBNL, Nabil, HBL & EBL are 2.98, 3.86, 27.94 & 4.60 percent respectively. IT indicates that HBL incurs highest operating expenses on total assets which is far above than that of others SCBNL has satisfactory level in expenses operating ratio. Nabil & EBL also has the operating ration somewhat at similar level. On the basis of CV, Nabil seems more consistent than other banks. But EBL has most inconsistent operating ratio Figure 4.5 has been shown below to give its clear picture.

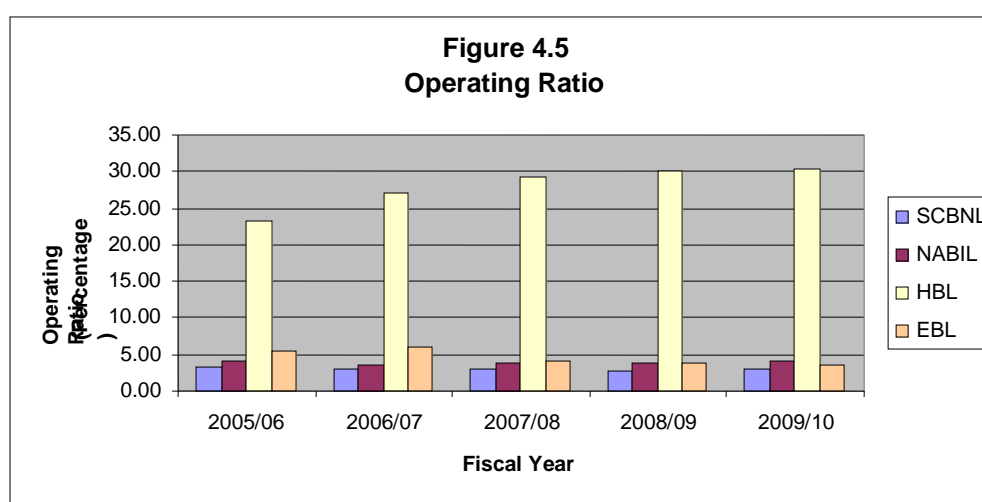


Figure 4.5 shows that operating ratio of HBL is the higher and that of EBL is most fluctuating.

4.1.3 Activity Ratio Analysis

The activity ratios measure the effectiveness of assets utilization, reflecting the management efficiency to used available resources. the banks used the funds of creditors and owners in various profit generating assets like loan & advances, investments etc. So, the activity ratios are employed to evaluate the efficiency of the banks in terms of utilizing its assets.

4.1.3.1 Credit Deposit Ratio

Banks accepts deposit and lends them bay charging a higher rate of interest to the borrowers than they pay to the depositors thereby banks make profit. The

credit deposit ratio confessors the extent to which the banks are successful to mobilize the outsider fund (i.e. total deposit) in loans & advances for the purpose of profit-generation. Comparative CD ratio of selected loading banks has been tabulated below:

Table 4.6
Credit Deposit Ratio (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	31.99	60.34	47.61	75.4
2006/07	31.63	60.55	54.30	75.6
2007/08	43.49	75.05	50.07	78.2
2008/09	39.92	68.63	55.27	73.4
2009/10	43.78	68.13	56.57	77.4
Mean	38.16	66.54	52.76	76.00
S.D.	6.00	6.20	3.77	1.88
C.V.	15.71	9.31	7.15	2.47

Source: Annual Reports (2005/06 - 2009/10)

Using scientific calculator for computation, Table 4.6 shows the average credit deposit ratio of EBL having higher value than other banks ie. 76%. It is comparatively far higher than there value. The average credit deposit ratio of SCBNL, Nabil & HBL are 38.16%, 66.54, 52.76 percent respectively. The table shows that average CD ratio of SCBNL seems least, whereas Nabil & HBL is able to almost satisfactory level comparison to EBL. Also on the banks of CV, EBL has most consistent CD ratio. CV of SCBNL is least consistent. The figure below makes it more obvious.

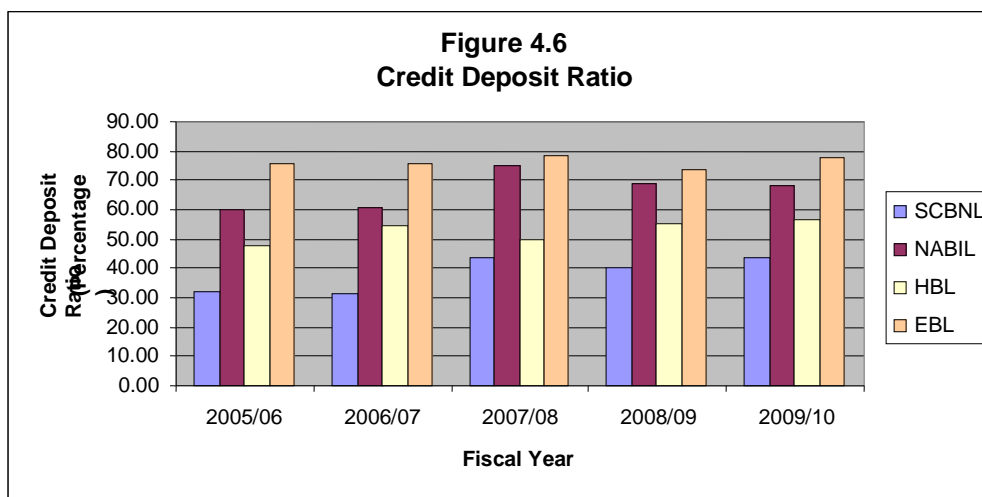


Figure 4.6 shows that the Credit Deposit Ratio of EBL is highest & less fluctuating in nature.

4.1.4 Bankruptcy/Solvency/Capital-Structure Analysis

A bank should have strong short term as well as long term financial position. The long term financial position of the banks is judged by the bankruptcy or average or capital structure ratio. It measures the extent of the banks total debt burden. It self4cts the banks ability to meet its short term as well as long term obligation.

To measure banks capacity of borrowing as means of capital accumulation i.e. over extension of credit & borrowing power which determines the long term solvency or bankruptcy of the banks several ratios are calculated as follows:

4.1.4.1 Capital Adequacy Ratio

Capital Adequacy ratio shows whether the commercial banks re maintaining sufficient amount of shareholders fund (net worth) in compression to total amount of their deposits. Extremely high or low ratio is inappropriate in terms of lowered return of lowered solvency repetitively. For this several capital adequacy ratios are calculated.

4.1.4.1.1 Core Capital

Table 4.7

Capital Adequacy Ratio (Core Capital in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	12.25	11.45	7.07	11.6
2006/07	13.76	12.12	7.69	9.6
2007/08	13.99	11.35	8.33	8.9
2008/09	12.99	10.78	8.65	8.2
2009/10	13.77	10.40	9.61	7.8
Mean	13.35	11.22	8.27	9.22
S.D.	0.72	0.66	0.96	1.50
C.V.	5.42	5.89	11.66	16.24

Source: Annual Reports (2005/06 - 2009/10)

Table 4.7 shows the average core capital ratio of SCBNL is higher than other banks i.e.13.35%. It means, SCBNL has been giving higher contribution to maintain core capital. The average core capital of Nabil HBL & EBL are 11.22, 8.27 & 9.22 percent respectively. On the basis of C.V. it can be said that core capital of SCBNL is more consistent than that of others. EBL is CV shows less constancy of core capital due to higher fluctuation. Figure 4.7 makes it more obvious.

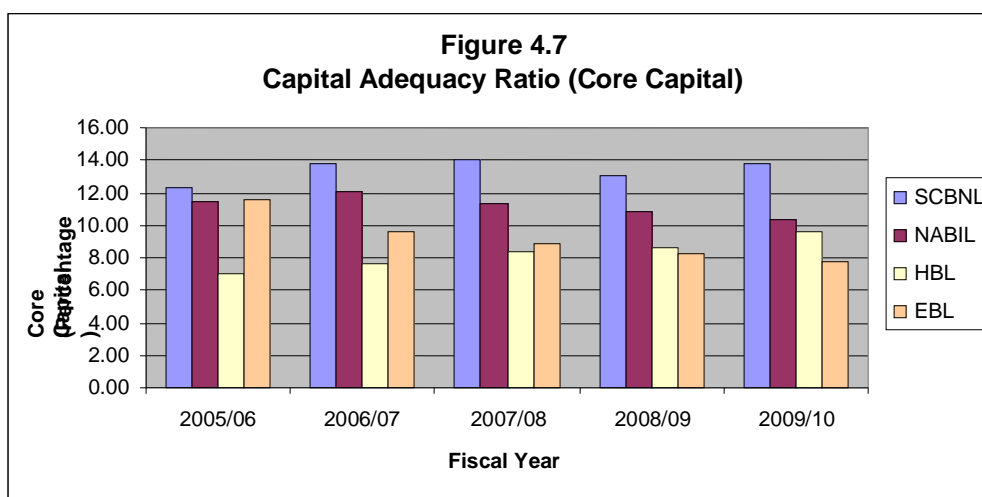


Figure 4.7 reveals that the core capital of HBL is increasing in nature, whereas EBL has decreasing trend SCBN & Nabil have fluctuating trend.

4.1.4.1.2 Supplementary Capital

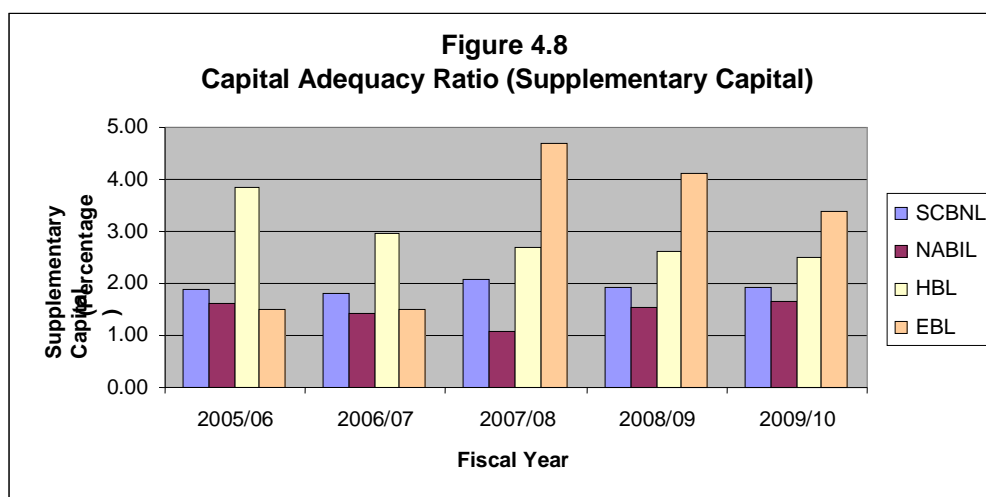
Table 4.8

Capital Adequacy Ratio (Supplementary Capital in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	1.89	1.60	3.85	1.5
2006/07	1.81	1.44	2.96	1.5
2007/08	2.07	1.09	2.68	4.7
2008/09	1.94	1.52	2.62	4.1
2009/10	1.94	1.64	2.50	3.4
Mean	1.93	1.46	2.92	3.04
S.D.	0.09	0.22	0.55	1.48
C.V.	4.90	15.06	18.67	48.66

Source: Annual Reports (2005/06 - 2009/10)

Table 4.8 shows the average supplementary capital is 1.93, 1.46, 2.92 & 3/04 percent respectively. Also the CV is 4.90, 15.06, 18.67 & 48.66 percent respectively. On the basis of CV, SCBNL & EBL has the most consistent & fluctuating ratios. It has been clearly depicted in the chart below.



4.1.4.1.3 Total Capital Fund

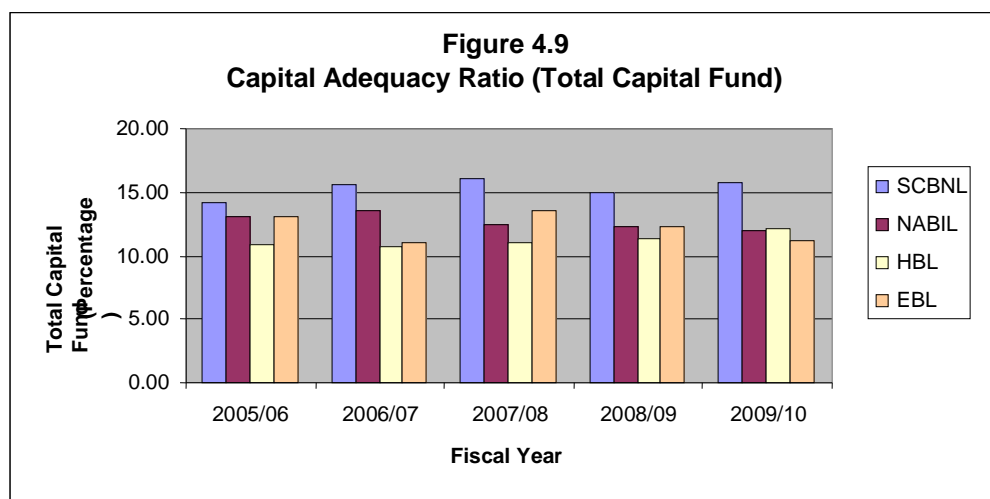
Table 4.9

Capital Adequacy Ratio (Total Capital Fund in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	14.14	13.05	10.93	13.1
2006/07	15.57	13.56	10.65	11.1
2007/08	16.06	12.44	11.01	13.6
2008/09	14.93	12.31	11.26	12.3
2009/10	15.71	12.04	12.11	11.2
Mean	15.28	12.68	11.19	12.26
S.D.	0.76	0.62	0.56	1.11
C.V.	4.96	4.85	4.98	9.09

Source: Annual Reports (2005/06 - 2009/10)

By computation, Table 4.9 shows the average mean of total capital fund of SCBNL, Nabil HBL & EBL is 15.28, 13.68, 11.19 and 12.26 percent respectively. Similarly the CV is 4.96, 4.85, 4.98 and 9.09 percent respectively. So, considering the above table it shows that the average total capital fund of SCBNL had higher value than after banks ie. 15.28 percent. It means SCBNL had strong total capital fund on the basis of CV SCBNL, Nabil & HBL have similar consistency over total capital fund. However EBL is more fluctuating. Figure 4.9 makes it more obvious.



4.1.4.2. Interest Expenses to Total Deposit Ratio

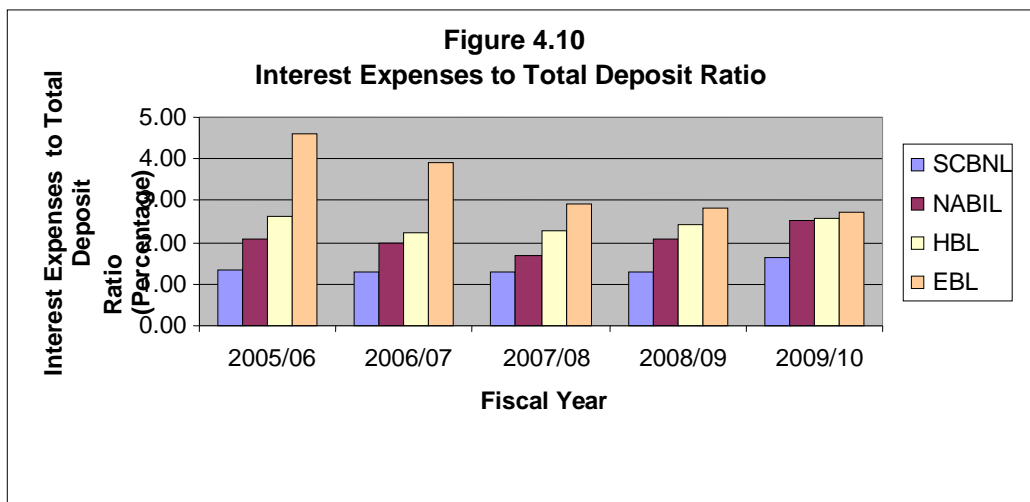
Interest expenses to total deposit Ratio is analyzed to find out how the banks were successful to generate cheaper fund.

Table 4.10
Interest Expenses to Total Deposit Ratio (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	1.35	2.09	2.64	4.6
2006/07	1.30	1.97	2.23	3.9
2007/08	1.31	1.68	2.26	2.9
2008/09	1.31	2.09	2.45	2.8
2009/10	1.65	2.54	2.55	2.7
Mean	1.38	2.07	2.43	3.38
S.D.	0.15	0.31	0.18	0.83
C.V.	10.83	14.93	7.37	24.70

Source: Annual Reports (2005/06 - 2009/10)

Table 4.10 shows that the average of ratio of interest expenses to total deposit of SCBNL is lower than other banks ie. 1.38%. It means SCBNL is able to generate chapter fund than other banks. The average ratio of Nabil, HBL & EBL is 2.07, 2.43 & 3.38 percent respectively. EBL has higher average ratio that means EBL is less efficient to quote their fund. On the basis of CV HBL's ratio is more constants that others banks, due to lower CV. But EBL's ratio is lest consistent. Figure 4.10 makes it more obvious.



The above chart shows that all banks had decreasing trend until 2008/09, then increasing except EBL.

4.1.5 Market Value Analysis

Market value analysis indicates the market value of the banks as compared to the bank value and measured the stock price relative to earnings. In this part the researcher analyzes and compares the various market related ratio analysis such as EPS, P-E ratio, Cash divided on share capital & dividend (including bonus) on share capital for better presentation.

4.1.5.1 Earning Per Share (EPS)

EPS shows the profitability of the banks on per share basis. It shows the earning available to each shareholder out of the total earning. It is the major stake with regards to banks shareholders.

Table 4.11
Earning Per Share (in Rs.)

Year	SCBNL	NABIL	HBL	EBL
2005/06	149.30	84.66	49.45	29.9
2006/07	143.55	92.61	49.05	45.6
2007/08	143.14	105.49	47.91	54.2
2008/09	175.84	129.21	59.24	62.8
2009/10	167.37	137.08	60.66	78.4
Mean	155.84	109.81	53.26	54.18
S.D.	14.90	22.73	6.15	18.19
C.V.	9.56	20.70	11.55	33.58

Source: Annual Reports (2005/06 - 2009/10)

Table 4.11 shows that average of SCBNL is far higher value than other banks. ie.155.84. The average EPS of Nabil, HBL and EBL is 109.81, 53.26 and 54.18 rupees respectively. As such EPS SCBNL has earned more profit on per share basis. Nabil is second to earn higher EPS. Whereas, HBL & EBL are in the sane living earning one third and half of the per share earning generated by SCBNL & Nabil. On the basis of CV also SCBNL has more consistent EPS than the other banks ie. 9.56%. HBL is second in consistency on EPS (11.55%). But EBL is least consistent i.e. 33.58%, but most increasing each year.

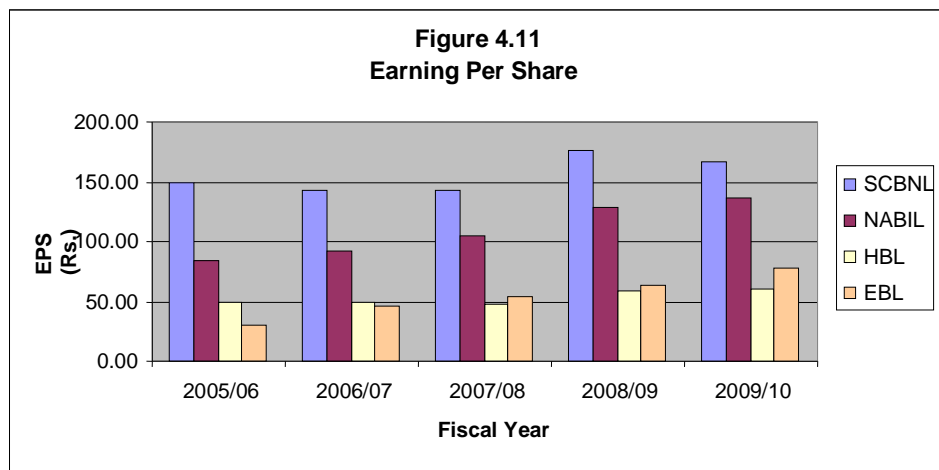


Figure 4.11 displays that Nabil & EBL has increasing trend of EPS; which is a very good trend. But SCBNL and HBL has increasing EPS in same what Fluctuating trend.

4.1.5.2 Price Earning Ratio (P/E ratio)

Price Earning ratio is used to assess the banks performance as expected by the investors. Higher the ratio the better it is for the owners.

Table 4.12

Price Earning Ratio (in Times)

Year	SCBNL	NABIL	HBL	EBL
2005/06	10.98	8.74	16.91	14.9
2006/07	12.16	10.80	17.12	14.9
2007/08	16.38	14.27	19.20	16.0
2008/09	21.47	17.34	18.57	22.0
2009/10	35.25	36.84	28.69	31.0
Mean	19.25	17.60	20.10	19.76
S.D.	9.85	11.25	4.90	6.94
C.V.	51.16	63.92	24.37	35.13

Source: Annual Reports (2002/03 - 2006/07)

Table 4.12 depicts that the average P/E ratio of all banks are in increasing pattern. HBL has higher value than the other banks i.e. 20.10 times. In spite of the increasing trend, Nabil has lowest value i.e. 17.60 times. The average P/E ratio of SCBNL & EBL are similar to 19.25 and 19.76 times respectively. On the basis of CV, Nabil has higher inconsistency (i.e. CV=63.92%) due to higher increasing trend HBL CV of SCBNL, HBL & EBL is 51.16, 24.37 & 35.13 percent respectively. As such HBL has more consistent P/C ratio.

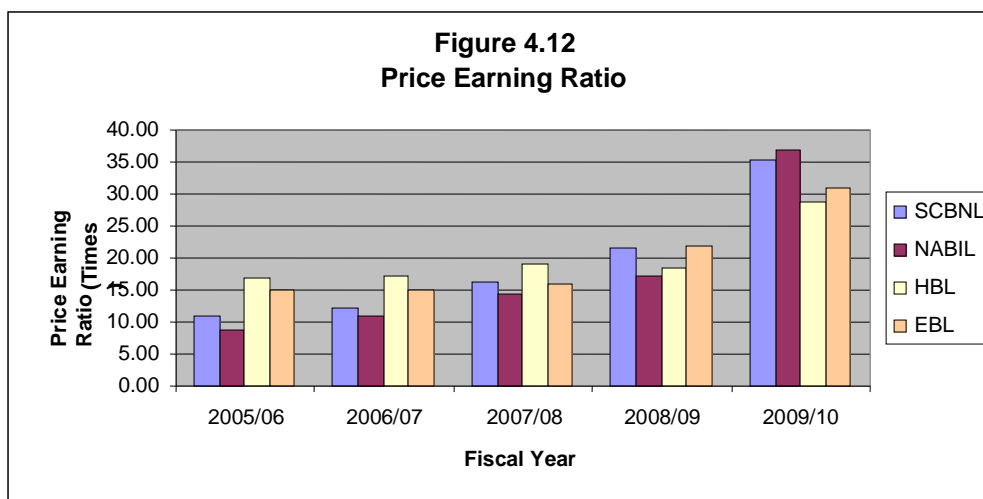


Figure 4.12 shows that P/E ratio of all banks are in increasing trend, except HBL in 2008/09. Nabil has immensely increasing nature; SCBNL is second to it.

4.1.5.3 Cash Dividend on Share Capital

It measures the market value or profitability of the banks on dividend per equity share. In general higher the ratio, better it is and vice versa. Generally, this ratio is affected by two competent:

1. Amount of earning distributed as dividend.
2. No of equity common shares

Table 4.13
Cash Dividend on Share Capital (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	110.00	50.00	1.32	20.0
2006/07	110.00	65.00	0.00	20.0
2007/08	120.00	70.00	11.58	0.0
2008/09	130.00	85.00	30.00	25.0
2009/10	80.00	100.00	15.00	10.0
Mean	110.00	74.00	11.58	15.00
S.D.	18.71	19.17	12.15	10.00
C.V.	17.01	25.91	104.91	66.67

Source: Annual Reports (2005/06 - 2009/10)

Table 4.13 shows that the average cash dividend ratio of SCBNL is far higher than other banks ie. 110. The average cash dividend ratio of Nabil, HBL & EBL is 74, 11.58 and 15 percent respectively. Thus, SCBNL's equity shareholder are getting the highest and dividend. Which is lowest to HBL's shareholder. Nabil has been providing cash dividend in ever increasing pattern. On the basis of CV, it seems that the SCBNL's cash dividend ratio is most consistent too Nabil next to it but HBL has least consistency. The figure below makes it more obvious.

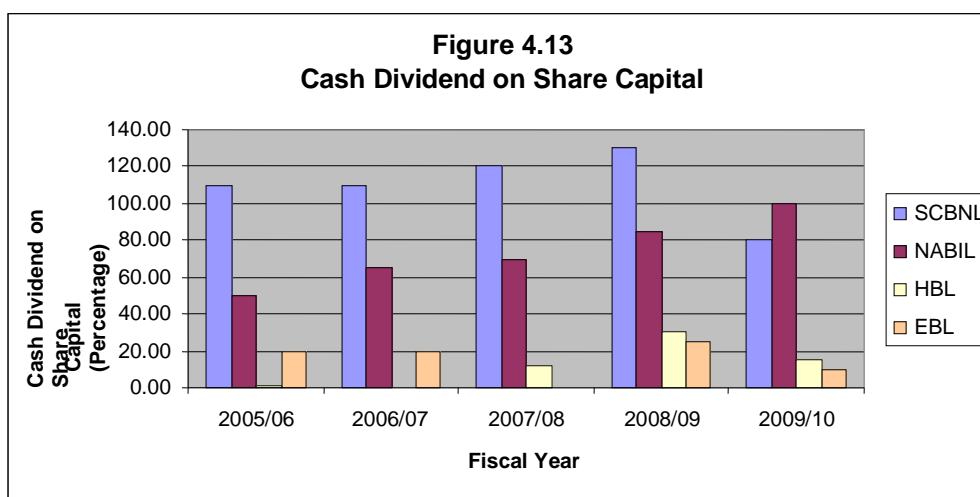


Figure 4.13 reveals that Nabil's cash dividend on share capital is in increasing trend. HBL has not been providing cash dividend on 2006/07 & EBL on 2007/08. SCBNL is providing in the highest figure among all banks, except on 2009/10 exceeded by Nabil.

4.1.5.4. Dividend (including bonus) on Share Capital

Table 4.14

Dividend (including bonus) on Share Capital (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	120.00	50.00	25.00	0.0
2006/07	110.00	65.00	20.00	0.0
2007/08	120.00	70.00	31.58	20.0
2008/09	140.00	85.00	35.00	0.0
2009/10	130.00	140.00	40.00	30.0
Mean	124.00	82.00	30.32	10.00
S.D.	11.40	34.75	7.94	14.14
C.V.	9.19	42.38	26.18	141.42

Source: Annual Reports (2005/06 - 2009/10)

Table 4.14 shows the average of such ratio of SCBNL allows higher value than other banks ie. 124%. The average of such ratio of Nabil, HBL & EBL is 82, 30.32 & 10 percent respectively. It indicates that shareholder of SCBNL are more satisfied. EBL especially, has fail to provide dividend (including bonus), except in the fiscal year 2007/08 & 2009/10. That's why its ratio is the least among all. Also on the basis CV, EBL is ratio is more fluctuating (141.42%) due to that reason. Whereas, SCBNL is the most consistent in providing dividend. Besides, CV of Nabil & EHL is 42.38 & 26.18% respectively. Following chart reflects it more clear.

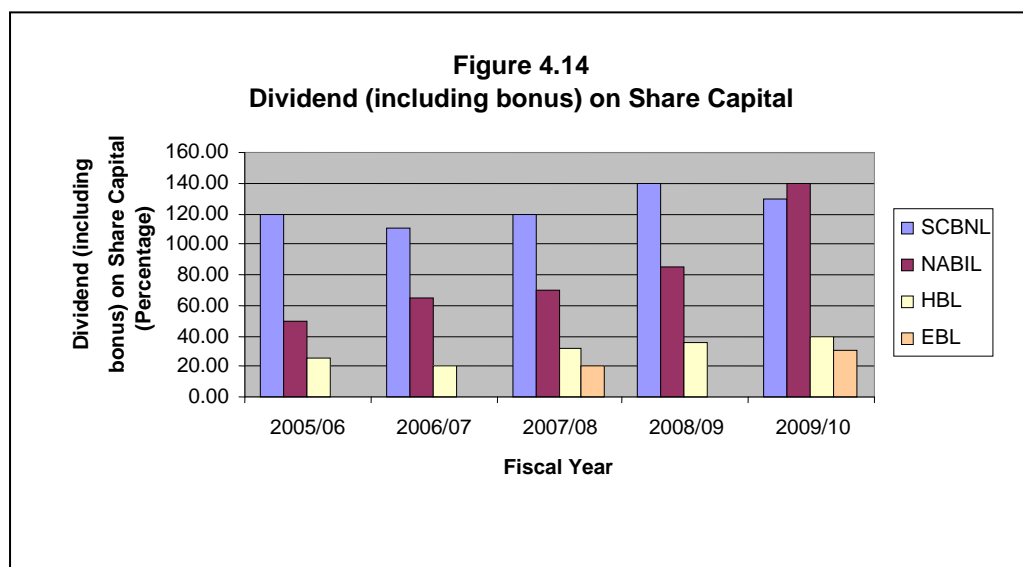


Figure 4.14 shows that dividend (including bonus) on share capital is the highest & least fluctuating among all. NABIL's ratio has ever increasing pattern HBL's is quite fluctuating. But EBL is even not sure of providing dividend (including bonus) on share capital each year as depicted on 2005/06, 2006/07 & 2007/08.

4.1.6 Other Relevant Ratios

To make more analytical & better permeation of comparative performance analysis it is also necessary to compute following relevant ratios.

4.1.6.1 Staff Expenses to Total Operating Ratio

Table 4.15

Staff Expenses to Total Operating Ratio (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	18.48	30.34	39.00	8.5
2006/07	19.51	29.43	40.00	10.3
2007/08	22.53	31.50	41.95	12.4
2008/09	24.29	28.93	41.57	11.5
2009/10	23.75	24.41	44.35	11.0
Mean	21.71	28.92	41.37	10.74
S.D.	2.59	2.71	2.05	1.47
C.V.	11.91	9.35	4.95	13.66

Source: Annual Reports (2002/03 - 2006/07)

Table 4.15 shows that the average of such ratio of HBL is higher than that of other banks 41.37. It means, HBL has been paying more benefit allowance staff expense. The average of such ratio of SCBNL, Nabil & EBL is 21.71, 28.92 & 10.74 percent respectively. As such, EBL in providing least to its staff SCBNL and Nabil are maintaining staff expenses to the same considerable level. The CV of SCBNL, Nabil, HBL & EBL is 11.91, 9.35, 4.95 and 13.66 percent respectively. On the basis of CV it can be said that the ratio of HBL is more consistent than other banks due to lower CV other banks have some fluctuating pattern to staff expenses. The figure 4.15 makes it more obvious.

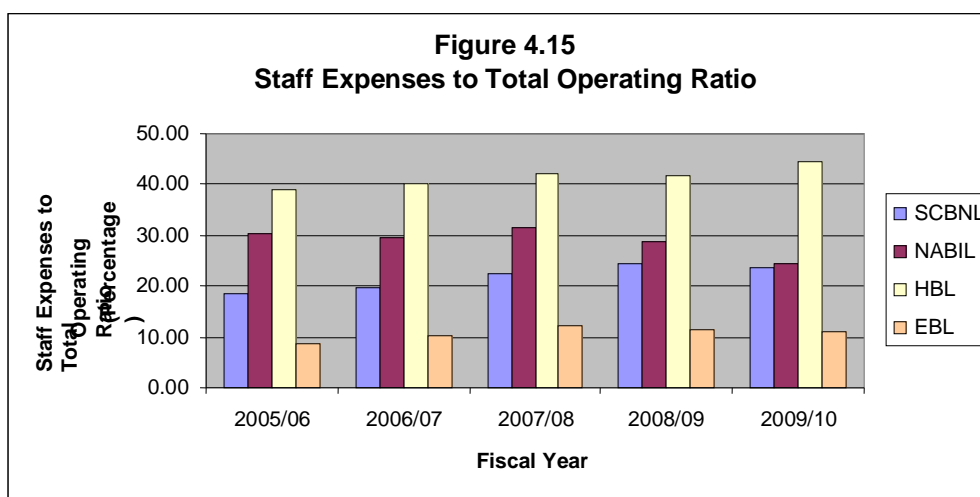


Figure 4.15 shows that all banks have increasing trend up to third year simultaneously. And then the trend is decreasing in nature of Nabil, HBL & EBL SCBNL's declines after fourth year.

4.1.6.2 Staff Bonus to Total Staff Expenses

Table 4.16

Staff Bonus to Total Staff Expenses (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	37.22	31.51	24.98	40.4
2006/07	38.96	39.78	23.45	48.2
2007/08	37.38	42.20	24.53	46.3
2008/09	35.83	40.86	22.28	48.7
2009/10	33.71	41.43	20.86	52.8
Mean	36.62	39.16	23.22	47.28
S.D.	1.97	4.36	1.68	4.52
C.V.	5.38	11.15	7.24	9.55

Source: Annual Reports (2005/06 - 2009/10)

Table 4.16 shows the average staff bonus to total staff expenses of EBL is higher value on the last five year than other banks i.e. 47.28%. The average of such ratios of SCBNL, Nabil & HBL is 36.62, 39.16 & 23.22 percent respectively. Considering the above table, it may be concluded that the average of SCBNL & Nabil also have near value to EBL. But HBL has less satisfactory in comparison with each other. On the basis of CV, the ratio of all banks are less fluctuating, especially of SCBNL i.e. 5.38%. Besides, VC of Nabil, HBL & EBL is 11.15, 7.24 & 9.55 percent respectively. This is shows in the figure below:

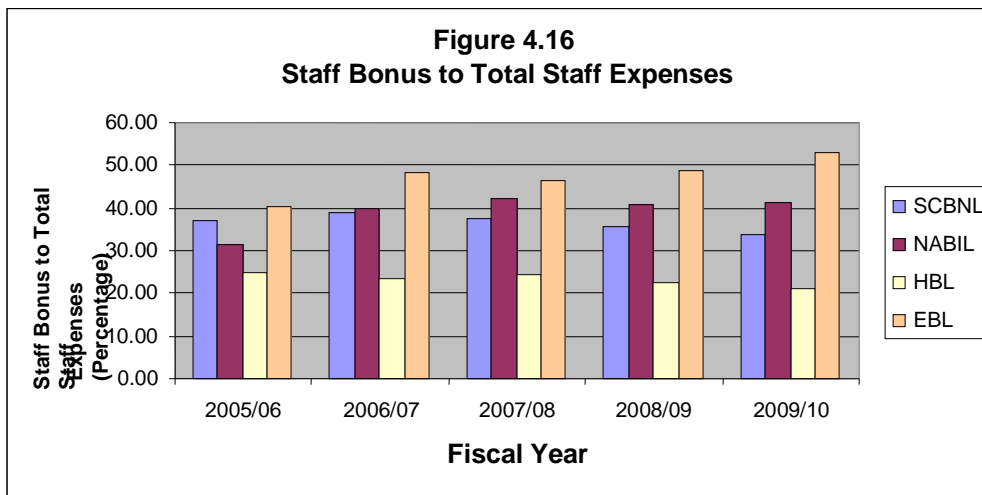


Figure 4.16 shows that the staff bonus to total staff expenses ratio of all the banks is fluctuating in nature.

4.1.6.3 Weighted Average Interest Rate Spread

Table 4.17

Weighted Average Interest Rate Spread (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	4.11	4.51	3.33	2.6
2006/07	3.76	4.46	3.25	4.0
2007/08	3.70	5.01	3.19	4.1
2008/09	4.10	4.90	3.80	4.0
2009/10	3.95	4.15	3.57	3.9
Mean	3.92	4.61	3.43	3.72
S.D.	0.19	0.35	0.25	0.63
C.V.	4.82	7.58	7.39	16.94

Source: Annual Reports (2005/06 - 2009/10)

Table 4.17 shows that the average of such ratio of HBL has lower value than other banks i.e. 3.43%. The average of such ratio of SCBNL, Nabil & EBL is 3.92, 4.61 & 3.72 percent respectively. Such ratio of remaining banks have been much scattered than HBL. The weight average inserted rate spread of these banks has ranged form 2.61% to 5.0. The CV of SCBNL, Nabil, HBL & EBL is 4.82, 7.58, 7.39 and 16.94% SCBNL, Nabil, HBL & EBL is 4.82, 7.58,7.39 and 16.94% respectively. On the basis of CV, SCBNL is more consistent than other banks due to lower C.V. ie. 4.82%. EBL's CV is the highest ie. 16.94% ; the most fluctuating. It means it had greater interest rate spread. The banks had been charging more interest rate on loan than on the deposit. Nabil & HBL has considerable consistency o weighted average interest rate spread. The diagram below makes it more obvious.

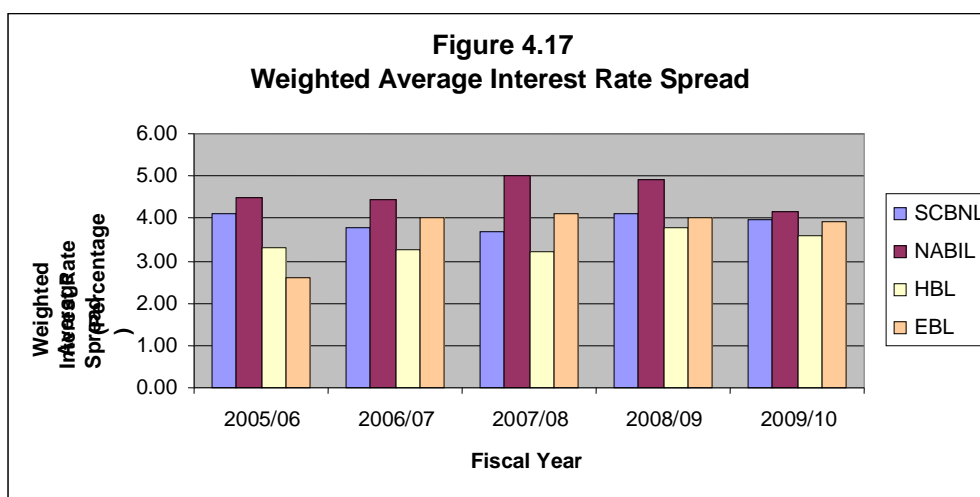


Figure 4.17 displays that the weighted average interest spread rates of all banks are fluctuating in nature. It means they have been maintaining lower interest rate spread on interest rate charged or offered by the banks. It is really a good trend in the view point of customer satisfaction and liberalized environment.

4.1.6.4 Exchange Gain to Total Income

Table 4.18

Exchange Gain to Total Income (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	15.46	10.09	7.54	5.0
2006/07	17.24	11.03	7.40	3.5
2007/08	17.32	12.24	7.80	3.2
2008/09	15.95	10.31	9.42	2.2
2009/10	15.44	10.02	6.71	2.1
Mean	16.28	10.74	7.77	3.20
S.D.	0.93	0.93	1.00	1.18
C.V.	5.74	8.66	12.92	36.78

Source: Annual Reports (2002/03 - 2006/07)

Table 4.18 shows that the average exchange gain of SCBNL, Nabil, HBL & EBL is 16.28, 10.74, 7.77 & 5.20 percent respectively. It indicates that SCBNL is in a satisfactory level in foreign exchange gain whereas EBL is in an unsatisfactory level due to its far lower average in comparison with other banks. Besides the annual exchange gain of EBL is gradually decreasing. The CV of SCBNL, Nabil, HBL & EBL is 5.74, 8.66, 12.82 and 36.78 percent respectively. So, on the basis of CV, it seems that SCBNL's ratio is most consistent. Nabil is next to it whereas EBL has the most fluctuating because it has the lowest CV among all banks. This is demonstrated in the diagram below:

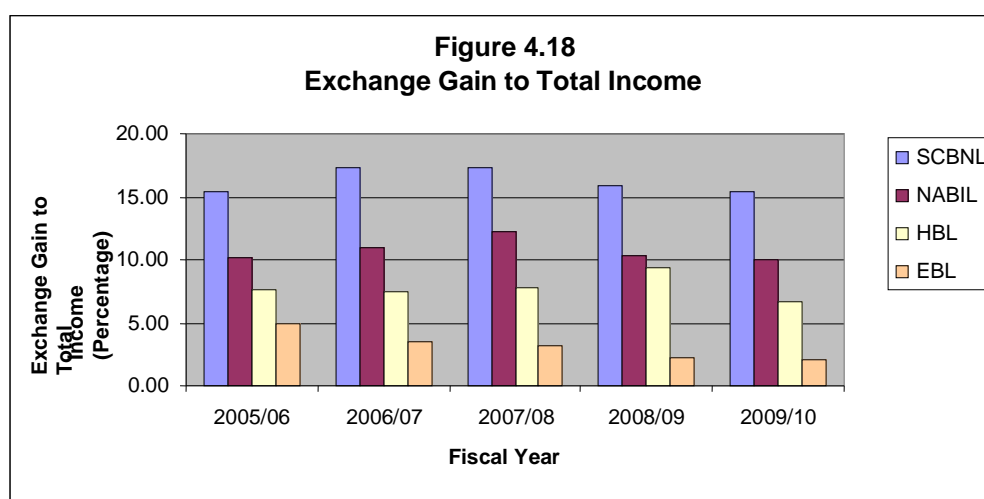


Figure 4.18 reveals that all banks except EBL have more or less fluctuating patterns of exchange gain. EBL alone has an overall decreasing trend.

Non-Performing Assets (NPA)

NPA is mostly considered as the bank's efficiency indicator of assets utilization and efficient lending & recovery. At present practices, NPA is the major concern for measuring the banking performance.

Table 4.19
Non-Performing Assets (in percent)

Year	SCBNL	NABIL	HBL	EBL
2005/06	4.13	5.54	10.08	2.2
2006/07	3.77	3.35	8.88	1.7
2007/08	2.69	1.32	7.44	1.6
2008/09	2.13	1.38	6.60	1.3
2009/10	1.83	1.12	3.61	0.8
Mean	2.91	2.54	7.32	1.52
S.D.	1.01	1.90	2.47	0.52
C.V.	34.58	74.92	33.70	33.99

Source: Annual Reports (2005/06 - 2009/10)

Table 4.19 shows that the average NPA of EBL is comparatively lower than other banks ie. 1.52%. This is very good sign it means, it is more efficient to utilize its assets and loan recovery. That may be the reason behind its achievement of the bank of the year. Award 2009. The average NPA of SCBNL, Nabil & HBL is 2.91, 2.54 and 7.32 percent respectively. This shows that SCBNL & Nabil Have considerable level of NPA. But HBL has the worst among them. The CV of SCBNL, Nabil, HBL & EBL is 34.58, 74.92, 33.70 & 33.99 percent respectively. On the basic of CV it can be said that SCBNL, HBL & EBL have similar level of consistency. But CV of Nabil is less consistent because of higher CV. Thought it is due to harsh decline on the NPA ratio, which is good enough. Following Figure 4.19 makes it more obvious.

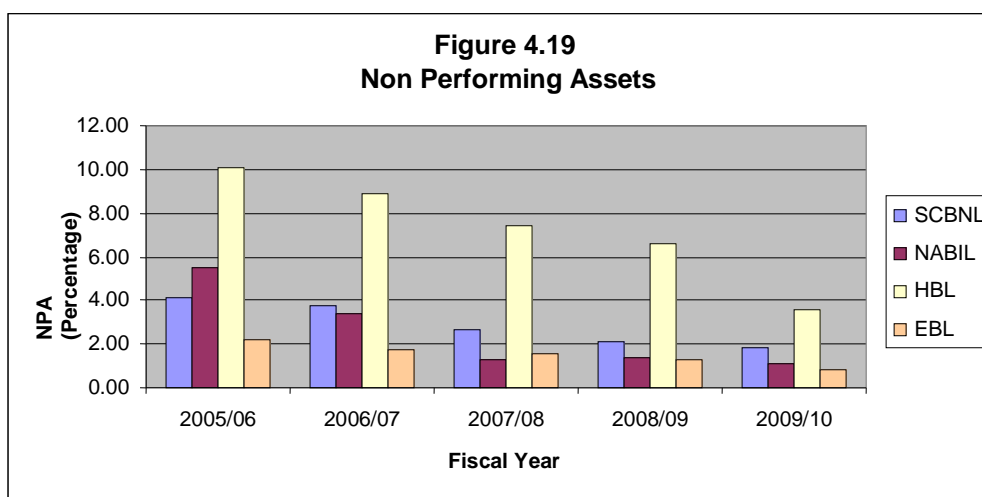


Figure 4.19 helps to concluded that NPA has decreasing nature for all banks. Off course, it is a good sign to the banks for the point of view on non banking assets. The less is NPA, the more is banks efficiency to utilize assets & manage loans.

4.2. Statistical Tools

4.2.1 Correlation Analysis

Correlation analysis so the statistical tool that we can use to describe the degree of relationship between two or more variables. Its value are limited between the range (+1) & (-1). Thus if the variable were perfectly correlated the returns on theses would move up and loan together. In case of negatively correlated opposite would happen risk can be culminated completely. But perfect negative correlation almost never be found in the real world. In this research this tool in used to predict the total deposit, loan & advances, investments NPA net profit, MVPS, EPS & DPS under this study Karl Pearson's coefficient of correlation in being used.

4.2.1.1. Correlation between Total Deposit and Loan & Advances

Deposit is the man tool for mobilizing the banking performance. Likewise loan & advances are the key part to mobilize the collected deposits. The coefficient

of correlation between deposits and Loan & Advances measures the degree of relationship between these two variables. For this study, deposit is taken as independent variable (x) and loan & advances are dependent variables (y). The purpose of computing 'r' between these two variables is to justify whether deposit are significantly used as loans & advances in proper way or not. Here the coefficient of determination (r^2) is used to find by what the relation is explain by dependent variable.

Table 4.20

Coefficient of Correlation between Total Deposit and Loan & Advance (Rs. in Million)

Year	SCBNL		NABIL		HBL		EBL	
	Total Deposit (x)	Loan & Advance (y)	Total Deposit (x)	Loan & Advance (y)	Total Deposit (x)	Loan & Advance (y)	Total Deposit (x)	Loan & Advance (y)
R	0.8307		0.9575		0.9695		0.9984	
r^2	0.6901		0.9167		0.9399		0.9968	
P.E. (r)	0.0935		0.0251		0.0181		0.0010	
6 P.E. (r)	0.5608		0.1507		0.1088		0.0058	
Level of Significance	Significant		Significant		Significant		Significant	

Source: NRB Banking & Financial Statistics and Annual Reports of Banks

The Coefficient of Correlation for all the sampled banks found to be almost '1' which indicates there is proportional relationship between the Deposit's and Loan & Advances for all the banks. While testing of 6 PE (r) for all sample banks found to be 'significant' as the r-value for all the banks are greater than 6PE (r) value. This implies there found to be perfect correlation. It shows that the loan & Advance depends upon the deposits and all sample banks are successful in mobilizing the deposit to loan & advances efficiently.

4.2.1.2 Correlation between Total Deposit & Investment

Investment is also a major part of banks to mobilize deposits. By investing in different profitable area like share & debentures government securities, banks maximize the profit. Therefore, it is important to study the relation between the deposit and investment. For this analysis total deposit is taken as independent variable (x) and investment as dependent (y) variable.

Table 4.21

Coefficient of Correlation between Total Deposit and Investments (Rs. in Million)

Year	SCBNL		NABIL		HBL		EBL	
	Total Deposit (x)	Investment (y)	Total Deposit (x)	Investment (y)	Total Deposit (x)	Investment (y)	Total Deposit (x)	Investment (y)
R	0.4175		0.5389		0.8364		0.9665	
r ²	0.1743		0.2904		0.6995		0.9341	
P.E. (r)	0.2491		0.2140		0.0906		0.0199	
6 P.E. (r)	1.4944		1.2843		0.5439		0.1193	
Level of Significance	Insignificant		Insignificant		Significant		Significant	

Source: NRB Banking & Financial Statistics and Annual Reports of Banks

Table 4.21 shows that the coefficient of correlation of SCBNL and Nabil are moderate. Their relationship between total deposit & investment is insignificant since $r < 6PE(r)$. However the correlation coefficient HBL & EBL are highly strong. Also they have significant relationship between total deposit & investment. This indicates that HBLs & EBL investment depends upon the deposits, whereas in case of SCBNL & Nabil investment does not depend upon total deposits.

4.2.1.3 Correlation between Non-Performing Assets (NPA) and Net Profit

NPA consists those loans & advances which are not performing well and likely to be turned as bad loan. It has direct impact on income and profitability

normal. So, here the degree of relation between NPA & Net profit is Studied by taking NPA as independent Variable (x) and net profit as dependent variable (y).

Table 4.22

Coefficient of Correlation between Non Performing Assets & Net Profit (in Million)

Year	Standard Chattered		NABIL		Himalayan		Everest	
	NPA (x)	Net Profit (y)	NPA (x)	Net Profit (y)	NPA (x)	Net Profit (y)	NPA (x)	Net Profit (y)
R	-0.9161		-0.7609		-0.8214		0.3711	
r ²	0.8392		0.5789		0.6746		0.1377	
P.E. (r)	0.0485		0.1270		0.0981		0.2601	
6 P.E. (r)	0.2910		0.7621		0.5889		1.5606	
Level of Significance	Insignificant		Insignificant		Insignificant		Insignificant	

Source: NRB Banking & Financial Statistics and Annual Reports of Banks

As shown Table 4.22, the correlation between NPA & Net profit is negative for all the bans accept for EBL in which it is low. Testing of significant to tall the banks. To sum up, the relation between NPA & Net profit is negative & insignificant.

4.2.1.4 Correlation between EPS and MVPS

EPS is the profitability of a firm from the profit point of view of ordinary shareholders. It is the profit available to the equity shareholders on per share basis. On the other hand MVPS measures the per stock price on the market demand-supply basis. The profitability of firms EPS has impact of MVPS. This is analyzed as shown in Table 4.23, taking EPS as impendent variable (x) and MVP as dependent variable (y).

Table 4.23**Coefficient of Correlation between EPS & MVPS (in Rs.)**

Year	SCBNL		NABIL		HBL		EBL	
	EPS (x)	MVPS (y)	EPS (x)	MVPS (y)	EPS (x)	MVPS (y)	EPS (x)	MVPS (y)
R	0.7642		0.8767		0.8335		0.9432	
r ²	0.5840		0.7687		0.6947		0.8896	
P.E. (r)	0.1255		0.0698		0.0921		0.0333	
6 P.E. (r)	0.7530		0.4187		0.5526		0.1998	
Level of Significance	Significant		Significant		Significant		Significant	

Source: NRB Banking & Financial Statistics and Annual Reports of Banks

The coefficient of correlation of all banks are highly strong ie. nearly '1'. This indicates proportional relationship between EPS & MVPS. The testing of significance empirically proves this significant relationship for all the banks since $r > 6P.E.(r)$ for all of them.

4.2.1.5 Correlation between DPS and MVPS

Dividend is the earning or profit distributed to shareholders by a company. It may be in cash, shares & securities or a combination of these. How much the bank is paying or distributing to its shareholder have some effect on its market price. Taking DPS as independent variable (X) and MPS as dependent variable (Y), the correlation coefficient has been examined as in Table 4.24 below:

Table 4.24**Coefficient of Correlation between DPS & MVPS (in Rs.)**

Year	SCBNL		NABIL		HBL		EBL	
	DPS (x)	MVPS (y)	DPS (x)	MVPS (y)	DPS (x)	MVPS (y)	DPS (x)	MVPS (y)
R	0.6786		0.9949		0.8329		0.7233	
r ²	0.4605		0.9899		0.6937		0.5232	
P.E. (r)	0.1627		0.0030		0.0924		0.1438	
6 P.E. (r)	0.9765		0.0183		0.5544		0.8630	
Level of Significance	Insignificant		Significant		Significant		Insignificant	

Source: NRB Banking & Financial Statistics and Annual Reports of Banks

The coefficient of correlation strongly or near to perfect (i.e. '1') for all banks. This indicates positive relation between DPS & MPS. The empirical test of significance of correlation with the help of probable error shows that the relation is significant for Nabil and HBL. Whereas, it is insignificant for SCBNL and EBL.

4.2.2 Regression / Trend Analysis

The regression is used to determine the statistical relationship between two or more variables and to make predicates of one variable on the basis of the others. The regression analysis either is simple regression or multiple regressions. When we take only one independent variable and predict the value of the dependent variable through the appropriate regression line; the analysis is known as Simple Regression Analysis. If the analysis is performed by the use of two or more independent variables, it is Multiple Regression Analysis. The statistical model of under summary has been extracted from computer-based

SPSS programmer. The availability of the data has been taken for the recent five years.

4.2.2.1 Simple Regression Analysis of Net Profit on Total Deposit

The focal point of this analysis is to determine the relation between net profit and total deposit. Obviously, it seems that, as total deposit increases, the net profit of the bank need to increase. So, in this analysis, net profit if considered to be dependent variable and total deposit as independent variable as shown in the table below:

Table 4.25
Simple Regression Analysis of Net Profit on Total Deposits (ie. $Y = a+bX$)

S.N.	Banks	Constant (a)	Regression Coefficient	S.E. of Estimate	R	R ²	t - value (calculated)	t(0.05,4) value (tabulated)	Conclusion
1	SCBNL	-191.34	0.036	29.8	0.961	0.923	5.985	2.776	Significant
2	NABIL	117.072	0.025	39.99	0.951	0.904	5.312	2.776	Significant
3	HBL	-490.305	0.033	43.08	0.952	0.907	5.413	2.776	Significant
4	EBL	-42.836	0.019	17.72	0.986	0.972	10.128	2.776	Significant

Sources: Annual Reports of the Banks

Note: * Independent Variable = Total Deposit (X)

* Dependent Variable = Net Profit (Y)

* T-test is taken at 5 % level of significance with 4d.f.

Table 4.25 exhibits the simple regression or trend line equation ie. $Y = a + bX$ of net profit on the basis of the total deposit. The negative constant (a) value of all bank, except Nabil, shows that; in case of the total deposit being zero, net loss would occur. That will be highest to HBL (ie. $a = -490.305$).

The regression coefficient(b) of net profit for all the sampled banks are positive, which determines that the increase in total deposit ultimately increases net profit for each sampled bank. The coefficient is highest in case of SCBNL,

which indicates that, one rupee increase in total deposit leads to an average about 0.036 rupee increase in net profit; holding other variables constant. Besides, the beta coefficient of Nabil, HBL & EBL is 0.025, 0.033 & 0.019 respectively. The standard error of estimate takes into account the dispersion or variation in estimation of regression equation or line.

The coefficient of determination (R^2) of SCBNL, Nabil, HBL and EBL are 0.923, 0.904, 0.907 & 0.972. This indicates the percentage of variation on net profit explained by total deposit.

The test of 't' static value compared with tabulated value at 5% level of significance & 4 degree of freedom (d.f.) brings to the conclusion of significant relationship. It means, there is high correlation between net profit and total deposit for all the banks.

4.2.2.2 Simple Regression Analysis of Market Value Per Share (MVPS) on Earning Per Share (EPS)

Table 4.26

Simple Regression Analysis of MVPS on EPS (ie. $Y = a + bX$)

S.N.	Banks	Constant (a)	Regression Coefficient	S.E. of Estimate	R	R^2	t - value (calculated)	$t_{(0.05,4)}$ value (tabulated)	Conclusion
1	SCBNL	-11234	91.858	1333.95	0.764	0.584	2.052	2.776	Insignificant
2	NABIL	-5269.7	67.177	967.39	0.877	0.769	3.157	2.776	Significant
3	HBL	-1657	51.522	242.64	0.833	0.695	2.613	2.776	Insignificant
4	EBL	-1053.8	40.875	302.46	0.943	0.890	4.917	2.776	Significant

Sources: Annual Reports of the Banks

Note: * Independent Variable = EPS (X)

* Dependent Variable = MVPS (Y)

* T-test is taken at 5 % level of significance with 4d.f.

Table 4.26 depicts the simple regression equation $Y = a + bX$ of MVPS on the basis of EPS. Here, MVPS is dependent variable and EPS is taken as independent variable. The negative constants for all bank signifies that the MVPS would be negative; being EPS equal to zero. The regression coefficient (b) of SCBNL, Nabil, HBL & EBL is 91.858, 67.177, 51.522 and 40.875 respectively. These coefficient shows by how much the change in EPS brings change in MVPS. As the impact has huge influence especially in SCBNL's stock price. Beside Nabil's & HBL's EPS also have some strong reflection on MVPS. EBL's is moderate.

The coefficient of determination (R^2) of SCBNL, Nabil, HBL & EBL are 0.584, 0.769, 0.695 and 0.890 respectively. Thus, the variations on MVPS are strongly explained by EPS. The test of 't' static at 5% level of significance with 4 d.f. gives conclusion that there is significant relationship between MVPS & EPS for Nabil and EBL. Whereas, it is insignificant for SCBNL and HBL.

4.2.2.3 Multiple Regression Analysis of MVPS on EPS & DPS

Table 4.27

Multiple Regression Analysis of MVPS on EPS & DPS (ie. $Y = a + b_1X_1 + b_2X_2$)

S.N.	Banks	Constant (a)	Regression Coefficient		S.E. of Estimate	R	R^2	F - value (calculated)	Sig. F
			b_1	b_2					
1	SCBNL	-10609 {8792.819} [-1.207]	129.265 {157.101} [0.823]	-52.051 {205.303} [-0.254]	1608.11	0.773	0.597	1.481	0.403
2	NABIL	-1951 {787.2} [-2.478]	-0.504 {11.571} [-0.044]	50.163 {7.569} [6.627]	247.27	0.995	0.990	98.240	0.010
3	HBL	-1109.8 {1307.525} [-0.849]	28.679 {35.033} [0.819]	22.083 {27.153} [0.813]	257.61	0.878	0.771	3.358	0.229
4	EBL	-928.44 {661.686} [-1.403]	37.390 {13.953} [2.68]	6.347 {17.95} [0.354]	359.37	0.947	0.896	8.627	0.104

Sources: Annual Reports of the Banks

Note: * Independent Variables = EPS (X_1) & DPS (X_2)

* Dependent Variable = MVPS (Y)

* Values in { } represent Standard Error (S.E.) of coefficients.

* Values in [] represent Calculated t-values.

In above regression/ trend line equation $Y = a + b_1X_1 + b_2X_2$; MVPS is considered as dependent variable (Y) and EPS & DPS are independent variables (X1, X2); 'a' is constant and b1 & b2 are regression coefficient of variables X1 & X2 respectively. When EPS & DPS fluctuates, it directly affects MVPS. As per the table, constants for all banks are negative; indicating negative MVPS when EPS & DPS both became zero. The beta coefficients of EPS are positive for all banks, except Nabil. It mean, EPS movement affecting to MVPS fluctuation, which is remarkable for SCBNL ie. $b_1=129.265$. The beta coefficient of DPS is also positive for all banks, except SCBNL. It is highest for Nabil (ie. 50.163), negligible for EBL (ie. 6.347) and negative for SCBNL (ie.-52.051). They reflect influence on MVPS due to DPS variable.

Values in { } represents Standard Error (S.E.) of coefficient and values in [] represents calculated t-value. The tabulated t-value at 5% level of significance with 4d.f. is 2.776. The relationship of EPS with MVPS is significant for all banks as $t(\text{calculated}) > t(\text{tabulated})$. The relation between DPS & MVPS is also significant for all banks, except Nabil. Besides, the F-value at 5% significance with (4, 16) d.f. is 3.24. Considering the calculated F-value, it can be concluded that there is significant relationship between dependent variables & independent variables simultaneously; except in case of SCBNL. As such, the regression equation provides significant explanation of variation in stock price.

4.2.2.4 Multiple Regression Analysis of Net Profit on Total Deposit, Total Investment and Loan & Advances

Table 4.28

Multiple Regression Analysis of Net Profit on Total Deposit, Total Investment and Loan & Advances (ie. $Y = a + b_1X_1 + b_2X_2 + b_3X_3$)

S.N.	Banks	Constant (a)	Regression Coefficient			S.E. of Estimate	R	R ²	F - value (calculated)	Sig. F
			b ₁	b ₂	b ₃					
1	SCBNL	-158.34 {75.476} [-2.098]	0.018 {0.006} [3.147]	0.020 {0.010} [1.907]	0.026 {0.007} [3.689]	13.32	0.997	0.995	64.43	0.091
2	NABIL	161.946 {15.853} [10.215]	0.012 {0.003} [3.520]	-0.026 {0.005} [-5.513]	0.023 {0.004} [5.386]	7.34	0.999	0.999	308.705	0.042
3	HBL	7.120 {166.375} [0.043]	-0.059 {0.026} [-2.240]	0.060 {0.022} [2.671]	0.110 {0.030} [3.686]	19.20	0.997	0.994	53.876	0.100
4	EBL	-38.107 {18.626} [-2.046]	0.062 {0.034} [1.824]	-0.051 {0.025} [-2.076]	-0.040 {0.041} [-0.975]	13.29	0.997	0.995	62.258	0.093

Sources: Annual Reports of the Banks

Note: * Independent Variables = Total Deposit (X₁), Total Investment (X₂) and Loan & Advances (X₃)

* Dependent Variable = Net Profit (Y)

* Values in { } represent Standard Error (S.E.) of coefficients.

* Values in [] represent Calculated t -values.

Above multiple regression equation $Y = a + b_1X_1 + b_2X_2 + b_3X_3$ comprises of net profit as dependent variable and total deposit, total investment and loan & advances as independent variables; with their beta coefficient b₁, b₂ & b₃ and the constant 'a'. Deposit, investment and loan & advances normally have positive bearings on the net profit. As per the table, the constants of SCBNL & EBL are negative; whereas that of Nabil & HBL are positive. This indicates the net profit in absence of aforementioned independent variables. The regression

coefficients of total deposit is positive for all bank, except HBL ie. -0.059. Beta coefficient of investment is positive for SCBNL & HBL (ie. 0.020, 0.060). On the contrary, Nabil & EBL have negative investment beta (ie. -0.026, -0.051). The loan & advances beta coefficient of all banks are positive, except EBL ie. -0.040. These beta coefficients shows by how much net profit fluctuates, when the corresponding independent variable increase or decrease by 1 unit.

The values in { } represents S.E. of coefficient and the values in [] represents calculated t-values. The tabulated t-value at 5% level of significance with 4d.f. is 2.776. The relationship between net profit & total deposit is significant for SCBNL & Nabil due to $t(\text{calculated}) > t(\text{tabulated})$. But it is insignificant to HBL & EBL. The relation between investment & net profit is rather insignificant for all bank. It is even negative as for Nabil & EBL. Besides, there is significant relationship between net profit and loan & advances; except for EBL. The F-value at 5% significance with (4, 16) d.f. is 3.24. Thus, comparing with F-calculated value, the relation of dependent variable with independent variable simultaneously is strongly significant.

4.3 Major Findings

The main findings of the study are carried out on the basis of the analysis of financial data of the selected banks; which are as follows:

1. Liquidity Analysis

- i. The analysis of liquidity (CRR) indicates better liquidity managed by all the banks except EBL over the past five years period. EBL was unable to maintain the liquidity (CRR) as per the directives of central bank (NRB). It obviously strikes that EBL was failure to meet short-term obligations.

2. Profitability Analysis

- i. The analysis of Net Profit Margin indicates satisfactory in comparison over the five years period to each other among SCBNL, HBL and Nabil with less fluctuation. EBL had least ratio.
- ii. The analysis of ROA indicates SCBNL and Nabil have higher than other banks i.e. they effectively using the total fund supplied by the owners and creditors. They also have successful to get higher return on the assets used in business.
- iii. The analysis of Interest Income on Loan and Advances indicates all the top four banks earned high rate of interest income on loan and advances over the study period. It means, they had high utilization of loan and advances. Among all, HBL is earning highest & more stable.
- iv. The analysis of Operating ratio indicates SCBNL is more successful to minimize the operating ratio. Whereas, Nabil & EBL have also hold comparatively similar position.

3. Activity Ratio Analysis

- i. The analysis of Credit Deposit Ratio indicates EBL had higher value over the study period or in overall average too. Nabil holds second position. Similarly, HBL had moderate value whereas SCBNL had least. It means, SCBNL did not make profit by lending or utilizing the deposits by charging a high rate interest to the borrower than they pay the depositors.

4. Solvency Analysis

- i. The analysis of Capital Adequacy Ratio indicates all the banks had lower capital adequacy ratio in terms of core capital except SCBNL. SCBNL is successful on maintaining capital adequacy ratio as per the directives of central bank. However, Nabil, HBL and EBL had not

significant differences as per the directives i.e. 11% should be maintained. HBL had least ratio. Off course it is inappropriate in terms of lowered return of lowered solvency point of view.

- ii. The analysis of Interest Expenses to Total Deposit Ratio indicates SCBNL had ability to generate cheaper fund than other banks. Nabil, HBL and EBL had moderate ratio. Among them, EBL had comparatively higher ratio. It means, EBL fails to generate cheaper fund among them.

5. Market Value Analysis

- i. The analysis of Earning Per Share (EPS) indicates SCBNL and Nabil had undoubtedly higher ratio. They hold first and second position respectively. HBL and EBL had similar moderate ratio. SCBNL had the highest profitability on per share.
- ii. The analysis of P/E ratio indicates all banks SCBNL, Nabil, HBL and EBL had getting more competitive value. This shows they all had better P/E ratio. Among them, HBL is the highest.
- iii. The analysis of Cash Dividend on Share Capital indicates SCBNL had distinctly higher value and it had been providing greater cash dividend on share capital to its shareholders. Nabil had moderate value whereas HBL & EBL had least value.
- iv. The analysis of Dividend including bonus of Share Capital indicates that SCBNL had been providing over the hundred percent dividends including bonus on share capital, whereas EBL had least on an average and not providing such dividend on each year for the study period.

6. Other Relevant Ratios

- i. The analysis of Staff Expenses to Total Operating Ratio indicates HBL had contributed more staff expenses in total operating expenses. Nabil

and SCBNL holds moderate value, whereas EBL had least value. It means, EBL had not been contributing more staff expenses in total operating expenses. It means, EBL has not been providing sound salary and other allowances in comparison with other banks.

- ii. The analysis of Staff Bonus to Total Staff Expenses indicates EBL had higher value whereas Nabil and SCBNL had moderate value. HBL had lower value. It means, HBL has been providing lower staff bonus to its staff with comparison among the four banks.
- iii. The analysis of Weighted Average Interest Rate Spread indicates Nabil had distinctly higher average value. SCBNL and EBL had moderate spread. Weighted average interest rate spread of SCBNL & EBL had almost same spread whereas HBL had comparatively lower.
- iv. The analysis of Exchange Income/Gain indicates SCBNL had higher average value than other banks. Nabil & HBL had moderate average value. EBL had least value with comparison to them. It means, SCBNL has been gaining more income from foreign exchange income whereas EBL has not been gaining satisfactory among the sampled banks.

7. Non-Performing Assets (NPA)

- i. The analysis of NPA indicates that EBL, Nabil and SCBNL had comparatively lower average of such ratio. HBL had comparatively high average. EBL has lowest and is more consistent in NPA; which indicates its sound lending & recovery policy.

8. Correlation Analysis

- i. The correlation analysis between Total Deposit and Loan & Advances results strongly significant relationship between the variables for all banks.

- ii. The correlation between Total Deposit and Investment comes out varied outcome. It is insignificant to SCBNL & Nabil, whereas HBL & EBL have significant relationships.
- iii. The correlation between NPA & Net Profit is absolutely insignificant for all bank. It validates negative impact of NPA on the bank's profitability.
- iv. The correlation analysis of EPS & MVPS comes out significant relationship. It shows, banks earning has direct reflection on its stock price.
- v. The correlation between DPS & MVPS is significant to Nabil & HBL and rather insignificant to SCBNL & EBL.

9. Regression / Trend Analysis

- i. The simple regression analysis of Net Profit on Total Deposit results negative intercept (except Nabil) and positive regression coefficient. As such, total deposits have significant bearings on net profit.
- ii. Simple regression analysis of MVPS on EPS also gives positive beta coefficient to all banks vis-à-vis significant relation except that on SCBNL.
- iv. The multiple regression analysis of Net Profit on Total Deposit, Total Investment and Loan & Advance shows positive total deposit beta coefficient (except HBL), positive total investment beta coefficient (except Nabil & EBL) and positive loan & advance beta coefficient (except EBL). The t-values and F test gives significant relation among Net Profit & Total Deposit for SCBNL & Nabil and significant relation among Net Profit and Loan & Advance; except EBL.
- iii. The multiple regression analysis of MVPS on EPS & DPS comes out positive EPS beta coefficient (except Nabil) and positive DPS beta coefficient (except SCBNL). The t-values & F test gives significant relation among MVPS & EPS and MVPS & DPS (except Nabil).

CHAPTER - IV

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

5.1 Summary

Commercial banks are the real intermediaries who transfer 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 ie 7.9% (Radesh Pant: NRB Arthik Mimansha2068; columnC;57). At present, there are 31 commercial banks operating in the country. They are guided & regulated under Company Act 2053, Commercial Bank Act 2031 & NRB directives.

Financial analysis shows the relationship between the various component 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.

The research work entitled the performance analysis of four leading commercial banks that includes Standard Chartered Bank Ltd., Nabil Bank Ltd., Himalayan Bank Ltd. and Everest Band Ltd. The research work is conducted to satisfy the queries of research problem specified as the statement of the problem in the introductory chapter. The researcher consulted mainly the secondary sources such as documents published by concerned banks and also consulted the personalities of the related banks as primary sources. Obviously, it helped the researcher to construct conceptual framework. Then the research work was analyzed and interpreted by financial tools such as cash reserve ratio, net profit margin, return on assets, earning per share, P-E ratio, NPA as well as

statistical tools such as mean, standard deviation, CV, correlation, regression or trend line, t-tests and F-tests (two-way ANOVA).

As such; the researcher analyzed and presented the 4th chapter, which was the main body of the research work. On the basis of data analysis and presentation, the researcher extracted some major findings. Finally, the researcher reached in the conclusions keeping in the previously set objectives in mind. Ultimately, the researcher will recommend on the research problem to its stakeholders in this chapter.

In order to know the real performance of banks, the researcher observed and analyzed the comparative performance analysis of top four commercial banks for five years period. It is hoped that the comparative performance analysis of top four commercial banks will give a rational result and represent the overall banking scenario in terms of performance analysis.

5.2 Conclusions

EBL has failed to maintain cash reserve which is below the NRB directives as a result EBL has been facing the problem to meet short-term obligations.

EBL have been getting lower net profit out of total income with comparison to all banks. HBL comparatively fails to maintain operating ratio on total assets whereas SCBNL did best. HBL and EBL have been suffering from ineffectively using the total fund. All banks have been earning sufficient interest income on loan and advances. Among them, HBL is earning highest & consistent.

Comparatively, EBL is successful in utilizing the deposits by charging higher rate of interest to the borrowers than pay to the depositors. SCBNL is comparatively unsuccessful except SCBNL & Nabil, the remaining banks have been maintaining lower capital adequacy ratio as per the directive of central bank. SCBNL is most successful to generate cheaper fund whereas EBL is unsuccessful.

From the viewpoint of Earning Per Share; SCBNL and Nabil have been getting comparatively more EPS than other banks, whereas HBL has unsatisfactory EPS. HBL has better and consistent P-E ratio. However, Nabil shows inconsistent and with lowest P-E ratio. SCBNL has been providing comparatively much greater Cash Dividend on Share Capital in a consistency manner. Nabil is next to SCBNL. Most remarkable among the sampled banks, EBL has not provided dividend (including bonus) on share capital annually. Thus, EBL shows greater inconsistency too.

EBL has not been bearing sound salary and other allowances to total operating expenses. EBL shows the least ratio. HBL has not been comparatively focusing to provide staff bonus, rather it bears sound salary and allowances benefit than other banks.

HBL and EBL have been charging comparatively lower spread, whereas HBL shows more consistency than EBL. Nabil's spread rate is highest. There is no need to pay more attention towards exchange gain to SCBNL. But an EBL effort towards exchange gain is less satisfactory than others. Performance of all banks in maintaining NPA is satisfactory, except HBL. SCBNL & Nabil are at satisfactory level. EBL's performance is comparatively most sound.

The correlation between Total Deposits and Loan & Advances is strongly positive for all banks. But, relation of Total Deposits and Investment is significant only to HBL & EBL. The correlation of NPA & Net Profit is negative and absolutely insignificant for all banks. It means, decrease in NPA from sound lending & recovery leads to increase in net profits. The correlation of MVPS with EPS is significant whereas that with DPS depicts varied results.

The regression or trend analysis show positive significance of Net Profit on Total Deposits. Same is the case of MVPS on EPS; except for SCBNL. The multiple regression analysis of Net Profit on Total Deposit, Total Investment and Loan & Advances shows positive loan & advance beta (except SCBNL) and positive investment beta rendering significant relation simultaneously.

Whereas, the multiple regressions of MVPS on EPS & DPS also have positive beta coefficients and significant t-values.

5.3 Recommendations

1. For strengthening the liquidity position; it is strongly recommended to EBL to maintain CRR as per the directives of central bank.
2. Profit is generated from proper use of the assets. This is reflected on ROA ratio. HBL and EBL are recommended to effective utilization of total fund (assets) so as to make more profitability. Interest income on loan and advances is at satisfactory, so it is recommended to keep on continuing as previous. The lower the Operating Ratio, the better it is. Thus, HBL is recommended to maintain operating ratio on total assets comparatively lower.
3. It will be sound effective for SCBNL to utilize the deposits by charging higher rate of interest to the borrowers than the depositors as a viewpoint of effective management of assets.
4. It is recommended to HBL and EBL to pay more attention about shareholder's profitability (EPS). SCBNL and Nabil should give continuity. It is recommended to Nabil to give consistency in P-E ratio. It is recommended to HBL and EBL to provide Cash Dividend in a consistent manner than dividend (including bonus) on Share Capital. Moreover; EBL is strongly recommended to make Annual Dividend Plan so that it could provide dividend each year.
5. Except SCBNL and Nabil; it is recommended to HBL & EBL to maintain Capital Adequacy ratio as per the directives of central bank. It is strongly recommended to EBL to generate cheaper fund by bearing favorable lower interest rate on deposits. SCBNL is suggested to keep-it-up.

6. It is generously recommended to EBL to bear comparatively sound contribution towards staff expenses out of total operating expenses at viewpoint of employee satisfaction and their effective utilization. This is must for EBL to maintain its employee motivation and productivity. It is recommended to HBL to pay more attention towards staff bonus to be competitive among the four banks. It is recommended to HBL & EBL to pay more attention towards interest rate spread. EBL is recommended to pay more attention towards exchange of foreign currencies. It will give contribution to total income too.
7. NPA is the most sensitive part of banking performance. The effectiveness of loan & recovery is depicted from NPA position. It is key variable for measuring bank's performance. It is strongly recommended to HBL to make conscious efforts for lowering NPA in recent years. EBL is highly appreciated for its substantially lowest NPA and suggested to keep-it-up.

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APPENDIX-1

Test of Hypothesis (Two-way ANOVA)

Null Hypothesis (Ho): i) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is not significant different in CRR (among four different banks) in five different years.

iv) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is significant different in CRR among four different banks.

Alternative Hypothesis (H1):i) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ ie. there is not significant different in CRR (among four different banks) in five different years.

iii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ ie. there is significant different in CRR among four different banks.

Level of significance = 5%

Test Statistics: The test is based on significance of CRR among four different banks in five different years. So, we use two-way ANOVA .

Year	SCBNL	NABIL	HBL	EBL	Row Total
2005/06	9.07	8.51	8.30	2.0	27.88
2006/07	9.46	6.87	8.28	1.6	26.21
2007/08	8.77	3.83	7.86	1.9	22.36
2008/09	6.86	3.26	5.92	1.9	17.94
2009/10	5.46	6.00	5.92	2.9	20.28
Column Total	39.62	28.47	36.28	10.30	114.67

$$\text{Grand Total (T)} = \Sigma T = T_1 + T_2 + T_3 + T_4$$

$$= 39.62 + 28.47 + 36.28 + 10.30$$

$$= 114.67$$

$$\text{Correlation Factor (C.F.)} = \frac{T^2}{N} = \frac{(114.67)^2}{20} = \frac{13149.21}{20} = 657.46$$

$$\text{Total sum of square (TSS)} = \sum (X_i)^2 - C.F.$$

$$\begin{aligned} & \text{Sum of square due to column factor (SSC)} \\ &= \frac{(39.62)^2}{5} + \frac{(28.47)^2}{5} + \frac{(36.28)^2}{5} + \frac{(10.30)^2}{5} - \text{C.F.} \\ &= 103.06 \end{aligned}$$

$$\begin{aligned} & \text{Sum of square due to row factor (SSR)} \\ &= \frac{(27.88)^2}{4} + \frac{(26.21)^2}{4} + \frac{(22.36)^2}{4} + \frac{(17.94)^2}{4} = 797.96 - 657.46 \\ &= 140.50 \end{aligned}$$

$$\begin{aligned} & \frac{(20.28)^2}{4} - \text{C.F.} \\ &= 16.88 \end{aligned}$$

$$\begin{aligned} & \text{Sum of square due to error (SSE)} \\ &= \text{TSS} - \text{SSC} - \text{SSR} \\ &= 140.50 - 103.06 - 16.88 \\ &= 20.57 \end{aligned}$$

Two-way ANOVA Table

**Table 4.1 (b)
Two-Way ANOVA**

Source of Variation	d.f.	Sum of Square	Mean Sum of Square	F-Ratio
Due to Column Factor	$(c-1)=4-1=3$	SSC=103.06	$MSC = \frac{SSC}{C-1} = \frac{103.06}{3} = 34.35$	$F_c = \frac{MSC}{MSE} = 20.05$
Due to Row Factor	$(r-1)=5-1=4$	SSR=16.88	$MSR = \frac{SSR}{r-1} = \frac{16.88}{4} = 4.22$	$F_r = \frac{MSR}{MSE} = 2.46$
Due to Error	$(c-1)(r-1)=12$	SSE=20.57	$MSE = \frac{SSE}{3*4} = \frac{20.57}{12} = 1.71$	

Area of Critical Region :

The tabulated value of F at 5% level of significance for (3,4) d.f. is 6.59.

Decision:

- i. The calculated $F(20.05) >$ tabulated $F(6.59)$. So, we reject null hypothesis and conclude that there is significant difference in CRR (among four banks) in five different years.
- ii. The calculated $F(2.46) <$ tabulated $F(6.59)$. Therefore, we accept null hypotheses and conclude that there is no significant difference in CRR among four different banks.

APPENDIX-2

Test of Hypothesis (Two-way ANOVA)

Null Hypothesis (Ho): i) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is not significant different in Net Profit Margin of different banks in five different years.

v) $\mu_1 = \mu_2 = \mu_3 = \mu_4$ ie. there is significant difference in NPM in five different banks.

Alternative Hypothesis (H1):i) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$

iii) $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$ ie. there is significant difference in NPM in five different years as well as among four different banks.

Level of significance = 5%

Test Statistics : The test is based on significance of net profit margin among four different banks in different years. Therefore we used tow-way ANOVA.

Year	SCBNL	NABIL	HBL	EBL	Row Total
2005/06	33.71	29.16	27.51	14.8	105.18
2006/07	33.95	31.92	30.75	18.3	114.92
2007/08	34.01	34.33	32.98	19.9	121.22
2008/09	37.06	35.32	35.16	22.2	129.74
2009/10	34.55	32.16	34.90	21.6	123.21
Column Total	173.28	162.89	161.30	96.80	594.27

$$\text{Grand Total (T)} = \Sigma T = T_1 + T_2 + T_3 + T_4$$

$$= 173.28 + 162.89 + 161.30 + 96.80$$

$$= 594.27$$

$$\text{Correlation Factor (C.F.)} = \frac{T^2}{N} = \frac{(594.27)^2}{20} = \frac{353156.83}{20} = 17657.84$$

$$\text{Total sum of square (TSS)} = \sum (X_i)^2 - C.F.$$

$$= 18495.92 - 17657.84$$

$$= 838.08$$

Sum of square due to column factor (SSC)

$$= \frac{(173.28)^2}{5} + \frac{(162.89)^2}{5} + \frac{(161.30)^2}{5} + \frac{(96.80)^2}{5} - \text{C.F.}$$

$$= 838.08$$

Sum of square due to row factor (SSR)

$$= \frac{(105.18)^2}{4} + \frac{(114.92)^2}{4} + \frac{(121.22)^2}{4} + \frac{(129.74)^2}{4} + \frac{(123.21)^2}{4} - \text{C.F.}$$

$$= 731.57$$

Sum of square due to error (SSE)

$$= \text{TSS} - \text{SSC} - \text{SSR}$$

$$= 838.08 - 731.57 - 86.38$$

$$= 20.13$$

Two-way ANOVA Table

Table 4.2 (b)
Two-Way ANOVA

Source of Variation	d.f.	Sum of Square	Mean Sum of Square	F-Ratio
Due to Column Factor	(c-1)=4-1=3	SSC=731.57	$MSC = \frac{SSC}{C-1} = \frac{731.57}{3} = 243.86$	$F_c = \frac{MSC}{MSE} = 145.37$
Due to Row Factor	(r-1)=5-1=4	SSR=86.38	$MSR = \frac{SSR}{r-1} = \frac{86.38}{4} = 21.60$	$F_r = \frac{MSR}{MSE} = 12.87$
Due to Error	(c-1)(r-1)=12	SSE=20.13	$MSE = \frac{SSE}{3*4} = \frac{20.13}{12} = 1.68$	

Area of critical region : The tabulated value of F at 5% level of significance for (3,4) d.f. is 6.59.

Decision:

- i) The calculated F (145.37) > tabulated F (6.59). Therefore, we reject will hypothesis and conclude that there is significant different in NPM of selected banks in five different years.
- ii) The calculated F (12:87) > tabulated F (6.59). Therefore we accept alternative hypothesis that there is significant difference in NPM among four different banks.