CHAPTER - I

INTRODUCTION

1.1 Background of the Study

Financial institution of the world is just recovered from the economic crises. Joint contribution by the world's top economist, profanes and businessmen by rethinking their strategies. In apart of the world Nepal also face such type of probleme.According to the economic expert of Nepal, financial institution of Nepal faces such type of crises by the excess lending of capital in to real-estate and share and stock.

In recent year 25% of nation's GDP is contributed by remittances send by the Nepalese's working abroad (especially in Gulf countries).If any disturbance in that countries in working opportunity for Nepalese it affect the flow of remittance. If the remittance growth slowdown which drop up interest rates and affect the financial sector from weakness. If credit to deposit ratio increase, banks face liquidity stress. For healthy economic or liquidity position NRB plays vital role. The role of NRB now playing for the safeguarding of the stability of financial institutions and banks by lowering the inter bank interest rates and banks are reported to have reduces the new loan disbursement.NRB also takes the decisive role such as improving moratorium on new bank licenses, lowering the single borrower limit, lowering the real-estate loan, loan to value limits, facilitating bank restructuring and risk management (Gov.Nepal, MOF 2010:3)

It can say the credit policies and liquidity positions are foundation of banks and financial institutions. So it should be manage properly for the survival of the financial institution and banks. A credit management and liquidity policy is two most important dimensions of any bank and financial institutions.

Liquidities can be defined as securities management of the cash balance in a systematic way. in broad sense liquidity management means" the process of readily converting assets and liabilities including marketable securities, bills payables, bills receivables, short term loans, deposits etc".Management of financial institutions and banks most know the current financial positions of institutions the liquidity measurement. Liquidity aware the it through its capacity to pay dues at the time of need. Excessive liquidity leads to loss of investment and profit opportunity. If there is no liquidity practices they have to face such type of obstacles. It also creates the loss of confidence level of customer towards the financial institutions for their funds where they reserve for future. They fear losing their funds and placing the funds

as they know safer or excellent management practices. It creates the adverse effect to the financial institution and result may be the survival of institution at risk. Liquidity management involves both assets and liabilities.

Credit is the trust or provision of resources by one party to another party where that second party does not reimburse the first party immediately, thereby generating a debt, and instead arranges either to repay or return those resources of equal value at a later date. In that process first party is called a Creditor, also known as a 'Lender', while the second party is called a Debtor, also known as a 'Borrower.'

The term credit is used similarly in commercial trade, known as "Trade Credit" refers to the approval for delayed payment for purchased goods. Sometimes, credit is not granted to a person who has financial instability or difficulty. Companies frequently offer credit to their customers as per -the terms of a purchase agreement. Organizations that offer credit to their customers frequently employ a credit manager. Credit is denominated by a unit of account. Credit itself cannot act as a unit of account. However, many forms of credit can readily act as a medium of exchange

Credit is also traded in the market as credit insurance in which two parties exchange this risk- the protection "seller" takes the risk of default of the credit in returns for a payment, commonly denoted in basis (one basis point is 1/100 of a percent) of the notional amount to be referenced, while the protection "buyer" pays this premium and in the case of default of the underlying (a loan, bond or other receivable) delivers this receivable to the protection seller and receives from the seller the par amount (that is made whole).

Borrowing money or money equivalent instrument through formal or informal lender is known as credit. Informal Lenders consists traditional type of borrowing (borrowing through Shahu, Mahajan etc) but formal sector consists legally valid procedures. Borrowing through Bank or Financial institution which is established by obeying the government legal framework is known as formal lenders. In this study, researcher will test the credit of formal lenders. In credit rendering process, Bank or Financial Institution follows various guidelines/credit policies, which are provided by NRB as the main directives along with their own credit policies that are made within the boundary of NRB guidelines. The credit policy of the bank provides the framework to determine whether or not to extend credit and how much credit to be extended. The credit policy decision of a bank has two broad dimensions; credit standard and credit analysis. A firm has to establish and use standards in making credit decision, develop appropriate sources of credit information and methods of credit analysis.

Credit Management strongly recommends analyzing and managing the credit risks. Credit risk is defined as the possibility that a 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 inters bank exposures. 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 source of credit risk, however other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book and both on and off balance sheet. Banks are increasingly facing credit risk in various financial instruments other than land including acceptances; inter bank transactions, trade financing, foreign exchange transactions, guarantees and the settlement of transactions. In Nepalese market various types of loan can be found against gold and silver, loan against first class bank guarantee, loan against mortgage of government security, demand loan, margin lending, overdraft pledge loan hypothecation, auto-loan, personal loan, structure demand loan etc.

Banking sector plays significant role in the economic development of a country. Bank is a resource for the economic development which maintains the self- confidence of various segment of society and extends credit to the people. So, commercial banks are those financial institutions mainly dealing with activities of the tread, commerce, industry and agriculture that seek regular financial and other helps from them for growing and flourishing, the objective of commercial banks is to mobilized idle resources in to the most profitable sector after collecting them from scattered sources commercial bank contribute significantly the formation and mobilization of internal capital and development effort.

Besides this, the character of person receiving credit, the capacity of borrower to utilize the fund, the percentage of borrower stake in the business are the basic elements which measures the quality of borrower and ultimately the quantity of the loan. This way banks plays an important part in the development of trade, commerce and industry. Today no banker can survive for long run without proper standing of economy and economy cannot pace ahead without proper banking system built.

Banks are expected to support their local communities with an adequate supply of credit for all legitimate business and consumer needs to price that credit reasonably in line with competitively determined interest rates. Bank loans support the growth of new businesses and job within the banks trade territory and promote economic vitality.

Banks made a wide variety of loans to a wide variety of customers for many different purposes from purchasing automobiles and buying new furniture, taking dream vacations or

pursuing college educations, to constructing home and office buildings. Loans may be divided as; real estate loans, financial institution loans, agricultural loans commercial and industrial loans, loans to individual, miscellaneous loans lease financing receivables etc (NRB Smarika, 2004/05: 40)

1.2 Profile of Sample Banks

1.2.1 Himalayan Bank Limited (HBL)

Himalayan Bank Limited was established in1993 A.D. with the joint venture of Habib Bank Ltd, Pakistan. Habib Bank Limited, one of the largest commercial bank of Pakistan. HBL is the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector. Its share capital holding structure is- 51% of share owned by Nepalese Promoters, 20% by Habib Bank Limited Pakistan, 14% by Employees Provident Fund and 15% by General Public. The bank at present has 36 branches all over the country. The bank has a very aggressive plan of establishing more branches in different parts of the kingdom in the near future. Himalayan Bank's policy is to extend quality and personalized service to its customers as promptly as possible. All customers are treated with utmost courtesy as valued clients. The Bank as far as possible offers facilities to its clients based on the unique needs and requirements. To extend more efficient services like operation of account (saving current fixed). Loan facilities, bank guarantee, LC, credit and debit card, e-banking etc. Himalayan Bank has been adopting innovative and latest banking technology. Now a days new internet banking module named Himal@net,they announced that it is the first internet banking in country with active identity security devices (Launched May,2011).HBL Providing following banking services.

- Retail Banking
- Trade finance
- Corporate finance

This has not only helped the bank to constantly improve its service level but is prepared for future adoption of new technology. It is committed to be a "Bank with differences".

1.2.2 Nepal Investment Bank Limited (NIBL)

Nepal Investment Bank Ltd. (NIBL), established in 1986 as joint venture between Nepalese and French partner at a time of establishment named by Nepal Indosuez Bank Ltd.The French partner (holding 50% of the capital of NIBL) was Credit Agricole Indosuez, a subsidiary of

one the largest banking group in the world. With the decision of Credit Agricole Indosuez to divest, a group of companies, comprising of bankers, professionals, industrialists and businessmen, has acquired on April, 2002 the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd.The name of the bank has been changed to Nepal Investment Bank Ltd. upon approval of bank's Annual General Meeting (April, 2002).Ownership capital of NIBL as on record of Nepal Rastra Bank (NRB) and Company Registrar's Office as following.

- 50% of shares owned by Nepalese promoters,
- 15% by Rastriya Banijya Bank,
- 15% by Rastriya Beema Sansthan and
- 20% by General Public.

(This means that NIBL is a company which listed on the Nepal Stock Exchange). Investment Bank Ltd provides different types of banking facilities toward its customers from its 41 branches all over the country. The bank is going to extend more branches in different part of nation in near future. This bank came into operation with an objective of creating new business yet not identified and offering new banking products and services with modern look by adopting modern banking technology. Nepal Investment Bank has
24^{th} year of successful operation. During its 25^{th} year of operation, it has started following banking facilities for the customer.

Retail banking: Deposit, Loans, Lockers, Mobile bills, utility payment,e-banking,credit card, Remittances(Prithivi Express)

Trade Finnace: Letter of Credit, import/export LC

Corporate Finance: Business loan, Import/Export loan, Bank guarantee

Tresury: Full fledge Treasury Department

Economic Research Deprtment: For the on internal/external economic knowledge sharing

Achieving 4 times (Bank of the Year) Award was able to establish a good banking image in the banking history of Nepal. It has gain lot of popularity among its customer, due to its pioneer service provided to its customer.

1.3 Focus of the Study

Although the Himalayan Bank Limited and Nepal Investment Bank have managed credit than other commercial banks within short period of time, they have been facing cut throat competition against one another. In Nepal there are 31 commercial banks. The study is focused on evaluating, analyze and compare the deposit utilization of the banks, in term of loan and advance, investment and its contribution to the profitability of the banks. Commercial banks hold deposit of many persons, government and business units. They make fund available through their lending and investing activities to borrowing individual business firms and government.

Here researcher has taken Nepal Investment Bank Ltd(NIBL) and Himalayan Bank Ltd(HBL) are as sample among the Commercial Banks, focused this resource mainly to highlight the major trends in maintaining the liquid asset of the firms and will analyze the credit and advances provided by the banks. Management of the selected bank ignoring other aspects of bank transaction. To highlight the credit management of the bank, the research is based on the certain statistical tools and techniques i.e. mean, standard deviation, coefficient of variation, coefficient of correlation, coefficient of determination ,financial ratio and trend analysis with a view to find out the true picture of the bank. The main objective of this research is to analyze the credit management through the use of appropriate financial tools.

1.4 Statement of the Problem

Most of the Commercial banks in Nepal have been facing myriad challenges and problems from all sorts of source. Most of them arise from the unclear and disorienting banking policies of government of Nepal while significant part of the problem arises from the ambitious undertaking by the major banking corporation. Out of among problems some of them arising due to unfavorable economic condition of the country, and many of them arising due to default borrowers. After liberalization of economy, banking sector has various opportunities.

The commercial banks as well as financial institutions are increasing regularly spread out and launched as many branches as possible, epecialy in urban areas. Liquidity is shortage with the financial institutions. Hence, the banks and financial institutions are competing among themselves to advance credit to limited opportunity sectors. Banks and financial institutions are investing in house loan, hire purchase loan and real estate loan for safety purpose. Lack of

good and safety lending opportunities, banks is facing problems of liquidity crisis. In Today's context, banks have bringing various numbers of deposit schemes especially in fixed and saving accounts. Similarly, banks have increasing trend in lending behaviors in different sector as well. Due to huge portion of loan invest in real estate sector, for earning bigger profit in short period this has caused major problems in loan recovery of commercial banks. As result, banks have been facing liquidity crisis.

Nowadays, banks are competitive strongly among the competitors, the interest rate offered in deposit and charge for loan is in increasing trend. Due to unhealthy competition among the banks, the recovery of the banks credit is going towards negative trends. Non-performing credits of the banks are increasing year by year. To control such type of situation, the regulatory body of the banks and financial institutions, NRB has renewed its directives of the credit loss provision. Therefore, it is necessary to analyze the 'credit management and liquidity position'. As the sample of commercial banks, Himalayan Bank Limited and Nepal Investment Bank Limited have been selected.

The research problems may be stated in the form of following questions:-

- Whether the sample banks have maximum or minimum liquidity?
- What is the trend maintaining the liquid asset level by the sample banks?
- What is the volume of contribution made by sample banks in credit and advances?
- What is the position of marinating cash reserves in sample banks?
- What is the deposit collection and utilization trend of sample banks?
- What is the relationship of deposits, loan & advances and net profits of sample banks?
- What are the strengths and weakness in the credit administration of the sample banks?

1.5 Objectives of the Study

There is no doubt that the role of commercial banks is significant in economic development of the country. By providing loans or credit to the necessary sectors banks playing vital role in economic development of country. Therefore, the main objective of this study is to find out the liquidity and credit management practices of Himalayan Bank Limited and Nepal Investment Bank Limited.

The specific objectives of the study are as follows:

- To analyze the volume of contribution made by sample banks in credit & advances.
- To analyze the trend of liquid asset maintained by commercial banks.
- To study the relationship of deposit, loan & advances and net profit of sample banks.

- To find out the strength and weakness in the credit administration of the sample banks.
- To provide suitable and beneficial suggestions based on finding

1.6 Significance of the Study

Liquidity and Credit performance analysis of any banking sector is very important because it is only one measure to evaluate prosperity or recession of organization. After having the real knowledge of indicators of financial performance any stakeholder can decide what they ought to do. Similarly any concerning bodies will be benefited to study whole organization. So this study will be fruitful for those who want to know about HBL and NIBL.

No doubt this study will have importance to various groups but in particular is directed to a certain groups of people/organizations, which are:

- Important to shareholders.
- Important to management bodies of the bank for evaluation of bank's performance.
- Important to "outsiders" who are mainly customers, finance agencies, stock exchanges etc.
- Important to the government bodies or the policy makers such as central bank.
- Interested outside parties such as investors, customers (depositors as well as credit takers), competitors, personnel of the banks, stockbrokers, dealers, market makers etc.

1.7 Limitations of the Study

To complete this study, the different books, journals, articles and dissertations are followed. Thus, reliability of the study is based on those things. This study has not examine the credit management of all listed commercial banks due to resource and time constraints, the study will see only the liquidity and credit management of two commercial banks - Himalayan Bank Limited and Nepal Investment Bank Limited, which are listed in NEPSE. This study will cover only the past six year period since 2005 to 2010 (latest 6-year data). To prepare this report, secondary data are collected from annual general meeting (AGM)'s reports of the listed banks and trading reports of NEPSE. It may not cover the whole qualitative and quantitative analysis of the commercial banks because of time and resource constraints.

The study has some limitations. The main limitations of the study are as follows:

- Though, there has been in operation of 31 commercial banks in Nepal, the study is associated only the two commercial banks are taken for the proposed study.

- This study concentrates only on liquidity and credit management of selected commercial banks.
- The secondary data will be used for presentation and interpretation. Only a 6-years data (2005/06 to 210/11) will be considered.
- This study is only a case study; hence the conclusion drawn from the study does not ensure wide applicability in all types of enterprise running in different situations.
- Major portion of analysis and interpretation have been done on the basis of available secondary data and information. Thus, reliability of the study is based on trueness of collected data and information.
- In this study, only selected financial and statistical tools as well as techniques are used.

1.8 Organization of the Study

The whole study is divided into five different chapters. They are:

Chapter I is the introduction chapter. It includes background of the study, profile of the study, statement of the problems, objectives of the study, and significance of the study, limitations of the study and chapter plan of the study.

Chapter II deals with review of literatures, which includes conceptual/theoretical review and review of related studies.

Chapter III is research methodology which includes research design, population and sample, sources of data, data collection techniques and data analysis tools.

Chapter IV deals with the various analysis and interpretations of data like analysis of deposits, loan & advances and profits of Himalayan Bank Limited and Nepal Investment Bank Limited, financial and statistical analysis and analysis of primary data. It also shows major findings of the study.

Chapter V includes summary and conclusion of the study. It also deals with recommendations suggested.

In the front part of the study recommendation, declaration and acknowledgement are presented and list of bibliography and appendix with annexes are incorporated at the end

CHAPTER – II

REVIEW OF LITERATURE

The review of Literature is the important aspects of planning of the study. “Review of Literature means reviewing research studies of other relevant preposition in the related area of the study so that all parts, studies, their conclusions and deficiencies may be known and further research can be concluded”(Panta and Wolf,1999:6).This chapter deals with the review of materials related with ‘Liquidity and credit management’ in more detail and descriptive manner. It provides the basis for developing a comprehensive framework. In this chapter, an emphasis is given to the review of major related literature on the credit management and its analysis.

The main purpose of literature revive is to find out what works have been done in the are of the research problem under study and what has not been in the field of books, reports, journals, and research studies published by various institution unpublished dissertations submitted by master level students have been reviewed.

It is divided into two headings:

- Conceptual review
- Review of related studies.

2.1 Conceptual Review

2.1.1 Concept of commercial Bank

Before defining the term commercial bank, let us define the meaning of bank and commercial. According to S. and S. s definition of bank, a banker or bank is a person or company carrying on the business of receiving money and collecting drafts, for customers subject to the obligation of honoring cheque drawn up on them from time to time by the customers to the extent of the amount available on their customer (Shekher & Shekher, 1999:4).

Commerce is the financial transactions related to selling and buying activities of goods and services. Therefore, commercial banks are that bank, which works from commercial viewpoint. They perform all kinds of banking functions as accepting deposits, advancing credits, credit creations and agency functions. They provide short-term credit, medium term credits and long terms credit to trade and industry. They also operate off balance sheet

functions such as issuing guarantee, bonds, letter of credit, etc. Commercial bank acts as an intermediately; accepting deposits and providing credits to the needy area. The main source of the commercial bank is current deposit, so they give more importance to the liquidity of investment and as such they specialize in satisfying the short- term credit needs of business other than the long-term. Commercial banks are restricted to invest their funds in corporate securities. Their business is confined to financing the short-term needs of trade and industry such as working capital financing. They cannot finance in fixed assets. They grant credits in the form of cash credits and overdrafts. Apart from financing, they also render services like collection of bills and cheques, safe keeping of valuables, financial advising, etc to their customers (Vaidhya, 1999:7).

Commercial banks are organized as a joint stock company system, primarily for the purpose of earning profit. They can be either of the branch banking types as we see in most of countries, with a large network branches like in Nepal or of the unit banking type, as we see in the United States where a banks operations are confined to a single office or to a few branches within a strictly limited area (Shekher & Shekhar, 1999:11).

The commercial banks are those banks that pool together the savings of community and arrange for their productive use. They activate the idle money to the different productive areas. They supply the financial needs of modern business by various means. Most of the banks in the world are found established with a view to finance and help in developing trade, industry and commerce. In fact, commercial banks can be defined according to the function they perform. Commercial banks can accept deposits and also provide loan primarily to business firms thereby facilitating the transfer of funds in the economy.

2.1.2 Functions of Commercial Bank

Commercial banks can be defined from the function it performs. The business of commercial bank is primarily to hold deposit and make credits and investments with the object of securing profits for its shareholders. Its primary motive is profit; other consideration is secondary (sudharsanam, 1976:123). The major functions of commercial banks are as follows.

i. Accepting deposits

The main objective of the commercial bank is to collect the deposit.

Commercial banks accept the deposit from the public who has surplus funds. Therefore, accepting deposit by banks is the oldest function. A bank accepts deposits in the form of saving, current and fixed deposit.

ii. Advancing loans

The second major function of commercial bank is providing loan to the needy person. Bank advances the loan against the security to the customer. Advancing loan is also known as the function of the deposit mobilization because bank gives loan to the people form the deposit that it collects from the public. There are various methods of advancing loans, e.g. overdraft, cash credit, direct loans, discounting bills of exchange, etc.

iii. Agency services

Agency services are those services, which are provided by the banks on benefit of its customer. A commercial Bank undertakes the payment of subscription, insurance premium, rent, etc and collection of cheques, bills, salaries, pensions, dividends, interest, etc on behalf of the customer. The bank charges the service cost to do these functions to its customers. The commercial banks also arrange the remit money from one place to another by means of cheques, drafts, wire transfer, etc.

iv. Credit creation

Credit creation is one of the most important functions of the commercial banks. In order to earn profits, they accept deposits and advance loans by keeping a small cash reserve ratio for day-to-day transaction as prescribed by the central bank. When a bank advances a loan, it opens an account to draw money by cheque according to his need, by granting a loan, the banks create credit or deposit.

v. General utility services

The commercial banks perform certain utility function to its customer. Following are the general utility services provided by the commercial banks:

- Safe keeping of valuables
- Assist in foreign trade
- Making venture capital loan
- Investment banking and merchant banking service
- Security brokerage service

vi. Opening Letter of Credit

Today letter of credit has become very popular in foreign business. The letter of credit is established/ opened by the bank on the request of the customers.

vii. Remittance Function

Sending and receiving fund to/from various places is the necessity of today's life. The remittance service of bank has benefited both business and personal customers. Funds transfers are made through various modes like demand drafts, telegraphic payment order, swift, and fax and mail payment orders.

viii. Other Services

Modern commercial banks are equally important in undertaking safe custody of important valuable documents. Banks also offer some of the bank services at the door of highly valued customers. Few large banks conduct research and survey about the economic conditions and they supply trade statistics and information. In addition to these, banks also inform their customers about the credit standing.

2.1.3 Commercial Bank in Nepal

The history of commercial bank in Nepal starts from the establishment of Nepal Bank Limited on 1994 B.S. It is the first bank in Nepal and prior to this, there was no such organized banking system in the country. As the time passed, Nepal Rastra Bank was established on 2013 B.S. and Rastriya Banijya Bank was established on 2022 B.S. in order to play a major role not only in domestic banking services but also in the foreign trade. After the establishment of these banks, there was progress in the banking industry in Nepal. Today, Nepal can take legitimate pride in the remarkable growth and progress in the banking industry. Nepal has opened its door to foreign commercial banks to operate in the kingdom almost a decade back. Till 2068 B.S., there are several commercial banks has been working smoothly in Nepal. They are, Nepal Bank Limited, Rastriya Banijya Bank, Agricultural Development Bank, Nabil Bank Limited, Nepal Investment Bank Limited, Standard Chartered Bank Nepal Limited, Himalayan Bank Limited, Nepal SBI Bank Limited, Nepal Bangladesh Bank Limited, Everest Bank Limited, Bank of Kathmandu Limited, Nepal Credit & Commerce Bank Limited, Lumbini Bank Limited, Nepal Industrial & Commercial Bank Limited, Machhapuchhre Bank Limited, Kumari Bank Limited, Laxmi Bank Limited ,Siddhartha Bank Limited, Global Bank Limited, Citizens Bank Int'l Limited, Prime

Commercial Bank Limited, Sunrise Bank Limited, Bank of Asia Nepal Limited, Development Credit Bank Limited, NMB Bank Limited, Kist Bank Limited, Janata Bank Nepal Limited, Commerz and Trust Bank Limited, Civil Bank Limited, Mega Bank Limited and Century Bank Limited .

2.1.4 Concept of credit

Credit administration involves the creation and management of risk assets. The process of lending takes into consideration about the people and system required for the evaluation and approval of loan requests, negotiation of terms, documentation, disbursement, administration of outstanding loans and workouts, knowledge of the process and awareness of its strength and weaknesses are important in setting objectives and goals for lending activities and for allocating available funds to various lending functions such as commercial, installment and mortgage portfolios (Johnson, 1940: 132).

Book named "Banking Management" says that in banking sector or transaction, an unavoidable-ness of loan management and its methodology is regarded very important. Under this management, many subject matters are considered and thought. For example, there are subject matters like the policy of loan flow, the documents of loan flow, loan administration, and audit of loan, renewal of loan, the condition of loan flow, and the provision of security, the provision of the payment of capital and its interest and other such procedures. This management plays a great role in healthy competitive activities (Bhandari, 2003: 170).

It is very important to be reminded that most of the bank failures in the world are due to shrinkage in the value of loan and advances. Hence, risk of nonpayment of loan is known as credit risk or default risk (Dahal, 2002: 114).

Hence, in short, it can be said that credit management is the process for controlling and collecting payments from the customers. A good credit management system will assist in reducing the amount of capital tied up with debtors, and at the same time, helps in minimizing one’s exposure to bad debts.

Portfolio management helps to minimize or manage the credit risks by spreading over the risk to various portfolios. This method of managing credit risk is guided by the saying do not put all the eggs in a single basket (Bhandari, 2004: 300).

Hence, it suggest diversified the loan area and criteria by considering for the long survival of the organization rather to gain in certain days. It helps to gain from another if one sector of loan area has been disturbed by means of no favor situation to the debtor for the repayment to the bank.

Moreover, Credit is the amount of money lent by the creditor (bank) to the borrower (customers) either on the basis of security or without security. Sum of the money lent by a bank is the credit (Oxford Advanced Learners Dictionary, 1992: 279).

Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credits and advances, which is one of the major sources of income for banks. Bank prepares credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely (Varshney and Swaroop, 1994: 6).
Credit is financial assets resulting from the delivery of cash or other assets by a lender to a borrower in return for an obligation of repay on specified date on demand.
Banks generally grants credit on four ways: (Chhabra, and Taneja, 1991: 4)

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

The basic purpose of a commercial bank is to maximize the shareholders' wealth by accepting deposits and granting loans in the society. In order to give maximum return to shareholders, the bank is required to invest most of its fund in loans and advances, risky assets. Consequently, a clear and sound loan credit policy is a must for the safety of depositors fund and adequate return to shareholders. Credit policy can be defined as the decision made in advance about the management of credit.

Credit is the vital and the most important activity in the bank, next only to deposit mobilization. It is the activity that generates the main income stream for the bank. The activity should therefore be pursued with the utmost professionalism conservation and circumspection. Banks should develop and implement policies and procedures to ensure that the credit portfolio is adequately diversified given the bank's target markets and overall credit strategy. In particular, such mix as well as set exposure limits on single counters parties and

groups of connected counters parties, particular industries or economic sectors, geographic regions and specific products. Banks should ensure that their own internal exposure limits imply set by the banking supervisors. Credit policies establish the framework for lending and guide the credit granting activities of the bank.

2.1.5 Types of credit

a) Overdraft

It denotes the excess amount withdrawn over their deposits. It is an agreement by which bank allows the customer to draw over and above the current account balance. Interest on overdraft is charged on debit balance on daily basis.

b) Cash credit

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

c) Direct credit

i). Term credit

It refers to money lend in lump sum to the borrowers. It is principal form of medium term debt financing having maturities of 1 to 8 years. A bank credit with maturities exceeding 1 year is called term credits. The firm agrees to pay interest based on the bank's prime rate and to repay principal in the regular installments. Special patterns of principal payments over time can be negotiated to meet the firm's special needs (Richard, 1996: 80).

ii). Working capital credit

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

iii). Priority or deprived sector credit

Commercial banks are required to extend advances to the priority and deprived sector. 12 % of the total credit must be towards priority sector including deprived sector. Rs. 2 million for agriculture cum service sector and Rs. 2.5 million for single borrowers are limit sanctioned to priority sector. Institutional support to ‘Agriculture Development Bank' and 'Rural

Development Bank' are also considered under this category. Deprived sector lending includes:

- Advances to poor/downtrodden/weak/deprived people up to Rs. 30,000 for generating income or employment.
- Institutional credit to rural development bank.
- Credits to NGOs those are permitted to carryout banking transactions for lending up to Rs. 30,000.

iv). Hire Purchase Financing (Installment Credit)

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

v). Housing Credit (Real Estate Credit)

Financial institutions also extend housing credit to their customers. It is different types, such as: residential building, commercial complex, construction of warehouse etc. It is given to those who have regular income or can earn revenue from housing project itself.

vi). Project Credit

Project credit is granted to the customers as per project viability. The borrowers have to invest certain proportion to the project from their equity and the rest will be financed as project credit. Construction credits are short-term credits made to developers for the purpose of completing proposed projects. Maturities on construction credits range from 12 months to as long as 4 to 5 years, depending on the size of the specific project (Johnson, 1940: 242). The basic guiding principle involved in disbursement policy is to advance funds corresponding to the completion stage of the project. Hence, what percent of the credit will be disbursed at which stage of completion must be spelled in disbursement policy? Term of credit needed for project fall under it.

vii). Consortium Credit

No single financial institution grant credit to the project due to single borrower limit or other reason and two or more such institutions may consent to grant credit facility to the project of which is baptized as consortium credit. It reduces the risk of project among them. Financiers bank equal (or likely) charge on the project's assets.

viii). Credit Cards and Revolving Lines of Credit

Revolving credit line lowers the cost of making credit since operating and processing cost are reduced. Due to standardization, centralized department processes revolving credits resulting reduction on administrative cost. Continued borrowing arrangement enhances cost advantages. Once the credit line is established, the customer can borrow and repay according to his needs and the bank can provide the fund to the customer at lower cost. Charge cards and credit lines tied to demand deposit accounts are the two most common revolving credit agreements. It can be further divided into credit cards, automatic overdrafts lines and large credit lines.

ix). Off-Balance Sheet Transaction

In fact, bank guarantee and letter of credit refer to off balance sheet transactions of financial institution. It is also known as contingent liability. Contingent liability pinpoints the liability, which may or may not arise during the happening of certain event. Footnotes are kept as reference to them instead of recording in the books of accounts.

It is non-funded based remunerative facilities but more risky than the funded until adequate collateral are not taken. Lets its two varieties be described separately.

x). Bank Guarantee

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

xi). Letter of Credit (L/C)

It is issued on behalf of the customer (buyer/importer) in favor of the exporter (seller) for the import of goods and services stating to pay certain sum of money on the submission of certain documents complying the stipulated terms and conditions as per the agreement of

L/C. It is also known as importers letter of credit since the bank of importer do not open separate L/C for the trade of same commodities.

d) Discounting of Bills

It is the main function of commercial banks. Discounting of bill means made payment of bills, which are issued by commercial banks as well as central bank, NRB, before their expiration date or matured time. Therefore, payment should be less than the total amount because of their uncertainty.

2.1.6 Objectives of Credit Policy

The credit policy should be carefully established, properly communicated to the lending officers and implemented effectively by the lending officers. The basic objective of credit policy is to maintain effective credit management and control over it. Moreover, it is specified as follows:

a) To have a Good Assets

Loans are the risky assets though a bank invests the most of its resources in ranting loans and advances. The increasing of non-performing loan causes the non existence of banks. It is the very quality of assets that led bankruptcy of many banks in South East Asia. The objective of sound loan policy is to protect depositors' interest and maximize returns to the shareholder by striking a balance between liquidity and profitability.

b) To Contribute to Economic Development

A sound credit policy is required to ensure that the loans are given to the productive sector, which contributes to capital formulation and employment generation.

c) To Give Guidance to Lending Officials

A borrower should be assured that there would be no discrimination whether he deals with one officer or another. A sound credit policy is imperative to achieve a uniform standard procedure throughout the organization.

d) To Establish a Standard for Control

Every policy requires periodic follow-up to ensure its proper implementation. A sound credit policy helps to determine the variance between actual performance and practices and to take

corrective actions. A sound policy is always flexible and works as a guideline. If the variation between the practice and policy is observed, proper education to lending officer or amendment of the policy will become inevitable.

2.1.7 Principle of Credit policy

Good credit policy is essential to carry out the business of lending more effectively. Some policies are as follows:

a) Principle of Safety Fund: Banks should look the fact that is there any unproductive or speculative venture or dishonest behavior of the borrower.

b) Principle of Liquidity: Liquidity refers to pay on hands on cash when it needed without having to sell long-term assets at loss in unfavorable market (American Institute of Banking, 1972: 149). A banker has to ensure that money will come in as on demand or as per agreed terms of repayment.

c) Principle of Security: It acts as cushion to grant advances and credits. Adequate values of collaterals ensure the recovery of credit correctly at the right time. Accepted security should be readily marketable, handy and free from encumbrance.

d) Principle of Purpose of Credit: Generally, credit request would be accepted for productive sector only. Bank should reject credit request for speculation, social functions, pleasures trips, ceremonies and repayment of prior credit as they are unproductive.

e) Principle of Profitability: Profitability denotes the value created by the use of resource is more than the total of the input resources. Bank should provide to such project that can provide optimum amount of return. For such purpose, bank should take a little bit risk by providing credit to venturous project.

f) Principle of Spread: Portfolio of credit advances is to be spread not only among many borrowers of same industry. It across the industries in order to minimize the risk of lending keeping" Do not put your all eggs in the same basket" in mind.

g) Principle of National Interest: In lending and granting advances, interest of nation should not be distorted (if undermined). Priority and deprived sector of economy and other alarming sector should be given proper emphasis while extending advances.

2.1.8 Consideration for Sound Lending and Investment

The major source of income and profit generation of every banks and financial institution is its loan -investment in different sectors .If loans are not distributed properly and cautiously then it may be the main cause of the failure of the company .As prescribed by Hrishikes

Bhattacharya in his book “Banking strategy, credit appraisal and lending decisions, a Risk Return

Framework,” the important consideration which the finance company should review and analyzed is briefly illustrated below.

(A)Principle of Sound Lending

- Safety

Every finance company must invest in those opportunities which are safe against losses and risky. Collateral should be accepted which is not so depreciable and whose value hold constancy.

- Security

Finance company should accept that kind of security which is commercial, durable, marketable and high market price. In those cases, “MAST” should be applied for the investment.

Where,

M = Marketability

A = Ascertain ability

S = Stability

T = Transferability

- **Profitability**

Financial institution can maximize its volume of wealth through maximization of return on their investment and lending .So, they must invest their fund where they gain maximum profit. The profit of these companies mainly depends on the interest rate, volume of loan, its time period and nature of investment in different securities.

- **Liquidity**

People deposit money at these companies with confidence that they will repay their money when they need it. To maintain such confidence of the depositors, the company must keep this point in mind while investing its excess fund in different securities or at time of lending in different sectors so that it can meet short-term obligation when they become due for payment.

- **Purpose of Loan**

Why does a customer need a loan? This is very important question for any banker. If borrower misuses the loan granted by these companies they can never repay and company will passes heavy bad debts. Detailed information about the scheme of the project or activities should be examined before lending.

- **Diversification**

"A financial institution should not lay all its eggs on the same basket." In order to minimize risk, diversification on its investment on different sectors should be adopted which helps to sustain loss according to the law of average because if securities of a company is deprived, there may be appreciation in the securities of other companies, so the loss can be recovered.

- **Legality**

Illegal securities will bring out many problems for the investor. The financial institution must follow the rules and regulations as different directions issued by Nepal Rastra Bank and other concerning bodies while mobilizing its funds.

- **Tangibility**

Though it may be considered that tangible property doesn't yield an income apart from direct satisfaction of possession of property, many times, intangible securities have lost their finance company, so they should prefer tangible security to intangible one.

- **National Interest**

"Even if an advance (loan) satisfies all the aforesaid principles, it may still not be suitable. The lending program may run counter to national interest. Central Bank may have issued directives prohibiting finance companies to allow particular types of advances."(Bhattacharya, 1998:660)

(B) Major information for analyzing the potential of borrower for lending

- Payment record and credit information from concern field
- Income level and its source
- Residence (local or migrates)
- Marital status (single, married, widowed or divorced)
- Age factor
- References
- Reserves, assets and collateral

(C) Basic of granting loan and analysis of credit risk

World is surrounded by certain risk associated with the related field of task. The risk is vital factor which can be seen in the field of lending and investing money by financial institution. It is true that "There is no return without risk." But by using certain criteria's they can minimize some portion of risk associated with it. With respect to this ,financial institution approach the loan request by analyzing five 'Cs' of credit risk as illustrated by Hrishikes Bhattacharya

- Character of the applicant
- Capacity of qualification and work experience
- Capital of the proposed plan
- Collateral for security and its safety ness
- Conditions of credit environment and credit information
- Additionally, external factor also directly and indirectly affect on loan granting decision. They can be political crisis, national and international economic condition, policy and practice, cultural practice etc.

(D) Basic requirement in a borrower / lending documentation

Commercial Banks cannot lend money to just anyone blindfold. It should be confident regarding the trustworthiness and intentions of the probable beforehand. The borrower, on the other hand, should provide all pertinent documents that the company seeks to build confidence on borrower. There are some requirements that should be fulfilled by the client to stand him as a probable borrower. The basic requirement that the borrower should submit with loan proposal are as follows:

- **If applicant is an individual**

  a) Applicant should be Nepali citizen. Citizenship certificate should be submitted.

  b) Should have good knowledge about work they intend to commence.

  c) Normally the applicant should not have taken loan from any other institutions previously.

  d) Applicant should present the job planning scheme with perfect business plan.

  e) Personal information is also required.

  f) Business and income tax registration certificate with renewal.

  g) Quotation and personal guarantee with reference of well recognized personal.

h) Certificate of ownership.

i) Driving license if required.

j) Description of securities with full proof evidence.

k) Other documentation as per company rules whichever required

- **If the applicant is partnership firm**

a) The firm should be registered in related department.

b) The person dealing with the borrowing of the firm should specify in the partnership contract.

c) Income Tax Registration certificate with renewal.

- **If the applicant is private limited company or public limited company**

a) Company should be registered.

b) Working place, project place should be specified and all the assets should be in the name of company.

c) Audited Balance sheet, profit and loss account, and other required financial statement.

d) Documents of at least of one year should be presented.

e) If the work place or project place is leased the lease contract should be presented

f) The authorized person should apply for the loan.

g) Loan amount applied must be within the limit of memorandum of the company or must be decided by the board.

h) Decision of the promoters.

i) Personal information of the main person is required.

j) Written personal guarantee of the proprietors is required.

k) Citizenship of promoters and proprietors is required.

(E) Basic feature of collateral

Collateral is the most important item for granting loan. Loan should be granted by analyzing details related to collateral. Generally in Nepalese practice- land and building; gold silver and some classified document are accepted as safe and reliable collateral, but there are some features which must be analyzed. They are

a) Market availability

b) Price stability

c) Durability

d) Storing facility

e) Transportation

f) Profitability

Guidelines of Assessing Risk

Risk is dependent upon the quality found in each 'c' and the combination of these five 'Cs'. Assuming the same conditions prevail, the following guideline is generally suggested.

Table 2.1

Guidelines of Assessing Risk

Applicant characteristics	**Credit risk**
Character +capacity	Very low
Character + capacity without capital	Low to moderate
Character + capacity but insufficient capital	Low to moderate
Capacity + capital but impaired character	Moderate
Capacity + capital without character	High
Character + capital without capacity	High
Character + no capital + No capacity	Very high
Capital + No character + No capacity	Very high
Capital + No character + No capital	Fraudulent

Source: Book by Hrishikes Bhattacharya, 1998

2.1.9 Lending procedures

According to Bhuwan Dahal and Sarita Dahal, lending procedures include loan approval and disbursement process (Dahal, 2002:115)

Project appraisal

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

Is the project technically sound?

- Will the project provide a reasonable return?
- Is the project in line with the overall economic objectives of the country?
- Generally, the project appraisal involves the investigation from the following aspects (Gautam, U. K., 2004: 258):
- Financial aspect
- Economic aspect
- Management/Organizational aspect
- Legal aspect
- **Loan approval process**

Loan is approved by approving authority only after being convinced that the loan will be repaid together with interest. There are many processes involved to approve the loan which has been listed below:

1. Application

A borrower is normally required to submit an application to the bank along with required documents: project proposal, historical financial statements and documents pertaining to company's legal existence.

2. Conducting the interview

During the loan rendering process respective clients are asked by the respective credit officer of banks about the financial strength to know the creditworthiness of clients. Documents that are submitted by the borrowers also give detail information about the borrowers which plays great important role to know the borrowers. Normally, such interview takes place at the bank premise.

3. The credit analysis

During the credit analysis phase various aspects are evaluated by the banks which is broadly included under the heading of 5Cs which are presented below.

a) Character
b) Capacity
c) Condition
d) Collateral
e) Capital

4. Forecast and risk rating system

Based on the findings of historical analysis, and in light of present and foreseeable future environment, the analyst has to forecast impending major risks. The analyst should also highlight to what extent inherent risks will be mitigated and how unmitigated risks can be covered.

5. Return

The amount of loan has got inherent cost as it is obtained from either shareholder or depositor or creditor. The analysis should be made to calculate total return and compare whether it meets banks standard.

6. Liquidation

The analyst should ascertain bank's ability to recover loan in case of liquidation of the borrower. If liquidation analysis reveals insufficient security, additional security may be asked for.

7**. Credit worthiness and debt structure**

If analyst finds the borrower creditworthiness and decides to extend loan, he should structure the debt facility to be extended. (Dahal, 2002:41)

2.1.10 Credit Monitoring and Control

Credit risk monitoring refers to incessant monitoring of individual credits inclusive of off balance sheet exposures to obligors as well as overall credit portfolio of the bank. Banks need to enunciate a system that enables them to monitor quality of the credit portfolio of day-to-day basis and take remedial measures as and when any deterioration occurs. Such a system would enable a bank to ascertain whether loans are being serviced as per facility terms, the adequacy of provisions, the overall risk profile is within limits established by management and compliance of regulatory limits. Establishing an efficient and effective credit monitoring system would help senior management to monitor the overall quality of the total credit portfolio and its trends. Consequently the management could fine tune or reassess its credit strategy/policy accordingly before encountering any major setback. The banks credit policy should explicitly provide procedural guideline relating to credit risk monitoring. At the minimum it should lay down procedure relating to

i. The roles and responsibilities of individuals responsible for credit risk monitoring
ii. The assessment procedures and analysis techniques (for individual loans & overall portfolio)
iii. The frequency of monitoring
iv. The periodic examination of collaterals and loan covenants
v. The frequency of site visits
vi. The identification of any deterioration in loan.

a) Financial position and business conditions

The most important aspect about an obligor is its financial health, as it would determine its repayment capacity. Consequently institutions need carefully watch financial standing of obligor. The key financial performance indicators on profitability, equity, leverage and liquidity should be analyzed. While making such analysis due consideration should be given to business/ industry risk, borrowers' position within the industry and external factors such as economic condition, government policies, regulation. For companies whose financial position is dependent on key management personnel and /or shareholders, for example, in small and medium enterprises, institutions would need to pay particular attention to the assessment of the capability and capacity of the management / shareholders.

b) Conduct of accounts

In case of existing obligor the operation in the account would give a fair idea about the quality of credit facility. Institutions should monitor the obligor's account activity, repayment history and instances of excesses over credit limits.

For trade financing, institutions should monitor cases of repeat extensions of due dates for trust receipts and bills.

c) Loan covenants

The obligor's ability to adhere to negative pledges and financial covenants stated in the loan agreement should be assessed and any breach detected should be addressed promptly.

d) Collateral valuation

Since the value of collateral could deteriorate resulting in unsecured lending, banks need to reassess value of collaterals in periodic basis. The frequency of such valuation is very subjective and depends upon nature of collaterals. For instance loan granted against shares

need revaluation on almost daily basis whereas if there is mortgage of a residential property the revaluation may not be necessary as frequently. Incase of credit facilities secured against inventory or goods at the obligor's premises, appropriate inspection should be conducted to verify the existence the valuation of the collateral.

External Rating and Market Price of securities purchased as a form of lending or long-term investment should be monitored for any deterioration in credit rating of the issuer, as well as large decline in market price. Adverse changes should trigger additional effort to review the creditworthiness. (Lakhey, 2008:30)

2.1.11. Managing Credit Problems

The institution should establish a system that helps to identify problem loan ahead of time when there may be more options available for remedial measures. Once the loan is identified as problem, it should be managed under a dedicated remedial process.

A bank's credit risk policies should clearly set out how the bank will manage problem credits. Banks differ on the methods and organization they use to manage problem credits. Responsibility for such credits may be assigned to the originating business function, a specialized workout section or a combination of the two, depending upon the size and nature of the credit and the reason for its problems. When a bank has significant credit-related problems, it is important to segregate the workout function from the credit origination function. The additional resources, expertise and more concentrated focus of a specialized workout section normally improve collection results.

A problem loan management process encompass following basic elements:

a) Negotiation and Follow-up

Proactive effort should be taken in dealing with obligors to implement remedial plans, by maintaining frequent contact and internal records of follow-up actions. Often rigorous efforts made at an early stage prevent institutions from litigations and loan losses.

b) Workout Remedial Strategies

Sometimes appropriate remedial strategies such as restructuring of loan facility, enhancement in credit limits or reduction in interest rates help improve obligor's repayment capacity.

However it depends upon business condition, the nature of problems being faced and most importantly obligor's commitment and willingness to repay the loan. While such remedial strategies often bring up positive results, institutions need to exercise great caution in adopting such measures and ensure that such a policy must not encourage obligors to default intentionally. The institution's interest should be the primary consideration in case of such workout plans it needs not mention here that competent authority, before their implementation, should approve such workout plan.

c) Review of Collateral and Security Document

Institutions have to ascertain the loan recoverable amount by updating the values of available collateral with formal valuation. Security documents should also be reviewed to ensure the completeness and enforceability of contracts and collateral guarantee.

d) Status Report and Review

Problem of credits should be subject to more frequent review and monitoring.

The review should update the status and development of the loan accounts and progress of the remedial plans. Progress made on problem loan should be reported to the senior management.

(Lakhey, 2008:32

2.1.12. Provision of NRB for Extending Advances & Investment in productive, priority and Deprived sector

Productive Sector

Productive sector include advances to priority sector and other productive sector which includes advances and investment in shares and debentures of small, medium, and large industries as defined in industrial enterprises act; pre-shipment credit like purchase of merchandise, processing, assembling, packaging etc; export bill financing, advances for purchase of public transport like truck, bus, tempo etc. and agricultural/farm equipment; investment of shares and debentures of government/semi-government or private sector agricultural insurance, go down, banking or like companies etc.

As per NRB regulation, commercial banks are required to extend 40% of the total advances to productive sector, which also includes 12% to priority sector including deprived sector.

Priority sector credit program

"Priority sector" is defined to include micro and small enterprises which help increase production, employment and income as prioritized under the national development plans with an objective to uplift the living standard of general public particularly the deprived and low income people by progressively reducing the prevalent unemployment, poverty, economic inequality and backwardness. Micro and small enterprises are classified into agricultural enterprises, cottage and small industries and services. In addition, other businesses as specified by NRB from time to time are also included under micro and small enterprises. All credit extended to priority sector up to the limit specified by NRB are termed as "priority sector credit."

Deprived sector Lending

"Deprived Sector" includes low income and particularly socially backward women, tribes, lower caste, blind, hearing impaired and physically handicapped persons and squatters (sukumbasi) family. All credit extended for the operation of self-employment oriented micro-enterprises for the upliftment of economic and social status of deprived sector up to the limit specified by NRB is termed as "Deprived Sector Credit" is considered as integral part of priority sector credit and this credit comprise micro-credit programs and projects also.

The businesses under the priority sector credit program have been classified under the following four major heads:

- Agricultural and Agro-bases business
- Cottage and small industries
- Services
- Other business

Lending in deprived sector will be included in priority sector for the purpose of compliance test for 12% credit to priority sector.

Deprived sector credit is advances up to Rs30, 000 per borrower family meant for weak, poor and deprived people extended in the following manner by the commercial banks shall qualify to be included under deprived sector credit:

- Direct investment made by the commercial banks themselves in income generating employment oriented programs.

- Investments made by commercial banks in share capital of Rural Development Banks, Rural Micro Finance Development Centre and other Development Banks established with an objective to extend credit to deprived sector.
- Advances to the Rural Development Banks and other Development Banks engaged in the similar poverty alleviation programs.
- Advances to Cooperatives, Non-government Organizations and small farmers Cooperatives approved by NRB for carrying out banking transactions.
- Advances to Micro-Finance Institution/ (Rural Development Banks and other financial institution, cooperatives and non-governmental organizations approved by NRB for intermediation) stipulating the condition to disburse such credit to deprived sector only.
- Loan extended by commercial banks to development banks engaged in micro credit activities with stipulated condition to disburse the credit only to the deprived sector up to Rs.30, 000 a family shall be eligible for the purpose of inclusion under Deprived Sector Credit. New commercial banks are required to invest 0.25% of total outstanding credit to the deprived sector.

Regulation relating to Loan Classification and Loan Loss Provisioning

With an objective to minimize the possible loss of credits extended by commercial banks as provided under section 23(1) of Nepal Rastra Bank Act 2012 (with amendment) relating to development and regulation and banking system. This directive in respect of loan classification & provisioning has been issued in exercised of authority under section 56 of bank and financial institutions act 2063.

Classification of Outstanding Loan and Advances on the Basis of Aging

Banks shall classify outstanding principal amount of loan and advances on the basis of aging.

Classification of Loan and Advances

Loan and Advance shall be classified in to the following 4 categories

a) Pass

Loans and Advances whose principal amount are not past for a period up to 3 months shall be included in this category. These are classified and defined as performing loans.

b) Substandard

All loans and advances that are past due for a period 3 month to 6 month shall be included in this category.

c) Doubtful

All loans and Advance which are past due for a period of 6 month to 1(one) year shall be included in this category.

d) **Loss**

All loans and advances which are past due for a period of more than 1(one) year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.

Loans and Advances failing in the category of sub- standard doubtful and loss are classified and defined as **Non- performing Loan**.

Note:

If it is appropriate in the views of the Bank management there is not restriction in classifying the loan and advances from low risk category. For instance, loan falling under sub-standard may be classified into Doubtful or loss and loans falling under Doubtful may be classified into loss category. The term loan and advances also includes Bills purchased and Discounted.

Submission of Return Relating to Classification of Loan and Advances

Bank shall, as of the Mid of October, January, April and July, prepare the statement of outstanding loans and advances classified on the basis of the aging & submit the particulars as per the enclosed Directives from No.3 to the Banking Operation Department &Inspection &Supervision Department of Nepal Rastra Bank within 1(one) month from the end of each quarter. Classified Loans and Advances under the currently existing arrangement are required to be classified as per the Time Table in four phases:

Relating to collateral

All collateral used back loan &advance shall be adequate to cover up the principal and interest and shall also be legally secured. In the event of non- realization of principal and interest of loan, there must be no difficulty in acquiring the title of the collateral asset.

Additional arrangement in Respect of pass loan

Loans &advances fully secured by gold, silver, fixed deposit receipts and NG securities shall be included under "pass" category.

However, where collateral of fixed deposit receipt or NG securities or NRB Bonds is placed as security against loan for other purposes, such loans has to be classified on the basis of aging per clause 2.

Additional arrangement in Respect of "Loss Loan"

Even if the loan is not past due, loans giving any or all of the following discrepancies shall be classified as "Loss".

- No security at all or security that is not in accordance with the borrower's agreement with the bank,
- The borrower has been declared bankrupt,
- The borrower is absconding or cannot be found,
- Purchased and discounted bills are not realized within 90 days from the due date.
- The credit has not been used for the purpose originally intended.
- Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation.
- Loans provided to the borrowers included in the bank list and where the **Credit Information Bureau** blacklists the borrower.
- Additional Arrangement in Respect of Term Loan.

In respect of term loans, the classification shall be made against the entire outstanding loan on the basis of the due period of over due installment in the event of conversion of continent liabilities of the bank

E.g. letters of credit, UN –matured guarantees, in to the liability of the bank, such amount becomes recoverable from the customers. Hence, such amount shall also be classified as per the classification norms applicable to loans &advances &accordingly be provided with requisite provisioning.

Prohibition to Recover Principal and Interest by Overdrawing the Current Account &Exceeding the Overdraft Limit Principal and interest on loans &advances shall not be recovered by overdrawing the borrower's current account or where overdraft facility has been

extended, by overdrawing such limit. However, this arrangement shall not be construed as prohibitive for recovering the principal &interest by debiting the customer's account &recovery is made as such resulting in overdraft, which is not settled within one month, such overdrawn principal amount shall also be liable to be included under the outstanding loans and such loans shall be liable to be included under the outstanding loan and such loan shall be downgraded by one step from its current classification. In respect of recognition of interest, the same shall be as per the clause relating to income recognition mentioned in directives No.4.

Loan Loss provisioning

The Loan Loss provisioning, on the basis of the outstanding loans & advances and purchase classified as per this Directives, shall be provided as follows:

Table 2.2

Loan Classification & Provisioning on funded Outstanding

Classification of Loan	Criteria	Loan Loss Provision
Pass	Performing	1 percent
Substandard	Past due 3+to 6month	25 percent
Doubtful	Past due 6+to 12month	50 percent
Loss	Past due above 12 month	100 percent

Note: Loss loan provision set aside for performing loan is defined as "general loan loss provision" and loan loss provision set aside for Non- performing loan is defined as "Specific Loan Loss provision".

Additional provisioning in the case of personal Guarantee Loans

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

Rescheduling and Restructuring of Loan

In respect of loan and advances falling under the category Substandard, Doubtful or Loss, banks may reschedule or restructure such loans only upon receipt of a written plan of Action from the borrower citing the following reason:

- The internal and external causes contributing to deterioration of the quantity of loan.
- The reduced degree of risk inherent to the borrower/enterprise, determined by analyzing its balance sheet and profit & loss account in order to estimate recent cash flows & to project future ones, in addition to assessing market condition.
- Evidence of existing of adequate loan documentation.
- An evaluation of the borrower/enterprise's management with particular emphasis on Efficiency, commitment &high standards of business ethics.

In addition to written plan of Action for rescheduling or restructuring of loan per Clause (13.1) above, payment of interest according to the loan contract as originally specified should have been collected. The loan loss provisioning, in respect of rescheduled, restructured and swap loan, shall be provided at minimum 12.5%. Separate statement shall be prepared for loans classified &provision made as per Clause 13.3 above.

Provisioning against Priority Sector Credit

Full provisioning as per clause (11) shall be made against the uninsured priority and deprived sector loans. However, in respect of insured loans; the requisite provisioning shall be 25% of the percentage state under clause (11).

Adjustment in provisioning

Except in the following cases, banks are prohibited from making any adjustment in their loan loss provision amount:

- The loan has been completely written off:
- The principal amount of loan and interest has been fully settled by the borrower.
- Loan has been classified or reclassified and vision for loan loss is made.
- However, no such adjustment shall be made in the case of reclassified loan by way of rescheduling or restructuring.

Action to be taken in cases of Noncompliance

In cases where a bank has been found not complying the regulations in respect of loan classification and provisioning, Nepal Rastra Bank may ask for clarification. If the bank's response is not satisfactory, Nepal Rastra Bank shall initiate following action in exercise of its authority under section 23(1) of Nepal Rastra Bank Act, 2012.

Require reclassification of loan and advances and accordingly adjust the loan loss provisioning within 3 months. If the banks do not comply with the directive issued as per Sub-Clause 16.1 above, the following additional action shall be initiated in exercise of the authority under section 32 of Nepal Rastra Bank Act 2012 with amendment:

- Suspend declaration and distribution of dividends (including bonus shares)
- Suspend extension of loans
- Suspend acceptance of deposits

All earlier circulars issued by Nepal Rastra Bank relating to loan classification and loan loss provisioning have been repeated.

2.1.13 Concept of Liquidity and Liquidity Management

2.1.13.1 Definition of Liquidity

"Ready access to immediately spending funds at reasonable cost at precisely the time those funds are needed. This suggest that liquid bank either has the right amount of immediately spendable fund on hand when needed or can quickly raise liquid fund by borrowing or by selling asset"(Rose,2002,345)

"Liquidity is the availability of cash at the time needed at a reasonable cost"

"The amount of liquidity that a commercial banks or the commercial banking system should maintain is one of the basic problem of the bank management. If too much liquidity is maintained, it means that the bank and the banking system are foregoing income. Too little, however may be fatal not only to individual bank but to the commercial banking system as a whole, the financial structure of the country and economy of the nation. Too little liquidity and demands of the depositors in the form of runs on the banks are like oil and water, they do not mix well" (Reed, 2002, 115)

2.1.13.2 Importance of Liquidity for Banks

"Liquid always comes first, without it a bank does not open its doors, with it a bank may have time to solve its basic problems"(Howard,1985:275)

Significance of liquidity of the commercial Banks and banking institution are as following (Bhandari, 2004, 146)

- For payment of daily administrative expenses such as rent, salary, stationaries, and equipment in cash, and for the daily transactions and operations of the bank, sufficient liquidity is essential.
- Adequate liquidity is essential for payment of deposit through cheque for the accountholder of current and saving account who frequently withdraw their deposit.
- Important for maintaining cash reserve ratio(CCR) and statutory liquid ratio(SLR)
- To control the economic fluctuation and risk from uncertain future, there is dire to keep sufficient liquidity in bank.
- For the expansion of the bank's branches and continuous growth of banks, it needs adequate liquidity.
- To get trust and faith from the side of customer by providing their deposited fund at the time of needed

2.2 Review of Related Studies

Numerous researches were conducted in similar field in Nepalese context. Some previous researches were conducted in financial performance of commercial banks. Many other researches were conducted to assess the investment analysis, lending practices, credit practices and credit policy of commercial banks. However, many international researches were conducted in similar field; few researches were conducted to assess the credit management and its casual linkage on profitability situation.

The effort has been made in this present section to examine and review the some related articles published in different economic journals, bulletins, magazines and newspapers. Besides, it has also been described the findings of previous researches (i.e. both national and international), conducted in similar areas.

2.2.1 Review of Articles

Shrestha (2055) in her article- on special issue of Banijya Sansar TU. 2055, *"Lending operation of commercial banks of Nepal and its impact on GDP"* has presented with the

objectives to make an analysis of contribution of commercial banks lending to the GDP of Nepal. She has set hypothesis that there has been positive impact of commercial banks to the GDP. In research methodology, she has considered GDP as the dependent variable and various sectors of lending viz agriculture, industrial, commercial, service and social sector as independent variable. A multiple regression technique has been applied to analyze the contribution.

The multiple analyses have shown that all the variables except service sector lending have positive impact on GDP. Thus in conclusion she has accepted the hypothesis i.e. there has been positive impact on GDP.

Karki (2000) has summarized some of the challenges through his article *'Nepalese Financial Sector: challenge and some solutions'* that are as follows:

According to the article, "the financial sector is facing the major challenges of high NPA of banking sector, which comes around 18 percent of the total loan but if the loan classification, is made according to least international practice. It is assumed to exceed 30 percent. Credit demand is being met largely by non- institutional source i.e. private money lender, merchant, trader and landlord at very high rate of interest which is 2 to 3 times higher than that of institutional rate. This shows that unrecognized financial sector is playing a major role in the Nepalese economy. The liquidity position of the sector is rated as high as 24 percent, but the productive sector of the economy is starved by credit crunch. This is a paradoxical situation in the banking sector.

He has mentioned the following suggestions to remedy the current malady. The financial institutions especially commercial banks have to identify new area of investment to increase loan and advances in reducing the liquidity position. With the rapid growth in the number of banks and financial institutions, deposit insurance scheme is a must. The principle reason for introducing such deposit insurance is one of the social justices rather than economic justification in order to protect the interest of the small depositors. In this condition, this scheme should be expedited to implement.

Chhetri (2000), in the article entitled "*Non- performing assets: A need for rationalization",* has attempted to provide connect with the term NPA and its potential sources, implication of NPA in financial sector in the South East Asian Region. He had also given possible measures to contain NPA. Loans and advances of financial institutions are meant to be serviced either

part of principal of the interest of the amount borrowed in stipulated time as agreed by the parties at the time of loan settlement. Since the date becomes past dues, the loan becomes non-performing asset. The book of the account with lending institution should be effectively operated by means of real transaction effected on the part of the debtor in order to remain loan performing.

As stated by the writer, the definition of NPA differs from country to country. In some of the developing countries of Asia Pacific Economic Cooperation (APEC) forum, a loan is classified as non-performing only after it has been arrear for at least 6 months. Similarly, it is after three months in India. Loans, thus, defaulted are classified into different categories having their differing implication on the asset management of financial institution. He also stated that NPA are classified according to international practice into 3 categories namely substandard, doubtful and loss depending upon the temporal position of loan default. Thus, the degree of NPA assets depends solely on the length of time the asset has been in the form of non-obliged by the loan taker. The more time it has elapsed the worse condition of asset is being perceived and such assets are treated accordingly. As per Chhetri's view, failure of business for which loan was used, defective and below standard credit appraisal system credit program sponsored by Government, slowdown in economy/recession, diversion of fund is some of the factors leading to accumulation of NPA.

He further said that there is serious implication of NPA on financial institution. He further added that the liability of credit institution dies not limit to the amount declared as NPA but extent to extra amount that required for provisioning depends upon the level of NPA and their quality. As per his view, rising level of NPA create a psyche of worse environment especially in the financial sector. He mentioned that by reviving the activities of the financial institution like waiving interest, rescheduling the loan, writing off the loan, appointing private recovery agent, taking help of tribunals and law of land etc, NPA can be reduced.

Finally, he concluded that financial institutions are the best with the burden of mounting level of NPA in developing countries. Such assets are income flow of the financial institution while claiming additional resources in the form of provisioning thereby hindering gainful investment. Rising level of NPA cannot be taken as stimulus but the vigilance demanded to solve the problem like this, eventually will generate vigor to gear up the banking and financial activities in more active way contributing to energizing growth.

Pradhan (2001), in the article *"some suggestions to tackle NPA"* saying that unless the growth in NPA is kept in control, it has the potential to cause systematic crisis. He has mentioned that a dream of globalization led to huge investment, which unfortunately could not be utilized properly due to hesitant liberalization policies. Large corporate misused the credits and delayed payments and contributed indirectly for enhancing NPA ratio. He further argues that lack of vision in appraisal of proposal while loan sanctioning, reviewing or enhancing credit limits, absence of risk management policy of financing, concentration of credit in few group of parties and sector, lack of coordination among various financiers, lack of initiatives to take timely action against willful defaulters, indecision on existing out of bad loans for fear of investigating agencies like special police, public accounts committee of the parliament have also contributed in whatsoever measures to the worsening situation of NPA front. He further pointed out that most crucial reason for the increase in the NPA is the shabby and defaulter friendly legal system. Suggesting the remedy of NPA he adds that administrative system should be strengthened, legal reforms should be made and assets Reconstruction Company should be formed.

Bhattarai (2002), in his article *"something is rotten with the state of commercial banking in Nepal"* starts with words like NPA, conflict of interest, merky offshore ownership, well connected defaulter, loan swapping and political obstruction to describe the commercial bank in Nepal. Bhattarai quoted the words of the Governor to describe the state of banking sector as 'terrible'. Also, he quotes one of the donor representatives involved in financial reform as "Nepal has the weakest central bank in the developing world." As per the author, bankers with patronage could get way with getting anything they wanted approved by the regulator. He quotes. Himalayan SJB Rana, the first governor of NRB, "only 3 out of 12 Governors actually completed their five year term in its entire history because they were sacked for undefined exigencies." He also quotes Shovan Dev Pant, the then Executive Director ob Nabil, "The financial sector is in appalling state."

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

Another example Bhattarai presents is on the profitability of the banks in the every first year. He questions their profit figures with the given state of ailing economy, where each sector is showing heavy losses. Also, the increasing trend of Non-performing assets (NPAs) is explained by him is a result of scam. A scam process as explained to him by an NRB official goes like this," you put in Rs. 50 million to promote a bank and then borrow Rs.500 million from it. They are not opening banks to do banking but to siphon loans for themselves." However, the author is of a view that the new directives issued on October 2001 shall improve the situation. Here, the author has not clearly mentioned of the research methodology. The conclusions are not well supported by data. The article reflects a one side biased view of the author and the view of NRB on this has not been taken. The conclusion made by the author has not been tasted.

Karki (2053), in her article, "*challenges of non-performing loan management in Nepal*" has mentioned the causes of increasing trend of non-performing loan. She identifies "the major causes such as poor loan analysis, guarantee oriented loan system, depreciation of valued assets, misuse of loan, lack of regular supervision of loan."

In Nepalese context, when interest rate is increased it causes the decreases in economic activities as well as capacity of borrower. Sometimes debtors knowingly do not pay back the loan, and invest the loan in unproductive sector. Such kind of activities occurs continuously, if there is lack of sound credit policy, improper credit analysis, lack of information about loan holders and lack of regular supervision. So banks should formulate and implement sound credit policy. Loan approval and disbursement process should be conducted in better way. Proper credit analysis and regular supervision can control the credit risk.

Ghimire (2003), in the article titled "*Credit sector reform and NRB*" has tried to highlight the effects of change or amendment in NRB directives regarding loan classification and loan loss provisioning. Although the circumstances leading to financial problem or crisis in many Nepali banks differ in many respects, what are common acres of the most banks, which increased size of non-performing assets (NPA)? To resolve the problem of the losses or likely losses of this nature facing the industry, NRB as the central bank, amended several old directives and issued many new circulars in the recent years

As opined by him, since majority of the loans of most of the commercial banks of the country at present falls under substandard, doubtful and even loss categories, loan loss provisioning

now compared to previous arrangement would be dramatically higher. The new classification and provisioning norms are very lent able as they help to strengthen banks financially. He added that the old system remained in force from 1991 to 2001, which was probably the most volatile decade of the business operation of the country. He has indicated that loan loss provisioning as a percentage of total credit of April 1, 2001 is 5.2% but as April 13, 2003, it has jumped to 18.39%. If only private banks are considered, it is 2.12% of April 2001 where as it is 6.30 % as of April 13, 2003. The total increment in loan loss provision is Rs 11,328.11 million and the total increment in credit is only Rs 7,976.70. He has also stated that tightening provisioning requirements on NPL is essential to ensure that banks remain liquid even during economic downturns.

In the conclusions, he has mentioned that in the recent years, NRB has worked for management and reform of the credit of the financial institution more seriously and NRB has adopted reforms aimed not just at dealing with problem banks but also at strengthening banking supervision to reduce the likelihood of future crisis. All prudential directives of NRB in connection of credit sector reform have been made revised on after April 2001. To adapt to such changes there can be some difficulties and for a better and harmonized reform, NRB should continue to be supportive, proactive and also participative to take opinions of bankers for a change in regulation/policy taking place in the future.

Richard Barfield and shyam Venket (2008), in their research "Liquidity risk management" has stressed on three major elements that needs to be consider by the banks during these uncertain financial times. These elements are confidence and trust among investors, understanding and monitoring the inter-relationship between the markets, credit risk and liquidity risk.Thirdly, need for greater transparency and communications about the bank's liquidity information in great detail.

The article opened with a catchy sentence "Though, confidence is neither listed on any exchange nor is it a line item on any financial institution's balance sheet, it is, nonetheless, the most valuable asset of every financial institution."Barfield and Vanket have pointed out that confidence need to be restored to gain the trust of regulator and to recover from the financial turmoil a bank has sunk into .They pointed out to the fact that many profitable and capitalized banks have collapsed as result of their failure to deal with liquidity risk issues. Profitability and capitalization are no defense for the liquidity risk. Therefore, they have stressed on understanding the inter-relationship between the markets, credit risk and the liquidity risk of the bank.

Furthermore, they suggest that the tenor of the bank's funding also need to be diversified. Banks should stagger their sources of lending to avoid having to make too many debt repayments at any one time. They point out the fact that when term funding has virtually disappeared, it is difficult to address if the mitigates are not already in place. Inevitably, utilizing a multiplicity of source will drive up cost but failure to diversify may ultimately result in a far higher price being paid.

Therefore, in assigning the required improvements to the bank's liquidity risk management approach and to develop their strategic view, Barfield and Vanket recommended that the banks should undertake a gap analysis against best practices. This analysis should evaluate liquidity management; measurement and reporting; stress tests; contingency funding plan; and public disclosure.

Marcus k.Brunnermeir (2009), in his well read article, "Deciphering the liquidity and credit crunch 2007-2008, he explained the economic mechanism that caused losses in the mortgage market to amplify into such large dislocations and turmoil in the financial markets in the U.S and describe the common economic threads that explain the plethora of market declines, liquidity dry-ups, defaults, and bailouts that occurred after the crisis broke in summer 2007.

In his paper, Brunnermeir explored four economic mechanisms through which a crisis in mortgage market amplified into a severe financial crisis.First, borrowers' balance sheet effects cause two "liquidity spiral"-loss spiral and margin spiral. A loss spiral arises for leverage investors because a decline in the value of assets erodes the investors' net worth much faster than their gross worth (because of their leverage) and the amount that they can borrow falls whereas margin spiral reinforces the loss spiral. As margins rise, the investor has to sell even more because the investor needs to reduce its leverage ratio(which was held constant in the loss spiral).Margins spike in the times of large price drops, lending to genera tightening of lending.Hence,when assets prices drop, financial institution capital erodes and, at the same time, lending standard and margins tighten. Both effects cause fire-sales, pushing down prices and tightening fund even further. Second, lending channel can dry up when banks become concerned about their future access to capital markets and start hoarding funds(even if the credit wortheness of borrowers does not change).Third, runs of financial institutions, like those that occurred at Lehman Brothers, Bear Stearns, can cause a sudden erosion of bank capital.Fourth, network effects can arise when financial institutions are lenders and borrowers at the same time. In particular gridlock can occur in which multiple

trading parties fail to cancel out offsetting positions because of concerns about counterparty credit risk. To protect themselves against the risks that are not netted out, each party has to hold additional funds.

Furthermore, Brunnermeir identified two trends in the banking industry that contributed significantly to the lending boom and housing frenzy that laid the foundation for the crisis. first, instead of holding loans on bank's balance sheet, banks move to an "originate and distribute" model. Banks repackaged loans and passes them on to various other investors, thereby off loading risk. Second, banks increasingly financed their asset holdings with shorter maturity instruments. This change left banks particularly exposed to dry-up in funding liquidity.

Kalpana khanal (2011), in her well read article, "Nepal's Minsky Moment" argued how an American economist's theory on debt and deregulation applies to Nepal's current context. She had referred to an American economist, Hyman Minsky(1919-1996) whose financial instability hypothesis (FIH) argues that markets are inherently unstable and long stretches of good times just end in bigger collapses.

Minsky believed that over periods of prolonged prosperity, the economy moves from financial relation that make for a stable system to relations that make for an unstable one. During good times, capitalist economies tend to move from a financial structure dominated by hedge finance units to structure engaged in speculative and ponzi finace. The net worth of ponzi units quickly falls down. Consequently, units with cash flow shortfalls are forced to try to make a position by selling out a position. This is likely to a collapse of asset value.FIH is a model of capitalist economy that doesn't need outside shocks to generate business cycle.

Khanal argues that in the midst of real estate boom, Minsky's FIH is relevant to Nepal's context. Nepal's liberal monitory policy encourages the rapid expansion of private sector credit. A large portion of additional financing went to the retail and real estate sectors, thanks to political uncertainty and poor business climate. Much of the real estate investment is seen to be speculative and was often funded by banks and under regulated cooperatives. The tough competition among the bank made newer banks to take aggressive risk to expand their market shares, which in turn forced remaining banks to take similar risks. World Bank (2010) data revealed that much of the real estate boom was financed by credit-exactly in line with FIH.

Commercial bank credit to real estate increased by 120% while credit to housing rose by25%.In fact 70% of all commercial bank loans were collateralized by real estate. In the mean time, rising real estate prices had a temporary positive impact on bank performance indicators, since the inflated prices of collateralized land raised its value and turn many non performing loans into good ones-without actual repayments.

Hence, Khanal suggested that it is necessary to rely on income and not debt for financing investments. The government should favor small to medium debt and discourage predatory lending by profit seeking financial institutions. And, come up with debt relief strategies for small household loans.

2.2.2 Review of Previous Thesis

Chand (1998) has submitted his thesis entitled "*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 development economic growth. Objectives of the study are to see the repayment situation. To find out the growth rate of investment. To explain possible causes of none and delay repayment. He finds that: (i) there is systematic relationship between credit disbursement and repayment. The coefficient of correlation value as calculated is 0.94, which shows that there are high and significance relationship between credit disbursement and repayment and (ii) repayment situation is satisfactory in production inputs and agro-based industry, warehouses and marketing percentage of repayment due to the farm mechanization and irrigation. Tea horticulture and livestock, poultry and fisheries are much less satisfactory.

As a recommendation given by Chand, ADB should play a significant role in such direction to fulfill the credit demand of rural areas. For effective credit recovery from the borrowers or clients, credit should be channeled through the borrower groups.

Joshi (1999) has studied on "*lending policy of commercial banks in Nepal*" the main objectives of this study is to examine the role of commercial bank in its functions as well as performance: to show the relationship between deposit and loan advance, to identify major weakness of lending policy of the commercial banks and to suggest lending policy to process the utilization of the resources and they are still lazy to pay active role to utilizes these sources collected from different sectors accordance with the need of the economy. He

recommended that Nepal Rastra Bank have significant role in the overall economic policy of the country NRB must take safe of lending policy and role to solve various problems, which have been arising in the banking development.

Gautam (2000) has submitted thesis entitled to, "*Investment Analysis of Finance Company of Nepal"* her research major objective are to analyze the interest rate structure of credit. To analyze the repayment of credits. Her findings are use of found towards the hire purchase credit is decreasing rapidly. As the direct data of good and bad credit was not available, the credit loss provision used to analyze the credit quality. Credit loss is 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.

Pant (2001) has studied on "*A study of Deposit and its utilization by Commercial Bank in Nepal."* The main objective of the study is to test whether lending process is significant and to find out the way to encourage lending by increasing bank deposit. The finding of the study is: commercial banks in Nepal are not able to satisfy the financial need of the economy, commercial banks in Nepal are not playing an active role to utilize their resources collected from different sector, according to the need of the economy. He has recommended the new branches should be open.

Khadka (2002) has carried out research on "*A Comparative Study on Investment Policy of Commercial Banks"* an objective to find out the relationship between deposits, investment, loans and advances and net profit. She has made the following conclusion while comparing the performance of NBL with NABIL, SCBNL and NIBL.

She finds that: NBL is comparatively less successful in on balance sheet as well as off balance sheet operations than that of other CBs. It predicts that in the coming days if it could not mobilize and utilize its resources as efficiently as other CBs to maximize the returns, it would lag behind in the competitive market of banking. Profitability positions of NBL are comparatively worse than that of other CBs. It predicts that NBL may not maintain the confidence of shareholders, depositors and its all customers if it cannot increase its volume even in future.

As the banks experience, many difficulties in recovering the loans and advances and their large amount is being blocked as non performing assets, she suggested that there is an urgent needs to work out a suitable mechanism through which the overdue loan can be realized.

Aryal (2003) 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 purposes 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, 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 that 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 bank. The use of fund towards the hire purchase credit is decreasing rapidly. As the direct data of good and bad credit was not available, the credit loss provision used to analyze the credit quality. Credit loss is 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.

Regmi (2004) in his thesis entitled *"Credit practices of joint venture banks with reference to Nepal SBI bank Ltd and Nepal Bangladesh Bank Ltd"* has emphasized to analyze the credit practices of concerned joint venture commercial banks

This study is based on five years data 1988-2002 of concerned banks. He has found that liquidity position of both banks is satisfactory, on the basis of asset management ratio; NBBL is in better position than NSBL. In credit portfolio, both banks have invested more in private sector than other sector. NBBL has better lending efficiency than that of NSBL. Deposit mobilization per branch ratio and credit mobilization per branch ratio of NSBL is higher than NBBL. At last, he has found that the profitability position of NBBL is better than that of NSBL. He recommended that NBBL should give focus on it liquidity position. Both banks should follow the NRB directives which help them to reduce credit risk. He has also recommended that the both bank should adopt sound credit collection policy and the marketing strategies should be innovative.

Joshi (2005) on her thesis, "*Investment policy of commercial bank of Nepal* ", has made an attempt to know and understand fund mobilized and investment policy of EBL, Nabil and BOK. The thesis work was performed with an objective of analyzing the trend of deposit utilization towards total investment and loan and advances and also to evaluate the growth ratios with other financial variables.

The liquidity position of EBL is comparatively better than Nabil and BOK. The total investment of EBL is in between in compared to other two banks. Total interest earned to total outsides assets of EBL is lower of all. The total investment of EBL is in between in compared to other two banks. Total interest earned to total outsides assets of EBL is lowest of all.EBL has higher capital risk ratio but average credit risk ratio compared to Nabil and BOK. On the basis of the findings, she has recommended EBL to mobilize excess idle cash and bank balance in some profitable and productive sector. She also emphasized on investing more on shares and debentures as it encourages financial and economic development of the country. She has suggested the bank to make continuous efforts to explore new, competitive high yielding management quality, organization climate, are considered as a clear evident in present situation. Thus the specific research questions regarding credit management in Nepalese commercial banking sector are identified as follows:

Is the credit practices adopted by commercial banks in good position?

What is the credit efficiency of the Nepalese commercial bank?

Is there any relationship between credit position and profitability situation?

Niraula (2006) in his thesis "*a study on Loan Classification and Non- Performing Assets Management of Rastriya Banijya Bank*" concludes that ineffective credit policy and overvaluation of collateral are the major causes for high non- performing assets in RBB. He further sites that the financial position of RBB has improved since the new management took over in january2003. However, because of heavy accumulated losses, the bank is in no position to meet the capital fund requirement prescribed by Nepal Rastra Bank.

Sing (2008) in her thesis entitled *"Credit Management of Bank Of Kathmandu Limited and Nepal Investment Bank Limited"* The objectives of research are as follows. To analyze the credits and advances provided by the commercial banks. o analyze the recovery status of the credit disbursed. To find out the strength and weakness in the credit administration of the commercial banks.

Average loan and advances ratio of BOK and NIBL is 0.50 and 0.34. NIBL has maintained higher loan and advances to total deposit. In this way, it shows that, NIBL seems to be strong to mobilize its total deposit as loan and advances. However higher ratio does not mean it is always better from the point of liquidity. Both banks are capable to use more than 50%of deposit on loan and advances if maintained this, it help make consistency on profitability of the bank. Average interest expenses to total expenses ratio of BOK is higher. NIBL has low interest expenses to total expenses ratio, it shows that decrease in cost of deposit as decrease in the interest expenses to total expenses ratio decrease.

Total income of BOK and NIBL, interest income contributes 81.70% and79.10% respectively. The lowest ratio of NIBL indicates its low dependency in fund based activity. The highest ratio of BOK indicates greater dependency on fund based activities. He recommended that Bank should do lot exercise in more credit creation and reducing the interest rate for loan and advances. This will help them to maintain more competitive. Bank could do better by offering modern banking facilities and new products for the development of banking industry and Provision on doubtful loan should to be maintaining as per directives of Nepal Rastra Bank.

Shrestha (2008) in his thesis entitled"*Comparative Credit Management of Nepalese Commercial Banks***:** a case study of Nepal Bank, Himalayan Bank, and Nepal SBI Bank Limited". The following specific objectives of this thesis are as follows. To examine sector

wise loan and advances of selected commercial banks. To evaluate priority and deprived sector loan of selected commercial banks. To evaluate status of Non-performing loans selected commercial banks.

NBL has higher loan loss provision, SBI and HBL has more or less same ratio. CBS are trying to lower the NPL than past however ratio of NBL is higher than other. Comparatively NBL is mobilizing higher fund to the priority sector, SBI is moderately mobilizing priority sector credit and in the case of HBL said credit is lower than other CBs. Deprived sector credit ratio of NBL is higher enough than other two CBs. Loan to public enterprises of NBL is higher in the Industrial, trading and financial corporation. No credit is provided to other Government corporation.

Looking at the aggregate figure as of mid July 2007, credit deployment under the heading of agriculture is more or less same for HBL, SBI and NBL. Mining sector seems ignored by selected three CBs. Credit of HBL seems production credit oriented, where SBI and NBL are in second and third position respectively. SBI is focusing construction credit however weight of construction credit is same for NBL and HBL. Metal production credit of SBI is higher than other. Transportation equipment heading has more or less equal weight of three banks. Under the heading of transportation and communication HBL has assigned higher weight and NBL is assigning higher than SBI and lower than HBL. Weight of wholesale and retail loan is more or less same for SBI and NBL however weight of HBL is lower than NBL and SBI. Weight of finance insurance and fixed asset is higher for SBI and weight of NBL appears as moderate and weight of HBL is lower than other. Under the heading of service credit, weight of SBI is higher where as weight of NBL is moderate and weight of HBL is lower than other. Weight of consumable loan is higher for NBL but SBI and HBL is assigning very few funds for this sector. Under the local government heading more or less same fund is allocated from the selected CBs. Similarly NBL, HBL and SBI are also allocating tentatively equal fund for other heading.

NBL is maintaining higher security on gold and silver where HBL and SBI have almost zero security on this heading. NBL is in higher side on the heading of government security, SBI has a very few amount and HBL is almost nil for this heading. Three CBs has more or less same security under the heading of non government securities. SBI and HBL have more or less same security under the heading of asset guarantee. However NBL has lower security

under this heading. On bill guarantee case NBL, SBI and HBL have more or less same level of security. Under the heading of guarantee NBL has higher security; security of HBL is lower than NBL and higher than SBI. Security under credit card is almost zero for three banks. NBL higher security under other heading SBI and HBL has more or less same level of security

Karki (2010), in his thesis, Liquidity and Profitability position of Commercial Bank of Nepal", has stated the major objective of the research as to examine the liquidity and profitability position of the commercial banks of Nepal. He produced his research on the analysis of five banks NIBL, HBL, EBL, NABIL and SCBNL

The research concluded that though the liquid asset maintained by SCBNL was highest, the liquidity of NIBLwas was strongest in terms of current ratio, and CRR.Futhermore,NIBL was most successful in optimizing the assets mobilization due to its highest ROA.The statistical analysis concluded that except in HBL,there existed a positive relationship between cash and bank balance with the net profit. The researcher recommended that it would be better if all the banks focus on collecting the deposit through fix deposit, which requires less liquidity and the funds collected can be invested in productive sector.

Adhikari (2010), in her Master's thesis titled "Credit Management of Nepalese commercial banks" expressed the major objective of the research as to analyze the credit efficiency of NIB and NIC banks. Specially she analyze the loan and advances of the sampled banks along with analyzing their credit efficiency and the relationship between many variables.

Her research conclude that NIC seems to be strong to mobilize its total deposit as loan and advances than NIBL since it has maintained higher loan and advances to total deposits. However, interms of average income to loan and advances, NIBL has best performance than NIC because of its lowest non performing loan and advances. Therefore, she suggested tat NIBL should focus to increase loan and advances to total asses ratio to increase lending performance. The researcher recommended that both of the banks should try to increase the loan and advances to total deposit as high ratio shows the capability of bank on mobilizing its total deposit and advances. She further recommended that bank should do a lot more exercise to create more credit creation, and reducing rate for increasing loan and advances which helps them to be more competitive. And, provision for doubtful debt should be maintained as per the directives of NRB.

2.3 Research Gap

The purpose of this study is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas, knowledge and suggestions in relation to liquidity and credit management of Himalayan Bank Limited and Nepal Investment Bank Limited. Thus, the previous studies can't be ignored because they provide the foundation to the present study. In other words, there has to be continuity in research. This continuity in research is ensured by linking the present study with the past research studies. Here, it is clear that the new research cannot be found on that exact topic, i.e. “Liquidity and Credit Management Practices of Commercial Banks” [With References To: Himalayan Bank Limited and Nepal Investment Bank Limited]. Therefore, to fulfill this gap, this research is selected. To complete this research work: many books, journals, articles and various published and unpublished dissertations are followed as guideline to make the research easier and smooth.

Previous researchers could not cover all the aspects of liquidity and credit management practices in Nepalese context. They analyzed the liquidity and credit management by using secondary source of information in terms of liquidity practices and credit practices or lending practices. But actually, liquidity practices covers the credit management covers many other areas such as total deposit collection, total lending, NPL level, loan loss provision and relationship between them which are very much important for credit appraisal. Present study tries to define credit management by applying those facts. Therefore, this study is useful to the concerned banks as well as different persons: such as shareholders, investors, policy makers, stockbrokers, state of government etc. Thus, present study may be valuable piece of research work.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. It is study of various steps that is generally adopted by a researcher, studying his research problem among with the logic behind them. “Research is the process of systematic and in-depth collection, presentation and interpretation or relevant detail or data”. (Michael1985:57).

In other words, research methodology is a systematize way to solve the research problem. The prime objective of this study is to compare, evaluate and assess the credit performance of selected commercial Banks i.e. NIBL and HBL. This chapter contains the methods that make convenience for comparison of the performance made so far by these banks by analyzing the strength and weakness of the financial performance of these three sampled banks.

Research Methodology describes the methods processes applied in the entire aspect of the study. This chapter consist research design, population and sample procedure, source of data, data collection and data processing procedure and analysis of data.

3.2 Research Design

A research design is specification of methods and procedures for acquiring the information needed. It is the overall operational pattern of framework of the project that stipulates what information is to be collected, from which sources and by what procedure. It ensures that information obtained is relevant to the research questions and that it is collected by objective and economical procedures.

In this research work, the descriptive as well as analytical research design has been adopted to achieve the objective of the study. On the basis of available data, adopting this proposed research design; attempts have been made to investigate financial analysis of sampled banks. For analyzing the situation mostly secondary data were used.

3.2.1 Sources of Data and Data Collection Procedure

This study is mainly based on secondary data. Secondary data are collected from respective annual report especially from profit and loss account, balance sheet and other publications made by the banks. Also some data has been gathered from Nepal Stock Exchange's website. Similarly, articles, journals, bank bulletins, newspaper related to financial performance study, previous research report etc, have also been taken into account while collecting information.

3.2.2. Population and Sample

For the purpose of this study, two commercial banks, Himalayan Bank Ltd and Nepal Investment Bank Ltd are drawn as sample banks out of 32 registered commercial banks of Nepal till February 2012. Similarly, financial statement of two commercial banks from past six year periods from 2005/06 to 2010/11 have been taken as secondary data samples.

3.3 Methods of data analysis

Mainly financial methods are applied for the purpose of this study. Appropriate statistical tools are also used. Among them correlation analysis regarded as major one is used for this research.

To make the study more specific and reliable, the researcher uses two types of tool for analysis:

- Financial Tools
- Statistical Tools.

3.3.1 Financial tools

For the sake of analysis, various financial tools were used. The basic tools used were ratio analysis. Besides it, total deposit, total investment and total income analysis have been used.

Ratio Analysis

Ratio analysis is a powerful and the most widely used tool of financial analysis. A ratio defined as "The indicated quotient of two mathematical expression" and as the relationship between two or more things *(Webster's New Collection Dictionary, 1975: 958).*

A ratio is a figure or a percentage representing the comparison of one-dollar amount with some other dollar amount as a base *(Roy, 1974: 97)*. Ratio analysis is a widely used tool of financial analysis. It is defined as the systematic use of ratio to interpret the financial statements so that the strength and weakness of a firm as well as its historical performance and current financial condition can be determined. In financial analysis a ratio is used as an index or yardstick for evaluating the financial position and performance of a firm. Ratio helps to summarize the large quantities of financial data and to make qualitative judgment about the firm's financial performance *(Pandey, 1979: 97)*.

A large number of ratios can be generated from the components of profit and loss account and balance sheet. They are sound reasons for selecting different kinds of ratios for different types of situations. For this study, ratios are categorized into the following major headings:

A. Liquidity ratio

Liquidity refers to the ability of a firm to meet its short-term or current obligations. So liquidity ratios are used to measure the ability of a firm to meet its short-term obligations and from them the present cash solvency as well as ability to remain solvent in the event of adversities of the same can be examined *(Van Horne, 1999: 693)*.
Inadequate liquidity can lead to unexpected cash short falls that must be covered at inordinate costs, thus reducing profitability. In the worst case, inadequate liquidity can lead to the liquidity insolvency of the institution. On the other hand, excessive liquidity can lead to low asset yields and contribute to poor earnings performance *(Scott, 1992: 140)*.

To find out the ability of bank to meet their short-term obligations, which are likely to mature in the short period, these ratios are calculated. The following ratios are developed under the liquidity ratios to identify the liquidity position.

- Current ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

- Cash and bank balance to total deposit ratio = $\frac{\text{Total Cash and bank balance}}{\text{Total deposit}}$

- Cash and bank balance to current deposit ratio = $\frac{\text{Cash and bank balance}}{\text{Total current Deposit}}$

- Cash and bank balance to current asset ratio = $\frac{\text{Cash and Bank balance}}{\text{Total current asset}}$

- Cash and bank balance to current liabilities ratio = $\frac{\text{Cash and Bank balance}}{\text{Total current Liabilities}}$

- Fix deposit to total deposit ratio = $\frac{\text{Total Fix deposit}}{\text{Total deposit}}$

- Current deposit to total deposit ratio = $\frac{\text{Current deposit}}{\text{Total deposit}}$

B. Activity/Efficiency Ratio

It is also known as turnover or efficiency ratio or assets management ratio; measures how efficiently the firm employs the assets. Turnover means; how many numbers of times the assets flow through a firm's operations and into sales *(Kulkarni, 1994: 138)*. Greater rate of turnover or conversion indicates more efficiency of a firm in managing and utilizing its assets, being other things equal. Various ratios are examined under this heading.

- Total loan and advances to total deposit ratio = $\frac{\text{Total Loan and Advances}}{\text{Total Ratio}}$

- Total Loan and advances to total assets ratio = $\frac{\text{Total Loan and Advances}}{\text{Total Assets}}$

- Total Investment to total deposit ratio = $\frac{\text{Total Investment}}{\text{Total deposit}}$

- Credit risk ratio = $\frac{\text{Total Non-performing Loan}}{\text{Total Loans and Advances}}$

C. Leverage Ratio

The use of finance is refers by financial leverage. When a firm borrows money, it promises to make series of fixed payments, which create financial leverage *(Brealy and Myers, 1991: 677)*. These ratios are also called solvency ratio or capital structure ratio. These ratios

indicate mix of funds provided by owners and lenders. As a general rule, there should be an appropriate mix of Debt and Total Investment. Owner's equity in financing the firm's assets to judge the long-term financial position of the firm, leverage ratios is calculated. This ratio highlights the long-term financial health, debt servicing capacity and strength and weaknesses of the firm. Following ratios are included under leverage ratios.

- Debt to equity ratio = $\frac{\text{Total debt}}{\text{Total Equity}}$

- Total debt to total assets ratio = $\frac{\text{Total debt}}{\text{Total Assets}}$

D. Profitability Ratios

Profit is the difference between revenues and expenses over a period of time. A company should earn profit to survive and to grow over a long period of time.

So profits are essential, but profit earning is not the ultimate aim of company and it should never be earned at the cost of employees, customer and society.

Profitability ratios are the indicators of degree of managerial success in achieving firm's overall goals *(Pradhan, 1996: 41).* It shows the overall efficiency of the business concern. The following ratios are calculated under the profitability ratios:

- Return on Loan and Advances = $\frac{\text{Return on Investment}}{\text{Total Investment}}$

- Net profit/Loss to total assets ratio = $\frac{\text{Net profit}}{\text{Total assets}}$

- Interest income to total loan and advances ratio = $\frac{\text{Total Interest Income}}{\text{Total Loan advances}}$

- Earning per Share = $\frac{\text{Net profit after tax}}{\text{No. of share outstanding}}$

E. Lending Efficiency Ratio

The efficiency of a firm depends to a large extent on the efficiency with which its assets are managed and utilized. This ratio is concerned with measuring the efficiency of bank. This ratio also shows the utility of available fund. The following are the various type of lending efficiency ratios:

- Overdue to Loan to Total Loan Ratio = $\frac{\text{Total Over Due Loans}}{\text{Total Loans and Advances}}$

- Loan loss provision to total loan and advances = $\frac{\text{Loan Loss provision}}{\text{Total loan and advances}}$

Limitations of Ratio Analysis

Ratio analysis is suffered from some inherent limitations that are direct Inherited from financial statements some of the most common weakness of ratio analysis is as follows:

- Financial statement records past transactions. They are, thus an index of what happened in the past. They do not show the current position of the business. Evidently ratio analysis is also primarily concerned with analyzing the past, which may or may not be relevant today. It is thus a sort of 'POST-MORTEM' analysis rather than a guide for decision-making.
- In the context of persistent price level changes, intra firm trends analysis losses much of its operational significance.
- The differences in the definitions of items in the balance sheet and the income statement make the interpretation of ratios difficult.
- Some times ratio analysis may suffer from what is known as fallacy of misplaced concreteness *(Shingh, 1993:101).*

Although, various limitations of ratio analysis and doubt may arise about the valid measure of the financial performance but they are used widely to measure the financial performance of the firm.

3.3.2 Statistical Tools

For supporting the study, statistical tool such as mean, standard deviation, coefficient of variation, correlation, trend analysis and diagrammatic cum pictorial tools have been used under it.

i) Arithmetic Mean ($\overline{X}$)

Averages are statistical constants, which enable us to comprehend in a single effort of the whole *(Gupta, 2000: 357)*. It represents the entire data by a single value. It provides the gist and gives the bird's eye view of the huge mass of unwieldy numerical data. It is calculated as:

$$\overline{X} = \frac{\phi X}{N}$$

Where,

$\overline{X}$ = Arithmetic mean

N = Number of observations

ϕX= Sum of observations

ii) Standard Deviation (S.D.)

The standard deviation is the square root of mean squared deviations from the arithmetic mean and is denoted by S.D. or σ *(Shrestha, 1991: 43)*. It is used as absolute measure of dispersion or variability. It is calculated as:

$$\sigma = \sqrt{\frac{\phi(x-\bar{x})^2}{N}}$$

Where,

σ = Standard deviation

iii) Coefficient of Variation (C.V.)

The co-efficient of variation (C.V.) is the relative measure based on the standard deviation and is defined as the ratio of the standard deviation to the mean expressed in percentage *(Shrestha, 1991: 45)*. It is independent of units. Hence, it is a suitable measure for comparing variability of two series with same or different units. A series with smaller C.V. is said to be less variable or more consistent or more homogeneous or more uniform or more stable than the others and vice versa. It is calculated as:

$$\text{C.V.} = \frac{\exists}{\overline{X}} \; ||\text{K I}$$

Where,

σ = Standard Deviation

$\overline{X}$ = Mean

iv) Correlation Coefficient (r)

Correlation coefficient is the important tool to analyze the degree of relationship between two or more variables. It is used to describe the degree to which one variable in the linearly related to other variables. It refers the closeness of the relationship between two or more variables. In other words, it is an analysis of covariance between two or more variables.

It is the statistical measure of the relationship, if any, between series of numbers representing data of any kind, from returns to test scores. If two series move in the same direction, they are positively correlated; if the series move in opposite direction, they are negatively correlated.

The degree of correlation is measured by the correlation coefficient, which ranges from +1 for perfectly correlated series to -1 for perfectly negatively corrected series. Symbolically, correlation coefficient can be expressed as follows:

Correlation coefficient (simply, r) = $$\frac{n\phi XY - \phi X\phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

v) Probable Error (P. E.)

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

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

Where,

r = Correlation coefficient

n = Number of pairs of observations

If the value of ‘r’ is less than the probable error, there is no evidence of correlation, i.e., the value of ‘r’ is not at all significant. Then, if the value of ‘r’ is more than six times of the

probable error, the coefficient of correlation is practically certain, i.e., the value of 'r' is significant.

Here, the researcher has been calculating the correlation coefficient between total deposits and total loan & advances as well as total loan & advances and net profit of Himalayan Bank Limited and Nepal Investment Bank Limited to know the relationship of these variables. This relationship result helps the management for policy formulation in the coming days.

VI) Coefficient of Determination(R)

Coefficient of Determination measures only the strength of linear relationship between the two variables. It refers to the total variance in a dependent variable that is explained by its linear relationship to an independent variable is good predictor of the behavior of the dependent variable. Coefficient of Determination is calculated as the square of correlation coefficient(r)

Coefficient of determination(R) = r^2

Vii) Trend Analysis

Trend analysis also known as Regression analysis, is the statistical method for investing the relationship between them. It is dynamic method of indicating the changes in terms of financial statement. Trend analysis help to identify the controllable items of given period and future forecast can also be made for ongoing concerns. It is one of the useful tools in making a comparative study of the financial statements for certain period of years. One of the useful methods of analyzing trend is through Least Square Method or Regression analysis. Therefore trend analysis is also known as Regression analysis which is calculated by the following formula

$$y = a+bx$$

Where,

y = the regression line of dependent variable

a = constant

b = slope of the regression line or regression coefficient

x = independent variable

viii) Testing of Hypothesis

Webster has defined hypothesis as "atentative theory or supposition provisionally adopted to explain certain facts and to guide in the investigation of others "However, in statistics, hypothesis means a statistical statement about the values of one or more parameter of the population .after setting the hypothesis ,it is necessary to test the reliability of such statistical statements. For this purpose, an experiment is conducted by using sample information and the hypothesis is rejected if the results obtained are improbable under this hypothesis. If the results are not improbable, the hypothesis is accepted. Thus the procedure of drawing such conclusion based on sample hypothesis is known as testing of Hypothesis.

CHAPTER – IV

DATA PRESENTATION AND ANALYSIS

In this chapter, the data collected from various sources have been presented and analyzed to measure the various dimensions of problems of the study and major findings of the study are presented systematically.

4.1 Measuring Liquidity Position of the Bank

A commercial bank must maintain satisfactory liquidity position to satisfy the credit needs of community, to meet demands for deposits withdrawal, pay maturity obligation in time, convert non-cash assets in to cash to satisfy immediate needs without loss of the bank, and without consequent impact on long run profitability of the bank. To measure the liquidity position of bank, following measures of liquidity ratios have been calculated:

4.1.1 Current Ratio

Current ratio indicates the ability of bank to meet its current obligation. It measures the relationship between current assets and current liabilities**.**

Table 4.1

Current Ratio of HBL

(Rs. in '000')

Year	**Current Assets**	**Current Liabilities**	**Ratios (%)**
2005/06	17365192	21344015	81.36
2006/07	20465362	23171512	88.32
2007/08	21464192	27238640	78.80
2008/09	29012476	29823341	97.28
2009/10	41655253	38777919	109.27
2010/11	45548710	42230725	107.85
Mean=92.81			
S.D.=12.08 C.V.=12.83			

Sources: Annex- 1

Above table shows the current ratio of HBL during the six years of study period from fiscal year 2005/06 to 2010/11. The ratios are 81.36%, 88.32%, 78.80% 97.28%,109.27% and 107.85% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11

respectively. Similarly, the average ratio of six years study period is 92.81%. Likewise, standard deviation is 12.08 and coefficient of variation is 12.83%. Current assets and current liabilities of HBL can also be presented by figure as follows:

Figure No 4.1

Current Ratio of HBL

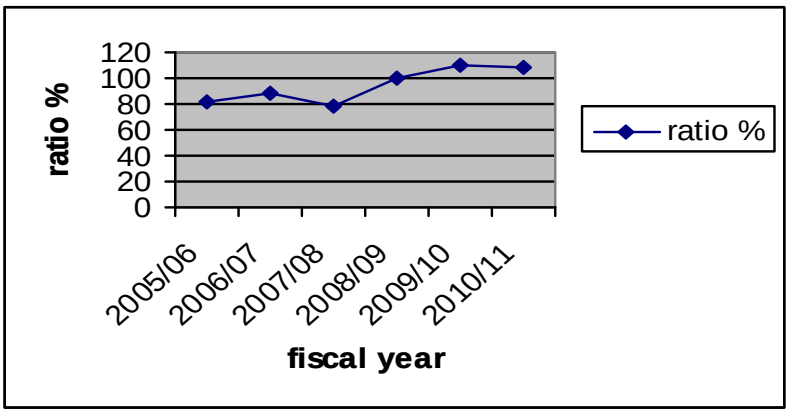


Table 4.2

Current Ratio of NIBL

(Rs. in '000')

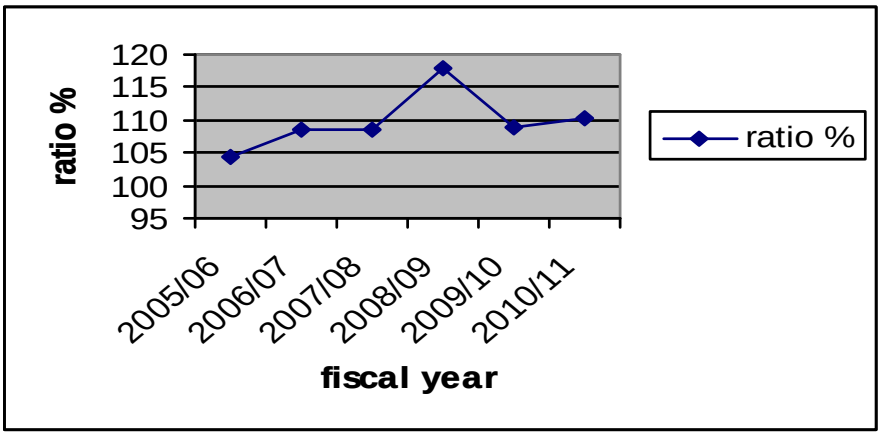
year	Current Assets	Current Liabilities	Ratios (%)
2005/06	15112729	14501690	104.21
2006/07	19727941	18195922	108.42
2007/08	30751594	28242320	108.88
2008/09	44159211	37469563	117.85
2009/10	56169166	51632000	108.78
2010/11	57248379	51868303	110.37
Mean=109.75			
S .D.=4.08			
C.V=3.72			

Source:Annex-2

Above table shows the current ratio of NIBL during the six years of study period from fiscal year 2005/06 to 2010/11. The ratios are 104.21%, 108.42%, 108.88% , 117.85% ,108.78 %and 110.37% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09, 2009/10 and 2010/11 respectively. Similarly, the average ratio of six years study period is 109.75%. Likewise, standard deviation is 4.08 and coefficient of variation is 3.72% Current assets and current liabilities of NIBL can also be presented by figure as follows:

Figure No 4.2

Current Ratio of NIBL



Comparison

Table 4.1 and 4.2 shows the current liabilities of HBL and NIBL is higher than the current assets during the six years of study period. Ratios of HBL are in increasing trend except in the year 2007/08 where ratios of NIBL are in increasing trend. During the study period, NIBL kept higher mean ratio of current assets to current liabilities ratio than HBL. But, the ratios of NIBL have more variation and less consistency than HBL because of high standard deviation and coefficient of variation.

Though the optimal standard of current ratio should be 2:1, the conventional measure of liabilities is not applicable in banking sector. Banking business holds big portion of deposits as a core deposit and this deposit remains all the time throughout the years. This core deposit forms the fixed liability on the bank though it is current in nature. So the ratio maintained by commercial banks at the level of around 1:1 can be regarded as good and sufficient to meet the normal contingencies. Therefore, the above current ratio analysis of the banks over the six years period indicates that the banks have satisfactory liquidity position.

4.1.2 Cash and Bank Balance to Total Deposit Ratio

This ratio shows the ability of banks in immediate funds to cover their deposits. Higher ratio shows higher liquidity position and ability to cover the deposits and Vice versa.

Table 4.3

Cash and Bank Balance to Total Deposit Ratio of HBL

(Rs. in '000')

Year	Cash &Bank Balance	Total Deposit	Ratio (%)
2005/06	1717352	26490852	6.48
2006/07	1757341	30048418	5.85
2007/08	1448143	31842789	4.55
2008/09	3048527	34681345	8.79
2009/10	3866490	37611202	10.28
2010/11	2964651	40920627	7.24
Mean=7.10			
S.D.=0.31			
C.V.=4.36			

Source: Annex-3

Above table depicted the cash & bank balance to total deposit ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 6.48%, 5.85%, 4.55% , 8.79%,10.28 %and 7.24% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 7.10% during the six years study period. Likewise, standard deviation is 0.31 and coefficient of variation is 4.36%. Cash & bank balance and total deposit of HBL can be shown by following figure:

Figure No 4.3

Cash and Bank Balance to Total Deposit Ratio of HBL

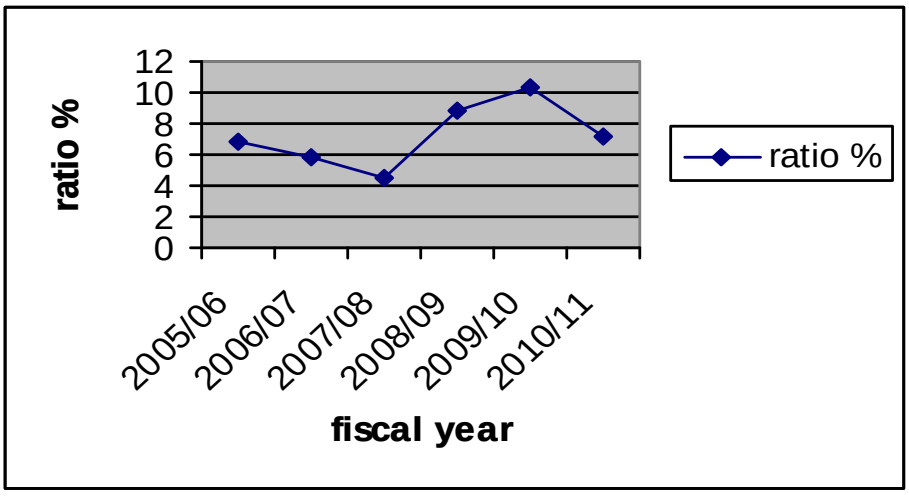


Table 4.4

Cash and Bank Balance to Total Deposit Ratio of NIBL

(Rs. in '000')

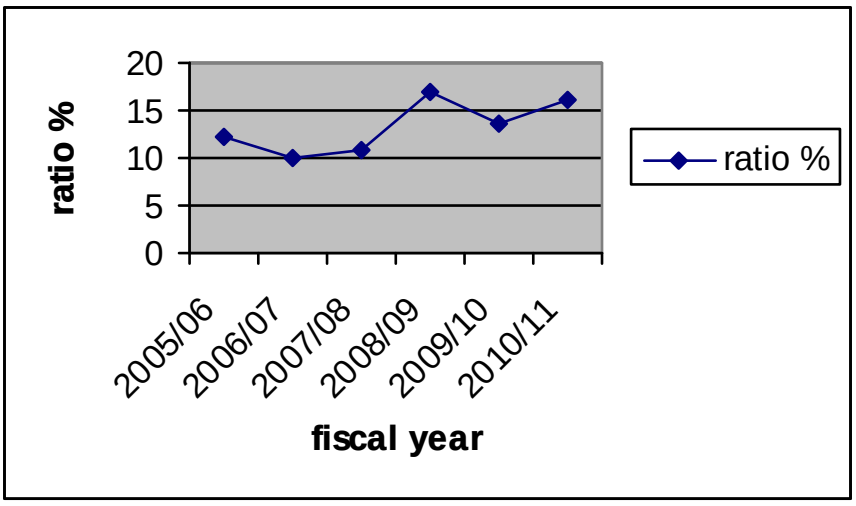
Year	Cash &Bank Balance	Total Deposit	Ratio (%)
2005/06	2336521	18927306	12.34
2006/07	2441514	24488856	9.97
2007/08	3754942	34451726	10.90
2008/09	7918004	46698100	16.96
2009/10	6816588	50014725	13.63
2010/11	8140370	50138122	16.24
Mean=13.34			
S.D.=2.58			
C.V.=19.33			

Source: Annex-4

Above table depicted the cash & bank balance to total deposit ratio of NIBL over the six years period from 2005/06 to 2010/1120. The ratios are 12.34%, 9.97%, 10.90% 16.96%,13.63 %and 16.24% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 13.34% during the six years study period. Likewise, standard deviation is 2.58 and coefficient of variation is 19.33%. Cash & bank balance and total deposit of NIBL can be shown by following figure:

Figure No 4.4

Cash and Bank Balance to Total Deposit Ratio of NIBL



Comparison

The cash & bank balance to total deposit ratio of HBL is in decreasing trend until 2007/08 from 2005/06 then in increasing trend. But the cash & bank balance to total deposit ratio of NIBL is fluctuating in different six fiscal years. There is highest mean ratio of cash & bank balance to total deposit ratio with NIBL than HBL. The ratios of HBL and NIBL have more variation.

From the mean point of view, it can be said that cash and bank balance to total deposit ratio of NIBL Bank is greater than HBL Bank i.e. 13.34%>7.10%. It indicates that NIBL has relatively sound and better liquidity position. Commercial banks have to maintain their cash & bank balance in term of total deposit as directed by NRB time to time. Otherwise they are imposed penalty.

A high ratio of invest in to short-term marketable securities, treasury bills etc. insuring enough liquidity, which will help the bank to improve in profitability.

4.1.3 Cash and Bank Balance to Current Deposit Ratio

This ratio shows the percentage of most liquid fund over current deposit of the bank. Higher ratio indicates the bank's sound ability to meet the daily cash requirement of their customer's deposit. Low ratio is also dangerous. If bank maintains low ratio, bank may not be able to make the payment against cheques.

Table 4.5

Cash and Bank Balance to Current Deposit Ratio of HBL

(Rs. in '000')

Year	**Cash &Bank Balance**	**Current Deposit**	**Ratio (%)**
2005/06	1717352	4993600	34.39
2006/07	1757341	5447100	32.26
2007/08	1448143	6801300	21.29
2008/09	3048527	7566400	40.29
2009/10	3866490	3745624	103.22
2010/11	2964651	3694249	80.25
Mean=52.45			
S.D.=30.23 C.V.=57.64			

Source: Annex-5

Above table depicted the cash & bank balance to current deposit ratio of HBL over the six years period from2005/06 to 2010/11.The ratios are 34.39%, 32.26%, 21.29% , 40.29% ,103.22% ,103.22% and 80.25% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 52.45% during the six years study period. Likewise, standard deviation is 30.23 and coefficient of variation is 57.64%. Cash & bank balance and current deposit of HBL can be shown by following figure:

Figure No 4.5

Cash and Bank Balance to Current Deposit Ratio of HBL

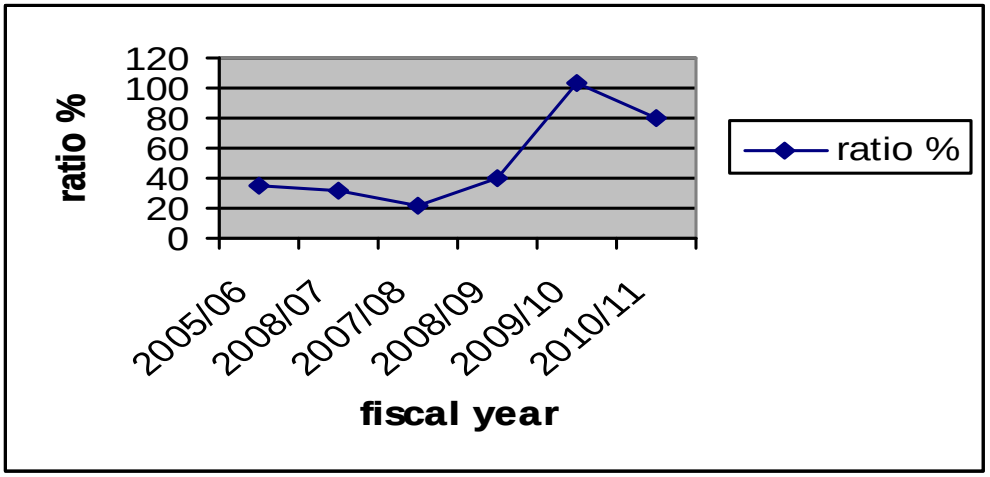


Table 4.6

Cash and Bank Balance to Current Deposit Ratio of NIBL

(Rs. in '000')

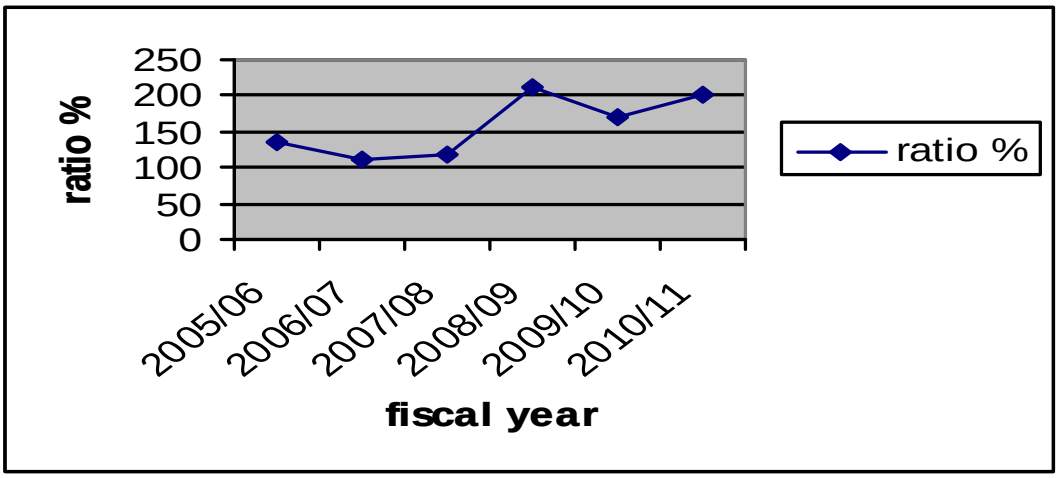
Year	**Cash &Bank Balance**	**Current Deposit**	**Ratio (%)**
2005/06	2336521	1705600	137.0
2006/07	2441514	2175100	112.25
2007/08	3754942	3138700	119.63
2008/09	7918004	3756400	210.79
2009/10	6815889	4025820	169.30
2010/11	8140370	4042693	201.36
Mean=158.38			
S.D.=38.29			
C.V.=24.18			

Source: Annex-6

Above table depicted the cash & bank balance to current deposit ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 137.0%, 112.25%, 119.63%,210.79% ,169.30% and 201.36% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 158.38% during the six years study period. Likewise, standard deviation is 38.29 and coefficient of variation is 24.18%. Cash & bank balance and current deposit of NIBL can be shown by following figure:

Figure No 4.6

Cash and Bank Balance to Current Deposit Ratio of NIBL



Comparison

Cash & bank balance to current deposit ratio of HBL and NIBL is increasing trends in the different six years of study period. Where the mean ratio of NIBL is higher than HBL over the study period. Likewise, the ratios of NIBL have more variation but less consistency than HBL.

It can be said that NIBL has high liquid assets in terms of cash & bank balance to current deposit ratio than HBL but it does not mean that HBL has mobilized its more funds in profitable sectors than NIBL. It actually means that HBL can tightly meet its daily requirements to make the payments on customer deposit withdrawals than NIBL

4.1.4 Cash and Bank Balance to Interest Sensitive Deposits Ratio

The ratio of cash and bank balance to interest sensitive deposits measures the ability to meet its sudden outflow of interest sensitive deposits due to the change in interest rate.

Table: 4.7

Cash and Bank Balance to Interest Sensitive Deposit Ratio of HBL

(Rs. in '000')

Year	**Cash &Bank Balance**	**Saving Deposit**	**Ratio (%)**
2005/06	1717352	14582800	11.78
2006/07	1757341	15784200	11.13
2007/08	1448143	17935000	8.07
2008/09	3048527	20061000	15.2
2009/10	3866490	16294680	23.73
2010/11	2964651	15994563	18.54
Mean=14.74 S.D.=5.19 C.V.=35.22			

Source: Annex-7

Above table depicted the cash & bank balance to saving deposit ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 11.78%, 11.13%, 8.07%, 15.2% 23.73%, and 18.54% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 and, 2010/11 respectively. Similarly, mean ratio remains at 14.74% during the six years study period. Likewise, standard deviation is 5.19 and coefficient of variation is 35.22%. Cash & bank balance and saving deposit of HBL can be shown by following figure

Figure No 4.7

Cash and Bank Balance to Interest Sensitive Deposit Ratio of HBL

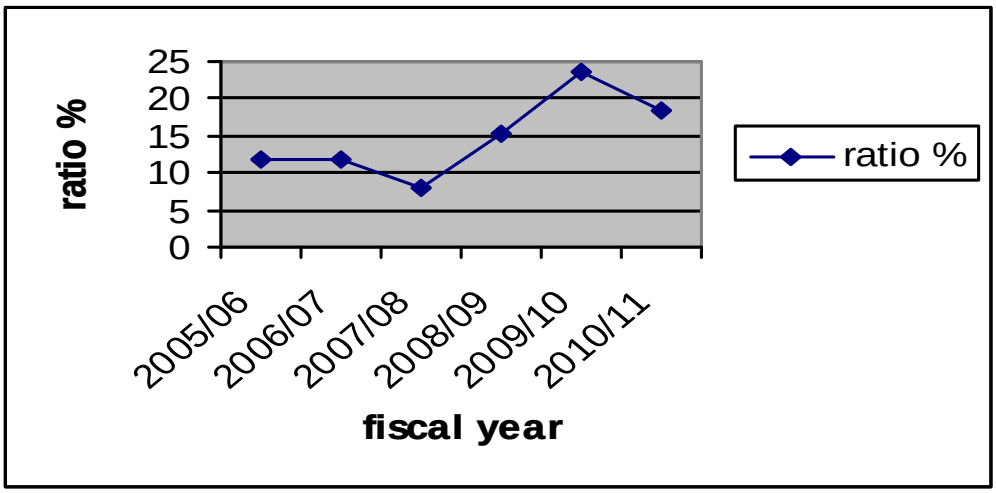


Table: 4.8

Cash and Bank Balance to Interest Sensitive Deposit Ratio of NIBL

(Rs. in '000')

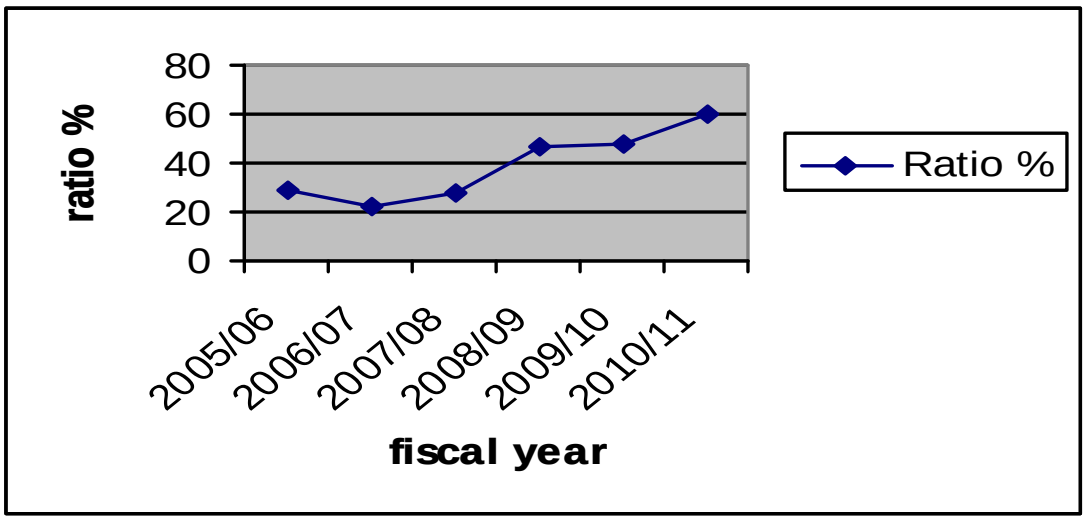
Year	**Cash &Bank Balance**	**Saving Deposit**	**Ratio (%)**
2005/06	2336521	8082000	28.91
2006/07	2441514	10742200	22.73
2007/08	3754942	13688800	27.43
2008/09	7918004	17066200	46.4
2009/10	6815889	14324253	47.58
2010/11	8140370	13490307	60.34
Mean=38.89			
S.D.=13.44			
C.V.=35.02			

Source: Annex-8

Above table depicted the cash & bank balance to saving deposit ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 28.91%, 22.73%, 27.43% , 46.4% ,47.58% and 60.34% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 38.89% during the six years study period. Likewise, standard deviation is 13.44 and coefficient of variation is 35.02%. Cash & bank balance and saving deposit of NIBL can be shown by following figure:

Figure No 4.8

Cash and Bank Balance to Interest Sensitive Deposit Ratio of NIBL



Comparison

Cash & bank balance to saving deposit ratio of HBL is in increasing trend except year 2010/11. Similarly, the ratio of NIBL is in increasing trend except in the fiscal year 2006/07. But NIBL has higher mean ratio than HBL. Similarly, ratios of NIBL have more variation and less consistency than HBL.

From the analysis of overall liquidity ratios of NIBL and HBL, we can say that NIBL has high degree of liquid assets, i.e. high liquidity position than HBL. High liquidity position is not so good because of interest expenses and it causes inverse impact in overall performance.

4.2 Assets Management Ratio

This ratio measures the efficiency of commercial bank in its fund mobilization. A commercial bank must be able to manage its assets properly to earn high profit, maintaining the appropriate level of liquidity. Assets management ratio measures the efficiency of bank to manage its assets in profitable way satisfactorily. Help of the following ratios have analyzed asset management ability of HBL as well as NIBL.

4.2.1 Loan & Advances to Total Deposit Ratio

This ratio measures to the extent that bank is successful to manage its total deposit on loan & advances for the purpose of income generation or not. A high ratio indicates better

mobilization of collected deposit and vice-versa. But it should be noted that too high ratio might not be better from liquidity point of view.

Table 4.9

Loan & Advances to Total Deposit Ratio of HBL

(Rs. in '000')

Year	Loan &Advances	Total Deposit	Ratio (%)
2005/06	14642560	26490852	55.27
2006/07	16997997	30048418	56.57
2007/08	19497520	31842789	61.23
2008/09	24793155	34681345	71.49
2009/10	36425538	37611202	96.84
2010/11	40336915	40920627	98.57
Mean=64.99			
S.D.=19.85			
C.V.=30.54			

Source: Annex-9

Above table depicted the loan & advance to total deposit ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 55.27%, 56.57%, 61.23%,71.49% ,96.84 %and 98.57% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 64.99% during the six years study period. Likewise, standard deviation is 19.85 and coefficient of variation is 30.54%. Loan & advance and total deposit of HBL can be shown by following figure:

Figure No 4.9

Loan & Advances to Total Deposit Ratio of HBL

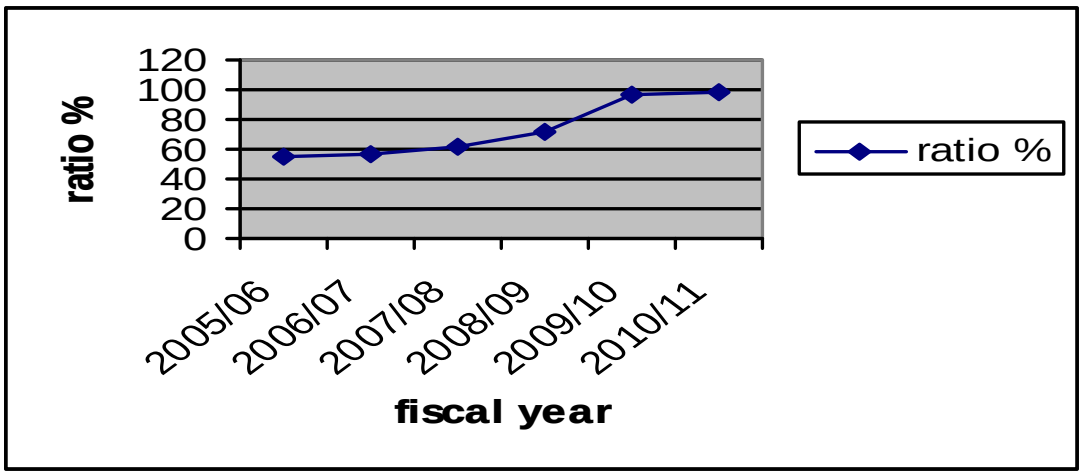


Table 4.10

Loan & Advances to Total Deposit Ratio of NIBL

(Rs. in '000')

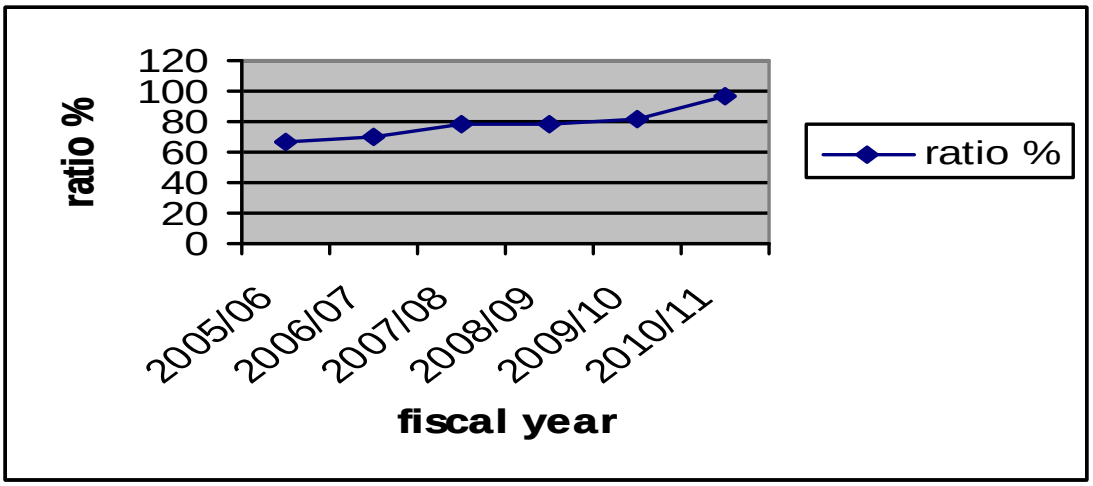
Year	**Loan &Advances**	**Total Deposit**	**Ratio (%)**
2005/06	12776208	18927306	67.5
2006/07	17286427	24488856	70.59
2007/08	26996653	34451726	78.36
2008/09	36241206	46698100	77.61
2009/10	40948000	50014725	81.87
2010/11	48518621	50138122	96.76
Mean=78.78			
S.D.=9.37			
C.V.=11.90			

Source: Annex-10

Above table depicted the loan & advance to total deposit ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are67.5%, 70.59%, 78.36% , 77.61% ,81.87 and 96.76 in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 78.78% during the six years study period. Likewise, standard deviation is 9.37 and coefficient of variation is 11.90%. Loan & advance and total deposit of NIBL can be shown by following figure:

Figure No 4.10

Loan & Advances to Total Deposit Ratio of NIBL



Comparison

Loan & advances to total deposit ratio of HBL is in increasing trend over the six years of study period. Where the ratio of NIBL is in increasing trend except in the fiscal year 2008/09. Similarly, NIBL has higher mean ratio than that of HBL during the study period. Likewise, the ratios of HBL have more variation and less consistency than NIBL.

From the analysis, we can say that NIBL is in good form according to deposit mobilization point of view than HBL. But it does not mean that NIBL is investing more of its collected fund in high return but with low risk sector than HBL. As well, lending ratios are very low than collection ratios over the study period. From this point of view, loan & advance to total deposit ratios of the banks are not so good but satisfactory.

4.2.2 Loan & Advances to Total Assets Ratio

Loan & advances of any commercial bank represent the major portion in the volume of total working fund. This ratio measures the volume of loan & advances in the structure of total assets. High degree of this ratio indicates good performance of the bank in mobilizing its funds by way of lending function. However, in its reverse side, high degree of this ratio is repressed enactive of low liquidity ratio. Granting of loans & advances always carries a certain degree of risk. Thus, this asset of banking business is regarded as risky assets. This ratio measures the management attitude toward risky assets. The low ratio is indicative of low productivity and high degree of safety in liquidity and vice-versa. The interaction between

risk and return determines this ratio. This ratio also shows the credit risk taken by the bank towards mobilizing its funds into different types of assets. This ratio reflects the extent to which the banks are successful in mobilizing their total assets on loan & advances for the purpose of income generation.

Table 4.11

Loan & Advances to Total Assets Ratio of HBL

(Rs. in '000')

Year	**Loan &Advances**	**Total Assets**	**Ratio (%)**
2005/06	14642560	29460390	49.7
2006/07	16997997	33519141	50.71
2007/08	19497520	36175531	53.9
2008/09	24793155	39320322	63.05
2009/10	36425538	42717124	85.27
2010/11	40336915	46736203	86.30
Mean=64.82 S.D.=15.43 C.V.=23.81			

Source: Annex-11

Above table depicted the loan & advance to total Assets ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 49.7%, 50.71%, 53.9% , 63.05% ,85.27%and 86.30 in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 64.82% during the six years study period. Likewise, standard deviation is 15.43 and coefficient of variation is 23.81%. Loan & advance and total assets of HBL can be shown by following figure:

Figure No 4.11

Loan & Advances to Total Assets Ratio of HBL

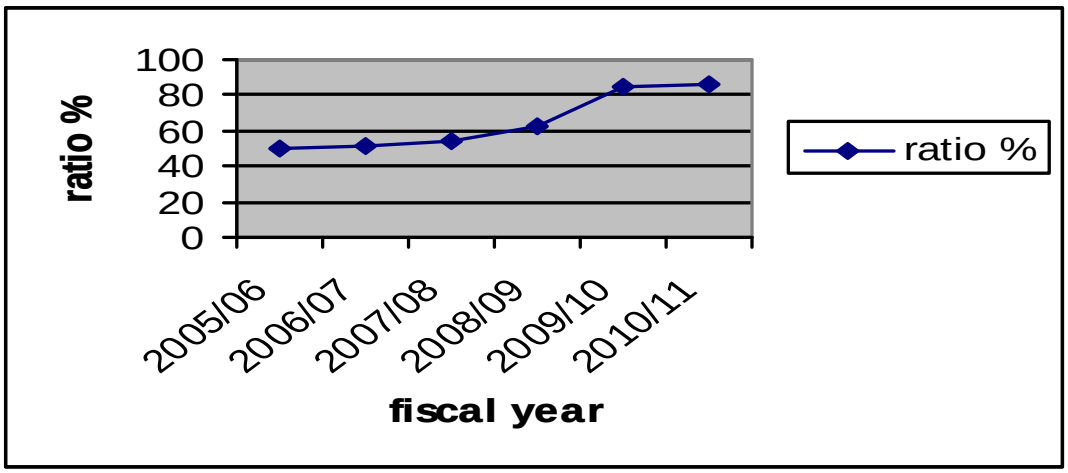


Table 4.12

Loan & Advances to Total Assets Ratio of NIBL

(Rs. in '000')

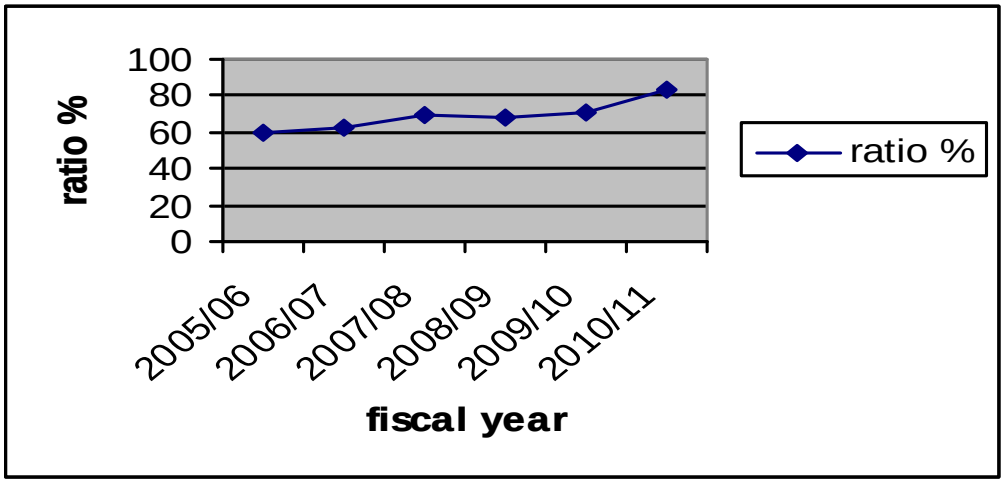
Year	**Loan &Advances**	**Total Assets**	**Ratio (%)**
2005/06	12776208	21330138	59.90
2006/07	17286427	27590844	62.65
2007/08	26996653	38873307	69.45
2008/09	36241206	53010803	68.37
2009/10	40948000	57305413	71.46
2010/11	48518621	58356827	83.14
Mean=69.16			
S.D.=7.41 C.V.=10.72			

Source: Annex-12

Above table depicted the loan & advance to total Assets ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 59.90%, 62.65%, 69.45% , 68.37% 71.46%, and 83.14% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 69.16% during the six years study period. Likewise, standard deviation is 7.41 and coefficient of variation is 10.72%. Loan & advance and total assets of HBL can be shown by following figure:

Figure No 4.12

Loan & Advances to Total Assets Ratio of NIBL



Comparison

Loan & advances to total assets ratio of HBL is in increasing trend over the six years of study period. Where the ratio of NIBL is also in increasing trend except in the fiscal year. Similarly, NABIL has higher mean ratio than that of HBL. Likewise, the ratios of HBL have more variation and less consistency than NIBL.

From the analysis, we can say that NIBL has sound lending policy so that it is able to mobilize its resources as loan & advances than HBL. As well, HBL is risk taker bank than NIBL. The assets management in terms of loan & advances of both banks is good because of above the fifty percent of total assets. If assets management in terms of loan & advances of banks below the fifty percent of total assets is not good.

4.2.3 Total investment to Total Deposit Ratio

A commercial bank may mobilize its deposit by investing in different securities issued by government and other financial and non-financial organizations. This ratio measures the extent to which banks are able to mobilize their deposits on investment in various securities. In the process of management of bank assets, various factors such as excess availability of fund, liquidity requirement, central banks norms etc. are to be considered in general.

This ratio indicates the proportion of deposits utilized for the purpose of income generation as well as for maintaining liquidity in appropriate level. A high ratio is the indicator of high success of mobilizes deposits in securities and vice-versa.

Table 4.13

Total Investment to Total Deposit Ratio of HBL

(Rs. in '000')

Year	**Total Investments**	**Total Deposit**	**Ratio (%)**
2005/06	10889037	26490852	41.10
2006/07	11822981	30048418	39.35
2007/08	13340172	31842789	41.89
2008/09	8710691	34681345	25.12
2009/10	8444910	37611202	22.45
2010/11	8769938	40920627	21.43
Mean=31.89 S.D.=9.00 C.V= 28.20			

Source: Annex-13

Above table depicted the total investments to total Assets ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 41.10%, 39.35%, 41.89%, 25.12%, 22.45% and 21.43% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 ,2010/11 respectively. Similarly, mean ratio remains at 31.89% during the six years study period. Likewise, standard deviation is 6.85 and coefficient of variation is 17.35%. Total Investment and total assets of HBL can be shown by following figure:

Figure No 4.13

Total Investment to Total Deposit Ratio of HBL

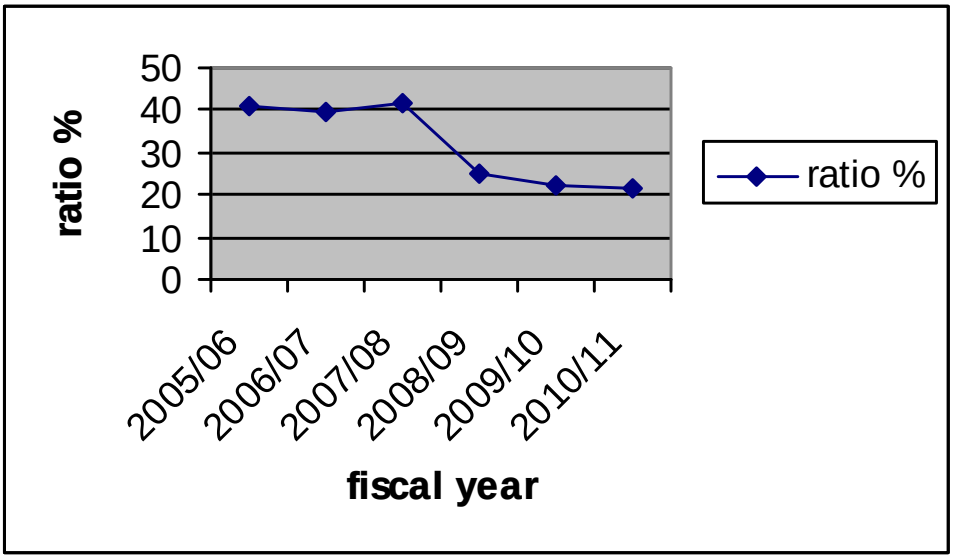


Table 4.14

Total Investment to Total Deposit Ratio of NIBL

(Rs. in '000')

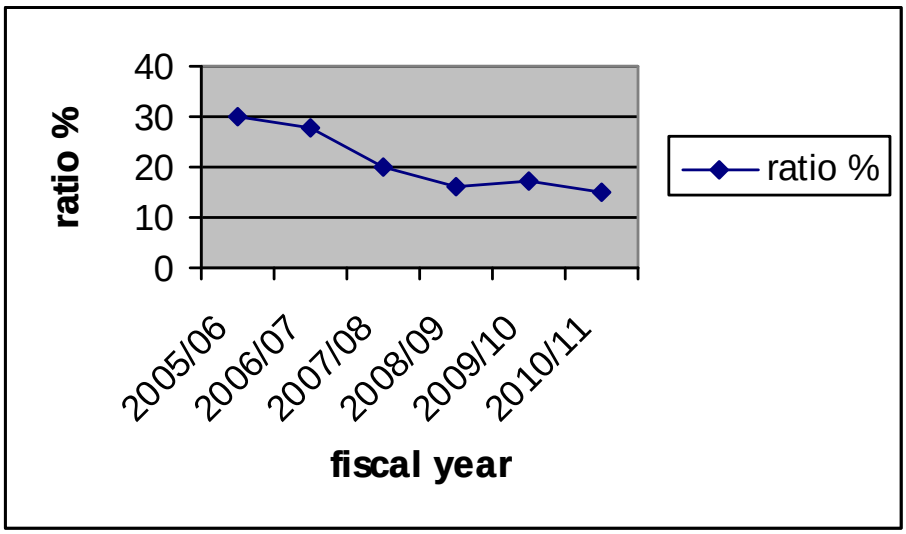
Year	Total Investments	Total Deposit	Ratio (%)
2005/06	5672869	18927306	29.97
2006/07	6868650	24488856	28.05
2007/08	6874024	34451726	19.95
2008/09	7399812	46698100	15.85
2009/10	8635530	50014725	17.27
2010/11	7423106	50138122	14.81
Mean=20.98			
S.D.=5.92			
C.V.=28.20			

Source: Annex-14

Above table depicted the total investment to total deposit ratio of NIBL over the six years period from 2005/06 to2010/11. The ratios are 29.97%, 28.05%, 19.95% , 15.85% ,17.27 %and 14.81% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 20.98% during the six years study period. Likewise, standard deviation is 9.00 and coefficient of variation is 28.20%. Total investment and total deposit of NIBL can be shown by following figure:

Figure No 4.14

Total Investment to Total Deposit Ratio of NIBL



Comparison

Total investment to total deposit ratio of HBL is in decreasing trend except in the fiscal year 2007/08 over the six years of study period. Where the ratio of NIBL is in decreasing trend except in the fiscal year .Similarly, HBL has higher mean ratio than that of NIBL. Likewise, the ratios of NIBL have more variation and less consistency than HBL.

During the study period, movements of ratios are first increasing, then decreasing and again increasing. It may be due to slack in the different sectors of economy banks are unable to mobilize its fund in loan & advances and share/debenture of other companies properly.

4.3 Leverage Ratio

These ratios are also called solvency ratio or capital structure ratio. These ratios indicate mix of funds provided by owners and lenders. As a general rule, there should be an appropriate mix of debt and owner's equity in financing the firm's assets. To judge the long-term financial position of the firm, leverage ratios are calculated. This ratio highlights the long-term financial health, debt servicing capacity, strength and weakness of firm. Following ratios are included under leverage ratios.

4.3.1 Debt to Equity Ratio

Debt to equity ratio measures the relative proportion of outsiders and owner's funds employed in the total capitalization. Here, debt includes all the credits (long-term and short-term) of the

bank where equity includes paid up capital, reserve & surplus and undistributed profit. Very high ratio is bad during the long-run period and vice-versa.

Table 4.15

Debt to Equity Ratio of HBL

(Rs. in '000')

Year	**Total Debt**	**Net Worth/Net equity**	**Ratio (%)**
2005/06	28813632	1766176	1631.41
2006/07	32168368	2146500	1498.64
2007/08	34344633	2512992	1366.68
2008/09	36926805	3119881	1183.59
2009/10	40421046	3439205	1175.30
2010/11	44142019	3995478	1104.79
Mean=1326.73			
S.D.=190.00			
C.V.=14.32			

Source: Annex-15

Above table depicted the total debt to total equity ratio of HBL over the six years period from 2005/06 to 2010/11.The ratios are 1568.03%, 1461.57%, 1339.54% , 1160.13% ,1175.30% and 1104.79% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09 ,2009/10 and ,2010/11 respectively. Similarly, mean ratio remains at1326.73% during the six years study period. Likewise, standard deviation is 190.00 and coefficient of variation is 14.32%. Total debt and total equity of HBL can be shown by following figure:

Figure No 4.15

Debt to Equity Ratio of HBL

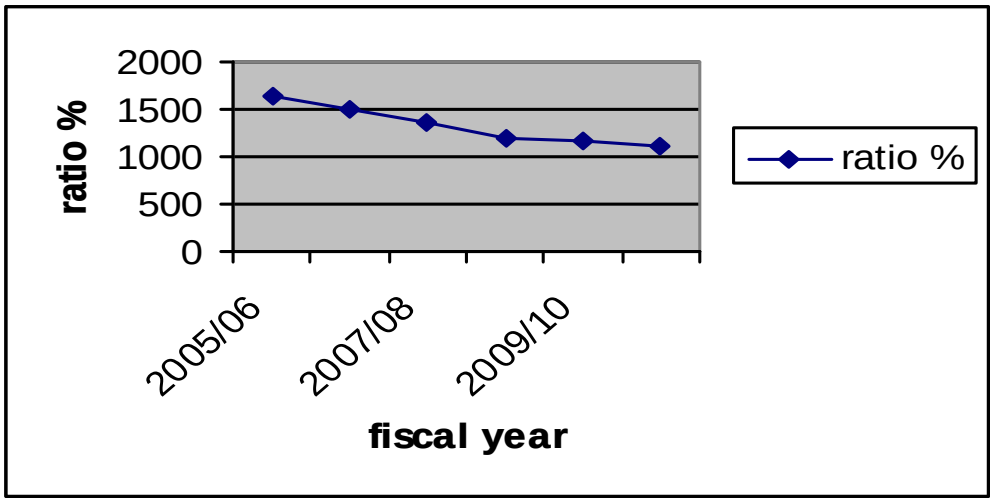


Table 4.16

Debt to Equity Ratio of NIBL

(Rs. in '000')

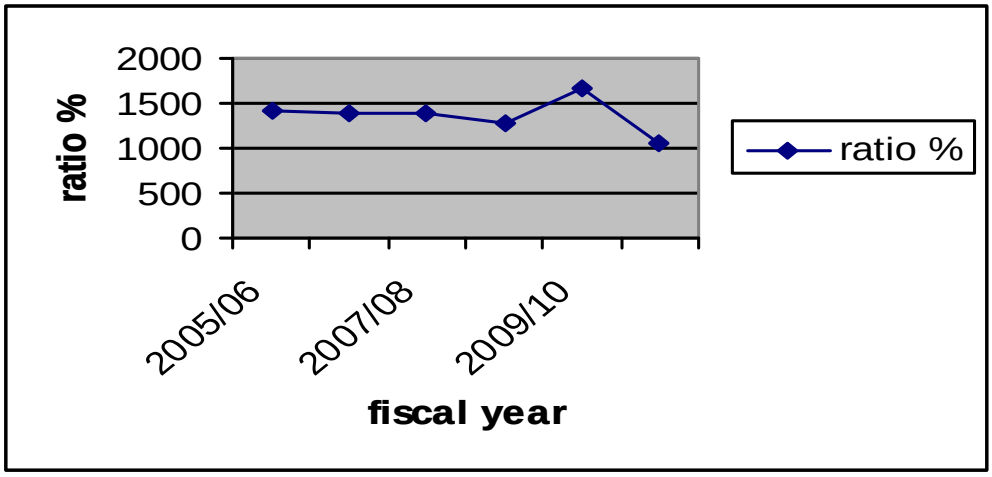
Year	**Total Debt**	**Net Worth/Net equity**	**Ratio (%)**
2005/06	19914698	1415440	1406.96
2006/07	26195395	1878124	1394.76
2007/08	36719173	2626786	1397.87
2008/09	49688914	3907840	1271.52
2009/10	53350152	4585393	1663.48
2010/11	53989247	5159760	1046.35
Mean=1363.49 S.D.=137.47			
C.V.=10.08			

Source: Annex-16

Above table depicted the total debt to total equity ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 1406.96, 1369.06%, 1346.88%, , 1256.52%, 1663.48% and 1046.35% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09, 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 1363.49% during the six years study period. Likewise, standard deviation is 137.47 and coefficient of variation is 10.08%. Total debt and total equity of NIBL can be shown by following figure:

Figure No 4.16

Debt to Equity Ratio of NIBL



Comparison

Total debt to total equity ratio of HBL is in continuously decreasing trend in the subsequent years. Where the ratio of NIBL is in decreasing trend except in the fiscal year 2009/10 over the six years of study period. But HBL has the higher mean ratio than that of NIBL during the study period. Similarly, the ratios of HBL have more variation but less consistency than NIBL.

From the analysis, we can say that HBL is more levered firm than NIBL during the six years of study period. Levered firm must bear more fixed expenses than non-levered. It may results bad impact on overall performance of the bank in the long-term.

4.3.2 Total Debt to Total Assets Ratio

It examines the relationship between borrowed funds (i.e. total debt) and total assets. It shows the relative extent to which the firm is using borrowed money. A lower ratio is preferable since it reduces the distress of the creditors by using more amount of equity on total assets.

Table 4.17

Total Debt to Total Assets Ratio of HBL

(Rs. in '000')

Year	Total Debt	Total Assets	Ratio (%)
2005/06	28813632	29460390	97.80
2006/07	32168368	33519141	95.97
2007/08	34344633	36175531	94.94
2008/09	36926805	39320322	93.91
2009/10	40421046	42717124	94.62
2010/11	44142019	46736203	94.44
Mean=94.78			
S.D=1.89			
C.V=1.99			

Source: Annex-17

Above table depicted the total debt to total assets ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 97.8%, 95.97%, 94.94%, 93.91%, 94.62%,and 94.44% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09, 2009/10, and 2010/11 respectively. Similarly, mean ratio remains at 94.78% during the six years study period. Likewise, standard deviation is 1.89 and coefficient of variation is 1.99%. Total debt and total assets of HBL can be shown by following figure:

Figure No 4.17

Total Debt to Total Assets Ratio of HBL

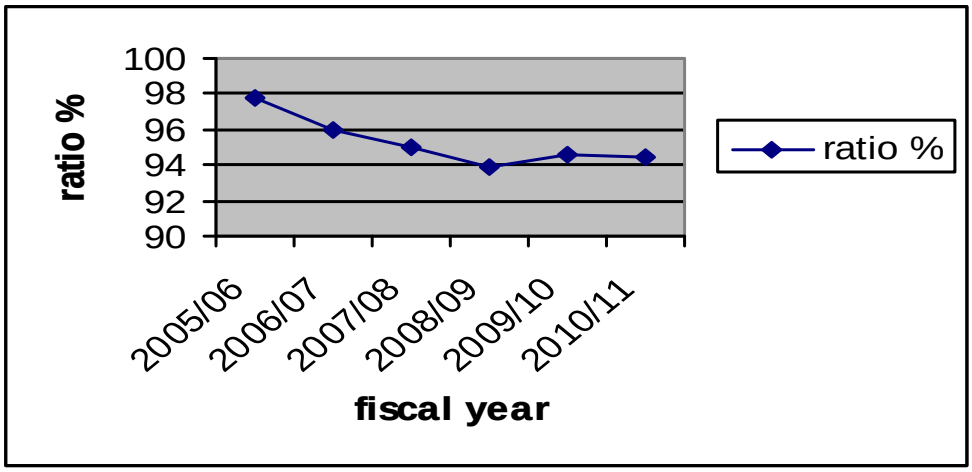


Table 4.18

Total Debt to Total Assets Ratio of NIBL

(Rs. in '000')

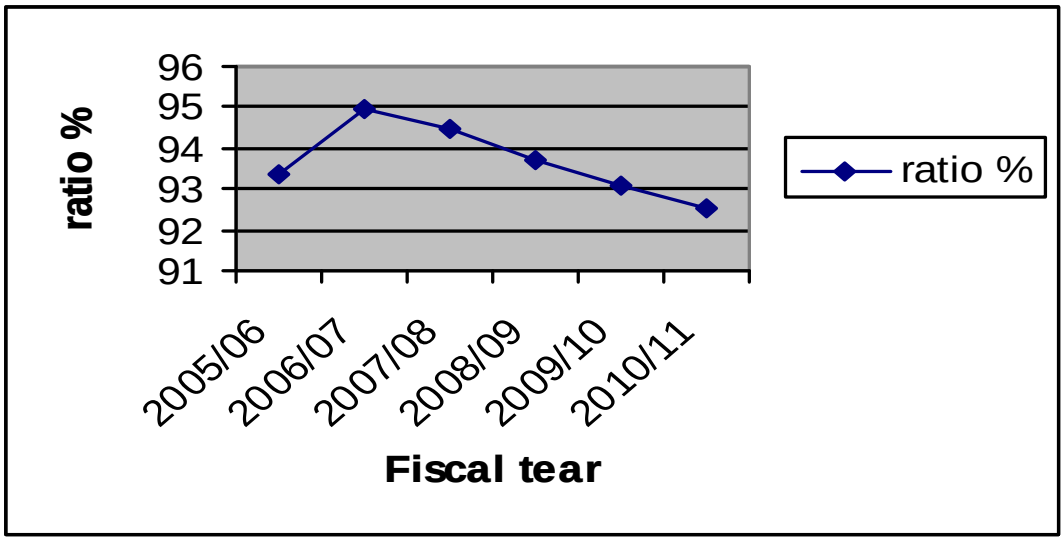
Year	Total Debt	Total Assets	Ratio (%)
2005/06	19914698	21330138	93.36
2006/07	26195395	27590844	94.94
2007/08	36719173	38873307	94.46
2008/09	49688914	53010803	93.73
2009/10	53350152	57305413	93.09
2010/11	53989247	58356827	92.52
Mean=93.68			
S.D.=0.81			
C.V.=0.86			

Source: Annex-18

Above table depicted the total debt to total assets ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 93.36%, 94.94%, 94.46%, 93.73%, 93.09% and 92.52% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10, and 2010/11 respectively. Similarly, mean ratio remains at 93.68% during the six years study period. Likewise, standard deviation is 0.81 and coefficient of variation is 0.86%. Total debt and total assets of NIBL can be shown by following figure:

Figure No 4.18

Total Debt to Total Assets Ratio of NIBL



Comparison

Total debt to total assets ratio of HBL is in continuously decreasing trend except 2009/10 and 2010/11 during the study period. Where the ratio of NIBL is in fluctuating during the six years study period. But HBL has slightly higher mean ratio than that of NIBL. Similarly, the ratios of HBL have more variation and less consistency than NIBL.

According to the above analysis, we can say that NIBL used outsider's fund more than owner's fund during the formation of capital structure. But HBL has more variation in the ratios during the study period. It is bad symptom for the bank.

4.4 Profitability Ratio

Profitability ratios are very helpful to measure the overall operation efficiency of a financial institution. In the context of banks, no bank can survive without profit. Profit is one of the major indicators or efficient operation of a bank. The banks acquire profit by providing different services to its customers or by providing loan & advances and making various kinds of investment opportunities. Profitability ratios measure the efficiency of bank. A higher profit ratio shows the higher efficiency of a bank. The following ratios are under the profitability ratio.

4.4.1 Interest Income to Interest Expenses Ratio

Interest income to interest expenses ratio is the gap between interest rates offered and interest rate charged. NRB has restricted the gap between interests taken in loan & advances and interest offered in deposit. The credit creation power of commercial bank has high impact on this ratio.

Table 4.19

Interest Income to Interest Expenses Ratio of HBL

(Rs. In '000')

Year	Interest Income	Interest Expenses	Ratio (%)
2005/06	1626474	648847	250.67
2006/07	1775583	767411	231.37
2007/08	1963647	823745	238.38
2008/09	2342198	934778	250.56
2009/10	3156846	1418373	222.56
2010/11	4156612	2301679	180.12
Mean=228.94			
S.D.=24.00 C.V=10.48			

Source: Annex-19

Above table depicted the interest income to interest expenses ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 250.67%, 231.37%, 238.38% , 250.56%,222.56% and 180.12% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 228.94% during the six years study period. Likewise, standard deviation is 24.00 and coefficient of variation is 10.48%. Interest income and interest expenses of HBL can be shown by following figure:

Figure No 4.19

Interest Income to Interest Expenses Ratio of HBL

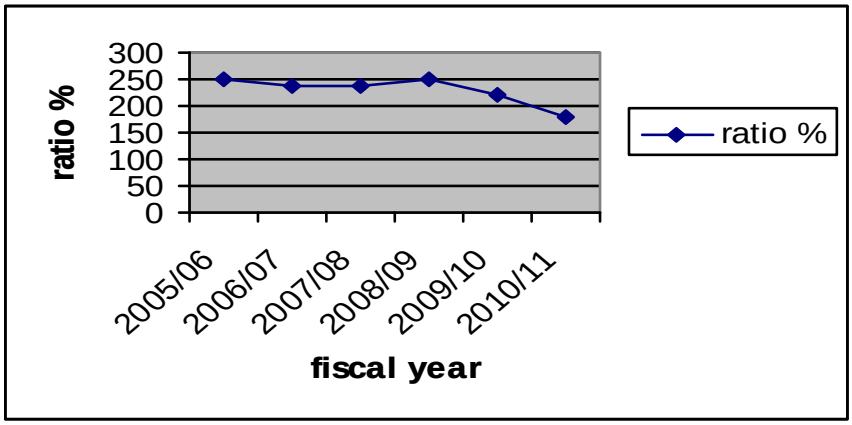


Table 4.20

Interest Income to Interest Expenses Ratio of NIBL

(Rs. in '000')

Year	**Interest Income**	**Interest Expenses**	**Ratio (%)**
2005/06	1172742	490947	238.87
2006/07	1584987	685530	231.21
2007/08	2194275	992158	221.16
2008/09	3267941	1686973	193.72
2009/10	4653521	3676688	126.57
2010/11	5701426	4762301	119.71
Mean=188.54 S.D.=48.34			
C.V= 25.64			

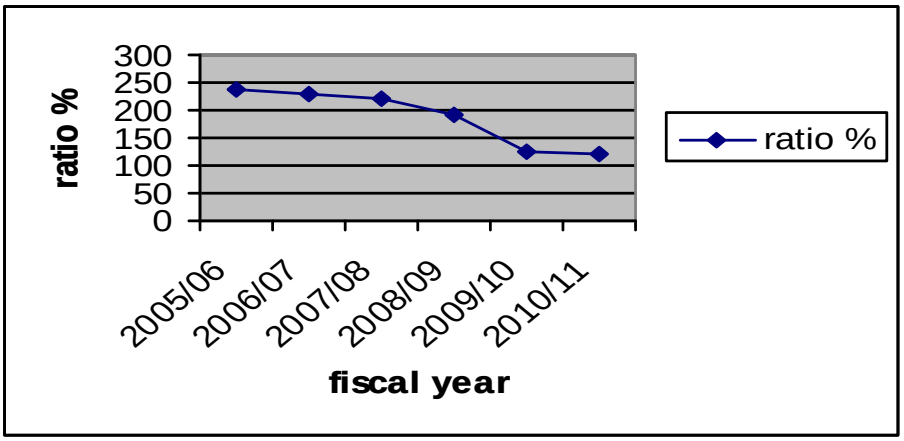
Source: Annex-20

Above table depicted the interest income to interest expenses ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 238.87%, 231.21%, 221.16%, 193.72%, 126.57% and 119.71% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10, and

2010/11 respectively. Similarly, mean ratio remains at 188.54% during the six years study period. Likewise, standard deviation is 48.34 and coefficient of variation is 25.64%. Interest income and interest expenses of NIBL can be shown by following figure:

Figure No 4.20

Interest Income to Interest Expenses Ratio of NIBL



Comparison

Interest income to interest expenses ratio of HBL is in up and down trend during the six years of study period. Where the ratio of NIBL is in decreasing trend in over the study period. Similarly, HBL has the higher mean ratio than that of NIBL. Likewise, the ratios of NIBL have more variation and less consistency than HBL.

From the analysis, we can say that NIBL has high degree of gap between interest offered and interest charged than HBL. This shows that NIBL has charged high interest rate to borrowers and offering low interest rate to depositors. The higher cost of deposit mix of NIBL has caused the gap between interest income and interest expenses to be least.

4.4.2 Return on Loan & Advances Ratio

This ratio measures the earning capacity of commercial bank through its fund mobilization as loan & advances.

Table 4.21

Return on Loan and Advances Ratio of HBL

(Rs. in '000')

Year	Net Profit	Loan &Advances	Ratio (%)
2005/06	457458	14642560	3.12
2006/07	491823	16997997	2.89
2007/08	635869	19497520	3.26
2008/09	752835	24793155	3.04
2009/10	508798	36425538	1.40
2010/11	893115	40336915	2.21
Mean=2.65 S.D.=0.68 C.V= 25.64			

Source: Annex-21

Above table depicted the return on loan and advances ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 3.12%, 2.89%, 3.26% ,3.04%,1.40% and 2.21% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 2.65% during the six years study period. Likewise, standard deviation is 0.68 and coefficient of variation is 25.64%. Net profit and loan and advances of HBL can be shown by following figure:

Figure No 4.21

Return on Loan and Advances Ratio of HBL

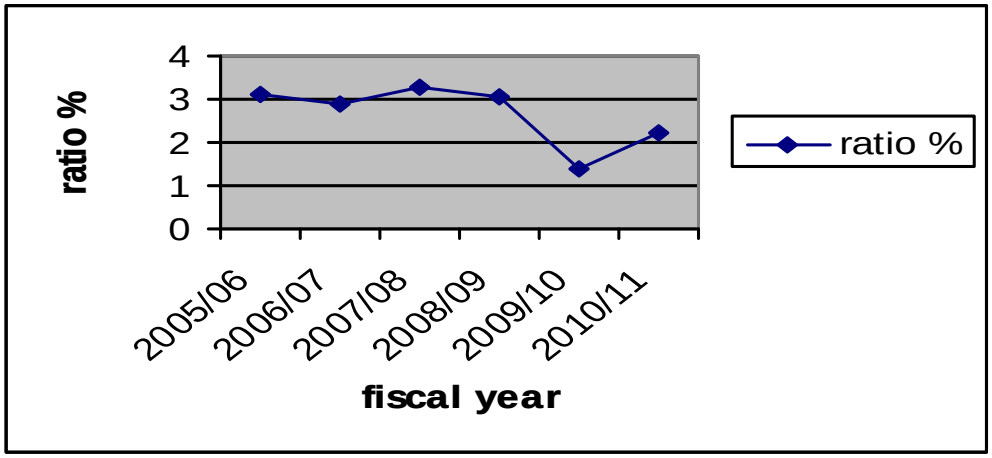


Table 4.22

Return on Loan and Advances Ratio of NIBL

(Rs. in '000')

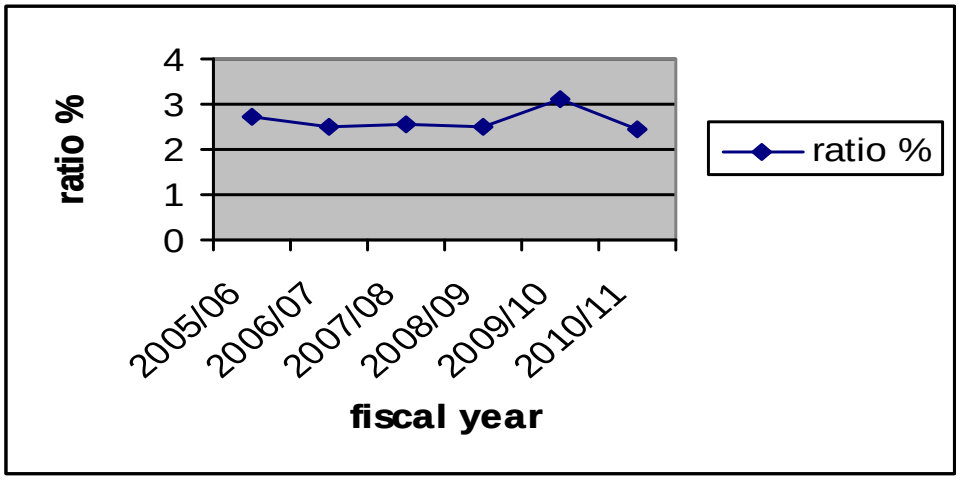
Year	Net Profit	Loan &Advances	Ratio (%)
2005/06	350536	12776208	2.74
2006/07	501399	17286427	2.50
2007/08	696632	26996653	2.58
2008/09	900619	36241206	2.49
2009/10	1265949	40948000	3.09
2010/11	1176641	48518621	2.43
Mean=2.64 S.D.=0.05 C.V= 1.83			

Source: Annex-22

Above table depicted the return on loan and advances ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 2.74%, 2.50%, 2.58% ,2.49%, 3.09%,and 2.43% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/1/ and 2010/11 respectively. Similarly, mean ratio remains at 2.64% during the six years study period. Likewise, standard deviation is 0.05 and coefficient of variation is 1.83%. Net profit and loan and advances of NIBL can be shown by following figure:

Figure No 4.22

Return on Loan and Advances Ratio of NIBL



Comparison

Return on loan & an advance ratio of both banks (HBL& NIBL) is in fluctuating over the six years of study period.HBL has the higher mean ratio than that of NIBL. Similarly, the ratio of HBL has more variation and less consistency than NIBL.

From the analysis, we can say that return on loan & advances ratio of NIBL and HBL is very low and in fluctuating trend also. The highest ratio is 3.26% of NIBL and 3.09% of HBL during the six years of study period. It shows the normal earning capacity of NIBL and HBL in loan & advance. That means, lending policy of both banks are not so sound and credits are not granted in profitable sectors but satisfactorily in the present economic situation.

4.4.3 Net Profit/Loss to Total Assets Ratio

The ratio is useful to measure how well management uses all the assets in business to generate an operating surplus. Higher ratio indicates higher efficiency in the utilization of total assets and vice-versa.

Table 4.23

Net Profit/Loss to Total Assets Ratio of HBL

(Rs. in '000')

Year	Net Profit	Total Assets	Ratio (%)
2005/06	457458	29460390	1.55
2006/07	491823	33519141	1.47
2007/08	635869	36175531	1.76
2008/09	752835	39320322	1.91
2009/10	508798	42717124	1.19
2010/11	893115	46736203	1.91
Mean=1.63			
S.D.=0.26			
C.V= 16.03			

Source: Annex-23

Above table depicted the return on total assets ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 1.55%, 1.47%, 1.76% , 1.91%, 1.19% and 1.91% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09, 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 1.63% during the six years study period. Likewise, standard deviation is 0.26 and coefficient of variation is 16.03%. Net profit and total assets of HBL can be shown by following figure:

Figure No 4.23

Net Profit/Loss to Total Assets Ratio of HBL

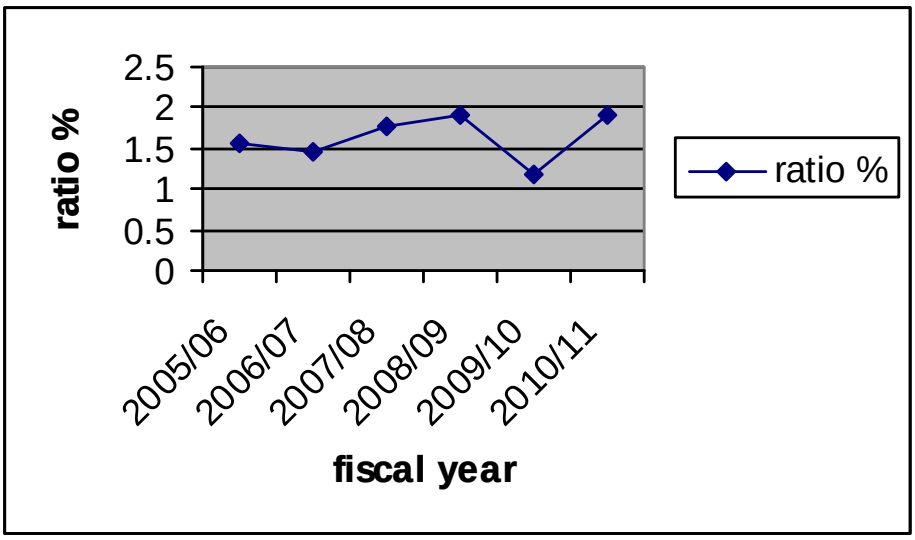


Table 4.24

Net Profit/Loss to Total Assets Ratio of NIBL

(Rs. in '000')

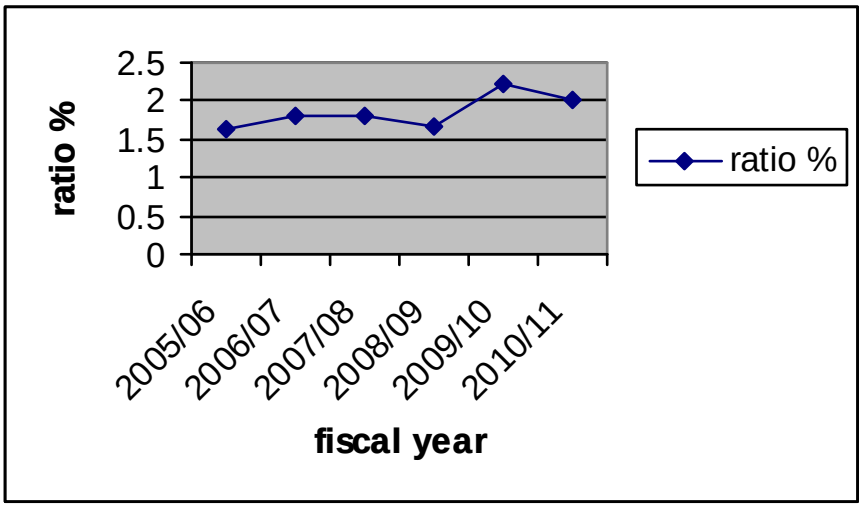
Year	Net Profit	Total Assets	Ratio (%)
2005/06	350536	21330138	1.64
2006/07	501399	27590844	1.82
2007/08	696632	38873307	1.79
2008/09	900619	53010803	1.68
2009/10	1265949	57305413	2.21
2010/11	1176641	58356827	2.02
Mean=1.86			
S.D.=0.20			
C.V= 10.79			

Source: Annex-24

Above table depicted the return on total assets ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 1.64%, 1.82%, 1.79% , 1.68%,2.21%, and 2.02% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09,2009/1/ and 2010/11 respectively. Similarly, mean ratio remains at 1.86% during the six years study period. Likewise, standard deviation is 0.20 and coefficient of variation is 10.79%. Net profit and total assets of NIBL can be shown by following figure:

Figure No 4.24

Net Profit/Loss to Total Assets Ratio of NIBL



Comparison

Return on total assets ratio of HBL is in decreasing trend except in the fiscal year 2010/11over the six years of study period. Where the ratio of NIBL is in first increasing trend till to the fiscal year 2006/07 and then in decreasing trend in the subsequent two fiscal years again increasing trend of the study period. Similarly, NIBL has the higher mean ratio than that of HBL during the study period. Likewise, the ratios of HBL have more variation and less consistency nature than NIBL.

From the analysis, we can say that earning capacity of both banks approximately same. The highest ratio of NIBL is 1.86% where of HBL is 1.63% over the study period. It means that NIBL can earn 1.86% profit of total assets and HBL can earn only 1.63% profit of total assets.

4.4.4 Interest Income to Total Loan & Advances Ratio

It tells the income as interest from total loan & advances. It is useful to know the fact that whether the loan has given good return or not. We can increase interest income by taking good issuing and recovery credit policy. High return shows the soundness of credit policy and vice versa.

Table 4.25

Interest Income to Total Loan & Advances Ratio of HBL

(Rs. in '000')

Year	Interest Income	Total Loan & Advances	Ratio (%)
2005/06	1626474	14642560	11.11
2006/07	1775583	16997997	10.45
2007/08	1963647	19497520	10.07
2008/09	2342198	24793155	9.45
2009/10	3148605	36425538	8.64
2010/11	4326140	40336915	10.76
Mean= 9.75			
S.D.= 0.89			
C.V= 9.15			

Source: Annex-25

Above table depicted the interest income to total loan and advances ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 11.11%, 10.45%, 10.07% ,9.45%,8.64% and 10.76% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09, 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 9.75% during the six years study period. Likewise, standard deviation is 0.89 and coefficient of variation is 9.15%. Interest income and loan and advances of HBL can be shown by following figure:

Figure No 4.25

Interest Income to Total Loan & Advances Ratio of HBL

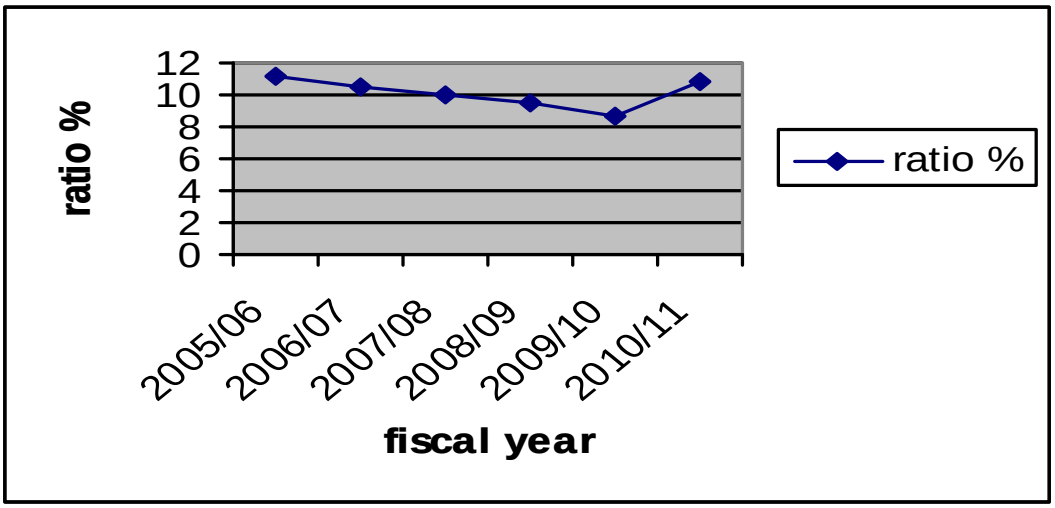


Table 4.26

Interest Income to Total Loan & Advances Ratio of NIBL

(Rs. in '000')

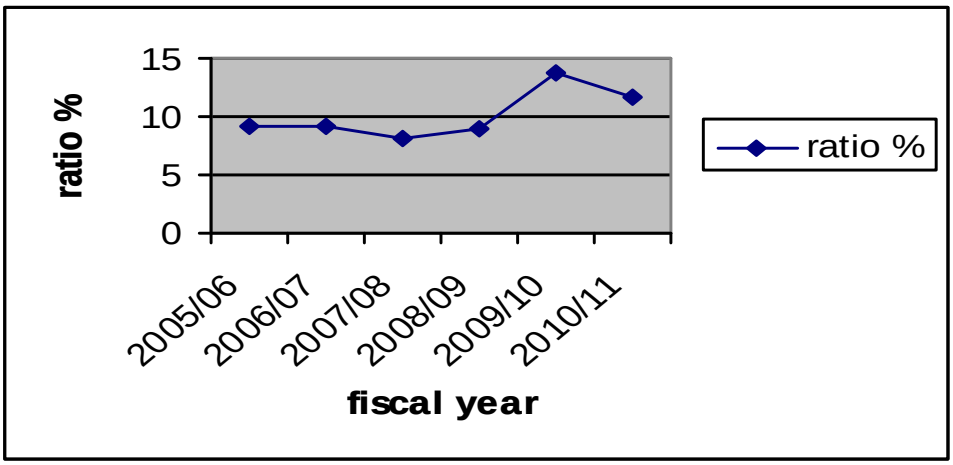
Year	Interest Income	Total Loan &Advances	Ratio (%)
2005/06	1172742	12776208	9.18
2006/07	1584987	17286427	9.17
2007/08	2194275	26996653	8.13
2008/09	3267941	36241206	9.02
2009/10	4653521	40948000	13.81
2010/11	5701426	48518621	11.75
Mean=10.18			
S.D.=1.97			
C.V= 19.32			

Source: Annex-26

Above table depicted the interest income to total loan and advances ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 9.18%, 9.17%, 8.13% , 9.02%, 13.81% and 11.75% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09, 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 10.18% during the six years study period. Likewise, standard deviation is 1.97 and coefficient of variation is 19.32%. Interest income and loan and advances of NIBL can be shown by following figure:

Figure No 4.26

Interest Income to Total Loan & Advances Ratio of NIBL



Comparison

Interest income to loan & advances ratio of HBL is in continuously decreasing trend except in the fiscal year 2010/11 during the six years of study period. Where the ratio of NIBL is also in decreasing trend except in the fiscal year 2009/10 and 2010/11. Similarly, NIBL has the higher mean ratio than that of HBL.Likewise; the ratios of HBL have more variation and less consistency than NIBL.

From the analysis, we can say that NIBL has higher interest income ratio than HBL. That means NIBL is able to grant its credit (loan & advances) in high interest earning area. But it will be risky lending because high interest rate carry high risk and low interest rate carry low risk.

4.4.5 Earning Per Share (EPS)

EPS is one of the most widely quoted statistics when there is a discussion of a company's performance or share value. It is the profit after tax figure that is divided by the number of common shares to calculate the value of earnings per share. This figure tells us what profit the common shareholders for every share held have earned. A company can decide whether to increase or reduce the number of shares on issue. This decision will automatically affect the earnings per share. The profits available to the ordinary shareholders are represented by net profit after taxes and preference dividend. Symbolic expression of EPS is given below

$$EPS = \frac{\text{Net profit after tax}}{\text{Number of common stock outstanding}}$$

Table 4.27

Earnings Per Share of HBL and NIBL

(In Rs)

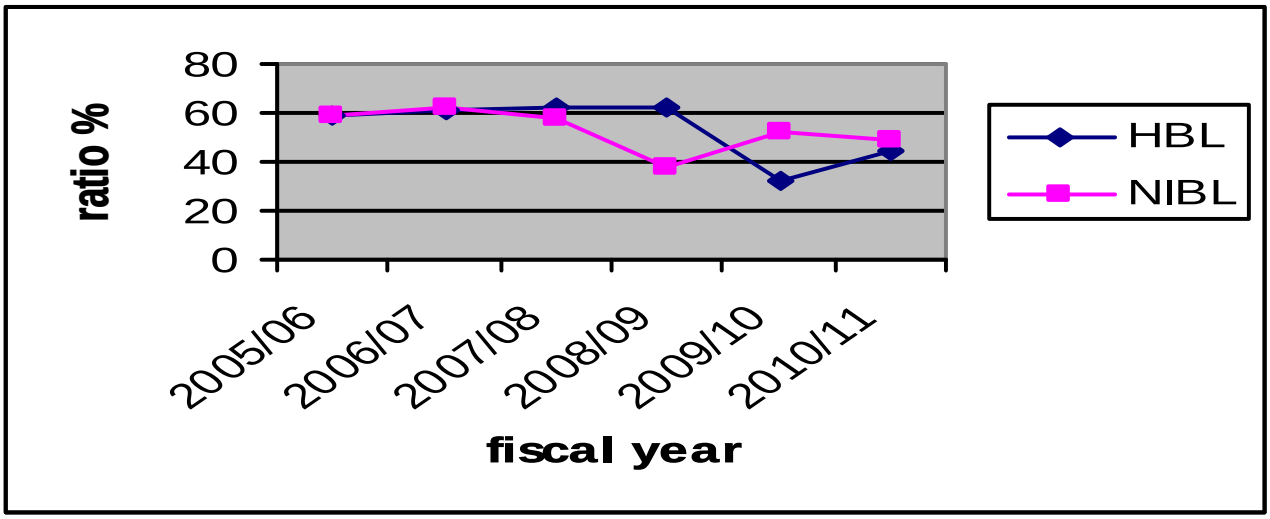
Years / Banks	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Average
HBL	59.24	60.66	62.74	61.90	31.80	44.66	53.5
NIBL	59.53	62.57	57.87	37.42	52.55	48.84	53.13

Source: Major indicators of respective banks/ Annex-27

Above table depicted the earning per share of HBL and NIBL over the six years period from 2005/06 to 2010/11.The EPS of HBL are Rs. Rs. 59.24, Rs. 60.66, Rs. 62.74 ,Rs. 61.90,Rs 31.80 and Rs 44.66 in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. The mean EPS of HBL remains at Rs. 53.5during the six years of study period. Similarly, the EPS of NIBL are Rs. 59.35, Rs. 62.57, Rs. 57.87,Rs. 37.42 Rs 52.55 , and Rs. 48.84 in the fiscal year2005/06, 2006/07, 2007/08 , 2008/09 ,2009/10 and 2010/11 respectively. The mean EPS of NIBL is Rs. 53.13 over the six years of study period. Earnings per share of HBL and NIBL can be shown by following figure.

Figure No 4.27

Earning Per Share of HBL and NIBL



Comparison

Earning per share of HBL is in increasing trend except in the fiscal year 2009/10&2010/11 where earning per share of NIBL is in increasing up to the fiscal year 2007/08 then decreasing in order of study period during the six years. Similarly, NIBL has the higher mean of EPS than that of HBL. It shows that NIBL is able to earn and provide good return to its shareholders than HBL over the study period.

4.5 Lending Efficiency Ratio

Lending efficiency, quality of lending and its effect is measured in this topic. The efficiency of a firm depends to a large extent on the efficiency with which its assets are managed and

utilized. This ratio also shows the utility to available fund. The following are the various type of lending efficiency ratios.

4.5.1 Loan Loss Provision to Total Loan & Advances Ratio

Loan loss provision to total loan & advances describes the quality of assets that a bank holding. The amount of loan loss provision in balance sheet refers to general loan loss provision. The provision for loan loss reflects the increasing probability of non-performing loan. The provision of loan means the profit of banks will come down by such amount. Increase in loan loss provisions, decreases in profit result to decreases in dividends but its positive impact is that strengthens financial conditions of the banks by controlling the credit risk and reduced the risks related to deposits. So it can be said that banks suffer it only for short-term while the good financial conditions and safety of loans will make bank's prosperity resulting increasing profits for long-term. The low ratio indicates the good quality of assets in total volume of loan & advances. High ratio indicates more risky assets in total volume of loan & advances.

Table 4.28

Loan Loss Provision to Total Loan & Advances Ratio of HBL

(Rs. in '000')

Year	Loan Loss Provision	Total Loan & Advances	Ratio (%)
2005/06	1119417	14642560	7.64
2006/07	795727	16997997	4.68
2007/08	682093	19497520	3.49
2008/09	726364	24793155	2.93
2009/10	1143126	36425538	3.13
2010/11	1401294	40336915	3.47
Mean=4.22			
S.D.=1.62			
C.V= 38.50			

Source: Annex-28

Above table depicted the loan loss provision total loan and advances ratio of HBL over the six years period from 2005/06 to 2010/11. The ratios are 7.64%, 4.68%, 3.49%, 2.93%.3.13% and 3.47%, in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 4.22% during the six years study period.

Likewise, standard deviation is 1.62 and coefficient of variation is 38.50%. Loan loss provision and loan and advances of HBL can be shown by following figure:

Figure No 4.28

Loan Loss Provision to Total Loan & Advances Ratio of HBL

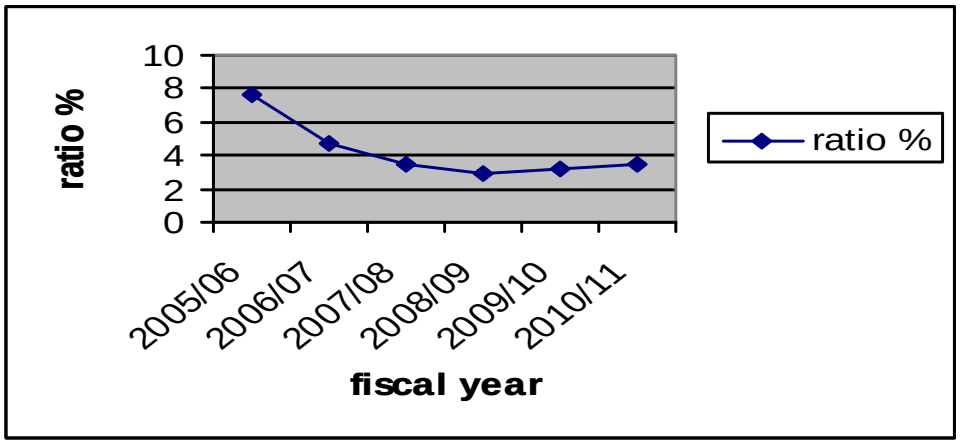


Table 4.29

Loan Loss Provision to Total Loan & Advances Ratio of NIBL

(Rs. in '000')

Year	**Loan Loss Provision**	**Total Loan &Advances**	**Ratio (%)**
2005/06	103808	12776208	0.81
2006/07	129719	17286427	0.75
2007/08	135989	26996653	0.50
2008/09	166201	36241206	0.46
2009/10	630131	40948000	1.54
2010/11	792179	48518621	1.63
Mean=0.95			
S.D.=0.47			
C.V= 49.23			

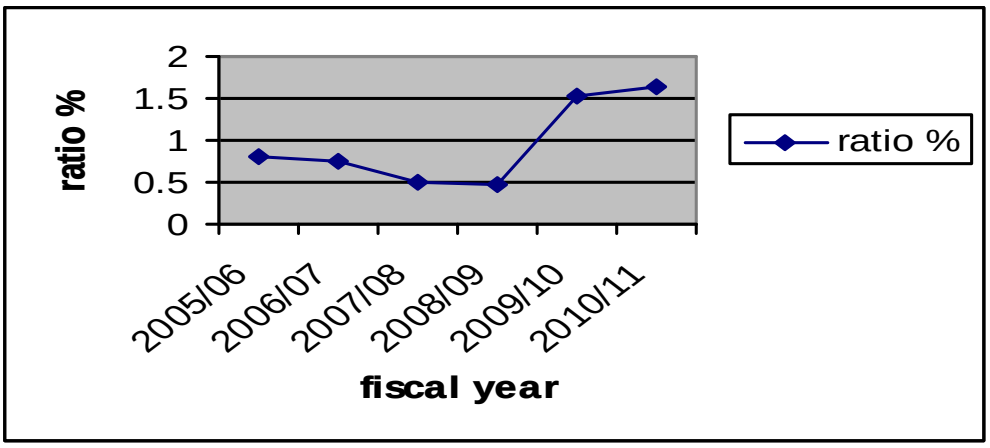
Source: Annex-29

Above table depicted the loan loss provision to total loan and advances ratio of NIBL over the six years period from 2005/06 to 2010/11. The ratios are 0.81%, 0.75%, 0.50% 0.46% ,1.54% and 1.63% in the fiscal year 2005/06, 2006/07, 2007/08 , 2008/09,2009/10 and 2010/11 respectively. Similarly, mean ratio remains at 0.95% during the six years study

period. Likewise, standard deviation is 0.47 and coefficient of variation is 49.23%. Loan loss provision and loan and advances of NIBL can be shown by following figure:

Figure No 4.29

Loan Loss Provision to Total Loan & Advances Ratio of NIBL



Comparison

Loan loss provision to loan & advances ratio of HBL is in highly decreasing trend during the six years of study period. Where the ratio of NIBL is in first decreasing till to the fiscal year 2008/09 and then in increasing trend in the subsequent years of study period. Similarly, HBL has higher mean ratio than that of NIBL over the study period. But the ratios of HBL have more variation and less consistency than NIBL.

From the analysis, we can say that NIBL has low degree of provision over total lending than HBL. It indicates that NIBL has decreasing volume of non-performing loans during the study period than HBL. The decreasing loan loss provision ratio indicates the better performance and effective credit policy of NIBL than HBL.

4.5.2 Non-Performing Loan to Total Loan & Advances Ratio

NRB has directed all the commercial banks create loan loss provision against the doubtful and bad debts. But of our concerned banks have not provided data on non-performing loan in balance sheet, profit and loss account. To measure the volume of non-performing loan to total loan & advances, the major indicators of NABIL and HBL is used. This ratio shows the percentage of no recovery loan in total loans & advance

Table 4.30

Non-Performing Loan to Total Loan & Advances Ratio of HBL and NIBL

(In %)

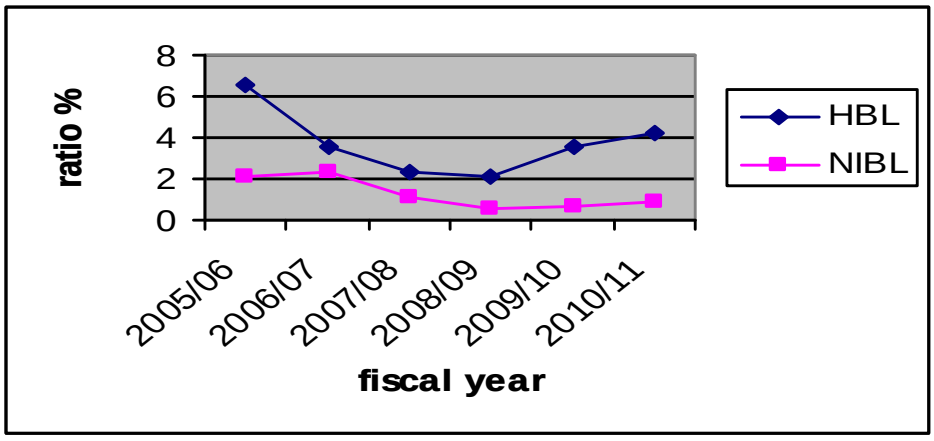
Years Banks	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Average
HBL	6.60	3.61	2.36	2.16	3.52	4.22	3.75
NIBL	2.07	2.37	1.12	0.58	0.67	0.94	1.29

Source: Major indicators of respective banks/ Annex-30

Above table depicted the non-performing loan to total loan & advances ratio of HBL and NIBL over the six years period from 2005/06 to 2010/11. The ratios of HBL are 6.60%, 3.61%, 2.35%, 2.16%, 3.52% and 4.22% in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09, 2009/10, and 2010/11 respectively. The mean ratio of HBL remains at 3.75% during the six years of study period. Similarly, the non-performing loan to total loan & advances ratios of NIBL are 2.07%, 2.37%, 1.12% , 0.58%,0.67%,and 0.94% in the fiscal year 2005/06, 2006/07, 2007/08 ,2008/09, 2009/10 and 2010/11 respectively. The mean ratio of NIBL remains at 1.29% over the six years of study period. Nonperforming loan and loan & advances of HBL and NIBL can be shown by following figure:

Figure No 4.30

Non-Performing Loan to Total Loan & Advances Ratio of HBL and NIBL



Comparison

Non-performing loan to total loan & advances ratio of HBL is in continuously decreasing trend till 2008/09 and increasing over the study period. Where the ratio of NIBL is in rapidly

decreasing trend except in the fiscal year 2006/07 over the six year of study period. But HBL has the higher mean ratio than that of NIBL. It shows that lending policy of NIBL is sound and effective than HBL. Loan recovery process, efficient management and in depth study are the main causes of low NPA level of NIBL.

Banking sector is seriously affected by the non-performing loan. Around 8% of non-performing loan indicate the bad performing of bank even though the decreasing trend shows the better improvement of the bank. If non-performing loan will increases that affect in overall banking business, provision amount will increases and profit will decrease. So we suggest the bank to be very careful while granting loan and to do effective follow up for recovery of loan.

4.6 Strength and weakness of the credit management of the commercial banks

This section deals with the degree of the management success in handling the credit of the bank. It doesn't deal with the swot analysis of the credit department of the bank. The degree of management success in handling the credits and advances of the banks is determined by the significance of a series of relationship of loan and advances among the different factors such as current assets, total deposit and net profit etc.This relationship among the different variables is determined by the Karl Pearson's Coefficient of Correlation of the data of the respective banks. The objectives behind this analysis is understand and analyze the impact of the credit provided by the banks to its net profitability and liquidity position

Under this topic, Karl Pearson's Coefficient of Correlation is used to find out the relationship between total deposit and loan & advances as well as net profit and loan & advances of Himalayan Bank Limited as well Nepal Investment Bank Limited.

4.6.1 Coefficient of Correlation between Total Deposits and Total Loan & Advances

Total deposit is independent variable and total loan & advances is dependent variable. The coefficient of correlation between total deposit and total loan & advances measure the degree of relationship between these two variables. In analysis, total deposit is independent variable and total loan & advances are dependent variable. The main objective of computing 'r' between these two variables is to justify whether total deposits are significantly used as total loan & advances in a proper way or not.

Table 4.31

Correlation between Total Deposits and Total Loan & Advances of HBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	26.49	14.64	701.72	214.33	387.81
2006/07	30.05	17.0	903.00	289.00	510.85
2007/08	31.84	19.5	1013.79	380.25	620.88
2008/09	34.68	24.79	1202.70	614.54	859.72
2009/10	37.61	36.42	1414.51	1326.41	1369.76
2010/11	40.92	40.33	1674.44	1626.50	1650.30
N=6	**$\sum X$=201.59**	**$\sum Y$=152.68**	**$\sum X^2$=6910.16**	**$\sum Y^2$=4451.83**	**$\sum XY$=5399.32**

Sources: Annex-34

Where,

X = Total deposit of HBL.

Y = Total loan & advances of HBL.

Total = Summation of the value from fiscal year 2005/06 to 2010/11

Now, Correlation (r) = $$\frac{n\phi XY - \phi X \phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

r = +0.96

Probable Error (P.E) = $0.6745 \left|\frac{1-r^2}{\sqrt{n}}\right.$

P.E=0.0216

The above calculation shows that there is positive relationship between total deposits and total loan & advances of HBL. That means, if the total deposit is increased absolutely the total loan & advances is also increased and vice versa. The coefficient of correlation between total deposits and total loan & advances is 0.96 and probable error is 0.0216. Comparing the value of 'r' and 6 times of P.E., we can say that there is significantly positive relationship between total deposits and total loan & advances of HBL because 'r' is higher than 6 times P.E., i.e. 0.96>0.1296.

From the above analysis, we can conclude that HBL has positive and significant relationship between total deposits and total loan & advances. The relationship is significant, i.e. loan & advances is increase as the portion increase in deposits in relation to 0.96 and vice-versa.

Table 4.32

Correlation between Total Deposits and Total Loan & Advances of NIBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	18.93	12.78	358.34	163.33	241.92
2006/07	24.49	17.28	599.76	298.6	423.19
2007/08	34.45	27.00	1186.80	729.00	930.15
2008/09	46.70	36.24	2180.89	1313.34	1692.41
2009/10	50.01	40.98	2501.00	1699.36	2049.41
2010/11	50.13	48.51	2513.01	2353.22	3935.71
N=6	**$\sum X$=224.71**	**$\sum Y$=182.79**	**$\sum X^2$=9339.8**	**$\sum Y^2$=6556.85**	**$\sum XY$=9271.79**

Sources: Annex-35

Where,

X = Total deposit of NIBL.

Y = Total loan & advances of NIBL.

Total = Summation of the value from fiscal year2005/06 to 2010/11

Now, Correlation (r) = $$\frac{n\phi XY - \phi X \phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

r = +0.99

Probable Error (P.E) = $0.6745\ \left|\right|\frac{1-r^2}{\sqrt{n}}$

P.E=0.0055

The above calculation shows that there is positive relationship between total deposits and total loan & advances of NIBL. That means, if the total deposit is increased absolutely the total loan & advances is also increased and vice versa. The coefficient of correlation between total deposits and total loan & advances is 0.99 and probable error is 0.0055. Comparing the

value of 'r' and 6 times of P.E., we can say that there is significantly positive relationship between total deposits and total loan & advances of NIBL because 'r' is higher than 6 times P.E., i.e. 0.99>0.033.

From the above analysis, we can conclude that NIBL has positive and significant relationship between total deposits and total loan & advances. The relationship is significant, i.e. loan & advances is increase as the portion increase in deposits in relation to 0.99 and vice-versa.

4.6.2 Coefficient of Correlation between Total Loan & Advances and Net Profits

Total loan & advances is independent variable and net profit is dependent variable. The main objectives of computing 'r' between these two variables are to justify whether total loan & advances are significantly used to earn profit in a proper away or not. The value of 'r' explains whether a percentage change in total loan & advances contribute to change the same percentage of net profit or not.

Table 4.33

Correlation between Total Loan & Advances and Net Profits of HBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	14.64	0.46	214.33	0.2116	6.73
2006/07	17.0	0.49	289.00	0.2401	8.33
2007/08	19.5	0.64	380.25	0.4096	12.48
2008/09	24.79	0.75	614.54	0.5625	18.60
2009/10	36.42	0.51	1326.41	0.2601	18.57
2010/11	40.33	0.89	1626.51	0.7921	35.89
N=6	**$\sum X$=149.68**	**$\sum Y$=3.74**	**$\sum X^2$=4451.04**	**$\sum Y^2$=2.476**	**$\sum XY$=100.6**

Sources: Annex-36

Where,

X = Total loan & advances of HBL.

Y =Net Profit of HBL

Total = Summation of the value from fiscal year 2003/04 to 2008/09.

Now, Correlation (r) = $$\frac{n\phi XY - \phi X \phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

r = +0.71

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

P.E = 0.1365

The above calculation shows that there is positive relationship between total loan & advances and net profits of HBL. The coefficient of correlation between total loan & advances and net profits is 0.71 and probable error is 0.1365.Comparing the value of 'r' and 6 times of P.E., we can say that there is no significantly positive relationship between total loan & advances and net profits of HBL because 'r' is less than 6 times P.E., i.e. 0.71<0.819

From the above analysis, we can conclude that HBL has positive but no significant relationship between total loan & advances and net profits.

Table 4.34

Correlation between Total Loan & Advances and Net Profits of NIBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	12.78	0.35	163.33	0.12	4.47
2006/07	17.28	0.50	298.6	0.25	8.64
2007/08	27.00	0.70	729.00	0.49	18.9
2008/09	36.24	0.90	1313.34	0.81	32.62
2009/10	40.94	1.26	1676.08	1.59	51.58
2010/11	48.51	1.17	2356.13	1.37	56.76
N=6	**∑X=182.25**	**∑Y=4.88**	**$\sum X^2$=6536.48**	**$\sum Y^2$=4.63**	**∑XY=172.79**

Sources: Annex-36

Where,

X = Total loan & advances of NIBL.

Y =Net Profit of NIBL

Total = Summation of the value from fiscal year 2005/06 to 2010/11

Now, Correlation (r) = $$\frac{n\phi XY - \phi X\phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

r = + 0.95

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

P.E=0.0268

The above calculation shows that there is positive relationship between total loan & advances and net profits of NIBL. That means, if the total loan & advances is increased absolutely the net profits is also increased and vice versa. The coefficient of correlation between total loan & advances and net profits is 0.95 and probable error is 0.0268.Comparing the value of 'r' and 6 times of P.E., we can say that there is significantly positive relationship between total loan & advances and net profits of NIBL because 'r' is higher than 6 times P.E., i.e. 0.95>0.1608

From the above analysis, we can conclude that NIBL has positive and significant relationship between total loan & advances and net profits. The relationship is significant, i.e. profit is increase as the portion increase in loan & advances in relation to 0.95 and vice-versa.

4.7 Trend Analysis the current Assets of Sample Banks

The trend of current asset of commercial banks tends to identify the average liquid assets maintained by the banks and to identify the rate of changes in the volume of liquid asset in the next five years using the trend shown by the historical data.

The following table reveals the forecast of the liquid assets to be maintained by the respective banks for the next 5 years. This has been calculated using the regression analysis (Trend Analysis) of last six year’s data.

Table 4.35

Calculation Current Asset Trend Analysis of HBL and NIBL

(In million)

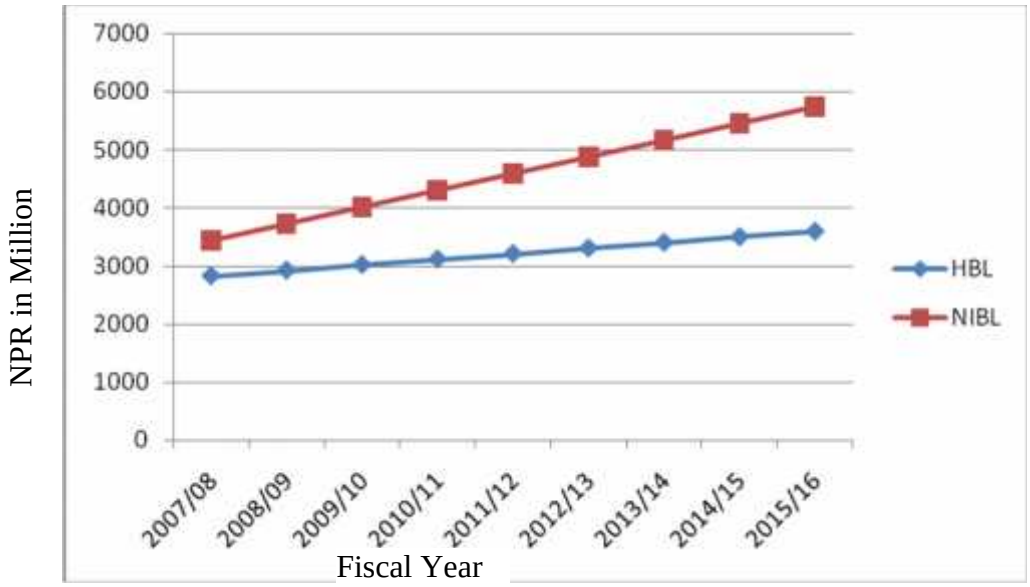
Fiscal year	**X**	**HBL Y=2925.19 +96.12X**	**NIBL Y=3719.48 +290.12X**
2007/08	-1	2829.07	3429.36
2008/09	0	2925.19	3719.48
2009/10	1	3021.31	4009.60
2010/11	2	3117.43	4299.72
2011/12	3	3213.55	4589.84
2012/13	4	3309.67	4879.96
2013/14	5	3405.79	5170.08
2014/15	6	3501.91	5460.20
2015/16	7	3598.03	5750.32

Source Annex: 31&32

The above table 4.35 deals with the trend of the current assets maintain by the respective banks for the next 5 years. The table presents the forecast of the banks liquid assets from the FY2011/12 to FY 2015/16.As already given by their regression equation, the average current assets maintain by the banks HBL and NIBL are 2925.19 and 3719.48 respectively, with other things remaining unchanged. However, the slope of the equation, that usually shows the rate of change in the value, reveals two different direction of the banks HBL has positive rate 96.12 which denotes that with every unit change in the year, the value of the current asset maintain will increase by additional 96.12. In case of NIBL, the positive value of this rate 290.12 reveal the increasing trend of the bank in maintaining the liquid assets volume. The above regression equation of NIBL and HBL pictures the ascending trend of the bank which states that with every unit change in year, the volume maintained by the bank will actually increase by 290.12 and 96.12 units respectively. This trend is more clearly understood from the following line graph.

Fig 4.31

Current Asset Trend of HBL and NIBL



4.8 Testing of Hypothesis

Test of hypothesis of the correlation between the total deposit and total loan and advances of both banks, HBL and NIBL

Hypothesis Setting:

Let H_0 be the null hypothesis and H_1 be the alternative hypothesis where;

Null hypothesis: $H_{0:}$ $\rho=0$ i.e., correlation between the total deposit and total loan and advances is not significant.

Alternative hypothesis: H_1: $\rho \neq 0$ i.e.; the correlation between the total deposit and loan and advances is significant. (Two tailed test)

Test statistics under null hypothesis: H_0: under H_0, the test statistics is

$$t = \frac{r}{\sqrt{1-r^2}} \left| \sqrt{(n-2)} \right|$$

For HBL, $\mathbf{t} = \frac{r}{\sqrt{1-r^2}} \left| \sqrt{(n-2)} \right|$

$$= \frac{0.96}{\sqrt{1-0.96^2}} \left| \sqrt{(6-2)} \right.$$

$$= 6.857|$$

Degree of freedom =n-2=6-2=4

Critical value: the tabulated value of t is at 5% level of significance for two tailed test for 4 degree of freedom is 2.776(from t table)

Decision: Since the computed value of | t | = 6.857 is greater than the tabulated value of t at 4 degree of freedom at 5% level of significance. Hence null hypothesis: H_0 is rejected. Therefore, correlation between total deposit and total loan and advances is significant.

For NIBL, t $= \frac{r}{\sqrt{1-r^2}} \mid \sqrt{(n-2)} \mid$

$= \frac{0.99}{\sqrt{1-0.99^2}} \mid \sqrt{(6-2)}$

$= 14.036|$

Degree of freedom = n – 2 =6 – 2 = 4

Critical value: the tabulated value of t at 5% level of significant for two tailed test for 4 degree of freedom is 2.776 (from t table).

Decision: Since the computed value of | t | = 14.036 is greater than the tabulated value of t at 4 degree of freedom at 5% level of significance. Hence null H_0 is rejected. Therefore, correlation between total deposit and total loan and advances is significant.

4.9 Major Findings:

Based on the presentation, interpretation and analysis of data, the major findings are summarized as follows:

I. Liquidity Ratio

- NIBL has kept higher mean of current assets to current liabilities ratio than HBL. The ratios of HBL have more variation and less consistency than HBL because of high standard deviation and coefficient of variation. Though the optimal standard of current ratio should be 2:1 for convention measure of liquidity, it is not appraisable on banking business. So analyzing over the study period, it indicates the satisfactory liquidity position with both banks.
- The ratios of HBL have less variation and more consistency than NIBL. The mean ratio of cash and bank balance to total deposit ratio of NIBL is greater than HBL Bank. It indicates that NIBL has relatively sound and better liquidity position. Commercial banks

have to maintain their cash & bank balance in terms of total deposit as directed by NRB time to time. Otherwise they are imposed penalty.

- There is higher mean of cash & bank balance to current deposit ratio of NIBL than that of HBL over the study period. But the ratios of NIBL have more variation and less consistency than HBL. It can be said that NIBL has high liquid assets in terms of cash & bank balance to current deposit ratio than HBL but it does not mean that HBL has mobilized its more funds in profitable sectors than NIBL.
- NIBL has higher mean of cash & bank balance to saving deposit ratio than HBL. Similarly, ratios of NIBL have more variation and less consistency than HBL. From the analysis of overall liquidity ratios of NIBL and HBL, we can say that NIBL has high degree of liquid assets, i.e. high liquidity position than HBL. High liquidity position is not so better because of interest expenses and it caused inverse impact in overall performance.

ii. Assets Management Ratio

- NIBL has higher mean of loan & advances to total deposit ratio than that of HBL during the study period. Likewise, the ratios of NIBL have less variation and more consistency than HBL. From the analysis, we can say that NIBL is in good form according to deposit mobilization point of view than HBL. But it does not mean that NIBL is investing more of its collected fund in high return but with low risk sector than HBL.
- NIBL has higher mean of loan & advances to total assets ratio than that of HBL. Likewise, the ratios of NIBL have less variation and more consistency than HBL. From the analysis, we can say that NIBL has sound lending policy so that it is able to mobilize its resources as loan & advances than HBL. But assets management in terms of loan & advances of both banks are satisfactory because of above the fifty percent of total assets.
- HBL has higher mean of total investment to total deposit ratio than that of NIBL. But, the ratios of HBL have more variation and consistency than NIBL. During the study period, movements of ratios are first increasing, then decreasing in order. It may be due to slack in the different sectors of economy banks are unable to mobilize its fund in loan & advances and share/debenture of other companies properly.

iii. Leverage Ratio

- NIBL has the higher mean of total debt to total equity ratio than that of HBL during the study period. Similarly, the ratios of HBL have more variation and less consistency than NIBL. From the analysis, we can say that HBL is more levered firm than NIBL during the six years of study period. Levered firm must bear more fixed expenses than non-levered. It may results bad impact on overall performance of the bank in the long-term.
- HBL has the higher mean of total debt to total assets ratio than that of NIBL. But the ratios of NIBL have less variation and more consistency than HBL. According to the above analysis, we can say that HBL used outsider's fund more than owner's fund during the formation of capital structure.

iv. Profitability Ratio

- HBL has the higher mean of interest income to interest expenses ratio than that of NIBL. Likewise, the ratios of HBL have less variation and more consistency than NIBL. From the analysis, we can say that NIBL has high degree of gap between interest offered and interest charged than HBL. This shows that NIBL has charged high interest rate to borrowers and offering low interest rate to depositors.

- HBL has the higher mean of net profit to loan & advances ratio than that of NIBL Similarly; the ratio of NIBL has less variation but less consistency than HBL. From the analysis, we can say that return on loan & advances ratio of NIBL and HBL is very low and in fluctuating trend also. That means, lending policy of both banks are not so sound and credits are not granted in profitable sectors but sati factorable in the present economic situation.
- NIBL has the higher mean of net profit to total assets ratio than that of HBL during the study period. Likewise, the ratios of NIBL have less variation and less consistency nature than HBL. From the analysis, we can say that NIBL has better earning capacity than HBL.
- NIBL has the higher mean of interest income to loan & advances ratio than that of HBL. Likewise, the ratios of NIBL have more variation and more consistency than HBL. From the analysis, we can say that HBL has highest interest income ratio than NIBL. That means HBL is able to grant its credit (loan & advances) in high interest earning area.

- HBL has the higher mean of EPS than that of NIBL. It shows that HBL is able to earn and provide good return to its shareholders than NIBL over the study period.

v. Lending Efficiency Ratio

- HBL has higher mean of loan loss provision to loan & advances ratio than that of NIBL over the study period. But the ratios of NIBL have less variation and more consistency than HBL. From the analysis, we can say that NIBL has very low degree of provision over total lending than HBL. It indicates that NIBL has decreasing volume of non-performing loans during the study period than HBL.
- HBL has the higher mean of non-performing loan to loan & advances ratio than that of NIBL. It shows that lending policy of NIBL is sound and effective than HBL. Loan recovery process, efficient management and depth study are the main causes of low NPA level of NIBL. NIBL has lowest non performing loan to total loan and advances, this NIBL is best performer than the HBL. Banking sector are seriously affected by the non-performing loan increases, the over all banking business will be affected. So provision amount will increase and profit will decrease. So, it is suggested that both banks to be sincere while granting loan and to do effective follow up for recovery of non-performing loan.

vi. Co - efficient of correlation Analysis

- NIBL has positive with significant relationship at all time between total deposits and total loan & advances. The relationship is significant, i.e. loan & advances is increased as the portion increases in deposits in relation to 0.99 and vice-versa.
- HBL has positive with significant relationship between total deposits and total loan & advances. The relationship is significant, i.e. loan & advances is increased as the portion increases in deposits in relation to 0.96 and vice-versa.
- NIBL has positive with significant relationship between total loan & advances and net profit. The relationship is significant, i.e. profit is increased as the portion increases in loan & advances in relation to 0.95 and vice-versa.
- HBL also has positive with significant relationship at all time between total loan & advances and net profit. The relationship is significant, i.e. profit is increased as the portion increases in loan & advances in relation to 0.71 and vice-versa.

Vii.Trend Analysis

- The analyses of trend of current asset maintain by the HBL and NIBL, NIBL has better position than HBL.
- Current assets maintain by the HBL has lower than NIBL. HBL may suggest generating sufficient cash to remain liquid and maintain the yearly obligation

Viii. Testing of Hypothesis

- By the testing of hypothesis between total deposit and total loan and advance of HBL,is significant
- Testing of hypothesis of NIBL, between total deposit and total loan and advances is significant.

CHAPTER-V
SUMMARY, CONCLUSION AND RECOMMENDATION

This is the last chapter of the study which includes summary, conclusion and Recommendation. In this study, analysis of various aspect of the credit management of the commercial banks is done by using some important financial tools and statistical tools. The task of researcher is to summarize the study after completing basic analysis and recommend for further importance. It would be meaningful to the concerned banks to initiate the action and achieve the desired results.

5.1 Summary

Being the first chapter, as an introduction, this study basically provides the brief background of the bank regarding its establishment, its capital composition and its vision. As there are many commercial banks only two commercial banks-NIBL, HBL, are taken for sample study. This study gives brief view of credit aspect and tried to analyze deposit collection and utilization trend of sample banks, show the relationship of deposits, loan and advances and net profit of sample banks, evaluation of non performing loans, issues of profitability, liquidity position which is set as an objective of the study.

Chapter second deals with the overall review of credit related issues of other relevant studies in related areas so that all part of studies can be conducted. This study deals with major review of literature related to credit management in more descriptive and detailed manner. It consists of review from other articles, books, journals, research studies and conceptual review of overall banking sector and its growth in Nepal, legal frame work, guidelines and directives of Nepal Rastra Bank etc.

Chapter third consists of research methodology designed to solve the research problems. In this study among many tools of analysis, financial tools and statistical tools are used to draw out conclusion. All the data are taken from the secondary sources-Annual reports of banks; reports form SEBON, etc so accuracy of data depends upon the publisher. Only six years data are taken so the results may not be fully applicable. Since only sample bank-HBL, NIBL are taken for study, this study may not be applicable to other bank and financial institution.

Fourth Chapter consist presentation, analysis and interpretation of relevant sampled data of selected commercial bank. Data are analyzed as per mentioned on the research methodology chapter. Data are presented in systematic manner and analyzed using different financial & statistical analysis tools. Figure, bar diagram are also draw to make analysis understandable. This chapter reflects in calculative form of data according to mentioned in research methodology topic.

NIBL is safe from the side of overall liquidity ratio than HBL. In other word NIBL is kept high liquidity assets. That is restrictive to greater additional earning. On the basis of current asset ratio NIBL has more variation and less consistency than HBL because of high S.D and C.V. Though the optional standard of current ratio should 2:1 for convention measure of liquidity it is not appraisable on banking business. From the analysis of six year data we assure that the liquidity position of both banks is satisfactory level. The mean ratio of cash and bank balance to total deposit ratio of NIBL is higher than HBL. Therefore, NIBL has relatively sound and better liquidity position. Commercial banks have to maintain their cash and bank balance in terms of total deposits as directed by NRB time to time to safe the liquidity crunch. Similarly, the mean ratio of cash and bank balance to current asset ratio of NIBL is higher than HBL. It support, NIBL has high liquid assets in terms of cash and bank balance to current asset ratio than HBL. The average cash and bank balance to saving deposit ratio of NIBL is also higher than that of HBL. From the analysis of overall liquidity position most of the mean ratio of NIBL is higher than that of HBL. So, NIBL has high degree of liquidity assets. High liquidity position is not so better because of interest expenses and it caused inverse impact in overall performance.

The study shows that over the period, Average loan and advances to total deposit ratio of HBL and NIBL is 64.99% and 78.78%. Both banks are capable to use more than 50% of deposit on loan and advances. If maintained this. It help make consistency on the profitably of the banks. Average loan and advance to total assets ratio of HBL&NIBL is 64.82 % & 69.16%. It can be conclude that the higher mean ratio indicates the good lending performance. Here HBL should focus to increase loan and advance to total assets ratio to increase lending performance. Total investment to total deposit ratio of HBL is fluctuating. Here, the NIBL should focus to increase total investment to total deposit ratio to increase short term and long term lending performance.

Total debt to total equity ratio of NIBL is higher than that of HBL, from the analysis. We can conclude that, HBL is more levered firm than NIBL. Levered firm must bear more fixed expenses than non levered. It result May bad impact on overall performance of the bank. In the long term, the ratio of both banks is decreasing trend it shows better performance of banks. Total debt to total assets ratio of HBL is in continuous decreasing trend except 2009/10. Where the ratio of NIBL is in fluctuating trend. From the analysis it found that, NIBL used outsider's fund more than owner's fund during the formation of capital structure. It is bad symptom for the banks.

HBL has the higher mean of interest income to interest expenses ratio than that of NIBL. The ratio of HBL has less variation and more consistency than NIBL. It indicates that, NIBL has charged high interest rate to borrowers and offering low interest rate to depositors. The credit creation power of commercial banks has high impact on this ratio. Return on loan and advance ratio of both banks is in fluctuating. HBL has higher mean ratio but more variation than NIBL. The return on loan and advance ratio of NIBL&HBL is very low and fluctuating trend. It shows the normal earning capacity of NIBL and HBL in loan and advance. Therefore, lending policy of both banks is not so sound and credit is not granted in profitable sector but satisfactorable in present economic situation. Net profit to total assets ratio is useful to measure how management uses all the assets in business to generate an operation. Simply, higher the ratio indicates higher efficiency in the utilization of total assets. Here, the mean ratio of NIBL is higher than HBL. Therefore, NIBL has better earning capacity than HBL. Interest income to total loan and advances ratio is useful to know the fact that whether the loan has given good return or not. High return shows the soundness of credit policy. Here, NIBL has higher mean of interest income to loan and advances ratio than HBL. It means NIBL is able to grant its credit in high interest earning area. The overall performances of company reflect in EPS. Therefore, higher the EPS better the performance and vice versa. Here, the average EPS of HBL is higher than that of NIBL. On the basis of earning per share HBL is able to earn and provide good return to its shareholders than NIBL.

Loan loss provision to loan and advances ratio of HBL decreasing trend except fiscal year 2008/09 and 2009/10 but NIBL is in fluctuating. The decreasing loan loss ratio indicates efficient credit policy and gradual increment on the performance of the banks. Here, loan loss provision to total loan and advances of NIBL is in fluctuating, which indicates non constant volume of non- performing loan of NIBL, we can say this is due to the efficient credit policy

and better performance of the company. Banking sector is seriously affected by the non-performing loan. Both banks are not far from this above fact. If non- performing loan increase the overall banking business will be affected. So, provision amount will increase and profit will decrease. So, it is suggested that both banks (HBL &NIBL) to be sincere while granting loan and to do affective follow up for recovery of non- performing loan.

Correlation coefficient between the total loan and advances to net profit of HBL &NIBL is 0.71 & 0.95 respectively. Similarly, correlation coefficient between total deposit & total loan and advances of HBL and NIBL is 0.96 & 0.99 respectively. HBL and NIBL have positive with significant relationship at all time between total deposit and total loan and advances.HBL and NIBL also have positive with significant relationship at all time between total loan and advances and net profit. In both cases the degree of significant relationship of NIBL is higher than HBL.

Fifth Chapter is the concluding chapter. This chapter explains about the overall conclusion of this study. Summary, conclusion and recommendation are separately presented.

5.2 Conclusions

Present study is successful to explore the findings with analysis of comparative study between the two sampled banks, HBL and NIBL.The results designed for the study on their liquidity and credit management. Various financial as well as statistical tools were used as per requirement of nature of data. Secondary source of information were used for analysis of data. Based on the data analysis and finding of the result, the conclusion can be drawn as follows**:**

Liquidity position of commercial Banks

The comparative analysis of liquidity situation of two commercial banks. NBIL has more current ratio than that of HBL.Holding higher current ratio; NIBL stands more strong than that of HBL.The analysis of past six year financial statements of both commercial banks, HBL has higher variation in data than NIBL. Therefore NIBL has satisfactory liquidity position. Similarly, NIBL has more cash & bank balance to total deposit ratio as well as cash & bank balance to current deposit ratio and cash & bank balance to saving deposit ratio than of HBL.

From the analysis of overall liquidity ratios of NIBL and HBL, we conclude that NIBL has high degree of liquid assets and high liquidity position than HBL.

Activity/Efficiency Ratio

The comparative analysis of activity/Efficient ratio of two commercial banks.NIBL has higher loan and advances to total asset ratio than HBL.similarly NIBL hold the higher total investment to total deposit ratio as well as higher loan and advances to total deposit ratio than that of HBL.Analysis of past six year financial statements indicates, NIBL has strong efficient ratio than HBL.

From the analysis we can say that NIBL is able to mobilize its resources in lending as loan and advances than HBL.And also able to invest its resources more in other company's shares, debentures, and bond as well as government treasury bills than HBL. Furthermore, all the ratios related to assets management of NIBL are higher than HBL. Therefore, NIBL has sound & better lending policy than HBL, so that it is able to mobilize its resources more than HBL.

Leverage ratio

Comparative study between two commercial banks as on leverage ratio,NIBL has little bit higher debt to equity ratio than HBL but HBL has higher debt to total asset ratio than NIBL.Comparatively, ratios of HBL have riskier than NIBL.

From the analysis of overall leverage ratio of NIBL and HBL, we can say that HBL is more levered firm than NIBL during the six years of study period. It means HBL is using outsider's fund more than owner's fund during the formation of capital structure.

Profitability Ratio

The mean ratio of interest income to interest expenses and earning per share of HBL is higher than NIBL.HBL is able to earn more interest from total credit granting than that of NIBL.HBL and NIBL have approximately same return on loan & advances ratio as well as return on total assets ratio. But ratios of NIBL have less risky than HBL.

From the analysis of overall profitability ratio of NIBL and HBL, we can say that HBL can earn little bit more profit from its lending and investment activities than NIBL during the six years period.

Lending Efficiency Ratio

NIBL has low degree of loan loss provision over total lending than HBL. It indicates that NIBL has decreasing volume of non-performing loan. However, HBL and NIBL both have positive with significant relationship between total deposit collection and total lending. Similarly, NIBL and HBL have positive with significant relationship between total loan & advances and net profits.

From the analysis of over all lending efficiency ratio of HBL and NIBL, we conclude that NIBL has less loan loss provisions and non performing loan volume than HBL.

Statistical analysis of commercial banks

Statistical analysis of two commercial banks involves the trend analysis, coefficient of correlation analysis and testing of hypothesis. Trend analyses of current assets of sample banks have increasing regression equation. The trend analysis reveal NIBL having better trend of maintaining current asset than HBL.Increasing trend of both banks project an increase in the volume current asset over the period of next 5 years.Similarly, the relationship of total loan and advances with the veritable such as total deposit and net profit was analyzed by using correlation coefficient and their significance among the variables have both banks.Relatioship between loan and advances to total deposit and net profit of NIBL have positive and significant but HBL has not significant relationship to total loan and advances to net profit. Testing of hypothesis between total deposit and total loan and advances of both bank have significant.

5.3 Recommendations

Findings of the study may provide important information for those who are concerned directly or indirectly with the liquidity and credit management practices of commercial banks (with respect to NIBL and HBL). On the basis of analysis and findings of the study, following suggestions and recommendations can be outlined:

- The liquidity position of NIBL is more positive than HBL. So the management of NIBL should search for new area of investments as well as bank should strictly follow the NRB directives to reduce its surplus cash balance. Following of NRB directives will help to reduce credit risk arising from borrower's defaulter leak of proper credit appraisal, defaulter by black listed borrowers and professional defaulter. Government has established credit inebriation bureau, which will guide commercial banks. So the bank is suggested to follow project-oriented approach and avoid more risky area of lending.
- HBL and NIBL should adopt the sound credit collection policy. It helps to decrease loan loss provision and non-performing loan of the bank. Thus, the credit management of both banks must follow the policy as rapid identification of delinquent loans, immediate contact with borrower and continual follow-up until a loan is recovered to decrease its non-performing loan and loan loss provision.
- HBL must concentrate on decreasing ratio of return on total assets as well as return on loan & advances and invest in productive as well as profitable areas only, which give high return with low risk.

- Most of the customers are dissatisfied with the service charges and interest rates of credit. Therefore, the banks management should consider on these variables more seriously.
- Banks should regularly follow the credit customers to confirm that whether the customers have utilized their credit for the same purpose or not, committed at the time of taking credit from the banks.
- Looking a current trend of business, both banks, i.e. NIBL as well as HBL must be very careful on formulating marketing strategies to serve its customers. The marketing strategies should be innovative that would attract and retain the customers. Both the banks are recommended to develop an innovative approach of bank marketing for its well-being and sustainability in the market.
- Banks should strictly band the policy of nepotism and favoritism. On the basis of capability and efficiency, recruitment, placement and promotion should be executed.
- The new standards should be designed to make the bank management more accountable for credit policy. Besides, it should investigate what are the reasons of credit efficiency or inefficiency.

- In this thesis data are analyzed only by using financial tools and statistical tools as; ratio analysis, line graphs, co-efficient of correlation analysis, trend analysis and testing of hypothesis. So this thesis provides roadmap for further analyzing in terms of using with various statistical tools to those who want to learn deeply in the context of credit management; a case study of NIBL and HBL.
- Ratio analysis is basically historical in nature and all data used are ex-post data on the basis of which the ratios are established. It may be foundation to further researcher to prepare projected financial statements and prepare to plan for the future.
- Secondary data and ratio analysis being of quantitative nature ignores the qualitative factors, which in certain case may overtake the quantitative factors. Those who want to consider primary data and qualitative factors it can be used as basic thesis for further researches.
- Further studies can be conducted by increasing sample size, by increasing number of observations, by raising other issues and by using other statistical and financial tools.

BIBLIOGRAPHY

Aryal, K.N. (2003), "An Evaluation of Credit Investment and Recovery of Financial Public" Enterprises in Nepal: a case study of ADB/N. An Unpublished Master's Thesis, Central Department of Management, Tribhunvan University.

Adhikari,S.(2010),"Credit Management of Nepalese Commercial Banks(with reference to NIBL and NIC Bank Ltd)"

Bajracharya, B.C. (2056 B.S.), "Business Statistics and Mathematic". Kathmandu: MK Publisher And Distributer

Bhandari, D.R. (2004). "Banking and Insurance Management". Kathmandu: Ayush Publication

Bhattacharya, H. (1998), " Banking strategy, Credit Appraisal and Lending Decisions. A Risk-Return Framework". Delhi: Oxford University Press.

Booz, Allen and Hamilton (1989-91), " Commercial Banks Problems Analysis Strategic Studies". Kathmandu: Report Submitted to the NRB by the CBPASS Committee

Bhattarai, R.(2007), "Investments, Kathmandu: Buddha Academy". Publisher and Distributor Pvt. Ltd

Bajracharya, S. M and Bhattarai, R. (2006), "Corporate Financial Management". Kathmandu: Buddha Academy, Publisher and Distributer Pvt. Ltd

Brunnermeir,M..K.(2009), "Dciphering The Liquidity and Credit Crunch" Journal of Economic Perspective,Vol,23,No.1 winter 2009,P77-100

Cheney, John M and Moses, Edward A (1998), "Fundamental of Investment". New Delhi: St. Paul West Publishing Company.

Crosse, H.D. (1963), " Management Policies for Commercial Banks". New Delhi:

EnglewoodCliffs, Pentice Hall India.

Chand, G.B. (1988). “Credit Disbursement and Repayment of Agricultural Development Bank Nepal”. An Unpublished Master’s Thesis, Central Department of Management, TribhunvanUniversity

Dahal, B. and Dahal, S. (2002). A Handbook to Banking, Kathmandu: Ashimita Books and Stationery.

Dhungana, N. (2008), "Credit Management of CBs in context of Financial Sector Reform Program" (with Reference to NBL and RBB). An Unpublished MBS Thesis, Shankar Dev Campus, Tribhunvan University

Francis, J.C (1969). “Investment Analysis and Management”. New York: Mc Graw-Hill Inc

Gautam, R. (2000), “ Investment Analysis of Finance Company of Nepal”. A Master’s Unpublished Thesis, Submitted to Central Department of Management, Tribhunvan University

Himalayan Bank Limited (F.Y, 2005/2011), “Annual Report”. Kathmandu:

International Monetary Fund (Oct, 2001, “Nepal Recent Economic Development Report”. Washington D.C

Jhingan, ML, Money (1997), Banking and International Trade**,** New Delhi: Konark Publishers Pvt. Ltd

.

Joshi, J. (2005), “ Investment Policy of Commercial Bank of Nepal”. An Unpublished Master’s Thesis, Central Department of Management, Tribhunvan University.

Joshi, R. (1999), “ Lending Policy of Commercial Banks in Nepal”. An Unpublished Master’s Thesis, Central Department of Management, Tribhunvan University.

Karki, B. R. (2000), “ Nepalese Financial Sector: challenges and some solution”. Nepal

Rastra Bank Samachar, p 26-30, NRB. Kathmandu

Karki, U. (2059), “Challenges of Non-performing Loan Management in Nepal”. Nepal RastraBank Samachar, Vol 147, NRB Kathmandu

Karki,L.B.(2010), “Liquidity and Profitability of commercial banks of Nepal ” ,Kathmandu: an Unpublished Master’s Thesis ,submitted to faculty of Management, Tribhuvan University.

Khanal, K.(2011), “Nepal’s Minsky Moment”.The Kathamandu post, dated March10, 2011, Kthamandu

Khadka, A. (2002), “A Comparative Study on Investment Policy of Commercial Banks”. An Unpublished Master’s Degree Thesis, Submitted to Central Department of Management, Tribhunvan University

Kothari, C.R. (1990), “ Research Methodology: Method and Technique”. New Delhi: Wiley Eastern Limited.

Lekhy, U. (2008), “Credit Management: A Comparative Study of HBL and Nabil”. An Unpublished MBS Thesis, Shankar Dev Campus, TribhunbanUniversity.

Nepal Invest Bank Limited. (F.Y 2005/2011), “Annual Report”. Kathmandu:

Nepal Rastra Bank, (Mid-July, 2005/2011), “ Directives to Commercial Bank". Kathmandu: Nepal Rastra Bank.

Niraula, S. (2006), “Loan Classification and Non- Performing Assets Management of RBB”.An Unpublished Master’s Degree Thesis, Submitted to Central Department Of Management, Tribhunvan University

Pradhan, S.B**.** (2053). Deposit Mobilization and its Problem and Prospects, Nepal Bank Patrika.

Pant U.R. (2001), “A Study of Deposit and Its Utilization by Commercial Bank in Nepal”.An Unpublished Master’s Dgree Thesis, Central Department of Management, Trihunvan University

Radhaswamy,M & Vasudevan,S.V. (1979), “ A Text Book of Banking”. New Delhi: S. Chand & Company Ltd.

Rose, P.S. (2003), “Money and Capital Markets”. New York: Mc Graw-Hill/ Irwin

Shrestha, S.R. (2004), “Financial Indicators of Commercial Banks”. Kathmandu: Rastriya Banijya Bank Pratiyogita Digdarshan: Makalu Books and Stationery

Sthapit, A.B. (2006), “Statistical Method”. Kathmandu: Buddha Academy, Publisher and Distributor Pvt. Ltd

Wolff, H.K. and Pant, P.R. (2000), “Social Science Research and Thesis writing”. Kathmandu: Buddha Academic Enterprises

Website:

http://www.edunepal.com

http://www.onlinethesis.com

http://www.nrb.org.com

http://www.nepalstock.com

http://www.sebonp.com

http://himalayanbank.com

http://nibl.com.np

Appendix

Annex: 1

Current Ratio of HBL

(Rs. in '000')

Year	Current Assets	Current Liabilities	Ratios (%)(x)	$(x - \bar{x})^2$
2005/06	17365192	21344015	81.36	163.33
2006/07	20465362	23171512	88.32	33.87
2007/08	21464192	27238640	78.80	235.31
2008/09	29012476	29823341	97.28	26.42
2009/10	41655253	38777919	109.27	228.92
2010/11	45548710	42230725	107.85	187.96
			$\sum\phi X$=562.88	$p(x - \bar{x})^2 = 875.81$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{562.88}{6} = 94.14\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{875.81}{6}} = 12.08$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{12.08}{94.14} = 12.83\%$

Annex: 2

Current Ratio of NIBL

(Rs. in '000')

year	Current Assets	Current Liabilities	Ratios (%)(x)	$(x - \bar{x})^2$
2005/06	15112729	14501690	104.21	30.69
2006/07	19727941	18195922	108.42	1.77
2007/08	30751594	28242320	108.88	0.76
2008/09	44159211	37469563	117.85	65.61
2009/10	56169166	51632000	108.78	0.94
2010/11	57248379	51868303	110.37	0.38
			$\phi x = 658.51$	$p(x - \bar{x})^2$ 100.15

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{658.51}{6} = 109.75\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{100.15}{6}} = 4.08$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{4.08}{109.75} = 3.72\%$

Annex: 3

Cash and Bank Balance to Total Deposit Ratio of HBL

(Rs. in '000')

Year	Cash&Bank Balance	Total Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1717352	26490852	6.48	0.38
2006/07	1757341	30048418	5.85	1.56
2007/08	1448143	31842789	4.55	6.50
2008/09	3048527	34681345	8.79	2.85
2009/10	3866490	37611202	10.28	10.11
2010/11	2964651	40920627	7.24	0.02
			$\sum\phi x=43.19$	$p(x - \bar{x})^2 = 21.42$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{43.19}{6} = 7.1\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi\ (x-\bar{x})^2}{N}} = \sqrt{\frac{21.42}{6}} = 0.31$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.31}{7.1} = 4.36\%$

Annex: 4

Cash and Bank Balance to Total Deposit Ratio of NIBL

(Rs. in '000')

Year	Cash&Bank Balance	Total Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	2336521	18927306	12.34	1.00
2006/07	2441514	24488856	9.97	11.36
2007/08	3754942	34451726	10.90	5.95
2008/09	7918004	46698100	16.96	13.10
2009/10	6816588	50014725	13.63	0.08
2010/11	8140370	50138122	16.24	8.41
			$\sum\phi x=80.04$	$p(x - \bar{x})^2 = 39.9$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{80.04}{6} = 13.34\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi\ (x-\bar{x})^2}{N}} = \sqrt{\frac{39.9}{6}} = 2.58$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{2.58}{13.34} = 19.53$

Annex: 5

Cash and Bank Balance to Current Deposit Ratio of HBL

(Rs. in '000')

Year	Cash &Bank Balance	Current Deposit	Ratio (%)(x)	$(x-\bar{x})^2$
2005/06	1717352	4993600	34.39	326.16
2006/07	1757341	5447100	32.26	407.36
2007/08	1448143	6801300	21.29	952.33
2008/09	3048527	7566400	40.29	147.86
2009/10	3866490	3745624	103.22	2577.59
2010/11	2964651	3694249	80.25	772.84
			$\sum\phi x=311.7$	$p(x-\bar{x})^2=5184.14$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{311.7}{6} = 52.45\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi\,(x-\bar{x})^2}{N}} = \sqrt{\frac{5184.14}{6}} = 30.23$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{30.23}{52.45} = 57.64\%$

Annex: 6

Cash and Bank Balance to Current Deposit Ratio of NIBL

(Rs. in '000')

Year	Cash&Bank Balance	Current Deposit	Ratio (%)(x)	$(x-\bar{x})^2$
2005/06	2336521	1705600	137.0	456.25
2006/07	2441514	2175100	112.25	2126.13
2007/08	3754942	3138700	119.63	1500.01
2008/09	7918004	3756400	210.79	2748.90
2009/10	6815889	4025820	169.30	199.68
2010/11	8140370	4042693	201.36	1849.20
			$\sum\phi x=950.33$	$p(x-\bar{x})^2=8880.17$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{950.33}{6} = 52.45\%$

Calculation of standard deviation(±) = $\sqrt{\frac{\phi\,(x-\bar{x})^2}{N}} = \sqrt{\frac{8880.17}{6}} = 38.29$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{38.29}{52.45} = 24.18\%$

Annex: 7

Cash and Bank Balance to Interest Sensitive Deposit Ratio of HBL

(Rs. in '000')

Year	Cash&Bank Balance	Saving Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1717352	14582800	11.78	8.76
2006/07	1757341	15784200	11.13	13.03
2007/08	1448143	17935000	8.07	44.49
2008/09	3048527	20061000	15.2	0.21
2009/10	3866490	16294680	23.73	80.82
2010/11	2964651	15994563	18.54	14.44
			ϕx=88.45	$p(x - \bar{x})^2$ =161.75

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{88.45}{6} = 14.74\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{161.75}{6}} = 5.19$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{5.19}{14.74} = 35.22\%$

Annex: 8

Cash and Bank Balance to Interest Sensitive Deposit Ratio of NIBL

(Rs. in '000')

Year	Cash&Bank Balance	Saving Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	2336521	8082000	28.91	89.87
2006/07	2441514	10742200	22.73	245.24
2007/08	3754942	13688800	27.43	199.02
2008/09	7918004	17066200	46.4	64.16
2009/10	6815889	14324253	47.58	84.46
2010/11	8140370	13490307	60.34	481.80
			$\sum\phi x$=233.39	**$p(x - \bar{x})^2$ =1164.55**

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{233.39}{6} = 38.39\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{1164.55}{6}} = 13.44$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{13.44}{38.39} = 35.02\%$

Annex: 9

Loan & Advances to Total Deposit Ratio of HBL

(Rs. in '000')

Year	Loan &Advances	Total Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	14642560	26490852	55.27	94.84
2006/07	16997997	30048418	56.57	70.89
2007/08	19497520	31842789	61.23	13.76
2008/09	24793155	34681345	71.49	42.25
2009/10	36425538	37611202	96.84	1014.42
2010/11	40336915	40920627	98.57	1127.61
			$\sum\phi x$=**439.97**	$p(x - \bar{x})^2$ =**2363.77**

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{439.97}{6} = 64.99\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{2363.77}{6}} = 19.85$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{19.85}{64.99} = 30.54\%$

Annex: 10

Loan & Advances to Total Deposit Ratio of NIBL

(Rs. in '000')

Year	Loan &Advances	Total Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	12776208	18927306	67.5	127.24
2006/07	17286427	24488856	70.59	67.67
2007/08	26996653	34451726	78.36	0.18
2008/09	36241206	46698100	77.61	1.37
2009/10	40948000	50014725	81.87	9.55
2010/11	48518621	50138122	96.76	323.28
			$\sum\phi x$=472.69	$p(x - \bar{x})^2$ =529.29

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{472.69}{6} = 78.78\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{529.29}{6}} = 9.37$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{9.37}{78.78} = 11.90\%$

Annex: 11

Loan & Advances to Total Assets Ratio of HBL

(Rs. in '000')

Year	Loan &Advances	Total Assets	Ratio (%)(x)	$(x-\bar{x})^2$
2005/06	14642560	29460390	49.7	228.61
2006/07	16997997	33519141	50.71	199.09
2007/08	19497520	36175531	53.9	119.25
2008/09	24793155	39320322	63.05	3.13
2009/10	36425538	42717124	85.27	418.20
2010/11	40336915	46736203	86.30	461.39
			$\sum\phi x$=388.93	**$p(x-\bar{x})^2$ =1429.67**

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{388.93}{6} = 64.82\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi\,(x-\bar{x})^2}{N}} = \sqrt{\frac{1429.67}{6}} = 15.43$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{15.43}{64.82} = 23.81\%$

Annex: 12

Loan & Advances to Total Assets Ratio of NIBL

(Rs. in '000')

Year	Loan &Advances	Total Assets	Ratio (%)(x)	$(x-\bar{x})^2$
2005/06	12776208	21330138	59.90	85.74
2006/07	17286427	27590844	62.65	42.38
2007/08	26996653	38873307	69.45	0.08
2008/09	36241206	53010803	68.37	0.62
2009/10	40948000	57305413	71.46	5.29
2010/11	48518621	58356827	83.14	195.44
			$\sum\phi x$=414.97	$p(x-\bar{x})^2$ =329.55

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{414.97}{6} = 69.16\%$

Calculation of standard deviation(±) = $\sqrt{\frac{\phi\,(x-\bar{x})^2}{N}} = \sqrt{\frac{329.55}{6}} = 7.41$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{7.41}{69.16} = 10.72\%$

Annex: 13

Total Investment to Total Deposit Ratio of HBL

(Rs. in '000')

Year	Total Investments	Total Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	10889037	26490852	41.10	84.81
2006/07	11822981	30048418	39.35	55.65
2007/08	13340172	31842789	41.89	100.00
2008/09	8710691	34681345	25.12	45.83
2009/10	8444910	37611202	22.45	89.81
2010/11	8769938	40920627	21.43	109.41
			$\sum\phi x$=191.34	$p(x - \bar{x})^2$ =485.51

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{191.34}{6} = 31.89\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{485.5}{6}} = 9$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{9}{31.89} = 28.20\%$

Annex: 14

Total Investment to Total Deposit Ratio of NIBL

(Rs. in '000')

Year	Total Investments	Total Deposit	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	5672869	18927306	29.97	80.82
2006/07	6868650	24488856	28.05	49.98
2007/08	6874024	34451726	19.95	1.06
2008/09	7399812	46698100	15.85	26.32
2009/10	8635530	50014725	17.27	13.76
2010/11	7423106	50138122	14.81	38.06
			$\sum\phi x$=125.9	$p(x - \bar{x})^2$ =210

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{125.9}{6} = 20.98\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{210}{6}} = 5.92$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{5.92}{20.98} = 57.64\%$

Annex: 15

Debt to Equity Ratio of HBL

(Rs. in '000')

Year	Total Debt	Net Worth/Net equity	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	28813632	1766176	1631.41	92829.90
2006/07	32168368	2146500	1498.64	29553.04
2007/08	34344633	2512992	1366.68	1596.00
2008/09	36926805	3119881	1183.59	20489.05
2009/10	40421046	3439205	1175.30	22931.04
2010/11	44142019	3995478	1104.79	49257.36
			$\sum\phi x$=7960.41	$p(x - \bar{x})^2$ =216656.39

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{7960.41}{6}$ = 1326.73%

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{216656.39}{6}}$ = 190

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{190}{1326.73}$ = 14.32%

Annex: 16

Debt to Equity Ratio of NIBL

(Rs. in '000')

Year	Total Debt	Net Worth/Net equity	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	19914698	1415440	1406.96	1889.64
2006/07	26195395	1878124	1394.76	977.81
2007/08	36719173	2626786	1397.87	1181.89
2008/09	49688914	3907840	1271.52	8458.48
2009/10	53350152	4585393	1663.48	299.99
2010/11	53989247	5159760	1046.35	100577.77
			$\sum\phi x$=8180.94	**$p(x - \bar{x})^2$ =113385.58**

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{8180.94}{6}$ = 1363.49%

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{113385.58}{6}}$ = 137.47

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{137.47}{1363.49}$ = 10.08%

Annex: 17

Total Debt to Total Assets Ratio of HBL

(Rs. in '000')

Year	Total Debt	Total Assets	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	28813632	29460390	97.80	9.12
2006/07	32168368	33519141	95.97	1.42
2007/08	34344633	36175531	94.94	0.03
2008/09	36926805	39320322	93.91	0.76
2009/10	40421046	42717124	94.62	9.98
2010/11	44142019	46736203	94.44	0.03
			$\sum\phi x=571.68$	21.34

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{571.68}{6} = 94.78\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{21.34}{6}} = 1.89$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{1.89}{94.78} = 1.99\%$

Annex: 18

Total Debt to Total Assets Ratio of NIBL

(Rs. in '000')

Year	Total Debt	Total Assets	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	19914698	21330138	93.36	0.10
2006/07	26195395	27590844	94.94	1.59
2007/08	36719173	38873307	94.46	0.53
2008/09	49688914	53010803	93.73	0.05
2009/10	53350152	57305413	93.09	0.35
2010/11	53989247	58356827	92.52	1.35
			$\sum\phi x=562.1$	$p(x - \bar{x})^2 =3.97$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{562.1}{6} = 93.68\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{3.97}{6}} = 0.81$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.81}{93.68} = 0.86\%$

Annex: 19

Interest Income to Interest Expenses Ratio of HBL

(Rs. In '000')

Year	Interest Income	Interest Expenses	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1626474	648847	250.67	472.19
2006/07	1775583	767411	231.37	5.90
2007/08	1963647	823745	238.38	89.81
2008/09	2342198	934778	250.56	467.42
2009/10	3156846	1418373	222.56	40.70
2010/11	4156612	2301679	180.12	2383.39
			$\sum\phi x$=1373.66	$p(x - \bar{x})^2$ =3459.41

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{1373.66}{6} = 228.94\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{3459.41}{6}} = 24$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{24}{228.66} = 25.64\%$

Annex: 20

Interest Income to Interest Expenses Ratio of NIBL

(Rs. in '000')

Year	Interest Income	Interest Expenses	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1172742	490947	238.87	2533.10
2006/07	1584987	685530	231.21	1820.72
2007/08	2194275	992158	221.16	1064.06
2008/09	3267941	1686973	193.72	26.83
2009/10	4653521	3676688	126.57	3840.28
2010/11	5701426	4762301	119.71	4737.56
			$\sum\phi x$=1131.24	$p(x - \bar{x})^2$ =14022.55

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{1131.24}{6} = 188.54\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{14022.55}{6}} = 48.34$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{48.34}{188.54} = 25.64\%$

Annex: 21

Return on Loan and Advances Ratio of HBL

(Rs. in '000')

Year	Net Profit	Loan &Advances	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	457458	14642560	3.12	0.22
2006/07	491823	16997997	2.89	0.06
2007/08	635869	19497520	3.26	0.37
2008/09	752835	24793155	3.04	0.37
2009/10	508798	36425538	1.40	1.56
2010/11	893115	40336915	2.21	0.19
			$\sum\phi x=15.92$	$p(x - \bar{x})^2 =2.77$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{15.92}{6} = 2.65\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{2.77}{6}} = 0.68$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.68}{2.65} = 25.64\%$

Annex: 22

Return on Loan and Advances Ratio of NIBL

(Rs. in '000')

Year	Net Profit	Loan &Advances	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	350536	12776208	2.74	0.010
2006/07	501399	17286427	2.50	0.020
2007/08	696632	26996653	2.58	0.004
2008/09	900619	36241206	2.49	0.020
2009/10	1265949	40948000	3.09	0.020
2010/11	1176641	48518621	2.43	0.040
			$\sum\phi x=15.83$	$p(x - \bar{x})^2 =0.114$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{15.83}{6} = 2.64\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{0.114}{6}} = 0.05$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.05}{2.64} = 1.83\%$

Annex: 23

Net Profit/Loss to Total Assets Ratio of HBL

(Rs. in '000')

Year	Net Profit	Total Assets	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	457458	29460390	1.55	0.01
2006/07	491823	33519141	1.47	0.03
2007/08	635869	36175531	1.76	0.02
2008/09	752835	39320322	1.91	0.08
2009/10	508798	42717124	1.19	0.19
2010/11	893115	46736203	1.91	0.08
			$\sum\phi x = 9.79$	$p(x - \bar{x})^2 = 0.41$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{9.79}{6} = 1.63\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{0.41}{6}} = 0.26$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.26}{1.63} = 16.03\%$

Annex: 24

Net Profit/Loss to Total Assets Ratio of NIBL

(Rs. in '000')

Year	Net Profit	Total Assets	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	350536	21330138	1.64	0.050
2006/07	501399	27590844	1.82	0.002
2007/08	696632	38873307	1.79	0.010
2008/09	900619	53010803	1.68	0.030
2009/10	1265949	57305413	2.21	0.120
2010/11	1176641	58356827	2.02	0.030
			$\sum\phi x = 11.16$	$p(x - \bar{x})^2 = 0.242$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{11.16}{6} = 1.86\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{0.242}{6}} = 0.20$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.20}{1.86} = 10.79\%$

Annex: 25

Interest Income to Total Loan & Advances Ratio of HBL

(Rs. in '000')

Year	Interest Income	Total Loan & Advances	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1626474	14642560	11.11	1.85
2006/07	1775583	16997997	10.45	0.49
2007/08	1963647	19497520	10.07	0,10
2008/09	2342198	24793155	9.45	0.09
2009/10	3148605	36425538	8.64	1.23
2010/11	4326140	40336915	10.76	1.02
			$\sum\phi x=60.48$	$p(x - \bar{x})^2 =14.68$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{60.48}{6} = 9.75\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{14.68}{6}} = 0.89$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.89}{9.75} = 9.15\%$

Annex: 26

Interest Income to Total Loan & Advances Ratio of NIBL

(Rs. in '000')

Year	Interest Income	Total Loan &Advances	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1172742	12776208	9.18	1.00
2006/07	1584987	17286427	9.17	1.02
2007/08	2194275	26996653	8.13	4.20
2008/09	3267941	36241206	9.02	1.35
2009/10	4653521	40948000	13.81	13.18
2010/11	5701426	48518621	11.75	2.46
			$\sum\phi x=61.06$	$p(x - \bar{x})^2 =23.21$

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{61.06}{6} = 10.18\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{23.21}{6}} = 1.97$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{1.97}{10.18} = 19.32\%$

Annex: 27

Earning Per Share of HBL and NIBL

(In Rs)

Years / Banks	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Average
HBL	59.24	60.66	62.74	61.90	31.80	44.66	53.5
NIBL	59.53	62.57	57.87	37.42	52.55	48.84	53.13

Mean of HBL($\bar{x}$) = 53.5

Mean of NIBL ($\bar{x}$) = 53.13

Annex: 28

Loan Loss Provision to Total Loan & Advances Ratio of HBL

(Rs. in '000')

Year	Loan Loss Provision	Total Loan & Advances	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	1119417	14642560	7.64	11.69
2006/07	795727	16997997	4.68	0.21
2007/08	682093	19497520	3.49	0.53
2008/09	726364	24793155	2.93	1.66
2009/10	1143126	36425538	3.13	1.99
2010/11	1401294	40336915	3.47	0.56
			$\sum\phi x$=25.34	**$p(x - \bar{x})^2$= 16.64**

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{25.34}{6} = 4.22\%$

Calculation of standard deviation (±) = $\sqrt{\frac{\phi (x-\bar{x})^2}{N}} = \sqrt{\frac{16.64}{6}} = 1.62$

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{1.62}{4.22} = 38.50\%$

Annex: 29

Loan Loss Provision to Total Loan & Advances Ratio of NIBL

(Rs. in '000')

Year	Loan Loss Provision	Total Loan &Advances	Ratio (%)(x)	$(x - \bar{x})^2$
2005/06	103808	12776208	0.81	0.019
2006/07	129719	17286427	0.75	0.040
2007/08	135989	26996653	0.50	0.203
2008/09	166201	36241206	0.46	0.240
2009/10	630131	40948000	1.54	0.348
2010/11	792179	48518621	1.63	0.462
182767115			$\sum\phi x$=5.69	$p(x - \bar{x})^2$ =1.312

Calculation of mean Ratio ($\bar{x}$) = $\frac{\phi X}{N} = \frac{5.69}{6}$ = 0.95%

Calculation of standard deviation (±) = $\sqrt{\frac{\phi\ (x-\bar{x})^2}{N}} = \sqrt{\frac{1.312}{6}}$ = 0.47

Calculation of c.v = $\frac{\exists}{\bar{x}} \mid 100 = \frac{0.47}{0.95}$ = 49.23%

Annex: 30

Non-Performing Loan to Total Loan & Advances Ratio of HBL and NIBL

(In %)

Years / Banks	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Average
HBL	6.60	3.61	2.36	2.16	3.52	4.22	3.75
NIBL	2.07	2.37	1.12	0.58	0.67	0.94	1.29

Mean of HBL ($\bar{x}$) = 3.75

Mean of NIBL ($\bar{x}$) = 1

Annex: 31

Calculation Trend of Current Assets of HBL

Year(x)	Current assets(Y)	X=x-2008/09	X^2	XY
2005/06	1736.52	-3	9	-5209.56
2006/07	2046.54	-2	4	-4093.08
2007/08	2146.42	-1	1	-2146.42
2008/09	2961.25	0	0	0
2009/10	4165.53	1	1	4165.53
2010/11	4554.87	2	4	9109.74
	$\sum\phi Y$=17611.13		ϕX^2=19	$\sum\phi XY$=1826.21

$$a = \frac{\phi Y}{N} = \frac{17611.31}{6} = 2925.19$$

$$b = \frac{\phi XY}{\phi X^2} = \frac{1826.21}{19} = 96.12$$

Where,

y = a + b*x*

y **y = 2925.19 + 96.12 *x***

Annex: 32

Calculation Trend of Current assets of NIBL

Year(x)	Current asset (Y)	X= x-2008/09	X^2	XY
2005/06	1511.27	-3	9	-4533.63
2006/07	1972.79	-2	4	-3945.58
2007/08	3075.16	-1	1	-3075.16
2008/09	4415.92	0	0	0
2009/10	5616.92	1	1	5616.92
2010/11	5724.84	2	4	11449.68
	$\sum\phi Y$=22316.9		$\sum\phi x^2$=19	$\sum\phi XY$=5512.23

$$a = \frac{\phi Y}{N} = \frac{22316.90}{6} = 3719.48$$

$$b = \frac{\phi XY}{\phi X^2} = \frac{5512.23}{19} = 290.12$$

Where,

y = a + b*x*

y **y = 3719.48 + 290.12** ***x***

Annex: 33

Calculation of Correlation between total deposit and total lone in advances of HBL

(Rs in '000' million)

Year	**X**	**Y**	**X²**	**Y²**	**XY**
2005/06	26.49	14.64	701.72	214.33	387.81
2006/07	30.05	17.0	903.00	289.00	510.85
2007/08	31.84	19.5	1013.79	380.25	620.88
2008/09	34.68	24.79	1202.70	614.54	859.72
2009/10	37.61	36.42	1414.51	1326.41	1369.76
2010/11	40.92	40.33	1674.44	1626.50	1650.30
N=6	**∑X=201.59**	**∑Y=152.68**	**∑X²=6910.16**	**∑Y²=4451.83**	**∑XY=5399.32**

Where,

X = Total deposit of HBL.

Y = Total loan & advances of HBL.

Total = Summation of the value from fiscal year 2005/06 to 2010/11

Here, $\Sigma X = 201.59$, $\Sigma Y = 152.68 \Sigma X^2 = 6910.16$, $\Sigma Y^2 = 4451.83$, $\Sigma XY = 5399.32$

, N = 6

Now, Correlation (r) = $$\frac{n\phi XY - \phi X\phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

$$= \frac{6 \ | \ |\Xi M\Sigma\Sigma H M \Lambda - 201.59 \ | K\Xi\Lambda H\Theta P}{\sqrt{[\{6 \ | 6910.16 - (201.59)^2\}\ \{6 \ | 4451.83 - (152.68)^2\}]}}$$

r = +0.96

Probable Error (P.E) = $0.6745 \ | | \dfrac{1 - 0.96^2}{\sqrt{6}}$

P.E=0.0216

Annex: 34

Calculation of correlation between total deposit and total loan and advances of NIBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	18.93	12.78	358.34	163.33	241.92
2006/07	24.49	17.28	599.76	298.6	423.19
2007/08	34.45	27.00	1186.80	729.00	930.15
2008/09	46.70	36.24	2180.89	1313.34	1692.41
2009/10	50.01	40.98	2501.00	1699.36	2049.41
2010/11	50.13	48.51	2513.01	2353.22	3935.71
N=6	**$\sum X=224.71$**	**$\sum Y=182.79$**	**$\sum X^2=9339.8$**	**$\sum Y^2=6556.85$**	**$\sum XY=9271.79$**

Where,

X = Total deposit of NIBL.

Y = Total loan & advances of NIBL.

Total = Summation of the value from fiscal year2005/06 to 2010/11

Here,

$\Sigma X = 150.34$, $\Sigma Y = 110.56$ $\Sigma X^2 = 4661.56$, $\Sigma Y^2 = 2657.73$, $\Sigma XY = 3514.16$, $N = 6$

Now, Correlation (r) = $$\frac{n\phi XY - \phi X \phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

$$= \frac{6 \mid 3514.16 - 150.34 \mid 110.56}{\sqrt{[\{6 \mid 4661.56 - (150.34)^2\}\ \{6 \mid 2657.73 - (110.56)^2\}]}}$$

$$r = +0.99$$

Probable Error (P.E) = $0.6745 \mid\mid \frac{1-0.99}{\sqrt{6}}$

$$P.E = 0.0055$$

Annex: 35

Calculation of Correlation between total loan and advances and net profit of HBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	14.64	0.46	214.33	0.2116	6.73
2006/07	17.0	0.49	289.00	0.2401	8.33
2007/08	19.5	0.64	380.25	0.4096	12.48
2008/09	24.79	0.75	614.54	0.5625	18.60
2009/10	36.42	0.51	1326.41	0.2601	18.57
2010/11	40.33	0.89	1626.51	0.7921	35.89
N=6	**$\sum X=149.68$**	**$\sum Y=3.74$**	**$\sum X^2=4451.04$**	**$\sum Y^2=2.476$**	**$\sum XY=100.6$**

Where,

X = Total loan & advances of HBL.

Y =Net Profit of HBL

Total = Summation of the value from fiscal year 2003/04 to 2008/09.

Here, $\Sigma X = 149.68$, $\Sigma Y = 3.74$ $\Sigma X^2 = 4451.04$, $\Sigma Y^2 = 2.476$, $\Sigma XY = 100.6$, $N = 6$

Now, Correlation (r) = $\frac{n\phi XY - \phi X \phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$

$= \frac{6 \times 100.6 - 149.68 \times 3.74}{\sqrt{[\{6 \times 4451.04 - (149.68)^2\}\ \{6 \times 2.476 - (3.74)^2\}]}}$

$r = +0.71$

Probable Error (P.E) = $0.6745 \times \frac{1 - 0.71}{\sqrt{6}}$

P.E= 0.1365

Annex: 36

Correlation between Total Loan & Advances and Net Profits of NIBL

(Rs. in '000' million)

Year	**X**	**Y**	**X^2**	**Y^2**	**XY**
2005/06	12.78	0.35	163.33	0.12	4.47
2006/07	17.28	0.50	298.6	0.25	8.64
2007/08	27.00	0.70	729.00	0.49	18.9
2008/09	36.24	0.90	1313.34	0.81	32.62
2009/10	40.94	1.26	1676.08	1.59	51.58
2010/11	48.51	1.17	2356.13	1.37	56.76
N=6	**$\sum X$=182.25**	**$\sum Y$=4.88**	**$\sum X^2$=6536.48**	**$\sum Y^2$=4.63**	**$\sum XY$=172.79**

Where,

X = Total loan & advances of NIBL.

Y =Net Profit of NIBL

Total = Summation of the value from fiscal year 2005/06 to 2010/11

Here, $\Sigma X = 182.25$, $\Sigma Y = 4.88$, $\Sigma X^2 = 6536.48$,, $\Sigma Y^2 = 4.63$, $\Sigma XY = 172.79$, $N = 6$

Now, Correlation (r) = $$\frac{n\phi XY - \phi X \phi Y}{\sqrt{[\{n\phi x^2 - (\phi X)^2\}\ \{n\phi Y^2 - (\phi Y)^2\}]}}$$

$$= \frac{6 \mid 172.79 - 182 \mid 4.88}{\sqrt{[\{6 \mid 182.25^2 - (65.36)^2\}\ \{6 \mid \text{NIL} - (4.88)^2\}]}}$$

$r = +0.95$

Probable Error (P.E) = $0.6745 \mid\mid \frac{1-r2}{\sqrt{n}}$

$$= 0.6745 \mid \frac{1 - 0.95^2}{\sqrt{6}} \mid$$

P.E= 0.0268

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