CHAPTER I
INTRODUCTION

1.1 Background of the study

A bank is an institution, which deals in money receiving it on deposit from customer; honoring customer’s drawing against such deposits on demand. Collection of cheque for customers and lending or investing surplus deposits, until they are required for payment. Now a day, there are many types of bank. Such as industrial bank, commercial bank, agriculture bank, joint stock bank, co-operative bank and development bank etc. The Nepalese financial sector is composed of banking and non banking sector. Banking sector comprises Nepal Rastriya Bank (NRB) and commercial banks. The non banking sector includes development banks, micro-credit development banks, finance companies, co-operatives financial institution, non-government organizations (NGOs) performing limited banking activities. Other financial institution comprises of insurance companies, employee's provided fund, citizen investment fund, postal saving offices and Nepal stock exchange. Because of the growth in population, changes occurred in the people’s ideology, due to the development on each other and the beginning of the competitive age. The first modern commercial bank was established in England in 1694 A.D. by the name of “The Bank of England”.

In the context of Nepal, saving habit of the people is very low and collected amount of deposit should be effectively used so that the people can get certain percentage of interest in their deposited amount to uplift their economic condition and the deposited amount can be distributed as the loan and advances to fulfill the demand of the investors and from loans and advances banks get the profit and through the creation of the investment in the country, the economic condition of the country will be strong. While providing loans and advances, the banks should not concentrate only on the profitable sectors but loans should be distributed in the national priority sectors such as agriculture, small scale industries based on the local raw materials and deprived sectors. But, the latest data showed that the banks are unable to meet the requirements of the investment in these sectors as NRB directives. The public banks have high portion of the non-performing loans and the joint venture banks are not following the NRB directives such as loan loss provisions, investments.

Banks are among the most important financial institutions in the economy of the country. Bank is a business establishment that safeguards people's money and uses it to make loans and investments. A bank is an organization concerned with the accumulation of the idle money of the general public for the purpose of advancing to others for expenditure or investment. A bank is the institution, which accepts deposits form the public and in turn advance loans by creating credit.

Banks are the institutions offering deposits subject to withdrawal on demand and making loans of a business nature. Banks offers wide range of financial service like credit, savings, payments services etc.

Due to loan management is not satisfactory and its being a national issue and to contribute towards the topic through the study among the lot of topics, the loan management topic is selected.

Loans and advances mean providing of the funds for the investors in the certain sectors taking risk in the hope of better return for the investors. Investments that take place or action done in the present and the result can be obtained in the future. So, the loan and advances are very risky assets because the result or effectiveness of it will be found at the future. Due to this, while providing loan bank should be very careful because performing loan only can move towards the way of success and non-performing loan moves the bank towards the way of failure.

"Loans and advances dominate the asset side of the any bank. Similarly, earning from such loans and advances occupy major space in income statement of the bank. Lending can be said to be the raison derre of a bank. However, it is very important to be reminded that most of the bank failures in the world due to shrinkage in the value of the loan and advance. Hence loan is known as risky assets. Risk of non-repayment of loan is known as credit risk or default risk. Performing loans have multiple benefits to the society while non performing loan erodes even existing capital." (Dahal and Dahal, 1992/ 2000: 114)

Loan is an arrangement in which a lender gives money or property to a borrower, and the borrower agrees to return the property or repay the money, usually along with interest, at some future point(s) in time. Usually, there is a predetermined time for repaying a loan, and generally the lender has to bear the risk that the borrower may not repay a loan (though modern capital markets have developed many ways of managing this risk). Legally, a loan is a contractual promise of a debtor to repay a sum of money in exchange for the promise of a creditor to give another sum of money.

Loan management strongly recommends analyzing and managing the credit risks. Credit risk is defined as the possibility that the borrower will fail to meet its obligations in accordance with the agreed terms and conditions credit risk is not restricted to lending activities only but includes off balance sheet and inter-bank explores. The goal of the credit risk management is to maximize a bank's risk adjusted rate of return by maintaining the credit risk exposure within acceptable parameters. For most banks, loan are the largest and most obvious sources of credit risk, however other sources of credit risk exist through out the activities of a bank, including in the banking book, and in the trading book, and both increasingly facing credit risk in various financial other than land, including acceptance, inter bank transactions and guarantees and the settlement of the transaction.

The loan management policy of a firm provides the framework to determine whether or not to extend credit and how much credit to extend. The loan management policy decision of a bank has two broad dimension; credit standard and credit analysis. A firm has to establish and use standards in making credit decisions, develop appropriate sources of credit information and methods of credit analysis.

Loan management is the essence of the commercial banking; consequently the formulation and implementation of lending policies are among the most important responsibilities of the directors and management. Loan management effects on the company's profitability and liquidity so it is one of the crucial decisions for the commercial banks. The banks take almost care in analyzing the creditworthiness of the borrowing customer to ensure that the interest and the principal amount on loans are timely recovered without much trouble and process for the recovery. A sound lending policy is essential for the good performances of the bank are further to attain economic objectives directed towards acceleration of the development. Lending policy should be carefully analyzed and the banks should be carefully while performing its credit creation effectively and to minimize the risk factor.

Lending is one of the most important functions of the commercial bank and the composition of the loans and advances directly affects the performance and profitability of the bank. There is intense competition in banking business with limited market and less investment opportunities available.

Lending policies are not systematic and no clear cut vision of policy is available on lending aspect. In Nepal it has been found that on approval and lending decisions are made flexible to flavor the personnel networks. A new customer finds that loan providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only.

History of Bank

Banking started at many years ago that merchants, money lenders, goldsmiths, etc performed transactions as banks performing nowdays. Later the transactions started increasing and they became money exchanger securing the valuable goods, deposit money, lending money and so on. For all these types of activities written receipts began to be used. These people contributed to large extent in the growth of banking system. Latter they started advancing money charging interest on it. So the goldsmiths and money lenders started performing the functions banking i.e. accepting deposits and advancing loans. However, the modern banking originated in Italy. The word bank was derived from the Italian word "Banco" which means accumulation of money or stock. Bank as an institution was originated from Italy. The bank of Venice which was established in 1157 A.D was the first bank in the history of banking and it was established to finance the monarch in the wars. The Bank of Barcelona Spain which was established in 1404A.D. was the second bank in the World and then. The Bank of Genoa was set up in 1407 AD.

The first central bank though was the bank of England which was established in 1844 A.D. Banking has come to the present advanced form through various stages. Some sorts of banking activities have been carried out since the time immemorial. Traditional forms of banking were traced during the civilization of Greek, Rome and Mesopotamia. With large banking firms established in Florence, Rome, Venice and other Italian cities the banking activities spread through out the Europe and it slowly spread through out the world.

Banking industry in Nepal

The specific date of beginning of money and banking transaction in Nepal is unknown. The banking functions were carried out in unorganized sectors. It is found that minted coins, copper coins, silver coins, and gold coins were introduced by different kings.

Institutional development of modern banking in Nepal had begun from early 1990s. With the establishment of Nepal Bank Limited in 1994 B.S, the new era of banking sector had started in Nepal. As a central bank, Nepal Rastra Bank was established in 2013 B.S. under the provision of Nepal Rastra Bank Act 2012, with the objectives of helping in the development of monetary and financial sector by undertaking various functions.

Another step was added when Rastriya Banijya Bank was established in 1966(2022BS) under the Banijya Bank Act 1965(2021BS). Likewise, Agriculture Development Bank was established in 1965(2024BS) with the objective of increasing the life standard of those people who are involved in agriculture.

The banks opened before the decade of 1980s were by the government. No private sector was permitted to open banks in Nepal. The process of development adopted liberalized economic policies to develop the financial sector. As a pre-condition to economic liberalization, the Foreign Investment and Technology Transfer Act, 1981 came into existence. The government allowed private sectors to open banks. Joint venture projects were also allowed. Many joint venture commercial banks and financial institutions were established. As a result, Nepal Arab Bank Limited was established as a first joint venture commercial bank in 1985 under the provision of Commercial Bank Act, 1974 and Company Act 1965. Then, Nepal Indosuez Bank Limited was established in 1985 and Nepal Grindlays Bank Limited in 1986. In 2001, the name of Nepal Grindlays Bank Limited has been changed into Standard Chartered Bank Nepal Limited and Nepal Indosiez Bank Limited has been changed into Nepal Investment Bank in 2002, which has not foreign share now. After the restoration of multiparty democracy, the newly formed government adopted liberalized policies aimed at accelerating economic growth and considerably reducing state interference in business. The governments encouraged foreign and private investment by offering attractive incentives and facilities including 100% foreign ownership in all but few sectors. This help to create conductive business environment for banking. As a result, additional commercial banks came into existence. When the internal violence shows green signal to manage and Nepal Rastra Bank make ease for rules and regulations, many new commercial banks are coming existence and existing development banks and financial institutions are upgrading them as commercial banks. At present there are 31 commercial banks registered and operated in Nepal.

Growth of financial institutions up to 1980-2011 mid January. There is tremendous growth in the number of financial institution in Nepal. At the beginning of the 1980, when financial sector was not liberalized, there were only two commercial banks and two development banks performing banking activities in Nepal. There were no micro credit development banks and two development banks performing banking activities in Nepal.

Introduction to Commercial Banks

Commercial banks means a bank which operates currency exchanges transactions, accept deposits, provides loan performs dealing relating to commerce except the banks which have been specified for the cooperative, agriculture, industry or other similar specific objectives. In this thesis there are only 31 commercial banks at Nepal in listed are candidate (up to mid January 2011). But therefore, by mid-Jan 2011, NRB licensed bank and non-bank financial institutions totaled 270 out of them, 31 'A' class financial institution (commercial bank), (from NRB Banking and financial institution Regulation Department Statistics Division)

Commercial banks are major financial institutional, which occupy quite important place in the framework in every economy because they provide capital for the development for the industry. Commercial banks formulate sound investment policies to make it effective, which eventually contribute to the economic growth of the country. The bound policies help commercial banks maximizing the quality and quantity of investment and hereby achieve the own objective if profit maximization and social welfare. Formulation of sound investment policies and co-ordinate and planned efforts pushed forward the forces of economic growth.

Function of Commercial Banks

The main functions of commercial banks include:

i. accepting deposits in the forms of current

ii. saving and fixed deposits**,** providing short, medium and long term loans,

iii. acting as an agency in transfer of money, make payment on commission basis for the cheque, draft, bill of exchange etc. by the customer,

iv. buying and selling shares and debentures of any company and government bonds

v. collecting interests on debenture and government bonds, dividend on shares and funds from other banks for its customers

vi. making payments on insurance premium, rent, income tax, school fees, telephone bills to the concerned offices on behalf of customers

vii. carrying out the foreign currency exchange, and

viii. Helping in foreign trade etc.

After the liberalization of the financial sector, ttherefore, by end of 2011, NRB licensed bank and non-bank financial institutions totaled 270 out of them, 31 'A' class financial institution (commercial bank), the name and the year of the establishment of the commercial banks in Nepal have been listed below. 79 development banks, 79 finance companies, 18 micro- credit development banks, 16 savings & credit cooperatives and 47 NGOs. Table above below:

Table: 1

No of commercial Bank (up to Mid Jan 2011)

Commercial banks	**Mid –July**									**Mid Jan.**	**End of March 2010**
	1980	1985	1990	1995	2000	205	2006/07	2007/08	2008/09	2009/10	2011
No of bank	2	3	5	10	13	17	18	20	25	25	31

1.2 Focus of the study

Banks have today gained paramount trust of the public. Banking industry offers a wide range of services addressing the needs of public in different walks of life. At present, a large number of banks are operating in Nepal. Naturally, they are rendering a wide range of services. They are trying to keep up pace with the changes taking place in the world. But quantity does not count for quality. The financial institution of all classes ‘A’ to ‘D’ are increased every year. In a small economy like Nepal, it is a question of great concern as to how so many banks are surviving and reaping profit. The concern is not only about these days but also the sustainability of the operating banks in future days also. Therefore the report will try to concentrate on three major private sector banks of Nepal, i.e., HBL SBI Bank Limited and Everest Bank Limited. It will focus on the comparative loan management of these three banks regarding profitability, liquidity, leverage positions, cost minimization, etc.

Due to loan management is not satisfactory and its being national issue and to contribute towards the topic through the study among the lot of topics, the loan management topic is selected. Thus study aims to focus on the comparative loan management of the joint venture banks namely, HBL SBI Bank Limited and Everest Bank Limited.

1.3 A Brief Profile of the selected commercial Banks:

Himalayan Bank Ltd.

Himalayan Bank Ltd., the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector, was incorporated in 1992 (was established in 1993/01/18) 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. Besides commercial activities, the bank also offers industrial and merchant banking. The bank started its operation with the Authorized capital of Rs. 100 million, issued capital of Rs. 65 million, and paid up capital of Rs. 536.3 million.

It is the first commercial bank that has 80% equity participation by Nepalese business sector and the rest 20% is taken by the Habib Bank of Pakistan. It started its operation from 1993/01/18 with its head office in Kathmandu. Himalayan bank has 18 branch offices throughout the kingdom of Nepal.

NSBI Bank Limited

Nepal SBI Bank Limited was registered under the Company Act, 1964 in 1993. This is a Joint Venture of State Bank of India and Nepali promoters. The bank is managed by State Bank of India under the joint- venture and technical services agreement signed between it and Nepali promoters Viz. employees provident fund and agriculture Development Bank, Nepal. The State Bank of India is holding its 50% equity.

The main objectives of this bank are to carryout modern banking business in the country. The bank provides loan to Agriculture, commerce, educational and industrial sector. The bank is one of the largest shareholder based company. Now the bank has 22 branches including head office in Katmandu, Nepal.This bank has outstanding performance in retail banking. Under retail banking, bank had

Everest Bank Limited

Everest Bank Limited was registered on November 17, 1992 and come into operation on October 18, 1994 with an objectives of extending professionalized and efficient banking services to various segments of the society. The bank had an initial paid up capital of Rs 3 Crore. Today the bank has grown to become one of the leading banks in Nepal.

50 % of the shares are owned by the local promoters, 20% by our joint venture partner Punjab National Bank, India and 30% of the shares are owned by the general public. PNB joined hands with EBL as a Joint Venture in 1997 and turned it around to a highly profitable bank. There has been no looking back since then. PNB provides top management support under the Technical Service Agreement. Punjab National Bank (PNB), our joint venture partner one of the largest nationalized bank in India having 114 years of banking history, holds 20% equity

1.4 Statement of the problem:

In this part deals with the areas of the topic that should be studied rather than the problems that the problems facing by the selected banks for the research study. Banking sector in the present context of Nepal which is trying to overcome form its 6 years internal period which declined the whole economy of the country ,Banking Sector is the only one sector which is survived up to now passing through the profit in the days of critical situation of the country also. The topic loan management of commercial banks in Nepal will be covering the following areas:

Bank plays a significant role in the economic development of the country by extending credit to the people. Although banking industry in Nepal is making remarkable progress and growth. It's not without the problems. At the present context, the main problem faced by the business sector as well as bank is the unstable political and economic condition of the country.

Another problem faced by the banking industry is the lack of optimal capital fund in the commercial banks. The success and prosperity of a bank relies heavily on maximization of the wealth of the shareholders or return on equity. Nepalese banks do not take the loan management seriously This study specially deals with the following problems.

- Total Loan management of HBL, Nepal SBI ltd and EBL in the past 6 years.
- The techniques of Himalayan Bank Limited, Nepal SBI ltd and Everest bank ltd behind its successfully collection of its loans.
- Criteria for the loan management to its debtors and loan collection procedure and difficulties on selected banks.
- The trend of loan and deposit issued of CB's are satisfactory?
- Are the banks able to invest in the priority and deprived sector as of the NRB directives?
- Are the level of the non-performing loans of the CB's are international acceptable or not?

1.5 Objectives of the Study

The main objective of the study is to analyze the loan management policy adopted by the sample selected bank. However the specific objectives are as follows:

- To examine the trend of deposit and loans of selected sample commercial banks .
- To study the liquidity position and the impact of deposit in liquidity and its effect on lending performance.
- To analyze the effectiveness of different sectors (Deprived) lending and priority sectors of selected sample banks.
- To analysis of performing and non- performing loan of selected sample Banks.
- To provide suggestions and recommendations on the basis of major findings.

1.6 Significance of the study

There are few researches done in loan management of commercial banks topic. Loan management is one of most important aspect for the banks. Banking and financial institutions are the vital sectors for the economic growth of any country. The banking and financial sectors are the backbone of the economic development of the country as it provides the huge amount of capital for the infrastructure development and overall upliftmen of the economic condition of its citizens. The study of analysis in loan management of the selected banks would be beneficial to the shareholders, banking professionals, investors, staff, depositor, teachers and students of banking management and so on.

The study focuses in the qualitative measurement of the selected banks. Similarly, the finding of the study will equally important to other who is interested in knowing about this particular bank. Last but not the least, it will provide relevant and pertinent literature for the future research on the area of loan management of the commercial bank.

1.7. Limitations of the study

Since, the study is focusing to fulfill the partial fulfillment for the requirement course of MBS of T.U. Each and every thing in the environment has its own strengths and weakness. None is free from complete his/ her weaknesses It has also some limitation. The limited resources may be difficult to explore researcher to find out new aspect. Reliability of statistical tools used and lack of research experience are the major limitation As only three sample banks Himalayan Bank Limited, SBI Bank Limited and Everest Bank Limited will be taken as for the study, the research will not be able to give the clear picture of overall the condition of banking sector. The weakness or limitations of the study can be pointed out as follows:

- This thesis is the partial fulfillment for the requirement course of MBS of T.U.
- It covers only relevant data of last six years from 2004/05 A.D to 2009/10 A.D.
- Only three selected commercial Banks are taken into consideration.
- This study focuses only on analysis of loan management in selected banks.
- The study is basically based on secondary data of past 6 year, therefore, accuracy of results and conclusions highly depends upon the reliability of these data.

1.8 Organization of the study

This study also follows the general pattern for research; this study has been broadly divided in to five chapters, which are as follows:

Chapter I:

Introduction

It covers overall introduction, background of study, statement of problem, objectives, significance of study, limitation of study etc.

Chapter II:

Review of Literature

In this chapter, mainly focused with literature review that includes a discussion on the conceptual framework on loan management, which covers the citation of the previously conducted research work on the same field as well as their findings that will be tested in the course of research.and review of major – studies relating with lending decision.

Chapter III:

Research Methodology

In this chapter, describes the research methodology used to conduct the present research. It focuses on research design, population and sample sources of data, data collection technique and analysis tools, limitation of the research methodology. and financial and statistical tools.

Chapter IV:

Data Presentation and Analysis

It includes the analysis of financial indicators, attempts to data presentations and analyzes, major Findings of the study, Analysis of mean, correlation coefficient, regression analysis, trend analysis and financial analyses, the major findings are included at the end of the chapter.and evaluates the data with the help of analytical tools and interprets data of related topic based on annual reports of banks.

Chapter V:

Summary, Conclusion and Recommendations

This chapter attempts the results obtained through analysis and summary, conclusion, recommends & suggestions extracted based on the findings of the study. also comparison of lending policy of the banks with recommended for improvement of loan management of the selected banks. The bibliography and annexes are also incorporated at the end of the study.

CHAPTER – II

REVIEW OF LITERATURE

2. Introduction of review of literature

Review of literature deals with the past findings related to the topic. Such findings provide the base for the further research or study. Past studies help to provide the necessary data and information's to the researcher within time and effort. In this study, main target is to know actual position of the loan management. Through, the research past findings can be known and what are problems or weakness are identified and from our research contribution can be provided to the topic in order to know and solve the problems regarding the loan management of the commercial banks.

Many researchers have conducted their research in the field of commercial banks especially on their financial performance, fund mobilization policy, compliance with NRB directives etc. Besides these, there are some books, articles, dissertations and other relevant study concerned with (loan disbursement and collection function) Loan Management of these banks. Some of the relevant studies, their objectives, findings, conclusion and other literature relating to the topic have been reviewed below:

2.1 Review of Books

H.D Crosse has mentioned in his book "Management Policies for Commercial Banks" that lending is the essence of commercial banking, consequently the formulation and implementation of sound lending policies are among the most important responsibilities of bank directors and management to perform its credit creating function effectively and minimize the risk inherent in any extension of credit. Before formulating a lending policy, many factors have to be taken into consideration because banks are not the real owners of deposits but rather the custodian of money.

Crosse has further pointed out the various factors to be considered before planning for sound lending policy. The factors include community's need of money, determining the size of the loan portfolio and the character of loan payment, purpose and protection. Other factors include creditworthiness, assets pledged, interest rate etc. Lending should be of short-term character, repayable on demand, profitable and it should be with adequate securities. (Crosse, 1963:121)

Kilsse. S. Eugene gives his view in his book ‘Money and Banking’ that in an economy that depends more and more on credit, banks find themselves lending for a variety of purposes, sometimes directly, sometimes through other agencies. This wider use of loan is not due merely to a change in attitude of the banks. It reflects also more fundamental changes such as shifts in the public’s consumption patterns and in financial investment policies.

He further enlists the four C’s of *credit as character*, *capacity*, *capital* and *collateral*. He suggests that the most obvious thing for the creditor to investigate is the borrower’s past attitude towards his obligations. He calls this attribute ‘Character’. If the prospective borrower is considered a good risk from the standpoint of character, he still cannot be safely extended credit unless he appears able to make repayment. This clarifies the importance of the borrower’s capacity. For larger loans or others extensions of credit, the applicant needs to show that he already has resources of his own. Sometimes but not always, the debtor fails to live up to his agreement. The creditor sells the collateral and uses the proceeds to cancel the credit. (Klisse, Brighton England)

Reed, Cottro. Gill and Smith in their book entitled ‘Commercial Banking’ focus on the importance of loan in banking sector. As per their view, loans are the most important asset held by banks and bank lending provides the bulk of bank income. Lending is not only important to the banks only. It is equally important to the community the banks serve. That’s why loan policies must be worked out carefully after considering many factors. (Reed. Cottor. Gill and Smith 1980:99)

The committee examined the existing system of the lending and recommended the credit needs of the borrowers to be assessed on the basis of their business plans. It further recommended that the bank credit should only be supplementary to the borrowers’ resources and not in replacement of them without having the bank finance one hundred percent of the borrower’s requirements. The borrowers are required to hold inventory and receivables according to the norms prescribed by the central bank from time to tiem and credits are to be made available in different components only, depending upon the nature of various current assets. (Bhattacharya, 1998: 309)

Gitman and Jochnk in their book “Fundamentals of Investing” compare the banks investment with a vehicle. He says that it is such vehicle into which funds can be placed with the expectation that will preserve or inverse in a value and generates positive results. A banker seeks optimum combination of earning, liquidity and safety while formulating investment policy. (Gitman and Jochnk, 1999:309)

Singh and Singh put forth their view in the book written by them entitled “Financial Analysis for Credit Management in Banks” that the investment (credit) policies of banks are conditioned to great extent by the national policy framework. Every banker has to apply his own judgment for arriving at a credit decision, keeping his banker’s credit policy also in mind. (Singh and Singh.1983:303)

‘The weaker the credit granting function is, the greater the task on the collection ends of business.” writes Beckman. He says that collections arise only because credit has been used. The credit granting and collection functions are not only interdependent but also interwoven. The more lenient the deliberate policy of risk selection, the more formidable is the collection task and the stricter the granting of credit, the less the burden on the collection function. (Beckman, 1962:145)

Albert Chaplin and George Ehasset describe collection as the final leg of the credit journey. In their “Credit and Collection Principles and Practice” describes that an effective system will embody prompt action and follow up at regular intervals. A good collection will permit the assistants in the collection department to do much of the routine work without consulting the collection manager. System in the collection department will include some methods of following up accounts, sending collection notices and typing letters covering the early stages of collection. Results will thus be obtained more or less automatically, leaving the collection manager free to direct the action to be taken upon more difficult cases. (Chaplin and Ehassset. 1963:345)

L.C. Mather in his book ‘Securities Acceptable to the Lending Banker’ describes and ideal advance as one which is granted to a reliable customer for an approved purpose in which the customer has adequate experience, safe in the knowledge that the money will be used to advantage and repayment will be made within a reasonable period from trading receipts or known maturities due on or about given dates. (Mather, 1984:87)

Sarita Dahal and Bhuvan Dahal, in their book “A Hand Book to Banking”, write about the credit policy of the commercial banks. They opine that the factors like statutory directive, deposit mix, competition, and quality of lending officials affect a bank’s credit policy. Considering these factors, the credit policy should be carefully established, communicated properly to the lending officers and implemented effectively by the lending officers. A sound credit policy should be based on the objectives like having good assets, contributing to the economic development, giving guidance to the lending officers and establishing a standard for control. The proper implementation of such policy is ensured by periodic follow up. This helps take corrective actions if any drift between actual and standard is seen. The corrective action may vary as per the nature of deviation from proper education to lending officer to amendment of the policy. (Dahal and Dahal, 1999:66-68)

John Bexley points out some of the external factors that are critical to the lending function in his book ‘Banking Management’. He writes that the condition of the economy, stability of the trade area is the factors which are beyond the banker’s control. But adjustments can be made to meet the challenges posed by these elements to the crucial lending unction. (Bexley, 1987:57)

KC Shekhar and Lekshmy Shekhar write about the problem of non-performing assets in banking sector in their book entitled ‘Banking Theory and Practice”. They blame the deterioration in the quality of loan portfolio for the increase in non-performing assets of the banks. So, immediate attention is to be given by the bnaks in the sector of loan-portfoli. The authors point out the administrative and political interference in credit decision making as a factor contributing in the deterioration of the loan portfolio quality. The authors even express their astonishment to find out that non-performing assets are several fold in more profit attractive lending thatn in less profit lending. The way to deal with the problem has also been suggested by the authors. They opine that provision should be made by the banks for nonperforming assets out of their profit. (Shekhar and Shekhar 1999: 366-367)

Kilborne and Woodworth write in their book ‘Prrinciples of Money and Banking” that reckless lending endangers the safety of the banks itself. That’s why a bank has to take into account the profitability and liquidity as these govern a bank’s investment, though in practice, it is not easy to reconcile them. The secret of sound banking lies in the maintenance of adequate reserves and making profits at the same time. Hence there has to be a balance in liquidity and profitability. A bank must keep adequate reserve to ensure liquidity for their own safety. The amount of reserve thus maintained is affected by the variability of the custormer's borrowing needs and the day-to-day fluctuation in the amount of bank's deposits. (Kilborne and Woodworth 1973:291)

Radhaswamy and Vasudevan hold a similar view in their book "A Text Book of Banking" and say that a bank must strike a balance between liquidity, profitability, and safety. The secret of successful banking is to distribute resources between the various forms of assetrs in such a away as to get a sound balance between liquidity and profitability so that there is cash on hand which is quickly realizable to meet every claim and at the same time enough income for the bank to pay its way and earn profits for its shareholders. (Radhaswamy and Vasudevan, 1979:301)

B. Ramchandra Rao in his book "Current Trends in Indian Banking" opines that one of the primary functions of development in banking is deposit mobilization. Without deposits coming as they do from the public and the saver banks will not have the resources to lend. With adequate resources, lending can have a wider coverage to meet the credit needs of all the sectors of the economy. Deposits and credit operation always go together and each is interconnected. Rao emphasizes that unless there are advances, deposits cannot arise. (Rao 1984:4)

In his book 'Banker's Handbook of credit management'. H.V. Srinivasa explains that for a purposeful and objective lending for social and economic causes, the inward eye is necessary. The modern banker has to give a changing and positive approach towards making advance, instead of being merely security oriented. (Srinivasa, 1986)
Shakespeare Vaidya opines in his book 'Banking Management' that how well a bank performs its lending functions has a great deal to do with the economic health of the country because bank loans support the growth of new business and jobs within the bank's trade territory and promote its economic activity. (Vaidya, 1999:90)

2.2 Review of articles

Among the reviewed articles from various journals pertaining to the study, the major and mostly contributing to the study have been outlined below.

Jhon W. Milligan and Picker in their article “Where Citibank went wrong” published in ‘Institutional Investor’ express their view mentioning that the performance of no such sector is as contingent upon the future performance of other enterprises as is that of the financial sector. This contingency is so high that it has always been difficult to the banking industry to pursue the objective of profit maximization as zealously as another industry could afford to. It is the difference, which explains precisely why lenders cannot simply lend to these who are willing to offer the highest price i.e interest rate. (Milligan and Picker July 1992:198)

Madhav Lal Pradhan in his article “The Importance of Loan Information Center and its Activities” published in NRB annual publication says that the loan information centre was established to fulfill the necessity of a company working in relation to information related to loan. He further adds that the negative trends like delaying the payment of principal and interest, deficient loan approval procedure, lack of constant inspection of projects. Lack of coordination between bank and finance companies have aided in the increase of non performing loans ultimately affecting the national economy negatively. The author recommends the banks and finance companies to help the loan information centre by following the directives of Nepal Rastra Bank and utilizing the information obtained form the centre so that positive changes can be witnessed. (Pradhan, 2061:190-194)

Dr. A.S Bhandari in his article “Etiology and Strategy of Credit Repayment” published in Nepal Rastra Bank annual publication states that the adoption of liberal strategy can be more meaningful in case of ‘unwillful’ and ‘misguided’ defaulters who in fact wish to repay loans but due to certain circumstances they are unable to do so. Liberal strategy includes simplification of lending policies and procedures, frequent and strict supervision, renewal of the terms and conditions of loan, rescheduling of repayment schedules, prolonging due date, refinancing, keeping personal approach etc.

On the other hand, coercive strategy is suggested to be employed against ‘willful’ defaulters who have the capacity to payback the loans but due to their ‘affiliation to power’, ‘association with unnatural gangs’, ‘ethno-centrism and similar other reasons, they do not repay the loans. Coercive strategy can be adopted by establishing special credit recovery cell following publicity campaign, providing incentives to voluntary agencies, enforcing peer pressure, putting administrative interventions etc. The author suggests that where the liberal measures do not bear fruits, coercive measures must be taken as the last resort of receiving overdue loans. Moreover, the commercial banks must always ground their loan collection and disbursement strategies upon the recommendations’ of professional research reports prepared by internal or external experts. (Dr. Bhandari 1998:87-91)

Shiba Raj Shrestha in his article ‘Modus Operandi of Risk Appraisal in Bank Lending’ published in banking promotion. A journal of banking promotion committee. Nepal Rastra Bank writes that with more deregulation setting in evaluation of risk appraisal is assuming more importance. Absolute quantitative credit deposit ratio has no relevance if the assets are not performing ones. Hence it is felt that appraisal techniques of bank lending in competitive areas have to be more attuned towards risk. Shrestha adds that effective credit risk management allows a bank to reduce risks and potential non performing assets. So the banks must have an explicit credit-risk strategy supported by organizational changes, risk measurement techniques and fresh credit processes and systems. Credit risk management should focus on the areas like credit sanctioning and monitoring process approach to collateral, credit risks arising form new business opportunities and credit exposures relative to capital or total advances. (Shrestha, Ashadh 2056:55-64)

Yogendra Regmi in his article ‘The Negative Impact Borne by the Selling of Collateral for Loan Recover’, NRB annual publication states that it is very important for the banks to know the necessity of loan. The loan demander’s intentions., capacity of loan utilization, and loan repayment, awareness of interest payment, possession of cash flow statement (for the payment of loan), submission of necessary papers along with loan schedule etc. should be analyzed properly before accepting the loan proposal. Banks decide whether or not to grant loan by analyzing the risk associated with loan. So they believe in ‘take risk by choice, not by chance’. Besides, banks seek legal ways if loan cannot be recovered in time. The author mentions that there are several reasons behind the failure in loan recovery. Some of such reasons include the lack of quality investment procedure and standard collateral evaluation system, political pressure in loan disbursement, lack of proper law and the implementation of the existing ones, centralization of loan etc.

He has suggested in his valuable article that right person, firm and project have to be chosen by evaluation the collateral political interference has to be controlled and professionalism should be introduced in lending processes. Inspection should be conducted at least twice a year for the progress of the project and action should be promptly taken as per the report of the inspection. For proper utilization of the collateral, additional help should be taken form the administration and the banks should be active in converting such collateral into cash. (Regmi, 2061:118-123)

He further adds that as revealed by the operations of banks, after the approval of the loan, banks strive for the early disbursement because revenue is generated from the very date of disbursement. That's why, earlier the disbursement the better. Similarly, it becomes necessary for het banks to reasonably plan the installments of disbursement.

Kiran Nepal expresses his views in an article "Home Loan-That makes land and building costly" published in 'Himal' fortnightly magazine that due to the unstable economic condition and internal conflicts in the country, the existing areas of investment like industry, trade, tourism, service etc are narrowing down. However, due to 'remittance form foreign countries the banks deposits especially in the joint venture banks have increased. So, these banks have started to explore new areas of investment. One of such areas is construction of houses. Home loan program have become like a boon to the banks these days as there seems to be no default in housing finance. (Nepal 'Himal' fortnightly. 16th – 31st Baishakh, 2061)

Shvan Dev Panta in an interview to Business age opines that the banking sector is quite affected by the national economy which imparts a direct effect on the loan collections and disbursement function of the banks. He says that due to the slowdown in the world economy, deterioration of the law and order situation of a country, many sectors of the economy are sick. When any sector of the economy catches cold, bank starts sneezing. So, for a bank to function smoothly, including the smooth functioning of its lending functions, the economic situation must be robust. (Panta, Business Age – Vol.3 No.9)

Sudhir Khatri in his article ‘One umbrella Act’s Pros and Cons’ says that His Majesty’s Government of Nepal has finally promulgated the much awaited ordinance to replace several existing laws related to the banks and financial institutions. One of the provisions of the law states that for recovering its loan, the bank can claim even the personal property of the promoters of the defaulting borrower form contradicting the concept of limited liability.

The ordinance has given the full authority to Nepal Rastra Bank for monitoring, inspection, supervision etc. Nepal Rastra Bank is vested with the power to fix interest rates in lending and deposits and the act also states that Nepal Rastra Banks can also delegate this authority to the individual banks themselves. Such delegated authorities can be taken back. This further makes banking more risky. The ordinance indicates Nepal Rastra Bank’s willingness to have control over fixation of interest rates when required.. (Khatri, New Business Age, April 2004/05:18-19)

2.3 Review of Nepalese Thesis

Mr. Pawan Regmi has submitted a thesis named **“Credit Management of Commercial Banks with Reference to Nepal Bangladesh Bank and Bank of Kathmandu”** on December 2005/06 (T.U.)

In his thesis, he stated liquidity matters, unfair competition between banks and service institutions, lack of enough profitable investment sectors, poor credit recovery process and lengthy and ineffective legal process in the recovery of credit as a statement of research problem.

Mr. Regmi has concluded in his thesis that, both of the banks (NB Bank and BOK) have sufficient liquidity. It shows that banks have not got investment sectors to utilized their liquid money; both of the bank have provided modern facilities to its customers and have used modern technology; non-performing credits are increasing, it concludes that credit is not satisfactory; because of increasing in non-performing credit bank should increase its provision for credit loss; lack ness in efficiency in the management of credit resulting the process of recover in slow motion; due to increase in the non-performing credit, banks' profit is decreasing year by year.

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

- Cash and bank balance of both banks are high. Unused cash and bank balance do not provide return to the bank, therefore some percentage of cash and bank balance should be invest somewhere in profitable sectors.
- Non-performing assets of both banks are high. It doesn't provide return to banks therefore bank should increase its effort to recover its credit on time.
- Weighted average capital funds of both banks are lesser than the required as per directives issued by the NRB. Therefore he suggested to increase the amount of the capital fund for overcome out from panelize by NRB.
- Few customers are unsatisfied with the service charges and interest of credit; therefore he suggested that banks should decrease service charges and interest charges.

Aryal (2007/08) has submitted a thesis named "**An Evaluation of credit Investment and Recovery of Financial Public Enterprises in Nepal**" a case study of ADB/N. He focused on the problem that because of high interest rate of non- institutional sources, people are unable to pay their credit at fixed time. These institutions compel them to transfer their property to the moneylender resulting himself or herself as a landless person.

ADB/N is one of the major financial institutions supporting for the people for the different purpose like agro, industries, tea, coffee, livestock farming etc. ADB/N provides the credit for individual and cooperative sector to all region of the country. Credit outstanding amount is increasing day by day but the collection amount is not good. However ADB/N has increased its effort to collect its credit. It is said that those people who really need do not receive sufficient amount of credit from ADB/N. So, Mr. Aryal chose this bank to analyze the credit disbursement and recovery pattern of ADB/N.

From the research, he has found out the following necessary facts:

- Actual credit disbursement, collection and outstanding are increasing in decreasing rate.
- Yearly increase in credit disbursement is higher than of collection.
- Positive relation between credit disbursements is higher than that of collection.
- Targeted credit collection and disbursement fixed by planning and project department is not significantly different than the actual.
- Most of the customers are unaware of the policy of the policy of the bank.
- The use of fund towards the hire purchase credit is decreasing rapidly.
- As the direct data of good and bad credit quality. Credit loss in increasing every year significantly and should be controlled.
- The loss provision of some company is more alarming on individual analysis. The company having above average credit loss provision should rethink on their investment and repayment policy.

Mr. Chand (2008/09) has submitted his thesis on "**Credit Disbursement and Repayment of Agriculture Development Bank Nepal.**" His research statements of problems are:

- The bank does not benefit small farmers (i.e. problem of balance development).
- The collection of credit is slow, so it hinders the flow of capital required to develop economic growth.

Objective of the Study:

- To see the repayment situation.
- To find out the growth rate of investment.
- To explain possible causes of none and delay repayment.

Major Findings:

- There is systematic relationship between credit disbursement and repayment. The coefficient of correlation value as calculated is 0.94 which shows significance relationship.

- Repayment situation is satisfactory on production and agro- based industry, warehouses and farm mechanization, irrigation, tea horticulture, livestock, poultry and fisheries is less satisfactory.
- As recommendation given by Chand, ADB/N should play a significant role in such direction as to fulfill the credit demands of rural areas. For effective credit recovery from the borrowers or clients, credit should be channeled through the borrower groups.

Ram Prasad Kafle (2009/10) in his study entitled **"Non- performing loans of Nepalese commercial banks."** The researcher's mean objective of the study was to know the problems of the non-performing loans and its effect in the ROA and ROE of the Nepalese commercial banks and to find out whether the Nepalese commercial banks are following the NRB directives regarding loan loss provision for non-performing loan or hot.

Through the research he has found that the no banks have been following NRB's directives regarding the loan loss provision. he also concluded that the return on assets (ROA) and return on equity (ROE)of the bank deposed upon the NPL's should be controlled for this bank should provide necessary training regarding loan management to the manpower's. In order to remove, the NPL's banks should take enough collateral so that banks can recover its loan amount. For the loan loss provision as per the NRB directives and to reduce the NPL, The bank management should be effective and the NRB's monitoring and regulation is necessary.

2.4 Research Gap

Financial scenario and effectiveness of the banks has been changed in due period of time because of increase of number of financial institution in Nepalese economy. And it is observed that it is essential to study effectiveness of loan management of commercial banks taking samples of Three banks: HBL,NSBI Bank Limited, and Everest Bank Limited to support in fulfilling research gap. The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make study meaningful and purposive. There has been lots of article published on field of investment policy. Loans and advances of commercial banks .there are various research available on investment analysis and policy of commercial banks, impact and implementation of NRB guideline commercial banks but there are not sufficient researches available on lending aspect of commercial banks. In addition to this, no one has done a study on “loan management” with reference to NSBI Bank Limited, HBL and Everest Bank Limited. Therefore the research attempts to study in this area. To know the loan management of these three banks will probably be the first study in this subject matter. So, this study will be fruitful to those interested person parties scholars, professor, students, businessman and government for academically as well as policy perspective.

CHAPTER III

RESEARCH METHODOLOGY

3. Introduction to Research Methodology

This chapter is related to research methodology, Research methodology is a way to systematically solve the research problem. In other words research methodology describes the methods processes applied in the entire aspect of the study. It may be understood as a science of studying how research is done scientifically. It is necessary for the researcher to know not only the research methods but also the methodology (Kothari,1984:10-13). This chapter includes the General Background & Research design, Nature and sources of data , Population and sample of the study, Data collection procedures, Data analysis technique, Tools for Analysis (Financial and statistical Tools).

3.1 Research Design

The term “research” refers to the systematic and organized effort to investigate a specific problem that needs a solution. “Design” means planning to carry out investigation conceived to obtain an answer to reason question. Thus research design is a plan, structure and strategy of investigation conceived to obtain possible solution to the research problem in one’s area of study. The basic aim of the present study is to know about the loan Management of commercial banks in Nepal. Hence all the aspect related to this topic will be scrutinized for in-depth study under the survey. The scribe will design Descriptive Research and exploratory Research for the study.

Research designed serves as a framework for the study, guiding the research instruments to be utilized, and the sampling plan to be followed. In other word research design describes the general plan for collecting, analyzing and evaluating data. Research design is planned structure and strategy of investigation conceived to obtain answer to research objective through analysis of data. The study is based on secondary data.

3.2 Nature and sources of data

The nature of data used in this study will be mainly secondary data collected through three samples Commercial Banks. Similarly, secondary data available form magazines, news, bulletin and website, NRB will also be used.

The research is based on secondary source of data for research purpose, published financial statements (i.e. Annual report) of concerned banks. Similarly, financial statement of commercial banks and various markets related information were collected and tabulated in spreadsheet. Such secondary information was gathered from the share department of the concerned banks and Security Board of Nepal. In addition, an answer on certain queries made to staffs of concerned organization personal enquires and discussions were also being conducted for clarification and verification of collected data and for recommendation.

3.3 Population and sample of the study

In this thesis only 31 CB's are candidates. There are 31 Commercial Banks listed in Nepal Rastra Bank (up to2011 Mid January). Only 3 of them are selected for sample study. Hence, Convenience Sampling Method under Non-probability sampling technique is used. These commercial banks are details are clandicated in page no 8 or table no 2. And sample banks are also in table no 3 as below.

A small portion chosen from the population for studying its properties is called a sample and the number of units in the sample is known as the sample size. The method of selecting for study a small portion of the population to draw conclusion about characteristics of the population is known as sampling. Sampling may be defined as the selection of part of the population on the basis of which a judgment or inference about the universe is made. Here only 3 sample commercial banks have been taken out of 31 commercial banks. All the commercial banks in Nepal are the population of the study. The sample taken from the commercial banks are as follows:

Table – 3

Selected Sample Banks for the Study

S.N	Name of bank (sector)	Total CBs'	period	% of Total population
1	Himalayan Bank Ltd.	31 CBs (up to mid March 2011)	2004/05-2009/10	Sample size : 10% (Apx)
2	NSBI Bank Ltd.		2004/05-2009/10	
3	Everest Bank Ltd.		2004/05-2009/10	

Considering the study period of 2004/05AD to 2009/10AD, used data were obtained from banking sector as indicated.

3.4 Data Collection Procedures

The technique used for data collection was questionnaire, direct interview, and Telephone Interview etc. besides these Scheduled Interviews with concerned bodies of the sampled commercial banks.

3.5 Data Analysis Technique

Once the data are arranged sequentially, different statistical tools, financial tools and percentile of the collected data is used for analysis purpose. And the quantitative data collected through 3 sample commercial banks for six years were analyzed using regression analysis and trend analysis as well.

The analysis of data has been some according to the pattern of data available. Wide varieties of methodology have been applied according to the reliability and consistency of data. Before using the analytical tools to compare the result, the data containing in the financial statements have been grouped and rearranged so as to make comparison easy. Then only various appropriate statistical tools such as percentage and regression analysis have been applied to interpret the result and draw up the sound conclusion. The result will be presented using various charts and diagrams wherever possible.

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To meet the objectives of the study, the sources of secondary data of commercial bank are analyzed by using financial tools such as ratio analysis. Simple descriptive analysis tools such as frequency, Mean, standard deviations are used. The ratio analysis involves comparison for a useful interpretation of financial statements. The quantities judgment regarding loan management of a firm can be done with the help of rate analysis. For the analysis of the data the financial and statistical tools relevant to the topic are used. They are as follows:

3.5.1 Tools for Analysis

Method of analysis is an important part in research work. The careful study of available facts for proper understanding of data and extraction of the conclusion from them on the basis of established principles and sound logic is Analysis.

The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through collecting, tabulation and then drawing statistical interlays. On the basis of research problem and objectives of the study data and information needed is identified and collected. The collected data are properly processed and arranged in the form of the table for simplicity. Following Financial and statistical tools have been used for analysis and interpretation of arranged data.

3.5.2 Financial Tools for Analysis

To evaluate the performance of any organization financial tools are very useful to determine the strengths and weakness of a firm as well as its historical performance and current financial condition. Ratio is an important analytical tool to summarize the large quantities of data and to make quantitative judgments about organization. The financial tools employed in this study basically represent Ratio Analysis and others.

Ratio Analysis

A ratio analysis is simply the number expressed in terms of another and as such it expresses the quantities relationship between any two numbers. Ratio can be expressed in terms of percentage, proportion and as coefficient. The technique of ratio analysis is a part of the whole process of analysis of financial statements of any business of industrial concern especially to take output and credit decision. Through this technique a comparative study can be made between different statistics concerning varied facts of a business different statistics concerning varied facts of business units. Just as the blood pressure, pulse and temperatures are the measure of the health of an individual, so the ratio analysis measures the economic financial health of a business concern. Thus, the technique of ratio analysis is of a considerable significance in studying the financial stability, liquidity profitability and the quality of the business and industrial concerns. The following ratios are used for the study:

Total Credit to Deposit Ratio

Total credit to total deposit ratio shows the credit granting by the banks from the deposit it has collected. It gives up to how much of the deposit collected are mobilized as the loan and advances.

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

The total credit to deposit ratio neither should be high nor should be low. Higher ratio means liquidity crisis whereas low ratio indicates inability to mobilize credit.

Non –Performing Loan Ratio

A non-performing loan is a loan that is in default or close to being in default. Many loans become non-performing after being in default for 3 months, but this can depend on the contract terms. So, the increase in Non-Performing Loan is not good for financial institutions. It can be calculated using following formula:

$$\text{Non-Performing Loan ratio} = \frac{\text{Total Non Performing Loan}}{\text{Total Loans \& Advances}}$$

The financial institutions always try to reduce non-performing loan ratio because the increase in the non-performing loan mean the interest income is not earning by the loan which is the main source of income for every bank and the deposit collected through the customers we had provided as loan also not sure to return and incase of non repayment of principle it may cause to bankruptcy of the firm. Zero level NPL is the best, however lower the ratio of non-performing loan is preferred and shows the well mobilization of loan. It may be also calculated in substandard, doubtful and bad loan

Loan Loss Provision Ratio

As the non-performing loan increases, the firm's income causes to decline whereas it affects worst in the operation of the firm. Due to increased non-performing loan, the profit decreases in some extent whereas more is it may cause to unable to refund the deposit of the public which impacts negatively so generally firm's create loan loss provision for covering such loan loss and maintain good image of the firm. The loan loss Provision ratio can be calculated as follows:

$$\text{Loan Loss Provision Ratio} = \frac{\text{Total Loan Loss Provision}}{\text{Total Loan \& Advances}}$$

Loan Loss provision is created to cover the loss occurred from the non-performing loan and have a stable financial position. So, the higher the loan loss provision helps to cover the large portion of loss occurred due to increase in non-performing loan. Loan Loss Provision may be also calculated in pass, substandard doubtful and bad loan.

3.5.3 Statistical Tools for Analysis

In course of data study and analysis related to the study different statistical tools are often employed as well as interpretation of data taking consideration to the objectives of the study. Following statistical tools are used during the data presentation and analysis section of the thesis.

- Trend Analysis
- Coefficient of correlation
- Regression Analysis

Trend Analysis

Now a day's trend analysis often refers to the science of studying changes in social patterns, including fashion, technology and the consumer behavior. The term "trend analysis" refers to the concept of collecting information and attempting to spot a pattern, or trend, in the information. Trend analysis is a mathematical technique that uses historical results to predict future outcome. In another words, an aspect of technical analysis that tries to predict the future movement of a stock based on past data. Trend analysis is based on the idea that what was happened in the past gives traders an idea of what will happen in the future.

Ratio analysis is not able to show the fluctuation of the financial position of the companies with time. The financial position is improving or deteriorating over the years show by the use of trend analysis. The significance of a trend analysis or ratios lies in the fact that the analysis can know the direction of movement, i.e. whether the movement is favorable or unfavorable. For example, the ratio may be low as compared to the norms and standard but the trend may be upward. On the other hand, though the present level may be satisfactory, the trend may be a declining one. Thus, trend analysis is of great significance to the study.

Trend analysis tries to predict a trend like a bull market run and ride that trend until data suggests a trend reversal (e.g. bull to bear market). Trend analysis is helpful because moving with trends, and not against them, will lead to profit for an investor. In our study we go for trend of Deposit collection and Loans and Advances mobilized by the sample banks with the help of past ten years records from F.Y 2004/05 to 2009/10.

Co-efficient of Correlation Analysis

The analysis identifies and interprets the relationship between the two or more variables. Karl-Person's Correlation Coefficient has been used to find out relationship between the variables in order to know the effect in one variable may have effect in the correlated variable. It is calculated by:

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

Where,

r = Correlation coefficient

n = Number of years

$\sum x$ = Sum of X series

$\sum y$ = Sum of Y series

$\sum xy$ = Sum of X and Y series

$\sum x^2$ = Sum of square of X series

$\sum y^2$ = Sum of square of Y series

x & y = Financial Variable CBs’

Correlation analysis describes the relationship between variables i.e. positive or negative. It helps to determine the following:

- A positive on negative relationship exists.
- The relationship is significant on insignificant.
- Establish cause and effect relation if any.

The statement tool- correlation analysis is used in the study to measure the relationship between variables in determining within the relationship is significant or not. For the purpose decision making interpretation are based on the following terms.

1. When, r = 1, then is perfect positive correlation.
2. When r = -1, then is perfect negative correlation.
3. When r = 0, then is no correlation.
4. When, ‘r’ lies between 0.7 to 0.999 (-0.7 to -0.999), then is high degree of positive (negative) correlation.
5. When ‘r’ lies between 0.5 to 0.6999 there is moderate degree of correlation.
6. When, ‘r’ is less than 0.5. There is low degree of correlation.

Probable Error or P.E (r) = $\frac{0.6745(1 - r^2)}{\sqrt{N}}$

Regression Analysis:

The term ‘regression’ literally means ‘stepping back towards the average’. The concept of regression was first given by the English biometrician Sir Francis Galton in reports of his research on heredity. The regression analysis is used to estimate the likely value of one variable from the known value of other variable. The cause and effect relationship is clearly indicated through regression analysis than by correlation. There are two types of variables in regression analysis – dependent variable and independent variable. The dependent variable is also known as predicted or regressed or explained variable while the independent variable is called as prediction or regressor or predictor or explanatory variable. It studies the statistical relationship between variables. The main objective of regression analysis is to predict or estimate the value of dependent variable corresponding to a given value of independent variables.

Multiple Regression equation is the algebraic relationship between one dependent variable and two or more independent variables. This relationship is used to estimate the value of dependent variable for the given values of independent variables. In this thesis discussion to one dependent variable X_1 and two independent variables X_2 and X_3, So that the multiple regression equation for the observed data is given by,

$$X_1 = a + b_1X_2 + b_2 X_3$$

Where,

a = point of intercept on y-axis

b_1 = corresponding change in X_1 for each unit change in X_2 while X_3 is held constant

b_2 = corresponding change in X_1 for each unit change in X_3 while X_2 is held constant

The values of constants a, b_1 and b_2 are determined by solving simultaneously following three normal equations obtained by the method of least squares;

$$X_1 \,\mathrm{X}\, na \,\Gamma\, b_1 \quad X_2 \,\Gamma\, b_2 \quad X_3 \quad - \quad - \quad - \qquad \text{(i)}$$

$$X_1X_2 \,\mathrm{X}\, a \quad X_2 \,\Gamma\, b_1 \quad X_2^{\,2} \,\Gamma\, b_2 \quad X_2X_3 \quad - \quad - \quad - \qquad \text{(ii)}$$

$$X_1X_3 \,\mathrm{X}\, a \quad X_3 \,\Gamma\, b_1 \quad X_2X_3 \,\Gamma\, b_2 \quad X_3^{\,2} \quad - \quad - \quad - \qquad \text{(iii)}$$

Above formula are normal equation for method of least square.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

4. Introduction

The part data presentation and analysis is the most important section of thesis study where the collected data after manipulation presented in easy and attractive form related to the thesis such as tabulation, diagram etc. To make the research analytical the presented data is analyzed using different appropriate tools to the study and the findings are tried to synthesize to the objectives of the study. It is the systematic disclosure of the data related to the study and analysis of the data in a correct way drawing the conclusion of analysis and finally matching it with the problem of the research. Here in this thesis the data collected from EBL, HBL and NSBI related to the thesis study are tried to present systematically and sequentially so that descriptive and analytical research design can be applied effectively and reviewers' can grasp the gist of the study easily in a convenience way

4.1 Financial Analysis

Financial ratio analysis is designed to determine the relative strengths and weakness of business operations. It also provides a framework for financial planning and control. Financial managers need the information provided by analysis both to evaluate the firm's past performance and to map future plans. Financial analysis concentrates on financial statement analysis, which highlights the key aspects of firm's operation. Here goes for calculation of some ratios related to loan that help to identify the strength and capability of the banks to handle the loan and its productivity.

4.1.1 Total C/D ratio

Credit Deposit Ratio (C/D Ratio) is the ratio that shows the credit percentage those banks are providing out of its total deposit collection. Banks do not release 100% of their deposit collection as loan as they have to maintain some cash balance for smooth operation of daily activities. The NRB directives state that the commercial banks could provide maximum of 75% of their deposit collection in different kinds of loan. The following table shows the C/D ratio of commercial banks.

Table: 4

Calculation of Loan and Advances to Deposit Ratio of HBL			
F.Y.	**Total credit**	**Total Deposit**	**C/D Ratio=T.C/T.D**
2004/05	11,951,869,350	22,010,332,984	**54.30%**
2005/06	12,423,520,646	24,814,011,984	**50.07%**
2006/07	14,642,559,555	26,490,850,640	**55.27%**
2007/08	16,997,997,046	30,048,412,756	**56.57%**
2008/09	19,497,520,482	31,842,789,356	**61.23%**
2009/10	24,793,155,269	34,681,345,179	**71.49%**
Average C/D Ratio of HBL			**58.15%**

(Sources: Annual report)

From above table, the relation between units of deposit with the value of loans and advances of concern banks in fiscal year. The total credit mobilized and total deposit collected by HBL during the F.Y 2007/08 to 2009/10 and the calculated C/D ratio. Maximum of 77.49% of the total deposit is granted as credit in F.Y 2009/10 and minimum of 50.07% in F.Y 2005/06. Overall in an average of 58.15% of total deposit collected by HBL is mobilized as loan in different sectors. The average of C/D ratio of HBL meets the NRB standards and maintains good liquidity position in bank for its operations.

Table: 5

Calculation of Loan and Advances to Deposit Ratio of NSBI			
F.Y.	**Total credit**	**Total Deposit**	**Ratio=T.C/T.D**
2004/05	5,143,662,078	7,198,327,428	**71.46%**
2005/06	6,213,878,776	8,654,774,214	**71.80%**
2006/07	7,626,736,137	11,002,040,633	**69.32%**
2007/08	9,460,450,701	11,445,286,030	**82.66%**
2008/09	12,113,698,428	13,715,394,960	**88.32%**
2009/10	15,131,747,944	27,957,220,794	**54.12%**
Average C/D Ratio of SBI			**72.95%**

(Sources: Annual report)

The average of the C/D ratio of NSBI during the study period is 88.32% which is about to the maximum limit of the NRB directive. It shows the good mobilization of the loan by SBI. It has maintained good liquidity also and credit mobilization. The minimum level of C/D ratio of the NSBI is 54.12%. Overall in an average of 58.15% of total deposit collected by HBL is mobilized as loan in different sectors. In conclusion of the study of C/D ratio of the selected banks we can state that the banks are providing credit limit under the directive issued by NRB and able to maintain liquidity in bank as well as loan mobilization also satisfactory even some banks are mobilizing around 50 percent of its total deposit collection. The overall industry Credit mobilization can be concluded as satisfactory.

Table: 6

Calculation of Loan and Advances to Deposit Ratio of EBI			
F.Y.	**Total credit**	**Total Deposit**	**Ratio=T.C/T.D**
2004/05	5,884,122,609	8,063,902,082	**72.97%**
2005/06	7,618,671,476	10,197,690,989	**74.71%**
2006/07	9,801,307,676	13,802,444,988	**71.01%**
2007/08	13,664,081,664	18,186,253,541	**75.13%**
2008/09	18,339,085,562	23,976,298,535	**76.49%**
2009/10	23,884,673,616	33,322,946,246	**71.68%**
Average C/D Ratio of EBI			**73.66%**

(Sources: Annual report)

From above Table, explains the relation between deposits with the value of credit of EBL in given years. The ratios have been ranged from 72.97% in FY 2004/05 and 74.71%, 71.01%, 75.13%, 76.49% and 71.68% in f.y 2005/06, 2006/07,2007/08,2008/09,2009/10 respectively. The overall performance of EBL seems the best with mean ratio **(**Average C/D Ratio of EBI) 73.66%. From this analysis, EBL can be concluded as the best performer in utilization its deposit irrespective the area of its utilization.

This is the highest Average C/D Ratio than HBL and SBI. Because of HBL Average is 58.15% and NSBI Average is 72.95% and EBL Average is 73.66%.

4.2 Growth Ratio of Loans and Advances

Loans and advances is the major function of the commercial banking of those loans and advances determines the book performance.

Table: 7

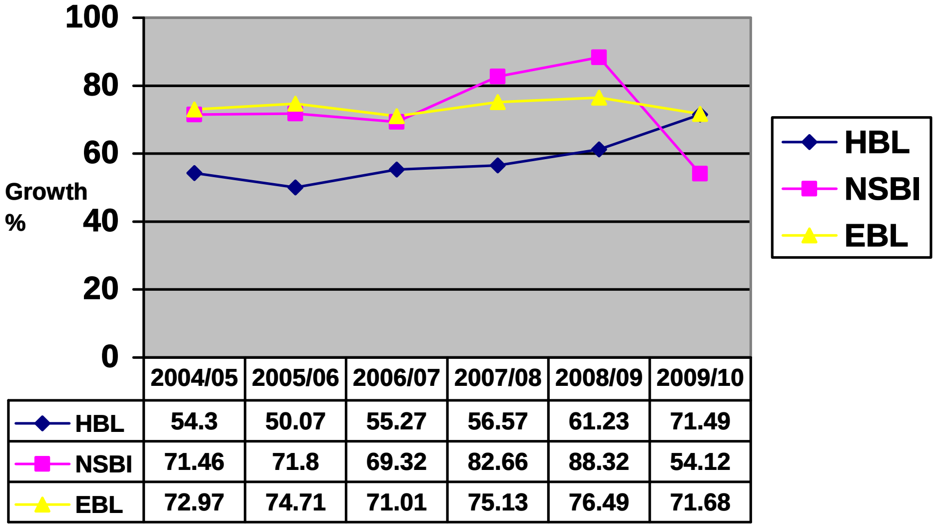
Growth Ratio of credit and Deposit of NSBI, HBL and EBL

F.Y	Banks		
	% of HBL	% of NSBI	% of EBL
2004/05	54.30%	71.46%	72.97%
2005/06	50.07%	71.80%	74.71%
2006/07	55.27%	69.32%	71.01%
2007/08	56.57%	82.66%	75.13%
2008/09	61.23%	88.32%	76.49%
2009/10	71.49%	54.12%	71.68%

(Source: Annual Report of NSBI, HBL and EBL

Figure: 1

Trend Analysis of Groth ratio



The above table shows the growth of loans and advances of HBL, NSBI and EBL There is increasing trend on loans and advances of NSBI. Loans and Advances of HBL is highest than that of NSBI and EBL in six years during the study period. During the study period it has a significant growth of these three banks and explains its aggressiveness.

4.3 Investment Structure in Priority and Deprived sector:

4.3.1 Priority lending:

Priority lending refers to the lending of credit of the commercial banks to the sectors that are prioritized by NRB with the objectives of mitigating the unemployment, poverty, economic inequality and upgrade the deprived and low income people. NRB has a rule for banks of Nepal to lend its portion of credit to priority sectors such as project of national development, small entrepreneurs, agricultural sector etc.

NRB has directed to lend at least its 12 % of bank's total lending to priority sectors selected by NRB like industrial and service sector, small scale entrepreneurs, agricultural sectors etc so as to uplift the living standard of lower income level people and generate the employment opportunities.

4.3.1.1 Limitations of the priority sector lending:

Although the NRB has mentioned that the banks have to invest at least 12 % of their total credit lending to priority sectors, NRB has set up the limits of credit to be granted to the different priority sectors in order to smooth regulation of commercial banks activities and achieve their goals too. They are as follows:

- Loan upto Rs. 2 Million to agriculture, service and domestic industry.
- upto Rs. 5 Million to import machinery & raw materials by export oriented industry.
- Loan upto Rs. 100 Million to establish power generating project of national priority.
- Loan upto Rs. 20 Million for tea plantation, packaging, cold storage and technical educational institutions.
- Loan upto Rs. 10 Million to produce computer hardware or software, electric or solar vehicle.

4.3.2 Deprived sector lending:

Deprived sector lending is the credit facility to the deprived sector of the country from the different reasons such as marginalized group, undeveloped region of the country, socially and economically back warded tribe, caste and territory. According to NRB directives, the banks have to invest one point five percentage of their lending in the deprived sectors.

It is true that all the commercial banks are established and operating with the objective of earning profit. With this view all the commercial banks have concentrated their activities focused only on urban areas with high class citizens. This activity has the unequal distribution of wealth among the citizens. The remote and suburbanized area is ignored and left one step back in the development work as well as on other facilities extended by the government. In order to wipe up such unfair practices among different locations and different level of people of the country, the central bank of Nepal, NRB has made provision and directions to all commercial banks and other financial institutions to increase their investment and lending in the rural areas, and specially advised them to focus its activities toward the deprived sector. It helps in overall development of nation.

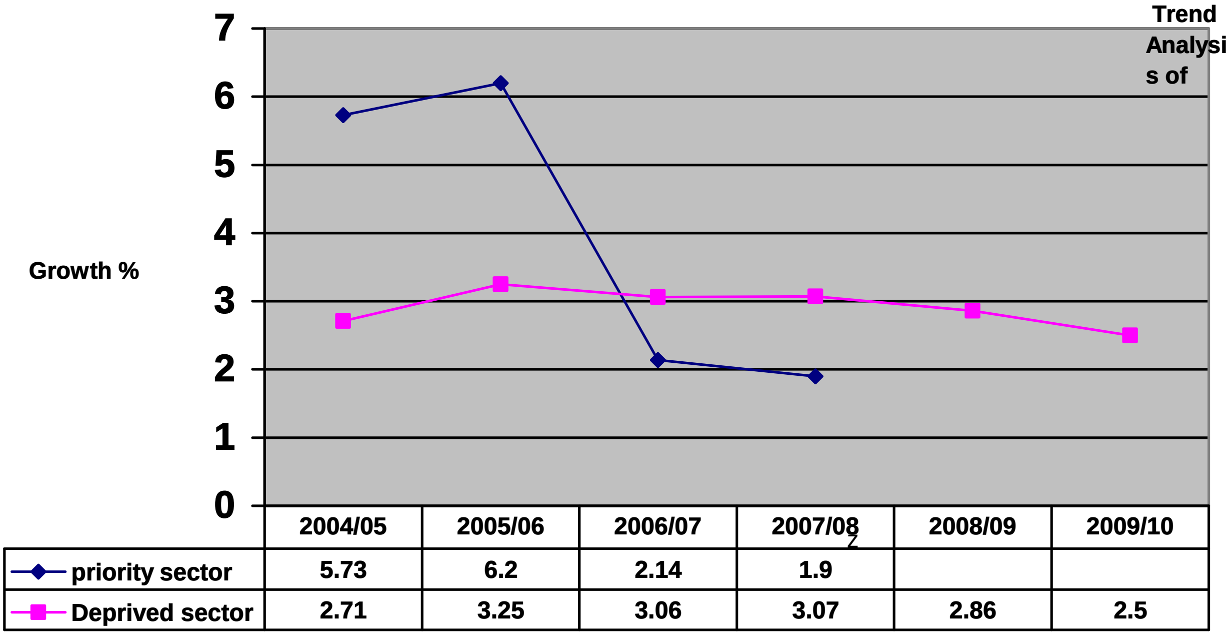
Table: 8

Percentage of Priority and Deprived Sector Lending by HBL		
Year	**Priority Sector Lending**	**Deprived Sector Lending**
2004/05	5.73%	2.71%
2005/06	6.20%	3.25%
2006/07	2.14%	3.06%
2007/08	1.90%	3.07%
2008/09	-	2.86%
2009/10	**-**	2.50%
Average	**2.66%**	**2.91%**

(Sources of Annex: 1)

The above table gives the percentage lending of total lending by HBL in f.y. 2004/05to 2009/10. it shows that priority sector lending of HBL has gradually been fluctated. the average percentage investment in priority sector is only 2066% ,similarly the lending is deprived sector is 2.91% making a total of 5.57% which is below the set standard of 12% Recently NRB has amended the policy and has omitted the requirement of invest in priority sector.

Fig: 2



As per NRB directives it is compulsory to all the commercial banks to provide it loan to priority sector and deprived sector. The above figure had shown the average lending in priority sector and deprived sector by HBL during the study period for f.y2004/05to 2009/10.

4.3.3 Priority and Deprived Sector Lending by NSBI

Deprived sector lending is the credit facility extended to the deprived sector of the society considering the economic condition of marginalized group, undeveloped region of the country as well as socially and economically back warded tribe, caste and territory. According to NRB directives, the banks have to invest one point five percentage of their Lending to the deprived sectors.

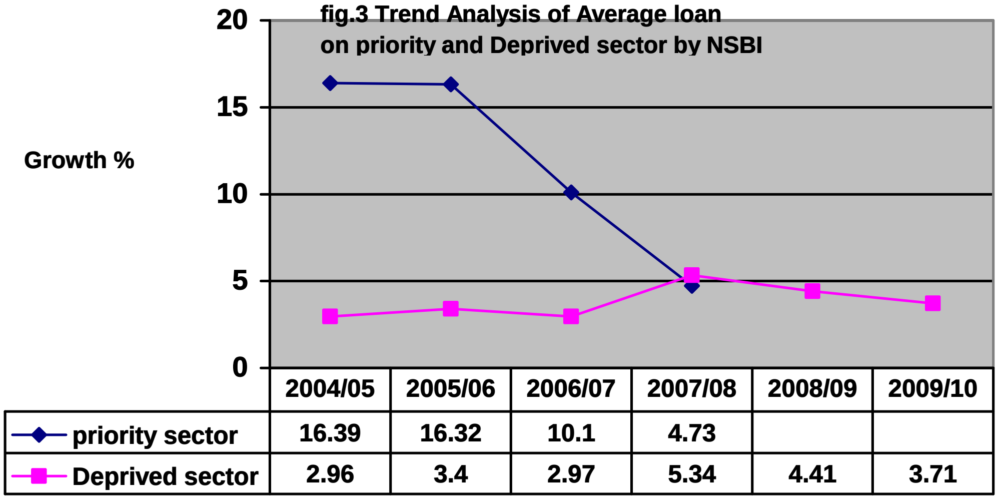
Table: 9

Percentage of Priority and Deprived Sector Lending by NSBI		
Year	**Priority Sector Lending**	**Deprived Sector Lending**
2004/05	16.39	2.96
2005/06	16.32	3.40
2006/07	10.1	2.97
2007/08	4.73	5.34
2008/09	0	4.41
2009/10	0	3.71
Average	**7.92**	**3.71**

(Sources of Annex: 1)

Previous policy of 12% of total lending by commercial banks to be mobilized in priority Sector plus deprived sector is revised And lending to deprived sector requirement is reduced and advised to maintain at 1.5% level which is met by NSBI. Its investment is 3.71% in F.Y 2007/08. The average lending of NSBI on deprived sector is 3.71% over the study period and the average lending of NSBI on priority sector is 7.92%. .

Fig: 3



The figure shows the average loan mobilized by NSBI from the F.Y 2004/05 to 2009/10. The Average amount of loan extended by NSBI on priority sector and deprived sector are 7.92 % and 3.71% per year respectively.

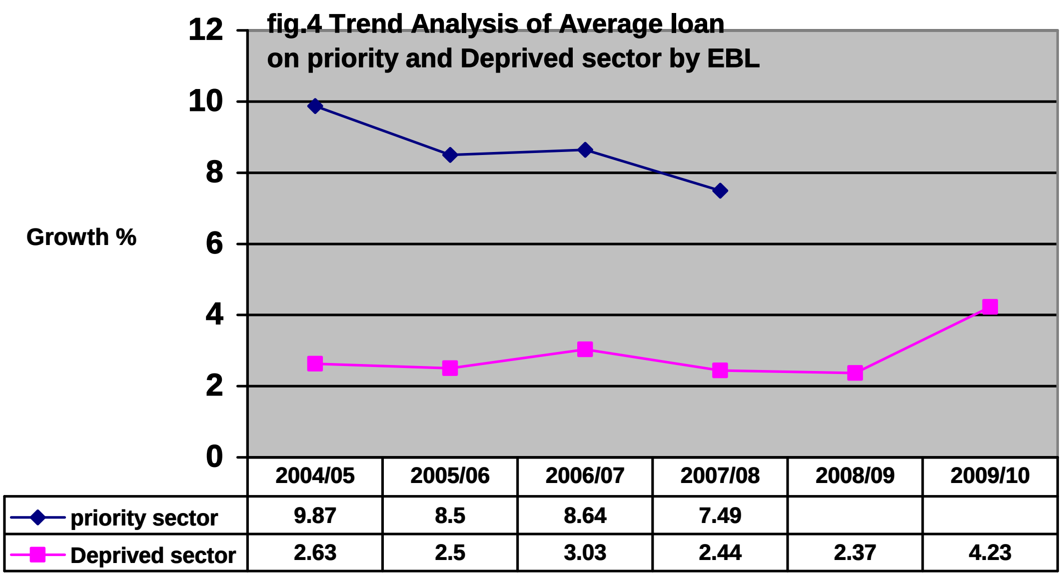
Table: 10

Percentage of Priority and Deprived Sector Lending by EBL		
Year	**Priority Sector Lending**	**Deprived Sector Lending**
2004/05	9.87	2.63
2005/06	8.50	2.50
2006/07	8.64	3.03
2007/08	7.49	2.439
2008/09	0	2.37
2009/10	0	4.23
Average	**5.75**	**2.87**

(Sources of Annex: 1)

The above table shows the percentage of lending in priority sector and deprived sector by EBL for a period of F.Y 2004/05 to 2009/10. On an average the banks have invested 5.75% on priority sector. This has given option to commercial banks whether to invest in this sector or not. However another policy, lending on deprived sector at 1.5% level is still in work and it is compulsory. The average lending on deprived sector by EBL is 2.87% per year. It means the bank has given continuity by lending on the deprived sector.

Fig :4



On an average, EBL has invested 9.87%, 8.5%, 8.64%, 7.49% in priority sector over 5 years period from 2004/05 to 2009/10 which comes to 5.75 % per year of total lending. On the other hand, they have invested 2.63%, 2.5%, 3.03%, 2.44%, 2.37%, 4.23% over the F.Y 2004/05 to 2009/10, which comes to 2.87 % per year of total lending in deprived sector.

It could be concluded that the commercial banks have followed the NRB directives and were quite successful to provide priority sector loan as per the NRB requirements. On the other hand NRB directives state that 1.5% of total lending should be in deprived sector which is meeting by all the samples banks taken for study. Average investment in deprived sector is 2.91% by HBL, 3.75% by NSBI and 2.87% by EBL. It is because of past provision of NRB requirement of higher percentage lending in deprived sector. But, if the lending is compared with the amended lending facility in 2009/10; it is 1.80% by HBL, 2.5% by NSBI and 3.71% by EBL which shows that commercial banks are quite successful to lending in deprived sector. These banks are lending this due to compulsory provision of NRB. They are granting loan on deprived sector just to meet NRB directives. The interest income from this sort of lending is very low in comparison to other lending's.

Therefore, in the absence of such provision, investment by commercial banks in such sectors was very much doubtful.

4.4 Trend analysis of Deposit and Credits of commercial Banks of Nepal

The trend analysis of Deposit and Credits of NSBI, EBL and HBL shows the trend values of six years. Trend analysis is one of the most popular techniques used in statistics to measure in which direction the given variable is moving and prediction of the future movement. It is finding using the past historical data. Here we discuss about the present deposit and credit trend of the commercial banks of Nepal with help of the following table describes the trend values of deposit growth %and loan growth % of the selected commercial banks.

4.4.1 Trend analysis of Deposit and Loan of HBL bank ltd:

The HBL past sixe year deposit and loan is presented in this section and with help of that it is calculated the percentage growth or reduction on the deposit collected and loan disbursement by the bank. It is percentage with help of table as follows:

Table no: 11

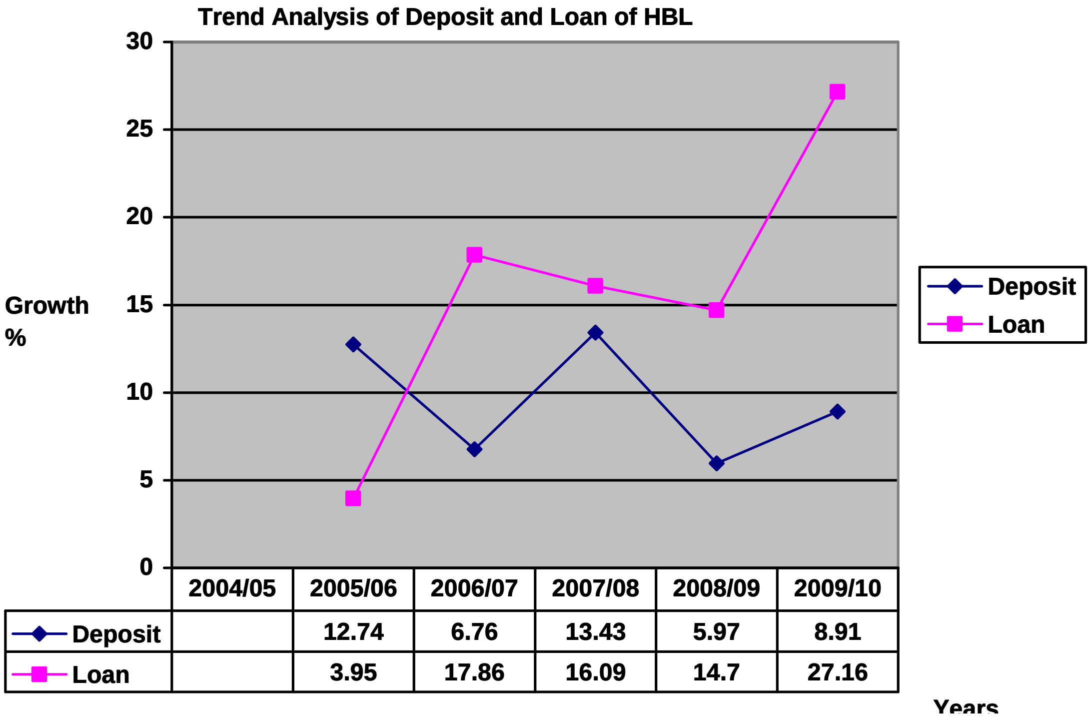
F Y	Deposit	Deposit growth %	Loan Amount	Loan growth %
2004/05	22,010,332,984	**-**	11,951,869,350	**-**
2005/06	24,814,011,984	**12.74**	12,423,520,646	**3.95**
2006/07	26,490,850,640	**6.76**	14,642,559,555	**17.86**
2007/08	30,048,412,756	**13.43**	16,997,997,046	**16.09**
2008/09	31,842,789,356	**5.97**	19,497,520,482	**14.70**
2009/10	34,681,345,179	**8.91**	24,793,155,269	**27.16**
Average		**9.562%**		**15.652%**

(Source: annual report of HBL 2004/05-2009/10)

The above table presented the deposit collected in F.Y. 2004/05 to 2009/10 and loan mobilized by HBL at that period. Its collected is positive percentage of Deposit growth. In 2004/05 to 2009/10 it highest increased Growth by13.43% while it lowest increased Growth by 5.97% in f.y. 2008/09.but finally in f.y 2009/10 it increased again. In an average 9.56% deposit is collected during the study period.

On the same period while analyzing the loan of HBL, the average loan distribution during study period 15.65%. The loan disbursement seems to be increased each year to its former year shown by also positive percentage of loan growth in above table.

Fig no: 5



	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Deposit		12.74	6.76	13.43	5.97	8.91
Loan		3.95	17.86	16.09	14.7	27.16

In above graph shows the trend of deposit and loan of HBL based on the data of f.y 2004/05 to 2009/10. The blue thick line represent Deposit trend 2005/06 to 2006/07 downward trend then upward to 2007/08 and decline to2008/09 resulting finally slow increase in 2009/10. Overall the deposit trend of HBL in fluctuating .the next line of the same graph represent loan trend of HBL that seems in increasing trend from f.y 2005/06 to 2006/07 and decline to 2008/09 but in recent f.y2009/10 it went through again increasing speedly.

HBL in f.y 2006/07 almost all mobilized all its deposit collection as loan and in the f.y 2008/09 to because the width of deposit trend line and loan trend line these two f.ys are negligible where as in f.y 2007/08 if has maximum width shows In f.y 2006/07 HBL was not able to mobilize itd deposit collected well.

4.4.2 Trend analysis of deposit and loan of SBI bank ltd

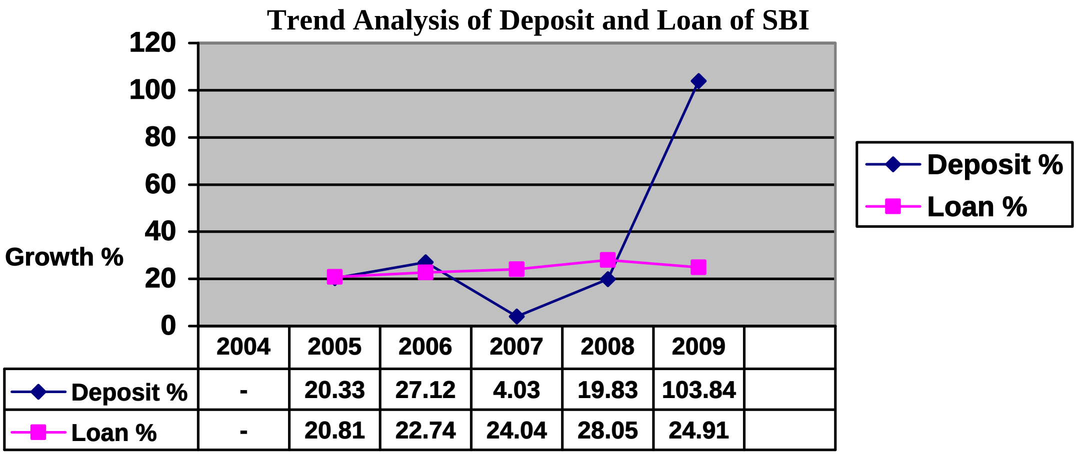
The deposit and loan for the f.y 2004/05 to 2009/10 of SBI is presented in table with the percentage growth also for the study as below:

Table: 12

F Y	Deposit	Deposit growth %	Loan Amount	Loan growth %
2004/05	7,198,327,428	-	5,143,662,078	-
2005/06	8,654,774,214	20.33	6,213,878,776	20.81
2006/07	11,002,040,633	27.12	7,626,736,137	22.74
2007/08	11,445,286,030	4.03	9,460,450,701	24.04
2008/09	13,715,394,960	19.83	12,113,698,428	28.05
2009/10	27,957,220,794	103.38	15,131,747,944	24.91
Average		**=35.02%**		**=24.11%**

According to above presentation of deposit and loan in table, it shows the highest deposit collections was made during f.y 2009/10 worth Rs 27,957,220,794 which is 103.84% increment that former f.y of HBL. On the same way, the loan also disbursed in increasing way every year to previous year loan disbursement. The average deposit collection of the HBL is 35.02% whereas loan mobilized is only 24.11%for the study period.

Fig: 6



In above trend line figure, it can be concluded that the deposit collection seems satisfactory in the f.y 2004/05 to2009/10 comparing the average deposit collection of the SBL.

The blue thick line represent Deposit trend 2005/06 to 2006/07 upward trend then downward to 2006/07 and decline to 2007/08 resulting and slow increase in 2008/09. Finally increasing high speed. Overall the deposit trend of SBI in fluctuating .the next line of the same graph represent loan trend of SBL that seems in increasing trend from f.y 2005/06 to 2008/09 and decline to 2009/10.

Above graph all growth rate of deposit and loan percentage are positive. i.e average deposit are 35.02% and average loan are 24.11%.

4.4.3 Trend analysis of deposit and loan of EBL bank ltd

Table: 13

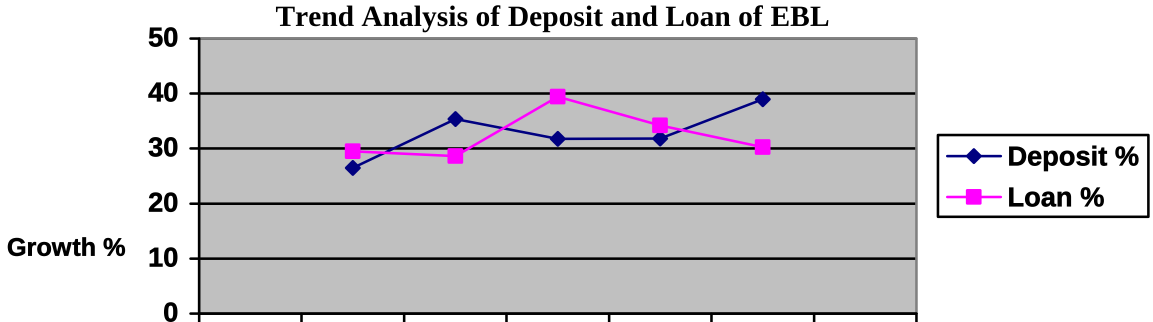
F Y	Deposit	Deposit growth %	Loan Amount	Loan growth %
2004/05	8,063,902,082	-	5,884,122,609	_
2005/06	10,197,690,989	26.46%	7,618,671,476	29.48%
2006/07	13,802,444,988	35.35%	9,801,307,676	28.65%
2007/08	18,186,253,541	31.76%	13,664,081,664	39.41%
2008/09	23,976,298,535	31.84%	18,339,085,562	34.21%
2009/10	33,322,946,246	38.98%	23,884,673,616	30.24%
Average		**32.88%**		**32.40%**

The above table presented the deposit collected in F.Y 2004/05 to 2009/10 and Loan mobilized by EBL at that period. Deposit collected is in increasing trend. It increased by 26.46% in F.Y 2005/06, 35.35% in F.Y 2006/07, 31.76% in F.Y 2007/08, 31.84% in F.Y 2008/09and 38.98%in F.Y2009/10. In an average 32.88% deposit is collected during the study periods.

On the same way while analyzing the loan of EBL, the average loan disbursement during study period was 32.40%. The loan disbursement seems to be increased each year to its former year shown by positive percentage of loan growth in above table.

The trend of the deposit collection and loan mobilization calculated above in the table can be plotted in graph and get actual trend line which can show the increasing trend in a single glimpse as follows:

Fig: 7



	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	
Deposit %	-	26.46	35.35	31.76	31.84	38.98	
Loan %	-	29.48	28.65	39.41	34.21	30.24	

From the above study of the Deposit and loan, the Growth ratio analysis has given picture that the loan management of selected bank Nepal has not stable trend on its Deposit and loan. It is fluctuating years by years. The loan trend may not be able to attract. Generally investors seek increasing trend of Deposit.

While summarizing the deposit and loan trend form the sample study, it could be concluded that the commercial banks deposit collection and loan mobilization showed an increasing trend. They are able to collect more and more deposit every year and are also able for the loan mobilization. The loan mobilization also has been increased every year. The trend line of loan mobilization of commercial banks of Nepal in aggregate is upward sloping which is the positive signal for the commercial banks.

The banks have to maintain the current position in the upcoming days also to have a good public image. It should make effort to expand its banking service not only in the urban area but also in remote area and collect more deposit. And while disbursement of the loan the bank are required to analyze the customer's character, capability to repay the loan and collateral, their intention before granting loan. Otherwise granting the loan without proper analyze of the customer may cause the loan to the default and interest and principle may not be paid back by the customers which ultimately decreases the profit of the banks.

4.5 Percentage of Non- performing loan of commercial banks:

According to above definition it clears that what sort of loan is called as non-performing loan and is that non-performing loan is worthwhile to the banks? Absolutely as you think that the non-performing loan is not good for banks. It is the credit granted by bank whose repayment date is due but still the borrower has not paid the interest and principle of the credit to the bank. So there will be doubt that this sort of loan may not repaid. So each and every banks effort will be decrease the level of non-performing loan and increase the performing loan i.e Pass loan. In this section we will concentrate our effort to calculated the percentage of non-performing loan and evaluate whether they are above NRB standard or not.

We analysis between non performing loan of selected banks and NRB standard.

"Non-performing loan -- a loan that is not earning income and: (1) full payment of principal and interest is no longer anticipated, (2) principal or interest is 90 days or more delinquent, or (3) the maturity date has passed and payment in full has not been made."

- www.teachmefinance.com

"A loan is nonperforming when payments of interest and principal are past due by 90 days or more, or at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons to doubt that payments will be made in full"

-International Monetary Fund

"Non-performing loan -- a loan that is not earning income and: (1) full payment of principal and interest is no longer anticipated, (2) principal or interest is 90 days or more delinquent, or (3) the maturity date has passed and payment in full has not been made."

- *www.teachmefinance.com*

Table no: 14

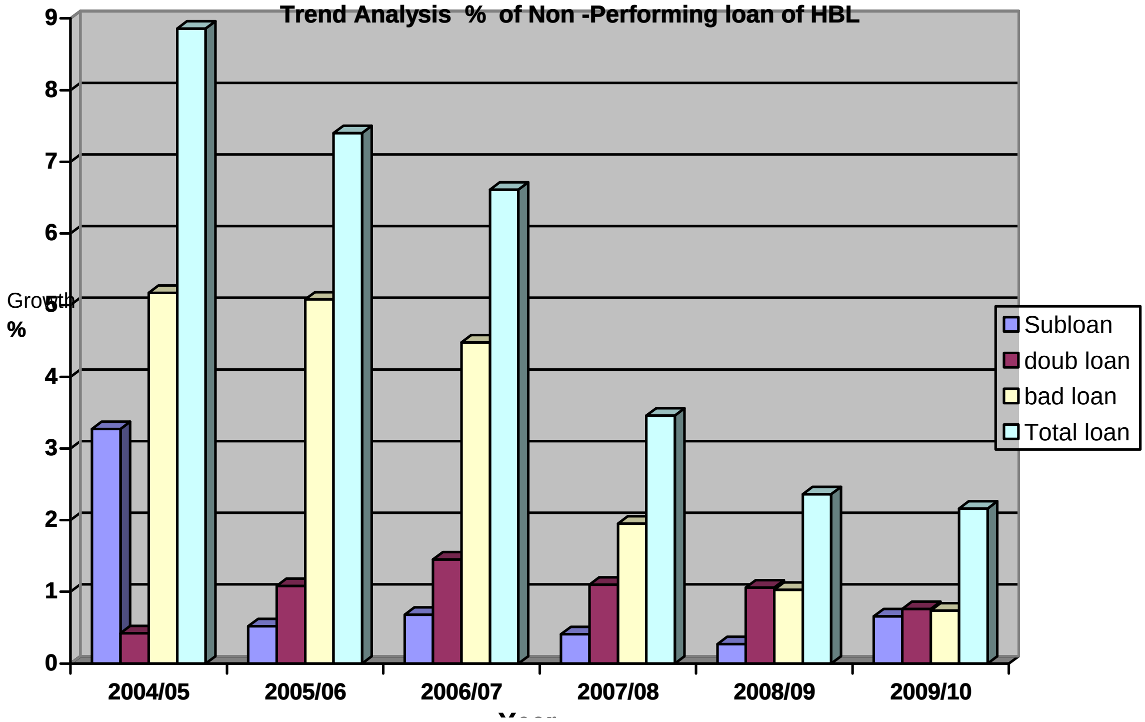
Percentage of Nonperforming loan of HBL:

F.Y	Substandard loan in %	Doubtful loan in %	Bad loan in %	Total loan NPL in%	NRB standard	Remark
2004/05	3.27	0.42	5.17	8.86	Up to 5 %	**Bad**
2005/06	0.52	1.80	5.08	7.4		**Bad**
2006/07	0.68	1.45	4.48	6.61		**Bad**
2007/08	0.41	1.10	1.95	3.46		**Good**
2008/09	0.27	1.06	1.03	2.36		**Good**
2009/10	0.66	0.76	0.74	2.16		**Good**
Average (Non performing loan of HBL) = 5.14%						

(Sources of annex -2)

The sum of substandard percent, doubtful percent and bad loan percent is the total NPL ratio. As shown in the above table for the NPL of HBL, the maximum of 8.86% of NPL ratio is in F.Y 2004/05 which is 3.86% more than internationally acceptable level of NPL ratio. In F.Y 2005/06 also it is 2.4% and in F.Y 2006/07, 1.61% exceed to the internationally acceptable level but after that the NPL ratio is reduced to the 3.46% in F.Y 2007/08, 2.36% in F.Y 2008/09and 2.16% in F.Y 2009/10 that comes below the international standard. It shows that in the recent years the HBL has concentrated its efforts on the loan collection and mobilized in productive sector which reduced their NPL ratio form 8.86% in F.Y 2004/05 to 2.16% in F.Y 2009/10. Still the average NPL ratio of HBL stand on 5.14% above internationally acceptable level on the basis of the calculation for the study period.

Fig: 8



The above table and figure, the percentage of the non-percentage loan con be known. In the f.y 2004/05 the percentage of the non-performing loan is 8.86 and and reduces to 8.23 in the f.y 2005/06 and the percentage continuously reduces to 6.61% 3.46% 2.36% 2.16% in f.y 2006/07, 2007/08, 2008/09,2009/10 respectively.

The serious person seems to be very effective in managing the non- performing loan because the portion of non-performing loans decreases year by year and able to maintain the non –performing loans as of the international acceptable of 5% nearly in f.y 2006/07.

In final we can conclude that the bank has to control its performance regarding non-performing loans which helps to increase the profitability but also help to provide positive information towards the public and the stakeholders.

Table no: 15

Percentage of Non- performing loan of NSBI:

F.Y	**Substandard loan in %**	**Doubtful loan in %**	**Bad loan in %**	**Total loan NPL in%**	**NRB standard**	**Remark**
2004/05	0.020	1.25	4.97	6.24		Bad
2005/06	0.018	0.010	0.66	0.688		Good
2006/07	0.021	0.046	6.06	6.127		Bad
2007/08	0.032	0.109	4.37	4.511	Up to	Good
2008/09	.030	0.169	3.63	3.829	5 %	Good
2009/10	0.084	0.072	1.86	2.016		Good
Average (Non performing loan of NSBI) = 3.90%						

(Sources of annex -2)

The above table summarizes the non-performing loan ratio calculated in the annex part for non-performing loan ratio of NSBI. The NPL ratio is 6.24% in F.Y 2004/05, 0.688% in F.Y 2005/06, 6.127 % in F.Y 2006/07, 4.511 % in 2007/08 and 3.829 % in 2008/09 and 2.016 % in 2009/10. It shows that the bank has made good effort in reducing and 2004/05 & 2006/07 are bad effort the NPL ratio. The average ratio of NPL for the study period is 3.90% whereas internationally acceptable NPL ratio is upto 5%.

The loan on which interest and principle amount is due 3 months and more is regarded as

Non-performing loan. The NPL could be categorized into three levels:

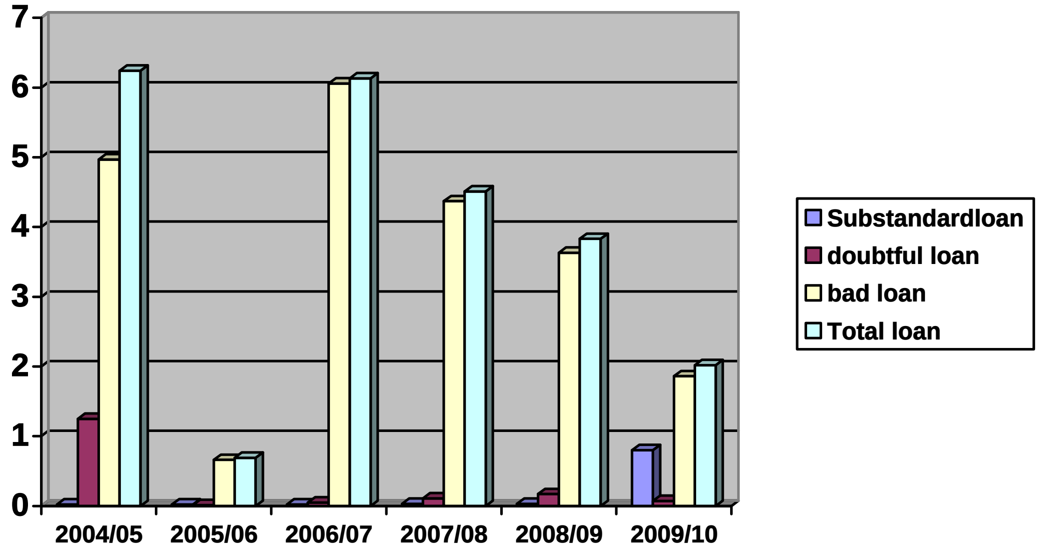
a) Substandard Loan: The interest and principle due from 3 months to 6 months.

b) Doubtful Loan: The interest and principle due from 6 months to 12 months.

c) Bad Loan: The interest and principle due for more than 12 months.

Fig: 9

Trend Analysis Percentage of Non- performing loan of NSBI:



In The above table and figure, the percentage of the non-percentage loan con be known. In the f.y 2004/05 the percentage of the non-performing loan is 6.25 and and reduces to 6.08% in the f.y 2006/07 and the percentage continuously reduces to 0.01% 4.55% , 3.83% and 2.02% in f.y 2005/06, 2007/08, 2008/09, 2009/10 respectively.

The serious person seems to be very effective in managing the non- performing loan because the portion of non-performing loans decreases year by year and able to maintain the non –performing loans as of the international acceptable of 5% nearly in f.y 2007/08.

In final we can conclude that the bank has to control its performance regarding non-performing loans which helps to increase the profitability but also help to provide positive information towards the public and the stakeholders.

Table: 16

Trend Analysis % of Non- performing loan of EBL

F.Y	Substandard loan in %	Doubtful loan in %	Bad loan in %	Total loan NPL in%	NRB Standrd	Remark
2004/05	0.81%	0.66%	0.87%	2.34	Up to 5%	Good
2005/06	0.06%	0.03%	1.61%	1.25		Good
2006/07	0.11%	0.01%	1.19%	1.31		Good
2007/08	0.03%	0.02%	0.77%	0.82		Good
2008/09	0.03%	0.00%	0.64%	0.67		Good
2009/10	0.01%	0.12%	0.36%	0.49		Good
Average	**NPL= 1.146667**					

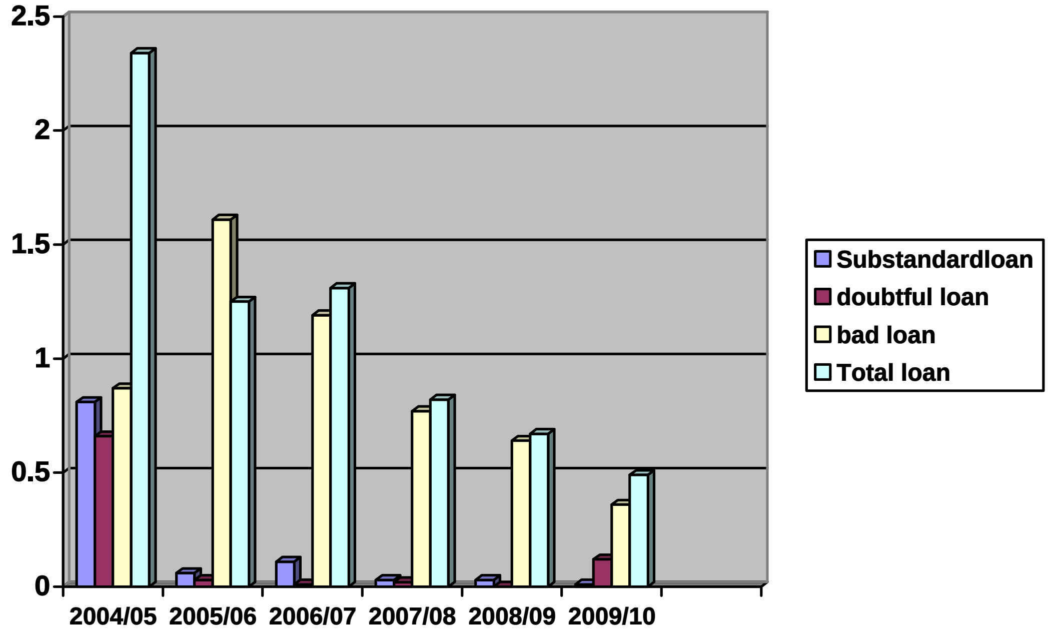
(Sources annex-3)

The above table is the summarized non-performing loan ratio calculated in the annex part for non-performing loan ratio of EBL. The NPL ratio is 2.31% in F.Y 2004/05, 1.25% in F.Y 2005/06, 1.31% in F.Y 2006/07, 0.82% in 2007/08, 0.67% in 2008/09 and0.49% in 2009/10 It shows that the bank has made good effort in reducing the NPL ratio. The average ratio of NPL for the study period is 1.14% whereas internationally acceptable NPL ratio is up to 5%. As the NPL ratio of NIBL is below the internationally acceptable level the loan mobilization and collection of EBL is effective.

From the study of the NPL ratio of the selected sample banks it could be concluded that even in the past some years the NPL ratio of the commercial banks are higher than the internationally acceptable level of 5%, their efforts on collection made possible to reduce NPL loan as well as NPL ratio less than 5%. In the recent years the commercial banks are able to reduce their NPL ratio and they need little more effort to reduce into zero level. It will increase profit which ultimately increases the value of the firm.

Trend of Nonperforming loan 0f EBL bank ltd.

Fig: 10



The serious person seems to be very effective in managing the non- performing loan because the portion of non-performing loans decreases year by year and able to maintain the non –performing loans as of the international acceptable of 5% so all are acceptable because of all are below 5%.

4.6. Loan Loss Provision made by commercial banks of Nepal

Generally loan is classified into two: Non-Performing Loan and Performing Loan. The NPL is the loan on which the interest and principle payment is due but not paid. It is subdivided into four categories which are mentioned in above part of the study too. In this section attempt has been made to discuss them in detail. Next, the performing loan is also called as the pass loan on which normally, the interest and principle payment is not due. Pass: Loans for which the borrowers do commitment for the full repayment of interest and principal is not in doubt. The risk in pass loan will be very much low. In this regard NRB directive has provisioned to have only 1% of pass loan as the provision for loan loss which should be meeting by all the banks.

Loan loss provision of HBL

We can see the loan loss provision maintain for HBL Bank for different types of loan and different year:

Table: 17

Types of loan	**Year**					
	2004/05	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Pass loan	0.96	0.94	0.96	0.97	0.99	0.99
Substandard loan	26.07	60.20	57.78	25.46	24.99	47.17
Doubtful loan	50.71	47.23	68.16	49.98	50.00	50.86
Bad loan	98.09	100.41	100.18	99.47	99.96	99.56

(Sources of annex 3)

According to NRB direction require provision for the pass loan is 1% .The above table. But the HBL Bank provision is 0.96%, 0.94%, 0.96%, 0.97%, 0.99%, and 0.99% in f.y 2004/05 to 2009/10 respectively. Which seem lowest than the requirements of NRB. The bank seems unable to maintsin the loan loss provision.

Again, the NRB directives, requirement provision for the substandard loan is 25% but the bank provision is 26.07, 60.20%, 57.78, 25.46%, 24.99% and 47.17% in f.y 2004/05 to 2009/10 respectively. In the year 2007/08 and 2008/09 is able to maintain the loan loss provision, and lastly remaining f.y 2004/05,2005/06, 2006/07, and 2009/10 are seems higher than the requirements.

According to the NRB directives require provision for the doubtful loan is 50%

Loan loss provision of SBI Bank ltd

Table: 18

Types of loan	Year					
	2004/05	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Pass loan	0.86	0.09	0.92	0.95	0.96	0.98
Substandard loan	13.39	20.94	17.7	16.59	14.61	20.71
Doubtful loan	48.39	15.67	50.00	34.86	45.63	32.50
Bad loan	95.83	97.99	99.13	99.53	98.59	97.93

(Annex-3)

For the above table the loan provision by the SBI bank for the various types of loan can be known According to NRB directives, require provision for pass loan is **1%** .so the SBI bank provision 0.86%, 0.09%, 0.92%, 0.95%, 0.96%and 0.98% in F.Y. 2004/05, 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 respectively. So all in the year are unable to maintain the loan loss provision as of requirement.

According to the NRB directives, require provision for sub stand loan is **25%** so that the bank provision is 13.39, 20.94, 17.7, 16.59, 14.61,& 20.71% in f.y-2004/05, 2005/06, 2006/07, 2007/08, 2008/09,2009/10 respectively. All in the year are unable to maintain the loan loss provision as of requirement.

According to the NRB directives required provision for doubtful loan is **50%** so that the bank provision 48.39%, 15.67%, 50.00%, 34.86%, 45.63% & 32.50% in F.Y. 2004/05, 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 respectively. The bank is unable to maintain the loan loss provision in f.y. 2004/05, 2005/06, 2007/08, 2008/09, 2009/10.but the bank is able to maintains the loan loss provision in the year 2006/07.

According to NRB direction required provision for Bad loan is 100% so that the bank provision 95.383%, 97.99, 99.13, 99.53, 98.59, 97.93 in f.y-2004/05, 2005/06, 2006/07, 2007/08,2008/09 and 2009/10 respectively. The bank is unable t o minted the loan loss provision in the following years.

In the finally analysis the conclusion regarding in case the loan loss provision all types of loan is unable to maintains the provision.

Loan loss provision of EBL Bank ltd

Table: 19

Types of loan	**Year**					
	2004/05	**2005/06**	**2006/07**	**2007/08**	**2008/09**	**2009/10**
Pass loan	2.26%	1%	1%	1%	1%	1%
Substandard loan	25%	25%	25%	25%	25%	25%
Doubtful loan	50%	50%	50%	50%	50%	50%
Bad loan	100%	100%	100%	100%	100%	100%

(Annex-3)

For the above table the loan provision by the EBI bank for the various types of loan can be known According to NRB directives, require provision for pass loan is **1%** .so the EBI bank provision 2.26%, 1%, 1%, 1%, 1%and 1% in F.Y. 2004/05, 2005/06, 2006/07, 2007/08, 2008/09,2009/10 respectively. So all in the year are unable to maintain the loan loss provision as of requirement but the bank is able to maintains the loan loss provision in the year 2004/05 above the 1% .

According to the NRB directives, require provision for sub stand loan is **25%** so that the bank provision is 25%, 25%, 25%, 25%, 25% & 25% in f.y-2004/05, 2005/06, 2006/07, 2007/08, 2008/09,2009/10 respectively. All in the year are unable to maintain the loan loss provision as of requirement.

According to the NRB directives required provision for doubtful loan is **50%** so that the bank provision 50%, 50%, 50%, 50%, 50% & 50% in F.Y. 2004/05, 2005/06, 2006/07, 2007/08, 2008/09 ,2009/10 respectively. All in the year are unable to maintain the loan loss provision as of requirement.

According to NRB direction required provision for Bad loan is 100% so that the bank provision 100%, 100% 100% 100% 100% & 100% in f.y- 2004/05, 2005/06, 2006/07, 2007/08, and 2008/09, 2009/10 respectively. The bank is unable to minted the loan loss provision in the following years.

In the finally analysis the conclusion regarding in case the loan loss provision all types of loan is unable to maintains the provision.

4.7 Comparative study of the deposit & loan growth of the commercial banks

(in f.y 2004/05-2009/10)

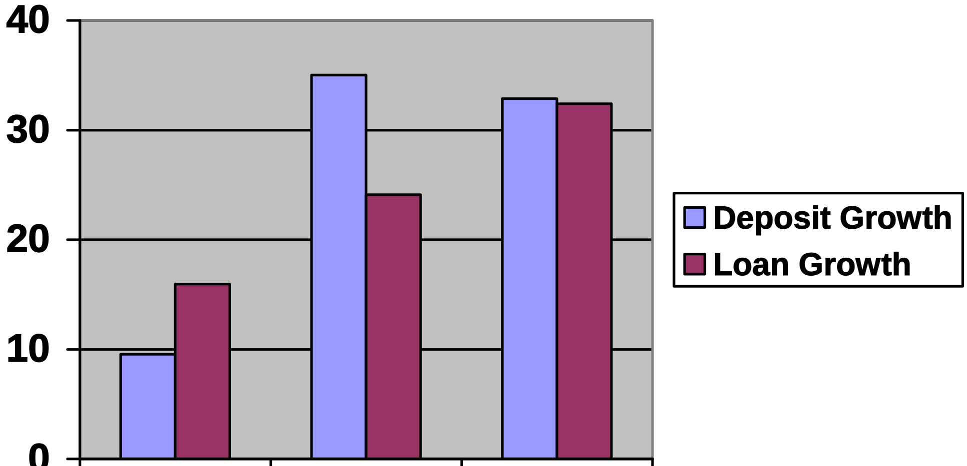
Deposit Growth &loan of the commercial Banks

Table: 20

Banks	**Avg. deposit growth%**	**Avg. loan growth%**
HBL	9.56%	15.95%
NSBI	35.02%	24.11%
EBL	32.88%	32.40%

Average Deposit Growth and Loan of the Commercial Banks

Fig: 11



	HBL	NSBI	EBL
Deposit Growth	9.56	35.02	32.88
Loan Growth	15.95	24.11	32.4

From the above table, the deposit growth rate or HBL, SBI, EBL Were 9.56%, 35.02%, 32.88 % resp. and the loan growth rate were 15.95%, 24.11%, 32.40%of the sample banks.

After the analysis, the deposit and loan growth rate of the NSBI was above the average Deposit Growth rate 35.02% and EBL was above the Average loan Growth rate 32.40% of the selected commercial banks so the performance of the bank was very satisfactory and better. In case of the HBL, the deposit and loan growth rate both are below of the average comparative other commercial bank growth rate so growth gate of deposit and loan was not so satisfactory.

4.8 Comparative study of the percentage of non performing loans of the commercial Banks (from 2004/05 to 2009/10)

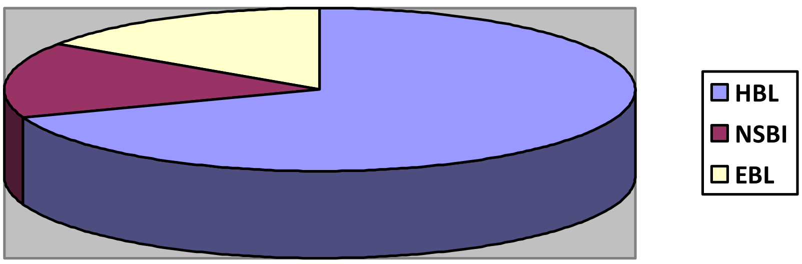
Table no: 21

Non – performing loans of the commercials banks:

Banks	**Average %of NPLs**	**Ranks**
HBL	5.14%	3
SBI	1.116%	1
EBL	1.147%	2

Fig: Non – performing loans of the commercials banks:

Fig: 12



According to above table, the average non- performing loan can be known that the comparative study of the banks, the EBL and SBI bank seems to be controlling non-performing loans. The EBL& SBI is able to put the non-performing loans below often international acceptable. The HBL bank should thinks of the controlling the non-performing loans because the non –performing loans are above of the international acceptable.

4.9 Correlation Analysis:

The analysis identifies and interprets the relationship between the two or more variables. The correlation analysis of the statistical tool, which is used to describe the relationship between the two variables (one is dependent and other is independent). In our study relationship between the various variables. It is calculated by :

- ► A positive or negative relation exits
- ► The relationship is significant or insignificant
- ► Establish cause and effect relation of any

In this study, the correlations between the types of the non- performing loans (substandard .doubtful and bad loan) with the ROA and ROE of the banks are studied.

Correlation between the substandard and ROA of commercial banks:

If r > 6 PE significant

r < PE	= correlation insignificant
r > 6 PE	= correlation significant
PE < r < 6 PE	= nothing can be calculated

Calculation of ROE, & ROA

$$\text{ROA} = \frac{\text{Net profit}}{\text{Total Assets}}$$

Return on Shareholders' Equity

One of the main sources of capital is equity which is raised from issue of common shares to public. People use their savings on share with a expectation of return from their investment in equity. So every time equity holders want to know about return on shareholders' equity of the firm. Higher the ROSE is preferred by the equity holders. The calculated ROSE of selected sample banks are presented below:

$$\text{ROE} = \frac{\text{Net profit}}{\text{Share holder equity}}$$

Table: 22

Calculation of ROA% and ROE% of HBL

Fiscal year	Total Assets	Equity	Net profit	ROA in %	ROE in %
2004/05	24,817,369,870	1,541,747,000	263,053,495	1.06	17.06
2005/06	2,741,815,787	1,541,747,000	308,275,171	11.24	20.00
2006/07	29,460,389,672	1,766,176,000	457,457,696	1.55	25.90
2007/08	33,519,141,111	2,146,500,000	491,822,905	1.74	22.91
2008/09	36,175,531,637	2,512,992,000	635,868,519	1.76	25.30
2009/10	39,320,322,069	3,119,881,000	752,834,735	1.91	24.13

Table: 23

Calculation of ROA% and ROE% of NSBI

Fisical year	Total Assets	Equity	Net profit	ROA in %	ROE in %
2004/05	8,440,405,808	689,013,000	60,851,673	0.72	8.83
2005/06	10,345,373,370	982,374,000.00	57,386,634	0.55	5.84
2006/07	13,035,839,124	1,163,291,000.00	117,001,973	0.9	10.06
2007/08	13,901,200,559	1,414,645,000.00	254,908,844	1.83	18.02
2008/09	17,187,446,174	1,712,607,000.00	247,770,758	1.44	14.47
2009/10	30,916,681,796	2,450,554,000.00	316,373,495	1.02	12.91

Table: 24

Calculation of ROA&ROE of EBL

Fisical year	Total Assets	Equity	Net profit	ROA in %	ROE in %
2004/05	9,608,570,561	762,000,000	785,058,755	8.17%	1.0303
2005/06	11,732,516,418	998,000,000	168,214,611	1.43%	0.1686
2006/07	15,959,284,687	1,198,000,000	237,290,936	1.49%	0.1981
2007/08	21,432,574,300	1,514,600,000	296,409,281	1.38%	0.1957
2008/09	27,149,342,884	2,112,600,000	451,218,613	1.66%	0.2136
2009/10	36,916,848,654	2,620,000,000	638,732,757	1.73%	0.2438

Tables. No: 25

Correlation between substandard loan and ROA of CBs.

Banks	**Correlations r**	**Cor. Coff Of determination r2**	**P.E**	**6*PE**
HBL	0.00031	0.00	0.2753	1.6518
NSBI	0.23	0.0529	0.2607	1.5642
EBL	0.1855	0.0344	0.2659	1.5954

(Annex: 4)

If,
r < PE = correlation insignificant
r > 6 PE = correlation significant
PE < r < 6 PE = nothing can be calculated.

The calculated correlations are smaller than Probable Error which indicates that the calculated correlations for three banks are insignificant.

From the table, relationship between the substandard loan and the ROA can be known. The coefficient of correlation between the substandard loan and the ROA of the HBL, EBL &SBI are 0.23, 0.00031 and 0.1855 respectively.

According to table clearly shows that all banks of selected have positive correlation. The positive correlation occurred because as of the increasing in the substandard loan, the investment is also increase and ultimately portion of the profit is in the great ratio in comparison to the increase in the substandard loan and the positive relation occurred.

According to table, the coefficient of determination for SBI is 0.0529, which is indicate that 5.29% of total variation in ROA has been explained by the substandard loan. Similarly, the coefficient of determination for HBL is0.00 and EBL is 0.0344. Which is indicates that the total variation of 3.44%, in ROA has been explained by the substandard loan.

After the analysis .the conclusion can be made that the NSBI bank correlation determination (r2) effected by the NPL due the total variation in ROA is very high so substandard loan effects highly in ROA of the bank.

Tables. no: 26

Correlation between Doubtful loan and ROA of CBs.

Banks	**Correlations r**	**Corr. Of determination r2**	**P.E**	**6*PE**
HBL	0.7191	0.5171	0.1329	0.7974
SBI	-0.2682	0.0719	0.2555	0.1533
EBL	0.989	0.9781	0.0060	0.036

(Annex: 4)

If,
r < PE = correlation insignificant
r > 6 PE = correlation significant
PE < r < 6 PE = nothing can be calculated.

From the table, relationship between the Doubtful loan and the ROA can be known. The coefficient of correlation between the Doubtful loan and the ROA of the HBL, NSBI & EBL are 0.7191,-0.2682and0.989 respectively.

According to table, the coefficient of determination for SBI is 0.0719, which is indicate that 7.19% of total variation in ROA has been explained by the Doubtful loan. Similarly, the coefficient of determination for HBL is 0.5171and EBL is 0.9781.Which is indicates that the total variation of 97.81%, in ROA has been explained by the Doubtful loan.

The calculated correlations are smaller than Probable Error which indicates that the calculated correlations for HBL$ NSBI are insignificant. But EBL is greater than probable Error and six times probable Error so that the calculated correlation for EBl is significant.

Tables no: 27

Correlation between Bad loan and ROA of CBs.:

Banks	**Correlations r**	**Corr. Of determination r2**	**P.E**	**6*PE**
SBI	0.3159	0.0998	0.2478	1.4868
HBL	0.0719	0.0052	0.2739	1.6434
EBL	-0.075	0.0056	0.2738	1.6428

(Annex: 4)

If,

r < PE = correlation insignificant

r > 6 PE = correlation significant

PE < r < 6 PE = nothing can be calculated.

From the table, relationship between the Badl loan and the ROA can be known. The coefficient of correlation between the Bad loan and the ROA of the HBL, NSBI & EBL are 0.3159, 0.0719 2and -0.075 respectively.

According to table, the coefficient of determination for SBI is 0.0998, which is indicate that 9.98% of total variation in ROA has been explained by the Badl loan. Similarly, the coefficient of determination for HBL is 0.00521and EBL is 0.00561.Which is indicates that the total variation of 0.56%, in ROA has been explained by the Bad loan.

The calculated correlations are smaller than six times Probable Error which indicates that the calculated correlations for HBL& NSBI are insignificant. But HBL is. Nothing can be calculated.

Table no : 28

Correlation between substandard loan and ROE of CBs.

Banks	**Correlations r**	**Corr. Of determination r2**	**P.E**	**6*PE**	**Relation**	**Significant / insignificant**
HBL	-0.776	0.6022	0.1095	0.657	Negative	**Insignificant**
NSBI	0.2048	0.0419	0.2638	1.5828	positive	**Insignificant**
EBL	0.8158	0.6655	0.0921	0.5526	positive	**significant**

(Annex:4

If,

r < PE = correlation insignificant

r > 6 PE = correlation significant

PE < r < 6 PE = nothing can be calculated.

So, the calculated correlation coefficient is significant as it calculated.

If the r < PE the correlation is insignificant if r > 6 PE only then the calculated correlation will be significant. And if PE < r < 6 PE nothing can be calculated. So, the calculated correlation coefficient so it is PE < r < 6 PE nothing can be calculated in this study.

Table no : 29

Correlation between Doubtful Loan and ROE of CBs.

Banks	**Correlations r**	**Corr. Of determination r2**	**P.E**	**6*PE**	**Relation**	**Significant / insignificant**
HBL	0.4266	0.182	0.225	1.35	positive	Insignificant
NSBI	-0.2255	0.051	0.2614	1.5684	Negative	Insignificant
EBL	0.991	0.982	0.0099	0.0594	positive	significant

(Annex: 4)

If,
r < PE the correlation is insignificant
r > 6 PE only then the calculated correlation will be significant.
PE < r < 6 PE nothing can be calculated.

So, the calculated correlation coefficient is significant as it calculated.

from above table HBL bank and EBL bank are positive relation but NSBI bank is negative relation .so HBL and NSBI bank are insignificant because of these are r < 6 PE only then the calculated correlation will be insignificant, and EBL bank is significant r > 6 PE only then the calculated correlation will be significant.

Table no : 30

Correlation between Bad loan and ROE of CBs.

Banks	Correlations r	Corr. Of determination r2	P.E	6*PE	Relation	Significant / insignificant
HBL	-0.6169	0.381	0.170	1.02	Negative	Insignificant
NSBI	0.3317	0.110	0.2451	1.471	positive	Insignificant
EBL	-0.1077	0.012	0.2722	1.633	Negative	Insignificant

(Annex:4)

If,

r < PE the correlation is insignificant

r > 6 PE only then the calculated correlation will be significant.

PE < r < 6 PE nothing can be calculated.

So, the calculated correlation coefficient is significant as it calculated.

from above table NSBI bank are positive relation but HBLandEBL bank is negative relation .so HBL ,NSBI and EBL bank are insignificant because of these are r < 6 PE only then the calculated correlation will be insignificant.

4.10 Regression Analysis of Sample Bank of CBs

Multiple Regression Analysis

In this part the researcher tried to find out the relationship of the performance loan and Non performance loan of the HBLs of Nepal with the ROE. It used the multiple regressions that give the regression line of ROE on performance loan and Non performance Loan which helps in forecasting the future ROE of the bank with the projected performance loan and Non performance Loan mobilization for the bank. Here calculated the multiple regression lines for the selected HBLs and coefficient of multiple determinations in terms of multiple regressions.

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Table no : 31

HBL's Multiple Regression Analysis Data Table

Year	ROE (X_1) %	Performance loan (X_2) %	Non performance loan (X_3) %	Result
2004/05	17.06	0.96	8.86	**a = 32.89** **b1= - 6** **b2 = -0.88**
2005/06	20.00	0.94	7.4	
2006/07	25.90	0.96	6.61	
2007/08	22.91	0.97	3.46	
2008/09	25.30	0.99	2.36	
2009/10	24.13	0.99	2.16	
Total	**135.27**	**5.81**	**30.85**	

Source: Annex 5

The variable a in the multiple regression line represent the point of intercept on y axis, b_1 slope of X_1 with variable X_2 holding variable X_3 constant and b_2 slope of X_1 with variable X_3 holding variable X_2 constant. While calculating for the multiple regression line of ROE on performance loan and non performance loan for HBL in annex 5 of the section annex at the end of the thesis the following line obtained:

$X_1 = 32.89 - 6\ X_2 - 0.88\ X_3$

The multiple regression line shows the estimation basis for the HBL's ROE on the given performance loan and non performance loan mobilized. It states that even the performance loan and non performance loan mobilization are held constant ROE from other sources of income except performance loan and non performance loan mobilization.

The calculation for coefficient of multiple determination based on regression line calculated above in annex part shows that the changes in ROE of the bank is caused by performance loan and non performance loan up to 22.41 % and remaining negligible changes is due to other factors.

$$R^2_{1.23} = \frac{a \sum x_1 + b_1 \sum x_1 x_2 + b_2 \sum x_1 x_3 - n(\bar{x}_1)^2}{\sum x^2_1 - n(\bar{x}_1)^2} = 22.41$$

The coefficient of multiple determinations gives that the percentage changes on the dependent variable due to the independent variables. The 22.41% change on ROE is due to the changes in performance loan and non performance loan and rest negligible caused by other factors except deposit and loan.

Table no: 32

NSBI's Multiple Regression Analysis Data Table

Year	ROE (X_1) %	Performance loan (X_2) %	Non performance loan (X_3) %	Result
2004/05	8.83	0.86	6.24	a = 5.15
2005/06	5.84	0.09	0.688	
2006/07	10.06	0.92	6.127	b1=12.18
2007/08	18.02	0.95	4.511	
2008/09	14.47	0.96	3.829	b2 =-0.80
2009/10	12.91	0.98	2.016	
Total	**70.13**	**4.76**	**23.411**	

Source: Annex 5

In the table ROE is represented by X_1, performance loan by X_2 and performance loan Loan mobilized by X_3 so that the calculation work will be easier. While solved for the regression line with the above data using least square method, the values of a, b_1 and b_2 as shown in table above is observed. The NSBI's value of a = 5.15 %means the bank will be able to earn ROE of that much when the $X_2 = X_3 = 0$. The b_1 = 12.18,% means the corresponding change in X_1 for each unit change in X_2 while X_3 is held constant. On the same way the b_2 = -0.80% gives the corresponding change in X_1 for each unit change in X_3 while X_2 is held constant.

The multiple regression line based on the above data calculated for the NSBI in the annex section of this thesis presented detail in annex 5. The multiple regression line for NSBI as follows:

$X_1 = 55.15+12.18\ X_2 -0.80\ X_3$

This is the estimation line that helps in the forecasting the ROE of the NSBI with the values of the performance loan and non performance loan mobilization for the year. If substitutes the values of X_2 performance loan for the year and X_3 non performance loan mobilization for the year in the above multiple regression line for NSBI It helps for the predicted ROE for the same year of NSBI.

The calculation of coefficient of multiple determinations in terms of multiple regression line for NSBI can be made as follows:

$$R^2_{1.23} = \frac{a \sum x_1 + b_1 \sum x_1 x_2 + b_2 \sum x_1 x_3 - n(\bar{x}_1)^2}{\sum x^2_1 - n(\bar{x}_1)^2} = 0.38$$

= 38%

The coefficient of multiple determinations gives that the percentage changes on the dependent variable due to the independent variables. The 38% change on ROE is due to the changes in performance loan and non performance loan and rest negligible caused by other factors except d performance loan and non performance loan

Table no: 33
EBL's Multiple Regression Analysis Data Table

Year	ROE (X_1) %	Performance loan (X_2) %	Non performance loan (X_3) %	Result
2004/05	1.0303	2.26	1.717	a = -0.1
2005/06	0.1686	1	1.698	
2006/07	0.1981	1	1.305	b1=0.14
2007/08	0.1957	1	0.814	
2008/09	0.2136	1	0.679	b2 =0.24
2009/10	0.2438	1	0.483	
Total	**2.050**	**7.26**	**6.696**	

Source: Annex 5

The above table presents the data collected for the EBL of 2004/05 to 2009/10 in terms of ROE, performance and non performance Loan. With the help of above data can get the multiple regression line for EBL as follows:

$X_1 = -0.1 + 0.14\ X_2 + 0.24\ X_3$

The calculation is given in annex part where if observed a = - 0.1 that shows if the performance and non performance Loan remain constant the firm will suffer from loss. The value of b_1 = 0.14 shows the times performance loan will effect on ROE in case of non performance loan remain constant whereas the b_2 = 0.24 gives times change on loan mobilized on ROE if the deposit collection remain constant. For more analysis will go for calculation of coefficient of multiple determinations with reference to multiple regressions calculated for EBL as below:

$$R^2_{1.23} = \frac{a\sum x_1 + b_1\sum x_1x_2 + b_2\sum x_1x_3 - n(\bar{x}_1)^2}{\sum x^2_1 - n(\bar{x}_1)^2} = 0.40$$

= 0.40 or 40%

It gives that the ROE of the EBL is affected by 40% due to the factors deposit it Collected and loan it has mobilized. Only negligible affects of other factors are shown by the coefficient of multiple determinations.

4.11 Major Findings of the Study

From the above data presentation and analysis regarding the loan collection and disbursement procedure of commercial banks the findings could be listed out as follows:

A) The deposit collection and Credit Ratio trend of HBL is in increasing trend with average of Rs 28,314,623,810 deposit collection and Rs. 16,722,770,390 average Credit mobilization. NSBI average deposit and Credit is Rs 13,328,840,676.50 and Rs. 9,281,695,677.3 Respectively which are found increasing every year. Finally of the EBL also found increasing trend on deposit and loan with an average of Rs. 17,924,922,730.17 deposit and Rs 13,198,657,100.50 loan.

B) The average priority sector lending of HBL is 2.66% of total lending and in deprived sector is 2.91%. The NSBI's priority sector lending is 7.02% and deprived sector lending is 3.71% during the study period F.Y 2004/05 to 2009/10 in an average. The EBL's priority sector lending is 5.75% and deprived sector is 2.87%.

C) The credit to deposit ratio calculated for HBL found with 58.15% average C/D ratio for the study period which is 72.95% for the NSBI and 73.66% of EBL. It shows that EBL has higher loan mobilization whereas the HBL has least mobilization of loan among the three sample banks.

D) NPL loan is the non-performing asset of the bank which they tend to be reduced and internationally accepted standard of NPL for the banks is 5% of total loan. In this study found that the HBL has only 5.14% of average NPL during the F.Y 2004/05 to 2009/10 which is crossed than internationally accepted standard. It is 3.90% for the NSBI and 1.116% for EBL. The lowest NPL is of NSBI & EBL whereas HBL has crossed the international standard of NPL.

(E) As per the directives of NRB the loan loss provision to be made for the pass loan, substandard loan, doubtful loan and bad loan. The NRB says for the 1% provision for pass loan, 25% provision of substandard loan, 50% of doubtful loan and 100% provision for the bad loan. When it studied for it and calculated for the three selected sample banks found that HBL has not exactly meet this NRB requirement in most of the F.Y during the study period. It was around to meet only and some years only it was met. The NSBI has met the provision for pass loan, substandard loan and doubtful loan and bad loan. Finally the EBL has exactly met the NRB standard requirements for the provision on all types of loan.

F) The simple correlation coefficient of ROA with the substandard loan amount calculated for the HBL, NSBI and EBL goes as 0.00031 for HBL, 0.23 for NSBI and 0.185 for the EBL. It shows the positive relationship of the ROA with the Substandard loan amount received form loan mobilized. The correlation calculated is found insignificant.

G) The simple correlation coefficient of ROA with the doubtful loan amount calculated for the HBL, NSBI and EBL goes as 0.72 for HBL, -0.27for NSBI and 0.99for the EBL. It shows the positive and negative relationship of the ROA with the doubtful loan amount received form loan mobilized. The correlation calculated is found insignificant.

H) The simple correlation coefficient of ROA with the bad loan amount calculated for the HBL, NSBI and EBL goes as 0.31 for HBL, 0.07 for NSBI and -0.075 for the EBL. It shows the positive and negative relationship of the ROA with the Substandard loan amount received form loan mobilized. The correlation calculated is found insignificant.

I) the multiple regression analysis made of ROE on performance loan and nonperformance Loan found the fluctuation of ROE, 22.41 of HBL 0.38 of NSBI and0.40 of EBL due to the change in performance loan and nonperformance loan. The other factors effect on ROE is found to be negligible.

The ROE of the Sample bank of CBs of Nepal are highly depended on the deposit And loan mobilized as calculated using multiple regression analysis.

J) The analysis showed that mostly banks are hesitated to invest in agriculture sector. Only 13.33% banks are providing loan in agriculture sector whereas 33.33% are providing in education, industry and vehicle loan. 26.67% banks are providing loan in business and mostly banks are providing loan in housing where 53.33% banks have granted loan which is NRB directed to reduce by banks. It found that 26.67% are granting loan in all of the sectors discussed above.

K) The main background the commercial banks look for granting loan to general public is found collateral and capacity. 53.33% banks look for collateral for the loan and repayment capacity of the bank loan. 40.00% banks look for the character of the person also whereas 33.33% goes for collateral, character and capacity for granting the loan.

Mostly banks loan are collected in due time. 73.33% banks are able to collect the loan amount in due time only few banks are not able to collect the loan amount in the stipulated time frame. 93.33% banks have collected 75% to 100% loan amount in time frame. So, the loan collection procedure of the banks is effective.

If one talk about the loan collection procedure of the commercial banks of Nepal, there is no uniformity in the steps or actions taken by all the banks for the collection of the loan amount. But it found all the banks 1^{st}ly make a call to the debtor reminding the expiry of the tenure of loan and amount to be paid. 2nd step they go for is sending a formal letter for the repayment of the loan amount taken by the client. After these two steps taken there is no uniform step. Some goes for call through newspaper print, some for forfeiture of the collateral; some turns the loan amount as bad debt. So, there is no uniform procedure of loan collection.

The issue raised nowadays is the fruitfulness or productivity of the loan. 46.66% Banks said that the loan they are providing is used in productive way and found the loan is mobilized in productive sector. 33.33% are not satisfactory with the present loan mobilization and responded the loan is not mobilized in productive sector by the commercial banks of Nepal.

Last but not the least, commercial banks of Nepal is profit oriented than economic development of Nepal. It is supported by 27% bankers of Nepal whereas none responded as not for profit but for economic development of the country. 20% argued that not exactly profit but in some extant they goes for profit and economic development of the country too.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

The final chapter of the thesis is summary, conclusion and recommendation. This chapter is divided into three sections: Summary, Conclusions and Recommendations. In this chapter, the summary section contains the summarized form of the whole thesis, the conclusion of the study based on the findings from the study and some useful recommendations to improve the banking performance and loan management of HBL, NSBI and EBL bank of the CBs of Nepal in a more effective way.

5.1 Summary

Loan management is the essence of commercial banking; consequently the formulation and implementation of lending policies are among the most important responsibilities of directors and management. Well conceived lending policies and careful lending practices are essential if a bank is to perform its credit. Loan management effects on the company's profitability and liquidity so it is one of the crucial decisions for the commercial banks.

Lending and collection of the loan provided to the customers is one of the most important functions of the commercial bank and the composition of the loans and advances directly affects the performance and profitability of the bank. Loan mobilization and earning through the mobilized is the main income source of the commercial banks. With this banks do not provide loan to anyone who says to pay high interest instead they study the risk associated with the credit lending too and the chances of being the loan non-performing. That's why banks have to give due care in strong collection of the loan also.

The study is based on descriptive and analytical study in order to achieve the objective of the study. Besides, for the analytical purpose the annual reports, past performance, records and relevant materials are considered. Out of 28 commercial banks 3 are selected as sample covering study period of 2004/05 to 2009/10. The study is basically based on secondary data. The required data are collected form NEPSE, annual reports, websites and journals published by commercial banks of Nepal. The financial and statistical techniques are used for data analysis and presentation.

The data presentation and analysis part is the most significant part of the study where the collected data are systematically arranged and presented which are related to the study and analyzed using financial and statistical tools to draw the conclusion related to the objectives of the study.

The data presentation and analysis part tried to show the followings related to the loan management of CB's.

- Trend of deposit collection and loan disbursement of the commercial banks of Nepal based on the data of 2004/05 to 2009/10 of sample selected banks
- Investment in priority and deprived sector by the commercial banks of Nepal.
- Total credit lending to total deposit ratio.
- Non-performing loan ratio of the commercial banks of Nepal.
- The total loan loss provision made by banks to its total loans & advances.
- Loan loss provision made by commercial banks of Nepal in terms of pass loan, substandard loan, doubtful loan and bad loan and comparison to NRB standard.
- Correlation Analysis of ROA and ROE on pass loan, substandard loan, doubtful loan and bad loan Amount for the selected three sample banks.
- Multiple Regression Analysis of ROE on Performance loan and Non performance loan for the selected three sample banks
- Loan collection procedure of commercial banks of Nepal etc.

Finally the findings of the data presentation and analysis are listed out point wise. Out of which the major findings are:

- The deposit collection and loan mobilization trend of commercial banks are found in increasing trend.
- The commercial banks have very low Non-performing loan. They are found to be less than internationally accepted standard 5% of NSBI and EBL.
- There is no uniform loan collection procedure in commercial banks of Nepal. They differ according to bank’s policy.
- Commercial banks of Nepal have maintained good loan loss provision around 1%, 25%, 50%and 100% of loan loss provision also met the NRB Standard directed by mostly banks.

Lending is one of the most important functions of a commercial bank and the composition of loans and advances directly affects the performance and profitability of the bank. There is intense competition in banking business with limited market and less investment opportunities as available. A study on the liquidity position loans and advances, profitability, deposit position of HBL, NSBI and EBL is analyzed and the banks lending strength lending efficiency and its contribution in total profitability has been measured.

Last but not the least, the summary, conclusion and recommendation chapter of the study included the overall summary of the thesis, the conclusion drawn from the study and some useful recommendations based on the study for the effective loan Management of the commercial banks of Nepal.

The collected data have been presented and analyzed in this chapter as prescribed by the method and steps mentioned in third chapter. Details calculation has been presented in the Annex to support this chapter, which is given after fifth chapter.

The one of the most guideline of the thesis research design is prepared in the 3rd section of thesis. The thesis used analytical plus descriptive research design using financial tools ratio analysis, statistical tools: average, multiple correlations, multiple regressions, trend analysis etc. The research is based on completely secondary data available in the websites of sample banks. It has been selected three sample CBs: HBL, NSBI and EBL out of 25 CBs of Nepal which is 12 % of the total population. Last but not the least, the final chapter of the study presented the overall summary of the thesis in a brief. The next of this section are the conclusions drawn by the researcher from the study. The researcher has made little effort to provide some useful recommendations based on his study so that the JVCBs of Nepal can increase their efficiency and effectiveness.

5.2 Conclusion

Finally the outcome of the thesis conclusion is presented as below based on the study made by researcher and results obtained in the data presentation and analysis part of the thesis. Based on the findings, major findings and the researcher's analysis the conclusions of the study are:

Commercial banks collects the small savings of the customers through various saving accounts and techniques as the deposit and the gathered deposit is given against customers as a loan for some specific purpose. The deposit collection commercial banks of Nepal increased day to day and every year. The loan disbursement trend of commercial banks of Nepal also increased with the increment in deposit collection. So, the loan disbursement trend is increasing.

Average Means ratio of loans and advances and total deposit ratio of HBL, NSBI and EBL is 58.15%, 72.95% and 73.66% respectively. There is fluctuating trend of ratio. The higher ratio of HBL in the year 2009/10, at 71.49% and the highest ratio of NSBI in the year 2008/09 at 88.32% and the highest ratio of EBL in the year 2008/09 at 76.49% shows that the bank has been successful in generating proportionately higher volume of loans and advances in the year 2009/10 of sample Banks.

The correlation analysis shows that the correlation coefficient 'r' between substandard, doubtful and bad loan of NSBI is high degree of positive correlation but HBL has low degree of positive correlation on ROA of substandard loan. Doubtful of EBL is high degree of positive correlation but HBL has low degree of positive correlation and negative correlation is NSBI on ROA.. bad loan of SBI is high degree of positive correlation but HBL has low degree of positive correlation on ROE. The correlation of substandard loan has insignificant relationship between ROE and substandard loan of three banks. Similarly the analysis shows high degree positive and Negative correlation of ROE between substanding doubtful and bad loans insignificant and significant. it detail information in page no.72-73. So, EBL the value or ‘r’ is significant. But the value of HBL & NSBI or ‘r’ is insignificant. From trend analysis of deposit utilization and its projection for next 6 years, HBL , NSBI and EBL have the increasing trend in loans and advances to total deposit and also increasing trend in total deposit.

The ROE of the CBs are highly dependent on the performance loan and Nonperformance loan. The coefficient of multiple determinations with reference to multiple regressions Calculated for HBL shows the ROE is affected by 22.41% by the factors the performance loan and Nonperformance loan, similar result occurred for NSBI also where 38% changes of ROE is caused by the performance loan and Nonperformance loan. The EBL’s result further supported the dependency of ROE on the performance loan and Nonperformance loan by 40% calculated on chapter IV in multiple regression analysis. So, the conclusion from these results is that the the performance loan and Nonperformance loan mobilization prominent role in the increase or decrease in the ROE of the banks. The large portion of ROE is fluctuated with the fluctuation on the performance loan and Nonperformance loan.

So in the conclusion, the present loan management of the CBs is there is the significant, insignificant relationship between the sub standing, doubtful and bad loan. On the same way the multiple regression line of ROE on performance loan and Nonperformance loan has shown ROE is highly depended on performance loan and Nonperformance loan mobilization of the banks.

The final conclusion of the study is no uniformity in the loan collection procedure of the commercial banks of Nepal. Most of the banks have same steps but the steps forwarded are not one after another. It differs according to bank policy.

5.3 Recommendations

Recommendations are the suggestions for the organizations to solve the problems existing in the organization. Here based on the analysis made in chapter IV, findings of the study and conclusion drawn from the study the researcher has little effort made to provide some recommendations that will be beneficiary for the JVCBs of Nepal on their cost of capital reduction and increment of profit and overall efficiency of the joint venture commercial banks of Nepal. At the end of the thesis before wrapping, researcher comes with some of the recommendations based on the findings and analysis on loan collection and disbursement for the commercial banks of Nepal which the researcher assumes to be useful for the effectiveness of the loan loan collection and disbursement by the commercial banks of Nepal.

(1).The ratio of total Credit and total deposit of HBL is the lowest and this has result in the highest ratio EBL of total Credit to total deposit. Hence these banks suggested reducing the interest rate. Consequently the volume of interest bearing deposit in its deposit mix reduces: increase the gap between consequent assets the liquidity arising from high prosperity of deposit.

(2). The deposit collection and loan disbursement is as found increasing every year and the blame on commercial banks of Nepal are that they are profit oriented rather than economic development of Nepal. The banks shouldn't highly focus on profit only, General public have expected its service in every sector of country and their investment in all sectors for overall development of the country. The banks should not hesitate in lower return sector but also should focus to uplift the deprived sector and economically back warded, minority group also.

(3).Relationship between the ROA, ROE on substanding doubtful and bad loan is significant, insignificant & positive , negative. The high dependency of ROE on performance and nonperformance loan recommends that the banks should collect as far as more deposit and the loan mobilization should be so good that can be realized easily rather than going through the legal hassles and bear extra costs for loan collection. So, more attention should be paid on the loan mobilization.

(4) The banks if have a uniform collection procedure, the customers wrong attitude of non-repayment of loan can be minimized. Now there is no uniform loan collection procedure among banks. Some turns into bad debt if not collected form telephone inquiry and formal call on expiration of loan tenure, so that public has concept banks have provision for loan loss if not paid also so why should they pay, especially in government commercial banks. On the other, private commercial banks have strong collection procedure so they have very low NPL because of regular follow up of the debtors and higher value collateral for loan. So, to decrease the NPL of the government commercial banks they should also have strong loan collection mechanism and provide quality service to the general public.

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Annex:5

Calculation of Regression Analysis for HBL

Cal of Reg of ROE (x_1) on performance loan(x_2) and non performance loan (x_3)								
year	ROE(x_1)	perf(x_2)	non perf (x_3)	x_1x_2	x_2x_3	x_1x_3	x_1^2	x_2^2
2004/05	17.06	0.96	8.86	16.3776	8.5056	151.1516	291.0436	0.9216
2005/06	20	0.94	7.4	18.8	6.956	148	400	0.8836
2006/07	25.9	0.96	6.61	24.864	6.3456	171.199	670.81	0.9216
2007/08	22.91	0.97	3.46	22.2227	3.3562	79.2686	524.8681	0.9409
2008/09	25.3	0.99	2.36	25.047	2.3364	59.708	640.09	0.9801
2009/10	24.13	0.99	2.16	23.8887	2.1384	52.1208	582.2569	0.9801
Total	135.3	5.81	30.85	131.2	29.6382	661.448	3109.069	5.6279

We have,
Multiple Regression analysis of EBIT on Deposit and Loan:
$X_1 = a + b_1 X_2 + b_2 X_3$ - - - (i)
Supporting Equations,

$\Sigma X_1 = na + b1 \ \Sigma X_2 + b_2 \Sigma X_3$ - - -- - - - - - (ii)

$\Sigma X_1 X_2 = a \ \Sigma X_2 + b_1 \Sigma X^2 \ b_2 \Sigma X_2 X_3$ - - -- - - - - - (iii)

$\Sigma X_1 X_3 = a \ \Sigma X_3 + b_1 \Sigma X_2 X_3 \ b_2 \Sigma X^2$ - - -- - - - - - (iv)

Substituting the values in Eq.(ii), (iii) and (iv) we get;
$135.3 = 6a + 5.81 b_1 + 30.85 b_2$ - - - (v)
$131.2 = 5.81a + 5.63 b_1 + 29.64 b_2$ - - - (vi)
$661.45 = 30.85a + 29.64 b_1 + 199.16 b_2$ - - - (vii)

Solving the Eq. (v), (vi) and (vii) we the values of a, b_1 and b_2 as follows;
$a = 32.89$
$b_1 = -6$
$b_2 = -0.88$
Finally required multiple regression line can be obtained substituting the values of a, b_1 and b_2 on Eq. (i) i.e
$X_1 = -32.89 - 6 X_2 - 0.88 X_3$

Coefficient of Multiple Determinations in terms of Multiple Regressions:

$$R^2_{1.23} = \frac{a \ \Sigma X_1 - b \ \Sigma X_1 X_2 + b_2 \Sigma X_1 X_3 - 6(\bar{x}_1)^2}{\Sigma X^2_1 - 6(\bar{x}_1)^2}$$

$$= \frac{32.89x135.3 + 6x131.2 + (-0.88x661.448) - 6(22.5)^2}{3109.669 - 6(22.5)^2}$$

= 22.41

Annex :5

Calculation of Regression Analysis for NSBI

Cal of Reg of ROE (x_1) on performance loan(x_2) and non performance loan (x_3)								
year	ROE(x_1)	perf(x_2)	non perf (x_3)	x_1x_2	x_2x_3	x_1x_3	x_1^2	x_2^2
2004/05	8.83	0.86	6.24	7.5938	5.3664	55.0992	77.9689	0.7396
2005/06	5.84	0.09	0.688	0.5256	0.06192	4.01792	34.1056	0.0081
2006/07	10.06	0.92	6.127	9.2552	5.63684	61.63762	101.2036	0.8464
2007/08	18.02	0.95	4.511	17.119	4.28545	81.28822	324.7204	0.9025
2008/09	14.47	0.96	3.829	13.8912	3.67584	55.40563	209.3809	0.9216
2009/10	12.91	0.98	2.016	12.6518	1.97568	26.02656	166.6681	0.9604
Total	70.13	4.76	23.411	61.0366	21.00213	283.4752	914.0475	4.3786

We have,

Multiple Regression analysis of EBIT on Deposit and Loan:

$X_1 = a + b_1 X_2 + b_2 X_3$ - - - (i)

Supporting Equations,

$\Sigma X_1 = na + b_1 \Sigma X_2 + b_2 \Sigma X_3$ - - -- - - - - - (ii)

$\Sigma X_1 X_2 = a \Sigma X_2 + b_1 \Sigma X_2^2 + b_2 \Sigma X_2 X_3$ - - -- - - - - - (iii)

$\Sigma X_1 X_3 = a \Sigma X_3 + b_1 \Sigma X_2 X_3 + b_2 \Sigma X_3^2$ - - -- - - - - - (iv)

Substituting the values in Eq.(ii), (iii) and (iv) we get;

$70.13 = 6a + 4.76\, b_1 + 23.41\, b_2$ - - - (v)

$61.04 = 4.76a + 4.38\, b_1 + 21.002\, b_2$ - - - (vi)

$283.48 = 23.41a + 21.0\, b_1 + 116.03\, b_2$ - - - (vii)

Solving the Eq. (v), (vi) and (vii) we the values of a, b_1 and b_2 as follows;

a = 5.15

$b_1 = 12.18$

$b_2 = -0.88$

Finally required multiple regression line can be obtained substituting the values of a, b_1 and b_2 on Eq. (i) i.e

$X_1 = 5.15 + 12.18X_2 - 0.88\, X_3$

Coefficient of Multiple Determinations in terms of Multiple Regressions:

$$R^2_{1.23} = \frac{a\, \Sigma X_1 - b_1 \Sigma X_1 X_2 + b_2 \Sigma X_1 X_3 - 6(\bar{x}_1)^2}{\Sigma X_1^2 - 6(\bar{x}_1)^2}$$

$$= \frac{5.15 \times 70.13 + 12.18 \times 61.036 + (-0.88 \times 283.475) - 6(11.68)^2}{914.05 - 6(11.68)^2}$$

= 0.38 or 38%

Cal of Reg of ROE (x_1) on performance loan(x_2) and non performance loan (x_3)									
year	ROE(x_1)	perf(x_2)	non perf (x_3)	x_1x_2	x_2x_3	x_1x_3	x_1^2	x_2^2	x_3^2
2004/05	1.03	2.26	1.72	2.3278	3.8872	1.7716	1.0609	5.1076	2.95
2005/06	0.17	1	1.7	0.17	1.7	0.289	0.0289	1	2.
2006/07	0.2	1	1.31	0.2	1.31	0.262	0.04	1	1.71
2007/08	0.2	1	0.81	0.2	0.81	0.162	0.04	1	0.65
2008/09	0.21	1	0.68	0.21	0.68	0.1428	0.0441	1	0.46
2009/10	0.24	1	0.48	0.24	0.48	0.1152	0.0576	1	0.23
Total	2.05	7.26	6.7	3.3478	8.8672	2.7426	1.2715	10.1076	8.91

Annex :5

Calculation of Regression Analysis for EBL

We have,

Multiple Regression analysis of EBIT on Deposit and Loan:

$X_1 = a + b_1 X_2 + b_2 X_3$ - - - (i)

Supporting Equations,

$\Sigma X_1 = na + b_1 \Sigma X_2 + b_2 \Sigma X_3$ - - -- - - - - - (ii)

$\Sigma X_1 X_2 = a \Sigma X_2 + b_1 \Sigma X_2^2 + b_2 \Sigma X_2 X_3$ - - -- - - - - - (iii)

$\Sigma X_1 X_3 = a \Sigma X_3 + b_1 \Sigma X_2 X_3 + b_2 \Sigma X_3^2$ - - -- - - - - - (iv)

Substituting the values in Eq.(ii), (iii) and (iv) we get;

$2.05 = 6a + 7.26 b_1 + 6.7 b_2$ - - - (v)

$3.35 = 2.05a + 10.11 b_1 + 8.87 b_2$ - - - (vi)

$2.74 = 6.7a + 8.87 b_1 + 8.91 b_2$ - - - (vii)

Solving the Eq. (v), (vi) and (vii) we the values of a, b_1 and b_2 as follows;

$a = -0.1$

$b_1 = 0.14$

$b_2 = 0.24$

Finally required multiple regression line can be obtained substituting the values of a, b_1 and b_2 on Eq. (i) i.e

$X_1 = -0.1 + 0.14X_2 + 0.24 X_3$

Coefficient of Multiple Determinations in terms of Multiple Regressions:

$$R^2_{1.23} = \frac{a \Sigma X_1 - b_1 \Sigma X_1 X_2 + b_2 \Sigma X_1 X_3 - 6(\bar{x}_1)^2}{\Sigma X_1^2 - 6(\bar{x}_1)^2}$$

$$= \frac{-0.1 \times 2.05 + 0.14 \times 3.35 + 0.24 \times 2.74 - 6(0.34)^2}{1.27 - 6(0.34)^2}$$

= 0.40 or 40%