

# **CHAPTER-I**

## **INTRODUCTION**

### **1.1 Background of the study**

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

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

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

Commercial banks are major financial institutional, which occupy quite important place in the framework in every economy because they provide capital for the development for the industry. Commercial banks formulate sound investment policies to make it effective, which eventually contribute to the economic growth

of the country. The bound policies help commercial banks maximizing the quality and quantity of investment and hereby achieve the own objective of profit maximization and social welfare. Formulation of sound investment policies and co-ordinate and planned efforts pushed forward the forces of economic growth.

The need of financial resources in developing country like Nepal is essential for the economic development of country. The entire sector from industrial and economical to agriculture and infrastructure are in need of finding. Although the growth of industrial loans has not been encouraging in the recent years, there is sizable growth in commercial and other short term credits. Commercial banks are focusing loans on consumer loans like housing, vehicle, education loan etc. it is encouraging to explore to new sector for loan management but it should also be considered that industrial loan should be given prime importance as the economy largely depends on this sector.

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

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

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

Till the date there are 32 commercial banks in Nepal. Bank is defined as a financial intermediary that canalizes funds between deposits and entrepreneurs. It is a financial institution that accepts deposits and channels the money into lending activities. In a general sense, banks act as a financial intermediary. Intermediation is between deposits and entrepreneurs. A bank is an institution that deals with money by accepting deposits from the general public, corporate bodies and private organizations and deploys for profitable purpose in the form of loans and advances. Bank by accepting deposits takes up the role of custodian of public money. The transactions in the financial market heavily depend upon the banking system of the country. Without bank, it will be quite impossible for the industrialist and the entrepreneurs to go directly to general public for getting their saving or investments. So, the simplest definition is that, bank takes the savings of the public by providing them with certain rate of interest and loans it to needy customers charging them higher rate of interest and thus, earns some profit by doing these transactions. This is the broadest form of the banking, but at this age of time, their functions have increased manifold. Remitting of money, letter of credit, guarantee, issue of money, controlling monetary activities of country, etc. are also major functions of bank. For better understanding, an in depth study of bank has been conducted. The term bank is mainly related to financial transactions to operate, run and facilitate various monetary activities.

According to Concise Oxford Dictionary, the term bank has been defined as “A bank is an establishment of the custody of money which it pays out on customers’ order.” In the word of Kent, “A bank is an organization whose principal operations are converted with the accumulation of the temporarily idle money of the general public for the purpose of advancing to other for expenditure.” A banker and a bank is a person or company carrying on the business of receiving moneys, and collecting drafts, for customers subject to the obligation of honoring cheques drawn upon them

from time to time by the customers to the extent of the available on their current accounts.

Therefore bank can easily be defined as the custodians of deposits. Bank is an institution which deals with money by accepting various types of deposits, disbursing loans and rendering other financial services “A bank is a business organization that receives and hold deposits of funds from other, grants loans or extends credits and transfers funds by written orders of depositors” (Dhungana: 1993:2-4).

“The more developed financial system of the world characteristically falls into three parts: central bank, commercial banks and other financial institutions. The two banks selected for the study are joint venture commercial banks (Dhungana: 1993:2-4).

## **1.2 Focus of the Study**

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

### **1.3 A Brief Profile of the Banks**

#### **Nepal Bangladesh Bank Limited (NBBL)**

Nepal Bangladesh is a joint venture bank with International Financial Investment and Commerce Bank (IFIC) Limited of Bangladesh, and was established in 6<sup>th</sup> June 1994 (2051-02-23) under the company act 1964. It is managed in accordance with the Technical and Management. Agreement signed with IFIC Bank Ltd. Bangladesh. Now, the bank has 15 branches including main branch (i.e. head office) in Nepal.

#### **Himalaya Bank Limited (HBL)**

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

The main objectives of this bank are to carryout modern banking business in the country under the Commercial Bank Act, 1974. The bank provides loan to Agriculture, commerce, educational and industrial sector. The bank is one of the largest shareholder based company. The bank started its banking operation on 8<sup>th</sup> July 1993. Now the bank has 19 branches including main branch (i.e. main office) in Katmandu, Nepal.

### **1.4 Statement of the problem**

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

The need of financial resources in a developing country like Nepal is essential for the economic development of country. The entire sector from industrial and economical to agriculture and infrastructure are in need of finding. Although the growth of industrial loans has not been encouraging in the recent years, there is sizable growth in commercial and other short term credits. Commercial banks are focusing loans on consumer loans like housing, vehicle, education loan etc. it is encouraging to explore to new sector for loan management but it should also be considered that industrial loan should be given prime importance as the economy largely depends on this sector.

Lending policies are not systematic and no clear cut vision of policy is available on lending aspect. In Nepal it has been found that on approval and lending decisions are made flexible to favors to personal networks also. A new customer finds that loan providing process being very complicated and sometimes the documents submitted the loan sanctioning being fraudulent and for formally purpose only. In this perspective the study deals with the following issues:

- ) How effectively is the lending policy of selected sample bank is being followed?
- ) Whether the trend of the deposit and loans of the commercial banks are satisfactory?
- ) How the sample banks measures the liquidity position and impact of deposit on liquidity?
- ) What is the portion of lending between customer and industrial loan?
- ) How the banks measure the lending between consumer and industrial loan?
- ) How the banks measure the lending performance in quality, efficiency and contribution of profitability?

### **1.5 Objective of the study**

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

- ) To analyze the financial positions of the selected sample banks.

- ) To measure the performance in quality, efficiency and contribution of profitability.
- ) To examine the trend of the deposit and loans of commercial bank.
- ) To study the liquidity position, the impact of deposit in liquidity and its effect on lending performance.
- ) To provide suggestions and recommendation for the proper loan system.

### **1.6 Significance of the study**

There are few researches done in loan management of commercial banks. Loan management is one of most important aspect of the bank. The study of analysis of loan management of the chosen selected banks would be beneficial to the shareholders, banking professionals, investors, teachers and students of banking management.

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

### **1.7 Limitation of the study**

Since, the study is focusing to fulfill the partial fulfillment for the requirement course of MBS of T.U. It has some limitation. We have limited resources and may be difficult to explore researcher to find out new aspect. Reliability of statistical tools used and lack of research experience are the major limitation and some other limitations can be enlisted as follows:

- ) This research is limited to the lending aspect mainly with the loan and advanced only.
- ) The secondary data is used to analyze and interpretation for result. So the accuracy of the finding depends on the reliability of available information.
- ) In some extent, the data published on the website of related banks has been taken.
- ) Due to time and resource factor only two commercial banks are taken for the study.
- ) The study covers the time period of 2006/2007 to 2010/ 2011

) There could be many factors affecting loan management decision. However only those factors related with lending policy has been considered in this study.

## **1.8 Organization of the study**

This study has been organized into five chapters.

### **Chapter-1: Introduction**

The first chapter deals with the subject matter consisting introduction, background of the study, statement of the problem, objective of the study, significance of the study, limitation of the study and organization of the study.

### **Chapter 2: Review of Literature**

The second chapter is mainly focused with literature review that includes a discussion on the conceptual framework on loan management and review of major – studies relating with lending decision.

### **Chapter 3: Research and Methodology**

The third chapter describes the research methodology used to conduct the present research. It deals with research design, sources of data, data processing procedures, population and sample; period of the study, method of analysis and financial and statistical tools.

### **Chapter 4: Data Presentation and Analysis**

The fourth chapter is concerned with analytical framework. It includes the analysis of financial indicators. Analysis of mean, correlation coefficient, regression analysis, trend analysis and financial analyses, the major findings are included are the end of the chapter.

### **Chapter 5: Summary, Conclusion and Recommendations**

The fifth chapter includes the summary, conclusion and recommendations of the study which deals about the main theme of study and comparison of lending policy of the banks with recommended for improvement of loan management of the selected banks. The bibliography and annexes are also incorporated at the end of the study.

## **CHAPTER-II**

### **REVIEW OF LITERATURE**

Review of literature mainly covers two parts. The first section of this chapter includes theoretical framework whereas second part is confined to review of the previous studies carried out by the various researchers. In this chapter, the overall concept and view of “financial performance” will be streamlined through the review of relevant literature related to this study. This chapter includes the conceptual framework, review of empirical studies, review of Nepalese study and research gap.

#### **2.1 Conceptual Framework**

Bank is considered as the backbone in the development of the national economy. It is a financial institution, which acts as a transaction of money by accepting various types of deposit, disbursing loans and rendering other financial services. So, among the various function to provide loan to the environment of the investment and the bank and the bank has the major role in creating such an environment.

Banks plays vital role in the economic development of a country. In fact, in the modern industrialized and service oriented era. The availability of the banks with competitive services is the measure of economic development of a country. While many people believe that banks play only a narrow role in the economy taking deposit and making loans the modern banking has had to adopt new roles in order to responsive to public needs. The principal role that a bank today play are:

#### **The intermediate role:**

Transferring the saving received primarily from the households into credit (loans) for business firms and other in order to make investments in the new building, equipment and other capital goods.

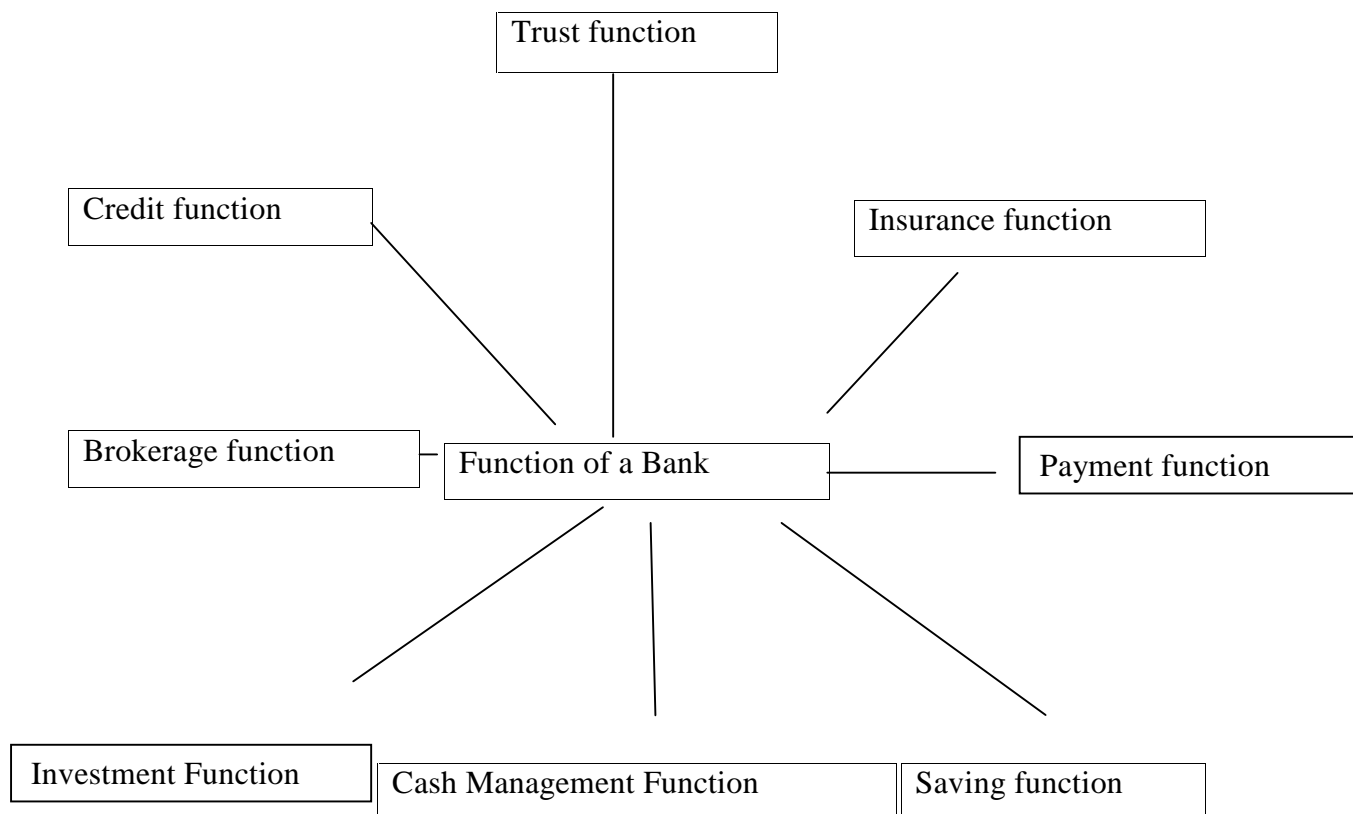
#### **The Payment Role**

Carrying out payment for goods and services on behalf of their customer (such as by issuing and clearing cheque and dispersing currency and coins.)

## The Policy Role

Servicing as a conduct for government policy in attempting to regulate the growth of the economy and pursue social goal. Some of the vital functions performed by a full banking service institution today are summarized in the figure below.

**Figure 2.1**  
**Functions of a Bank**



## The Guarantor Role:

Starting behind the customers to pay off the customers debt when those customers are unable to pay (such as by issuing letters of credit). Some of guarantees are big bond, performance bond etc.

## The Agency Role

Acting on behalf of the customers to manage and protect or issue and redeem their securities.

## 2.2 Review of NRB Directives

The latest directives to finance company from NRB are being divided into 13 directives (heads) having further division under each directive. These are as follows:

Directive 1- Provision of capital fund

Directive 2 - Provision of financial source

Directive 3 - Provision about mandatory balance and liquid assets.

Directive 4- Provision about classification of loan, advances, hired assets and loan losses.

Directive 5- Provision about limit of credit and facility per client.

Directive 6- Corporate good governance provision

Directive 7- Provision about sector wise loan limit.

Directive 8- Provision relating to investment

Directive 9- Provision about interest rate.

Directive 10- Provision about extension of branch office.

Directive 11- Sale of promoter's share

Directive 12- Provision about audit and audit committee.

Directive 13- Provision about net profit and dividend.

Directives No 4's preamble stood as:, The right directive is issued by right of NRB Act 059 sec (79) to classify loan, advance (sapat) and leased asset (patta) and to keep provision about loan losses of which is done to minimize the losses derived from flowing of loan, spat and leased assets”

It contains all together 8 clauses. In Clause 1 (1) company has classified loan, advance and leased assets as follows, from fiscal years (066/67)'s second half year period.

**Table- 2.1**  
**Classification of loan**

S.N.	Loan Classification	Period Beyond Defined limit	Loan Loss Provision%
1.	Good or Pass	Not crossed limit of crossed 3 months	1%
2.	Inferior(Sub-standard)	Crossed 3 to 6 months	25%
3.	Doubtful	Crossed 6 to 12 months	50%
4.	Bad (worse)loan	Crossed 1 year	100%

Clause 2 states loan losses provision about loan disbursed under personal guarantee (i.e. bailment or underwriting).

A clause 3 informs rescheduling (structuring) of non-performing loans. Reschedule is done as per client's request and viable proof submitted for gradual downfall in quality of loan. Substandard loan cannot be rescheduled and 12.5% loan losses are to be managed.

Clause 4 States about income denoting condition from loan losses provision.

Clauses 5 informs about repayment period of loan and advance.

Clause 6 says about investment policy of loan, advances and leased assets and Sub

Clauses 7 entails about penalty if any.

A directive 5 entails provision about limit of credit and facility per client. Its background goes on "By the right of NRB Act 2058 Clauses (79) the right directives is issued to minimize risk arisen due to concentration in flow of loan to single customer."

Clause 1 informs about loan, advance and leased assets limit where as sub clause (1) encompasses per client loan limit provision company can extend loan not exceeding the following limit on owns core capital to single person, family, customer industry, project, firm or company and Group of same company.

- ) Up to 25% allowed on fund based loan, advances and leased assets.
- ) Up to 50% allowed on non-fund based loan, advance and leased assets.
- ) Sum of fund based and non-fund based loan should be up to 50% without exceeding on fund based loan.

Sub clause 2 states remission on loan limit and says clause 1(1) is not applicable to client to whom loan is disbursed by keeping government bond and NRB bond.

Sub clause 3 has compelled finance company to submit all such record to "Bank Management Department and Bank Inspection and Supervision Department" within one month of the expiry of each semi-annual period where as sub clause 4 states about penalty if per-person limit is not obeyed and works as per NRB Act clauses 99 and 100.

Provision about sector wise loan limit falls under directives number 7 and states.”It is issued by the right of NRB Act 2059 clause (79) to minimize risk arisen due to concentration of loan, advances and leased assets disbursed to flow these on the approved sector. It contains all together five sub-clauses. As per sub-clause 1, sector wise loan limit is as follows.

**Table-2.2**  
**Sector Wise Loan Limit**

<b>S.N</b>	<b>Sector</b>	<b>Sub-Sector</b>	<b>%</b>
<b>1.</b>	Hire Purchase Loan	i)Transport, vehicle ii)Machine, tools and equipment iii)Household durable goods and other fixed assets	40%
<b>2.</b>	Residential Loan	i)Personal land and home, ware house purchase ii)Purchase of corporate land and home construction iii)Corporate warehouse construction (Good own)	40%
<b>3.</b>	Lease Investment	i)Transport vehicle ii)Machine, tools and equipment iii) Household durable goods and other fixed assets.	50%
<b>4.</b>	Term Loan(Mid and Long)	Term loan i)Agriculture and agro business ii)Industry iii)Trade iv)Education v)Health vi)Tourism vii)hydro viii) Other	70% 40% 40% 40% 40% 40% 40% 40%
<b>5.</b>	Fund Based Merchant Banking Transaction	i)Venture Capital ii)Bridge finance iii)Other merchant banking transaction	40% 40% 40%
<b>6.</b>	Non Fund Based Merchant Banking Transaction	i)Corporate wise advise ii)Project wise advise iii)Issue management iv)Share underwriting v)Portfolio management	40% 40% 40% 40% 40%

It says term loan and advance should not exceed 75% and each subhead should within 40% limit. If loan is flown beyond these deadlines, extra loan losses are to be kept by company to reduced risk arisen from such actions.

## **2.3 Review of related Studies**

### **2.3.1 Review of Journal and Articles**

A bank is a government regulated, profit making business that operates in competition with other banks and financial institutions to server the saving ant credit needs of its customers. The primary business of banks is accepting deposit and leading money. Banks accepts deposit for customers who want the safety and convenience of deposit service and the opportunity to earn interest on their excess funds (Sapkota, 2001:54).

**Pradhan (1996)**, has presented a short glimpse on investment in different sectors, its problem and prospects through his article, “*Deposit Mobilization, its problem and prospects*”. On his he has expressed that, “Deposit it the life blood of any financial institutions, and be it commercial bank, finance company, co-operative or nongovernment organization.” He also added, in consideration of 12 commercial banks and nearly three dozens of finance companies, the latest figure does produce a strong felling that a serious review must be made of problem and prospects of deposit sector. Expected few joint banks, other organizations rely heavily on the businessman deposit receiving and credit disbursement.

In the light of this, Pradhan has pointed out following problem of deposit mobilization in Nepalese perspective:

- ) Due to the lesser office hours of banking system people prefers for holding the cash in the personal possession.
- ) Unavailability of the institutional services in the rural areas.
- ) No more mobilization and improvement of the employment of deposits in the loan Sectors.
- ) Due to the lack of education most of Nepalese people do not go for saving in formal banking channel. However, they are very much used of saving, be it in the form of cash, ornaments or kind. Their reluctance system are governed by their lower level of understanding about financial organizations, process

requirements, office hours withdrawal system, availability of depositing facilities and so on.

**Rana (2004)**, published an article “*RBB Reducing Losses*” where he focuses that RBB recovered 2300 million as principal and interest from the loans that were classified as NPA during nine months. RBB executives said that money was not being recovered in the past just because there was no follow up made on the loan to realize it. The culture seemed to be that of lend and forget. The NPA size has gone up from Rs14889 million as of mid July 2002 to Rs15531 million as of mid October 2003. But RBB executives told that it was due to more stringer requirements introduced recently under the prudential directives of NRB ([www.ADBL.com.np](http://www.ADBL.com.np)).

**Nepal (2009)**, published an article “*Home Loan Making Real Estate Business Attractive*” where he explain about the housing loan, which is gaining popularity now a days. Commercial banks provide various kinds of loans among which housing loan is one of them.

The writer states that real-estate business is now a day’s increasing rapidly in Kathmandu. The main reason of this is not due to prosperous economy of Nepal, but due to several reasons such as security, remittance from abroad, housing loan at cheap rate with easy repayment schedule etc. The history of housing loan in Nepal is very short. Within a span of three years period, many banks are introducing attractive scheme of financing for housing in Kathmandu ([www.ADBL.com.np](http://www.ADBL.com.np)).

By understanding this general notion of the people, banks are financing for housing so that people can purchase building in the early days. While extending this type of loan, bank will simply see the income of the customers. It takes hardly ten to twelve ays for loan processing. He further writes that from the angle of banks also, this scheme is becoming more profitable and at the same time less risky. The default of non-repayment is very less.

**Dev Lal K.C. (1996)**, in his article states, “*The changing face of the banking sector and the Nepal Government recent budgetary policy*” concludes the following an introduction of he reform in the banking sector as an integrate part of the liberal

economic policy, more banks and finance companies have come up as a welcome measure of completion. However because of poor investment policies and lack of internal control the two governments controlled banks, Nepal Bank Ltd and Rastriya Banijya Bank has awarded the management control to foreign companies to improve the condition of nonperforming assets. The policy of giving management to professional consultant is a part of the financial sector reform policy of NRB. (K.C. 1996:27-32).

**Rawat Bahadur Karki (2000)** has summarized some of the challenges through his article, “ *the financial sector is facing major challenges of high NPL of the banking sector,*” which comes around 18% of the total loan but if the loan classification is made according to least international practice, it is assumed to exceed 30% credit demand is being met largely by non-institutional source i.e. private money lender, merchant trade, individual and land lord at very high rate of interest, which is 2-3 times higher than of institutional source, this shows that the unorganized financial sector is playing a major role in Nepalese economy. The liquidity has a major role in Nepalese economy. The liquidity position of the banking sector is rated as high as 24%, but the productive sector of the economy is starved by credit crunch. This has created a paradoxical situation on banking sector. He has given some suggestions to improve the Nepalese financial sector. The financial institution especially CBs have to identify new areas of investment to increase loans and advances in reducing the liquidity position.

With the rapid growth of the number of banks and financial institutions, deposit insurance scheme is a must. The principal reasons for introducing such deposit insurance should be one of social justice rather than economic justification in order to protect the interest of the small depositors. In this condition, this scheme should be expedited to implement (Karki, 2000:26-30).

Lila Prasad Ojha (2002) entitled “*lending practices:*” A study on NABIL Bank Limited, Standard Chartered Bank Limited and Himalayan Bank Limited” has found out that the measurement of lending strength in relative terms has revealed that the total assets to total liability of SCBNL has the highest ratio. However the performance of other two banks has not deviated from the mean ratio of SCBNL

and the combined average. SCBNL tendency to invest in government securities has resulted with the lowest ratio of loans and advances to total assets ratio. The steady and high volume of loans and advances throughout the years has resulted NABIL ratio to be the highest. The ratio of loans and advances and investment to deposit ratio has measured the portion of total deposit that is used to increase the income of the banks irrespective of the profiles of its application. NABIL has deployed the highest proportion of its total deposit in earning activities and this ratio is significantly above the ratio of other two banks. The combined ratio is highly deviated from the mean ratio of NABIL and SCBNL. This is the indicative of that in fund mobilizing activities NABIL is significantly better than SCBNL.

Similarly the absolute measures of lending strength has revealed that the mean volume of net assets and deposit is highest in SCBNL with moderate variation. The volume of net assets of HBL is the least due to the low share capital, reserve and surplus in its capital mix. But the volume contributed by NABIL is the greatest in the study of period. NABIL has the best contribution in productive as well as industrial sector in economy.

He has further concluded that the overall liquidity strength of SCBNL can be considered the best among the banks. However the liquidity risk arising from interest rate in SCBNL is the most likely. Since the market is highly sensitive towards the interest rate SCBNL has generally been offering low interest rate as compare to the banks. The analysis of lending strength of HBL in loans and advances in the best however loans and advances, investments to deposit ratio have upgraded the performance of NABIL. If HBL strength succeeded in collecting the less capital source of strength fund of HBL would push the performance of NABIL and SCBNL for behind in the coming future. Also the contributions made by HBL in the productive sector of economy is highly appreciable and the best among these the commercial banks. The highest growth rate, proportionately high volume of loans and advances and the best contribution in agriculture and priority sector and the high level of deposit mobilization of HBL has put his level of deposit mobilization of HBL has put this bank in the top positive in the lending function as demand by national priority , national development . However the better activity ratio of SCBNL has

proved this bank then best in managing the lending portfolio according to the demand of profit-oriented business. The high volume of lending activities and high volume of productive sector loan of NABIL has put this bank best thin but in ratio of SCBNL has proved this bank best in managing the lending portfolio according to the demand of profit-oriented business. The high volume of lending activities and high volume of productive sector loan of NABIL has put this bank in the top position in absolute term.

On the basis of findings and conclusion he has recommended for the banks as the liquidity position of all these three banks was found to be high. He has recommended the banks to look upon the new area of lending and investment. The rural economy has always been realizing the credit needs and the dominance of non- organized money lender in this area has been prevailing. To compromise between the liquidity and credit need of rural economy these banks are highly recommended to expand their credit in this area. SCBNL is recommended to give extra priority on productive and priority sector loan. The increasing provision as loan loss and high volume of non-performing assets may have caused due to the failure of industrial and agricultural sector. NABIL's increased non-performing, asset may have caused due to the accumulated bad debts that is kept behind the certain to show the efficiency of management.

He has used different statically tools like standard deviation, correlation, trend analysis and financial tools for the data analysis and presentation. In his study he has also taken sector wise loan- priority sector, productive sector etc, the different sector wise loan classification are presented and analyzed only secondary data has been used for the study, the overview of theoretical aspect of the lending practices of the banks has not been analyzed . He has taken five years data from 1997 to 2001 for study of lending practices of NABIL, SCBNL and HBL (Ojha, 2002:60-68).

### **2.3.2 Review of Thesis**

Past thesis relating to loans which are considered as relevant to this study is reviewed herein.

**Ojha (2006)** conducted a study degree on "*Lending Practices: A study on NABIL Bank Ltd., SCB Nepal Ltd. and Himalayan Bank Ltd.*" with the objective of: Determine the liquidity position, the impact of deposit in liquidity and its effect on lending practices. Measure the bank's lending strength. Analyze the portfolio behavior of lending and measuring the ratio and volume of loans and advances made in agriculture, priority and productive sector. Measure the lending performances in quality, efficiency and its contribution in total income.

The study was conducted on the basis of secondary data. The research findings of the study are:

The measurement of liquidity has revealed that the mean current ratio of all the three banks is not widely varied. All of them are capable in discharging their current liability by current asset. The measurement of lending strength in relative terms has revealed that the total liability to total assets of SCBNL has the highest ratio. The high ratio is the result of high volume of shareholder equity in the liability mix. Himalayan Bank Ltd. Has high volume of saving and fixed deposits as compared to current deposit resulting into low ratio of non-interest bearing deposits to total deposits ratio compared to the combined mean. The ratio of investment to loan and advances has measured the total portion of investment in total of investment and loans and advances. The mean ratio among the banks does not have deviated significantly. The loans and advances and investment to deposits ratio has shown that NABIL Bank Ltd. has deployed the highest proportion of its total deposits in earning activities. This is the indicative of that in fund mobilizing activities NABIL Bank Ltd. is significantly better. The portfolio analysis has revealed that the flow of loans and advances in agriculture sector is the lowest priority sector among these commercial banks. The contribution of all the banks in industrial sector is appreciable. The contribution made by Himalayan Bank Ltd. in industrial sector is the greatest and that of SCBNL is the least. The lending in commercial purpose is highest in case of NABIL Bank Ltd. and least in case of SCBNL. SCBNL has highest contribution in service sector lending. It has contributed 25.47 % of its total credit in general use and social purpose. The total income to total assets ratio measures the earning power of each rupee employed by the bank. NABIL's ratio in this case is the best. The ratio of total income to total expenses reflects the earning capacity of a rupee of expenses. The productivity of

expenses in SCBNL is the best. The performance of SCBNL is significantly better than other two banks in case of profitability. EPS is highest in case of SCBNL.

**Bajracharya (2007)**, has made a study on topic "*A Study on the Deposits and Loans and Advances of NBL during the year 1973-1978*".

The main objectives of the study are:

- ) To show the change in deposits according to change in the rate of interest.
- ) To examine the relationship between deposits and loans and advances of the bank.
- ) To show the resources (deposits) mobilization of the bank.

His major findings are:

- ) There is the increasing trend in deposits but there is up and down position in the case of loans and advances.
- ) The deposits increased in increasing trend up to 1973 and after that it is increased in the 1974, but decreased in 1975 and 1976 and again increased in 1977 and 1978. But it is due to the cause of changes in rate interest.
- ) Its finding shows that the interest rate structure affects both deposits and loans and advances. If there is a provision of suitable interest rate, then the bank can enjoy maximum profit.
- ) The bank should decrease the rate of interest. He also found the situation of inequality in branch expansion process. He comments on centralization of loan granting procedure. To invest a small amount of loan, it requires the approval of head office. He heavily criticizes the system.

**Pyakurel (2008)**, has made a study on "*Loan Disbursement and Recovery of Nepal Bank Limited*" His research objectives are:

- ) To see loan disbursement process.
- ) To analyze the condition of loan recovery and
- ) To see the efficiency of new management on recovery of loan.

In his study trend analysis, ratio analysis and correlation and regression analysis have been used. Trend for five years is studied and interpreted.

His major findings are:

- J Loan disbursement trend shows that it is decreasing every year. He says that whatever the disbursement process is, profit is not decreasing.
- J It analyzes the priority sector loan into agriculture sector, cottage industry, service
- J Sector, hire purchase and deprived sector loan. Although he presents the data of disbursement, collection and outstanding figures are excluded. He found the present disbursement and recovery of NBL is normal.
- J It is able to recover unexpected due loan. By the conflict bank reduces many branches and it cannot disburse additional loan in priority sector. His opinion is that the new management of NBL is not only effective for collecting overdue loan, it is effective in managing every essential factors of bank.
- J His recommendation is related with supervision and inspection. The system must be strict, effective and efficient. Loan should be provided with technical facility. Policy should be formulated taking into consideration of geographical features and infrastructure development of the country.

**Sigdel (2009)**, has submitted a thesis named “*A Study on Loan Management of ADBL*” to Shanker Dev campus. The main objectives of the study are:-

- J To evaluated the trend of loan disbursement and collection.
- J To study target and actual loan disbursement and collection.
- J To examine the achievement of purpose wish, term wise and development region wish loan disbursement outstanding and collection of ADBL.
- J To provide suggestion to the ADBL on the basis of findings

From has study the major finding about disbursement and recovery management are follow:

- J Actual loan disbursement, outstanding and collection of marketing purpose is increased every year. % of loan collection to disbursement is increasing every year. Likewise the highest percentage of loan collection to outstanding is 67.74% in f/y 061/62 it is increasing trend. Because of significant relationship existed increase in loan disbursement increase loan collection?

- J Actual loan disbursement of long term is in decreasing trend but loan outstanding and collection is in increasing and fluctuating trend respectively. And disbursement the outstanding and collection of short term is increased every year the lower percentage.
- J The highest actual loan outstanding of eastern, center western, mid western and far western development regions are 29%, 33.35%, 22.73%, 8.69%, and 9.12% in total loan outstanding.
- J The targeted loan disbursement and collection is in increasing trend similarly, the actual loan disbursement and collection is also in increasing trend. There is small % of fluctuating trend in targeted and actual loan disbursement and collection.

**Dawadi (2010)**, has submitted a thesis named “*Loan Management of Banking Company (A Case Study of AssDBL) to Central Department of TU*”. His research objectives are as follows relevant to loan.

- J To analyze the management of loan disbursement.
- J To analyze the recovery management of disbursed loan.
- J To measure association between deposit collection and loan disbursement.
- J To measure relationship between loan disbursement and recovery.

Major finding about loan management of ADBL are as follow:

- J The ADBL bank divides their loan disbursement amount in the categories. The miscellaneous loan category is included such types of loans, which are not categorized specially the highest portion of the loan is disbursed in overdraft banking. In average around 38% of the total loan disbursed in this category.
- J The average cash and bank balance of the bank is 12.67% with total deposit, like this the standard deviation and coefficient of variation of this ratio are 1.76% and 13.96% is 56.76% where its standard deviation and coefficient of variation are 4.20% and 7.40% respectively.
- J The all year’s loan management target is less than their actual achievement. The calculated value of t-test is 1.828 degree of freedom is 2.306. So there is no significance difference to t-test.

- J The loan outstanding amount depends upon loan disbursement and loan collection amount. From the multiple regression analysis he can find that both variables have positive relation with outstanding loan. If the amount changes in these two variables by Re 1 the loan outstanding amount will be changed by Re.0.4560 and 0.1815 respectively. If both amounts are few the loans outstanding amount would Rs. 53.4795 cores.
- J The non performing asset of the bank is highest in 2063/64 i.e. Rs 1092777 thousand. In this year the amount of NPA is increased by Rs 294723 thousand. The NPA ratios with loan disbursement are 2.97%, 3.56, 4.32%, 4.62% and 6.26% respectively during study period etc.

**Lekhak (2011)**, has submitted a thesis named “*Loan policy of Agricultural Development Bank of Nepal*” to Shankar Dev Campus. The major objectives of this study are as follows:

- J To see lending practice loan recovery procedure, interest rebate and discount interest rate charged by ADBL.
- J To examine the loan of ADBL sector wise, term wise, Development Region-wise.
- J To evaluate the trend of loan investment collection and outstanding.

The major findings of the study researcher finds in this thesis are:

- J The total loan disbursement of the development financing increased from Rs.8.89 billion in F/Y 2059/60 to Rs. 36.33 billion in F/Y 2065/66 registration an annual growth rate of Rs. 31.86 billion.
- J The disbursement except in the portfolio like irrigation, biogas and housing and loan development the short fall disbursement in irrigation is due to government policy. The average annual growth rate of loan disbursement is 31.86.
- J Large portion of the term-wise loan disbursement covered by short term loan, it covered 61% where 38% by medium term and only 1% of total disbursed loan covered by long term loan.
- J Collection rate was highest in Tea and Coffee followed by marketing and lowest in irrigation. The average annual growth rate of loan collection is 35.91%.

## **2.4 Research Gap**

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

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

This chapter is related to research methodology in this study. Research methodology is a way to systematically solve the research problem. In other words, research methodology describes the methods and processes applied in the entire aspect of the study. It may be understood as a science of studying how research is done scientifically. It is necessary for the researcher to know not only the research methods but also the methodology (Kothari, 1984:10-13). This chapter includes the research design, population and sample.

#### **3.1 Research Design**

Research design serves as a framework for the study, guiding the research instruments to be utilized, and the sampling plan to be followed. In other words, research design describes the general plan for collecting, analyzing and evaluating data. Research design is the planned structure and strategy of investigation conceived to obtain answers to research objectives through analysis of data. The study is based on primary as well as secondary data. So the descriptive and analytical research designs have been used.

#### **3.2 Population and Sample**

A small portion chosen from the population for studying its properties is called a sample and the number of units in the sample is known as the sample size. The method of selecting for study a small portion of the population to draw conclusions about characteristics of the population is known as sampling. Sampling may be defined as the selection of part of the population on the basis of which a judgment or inference about the universe is made. Here only 2 sample joint venture commercial banks have been taken out of 32 commercial banks. All the commercial banks in Nepal are the population of the study. The sample taken from the commercial banks are as follows:

<b>Total Banks</b>	<b>Sample Taken</b>
32 Commercial Banks	Himalayan Bank Ltd. Nepal Bangladesh Bank Limited

### **3.3 Nature and Sources of Data**

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

### **3.4 Analysis of Data**

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

#### **3.4.1 Financial Tools**

##### **Ratio Analysis**

A ratio analysis is simply the number expressed in terms of another and as such it expresses the quantities relationship between any two numbers. Ratio can be expressed in terms of percentage, proportion and as coefficient. The technique of ratio analysis is a part of the whole process of analysis of financial statements of any business of industrial concern especially to take output and credit decision. Through this technique a comparative study can be made between different statistics concerning varied facts of a business different statistics concerning varied facts of business units. Just as the blood pressure, pulse and temperatures are the measure of

the health of an individual, so the ratio analysis measures the economic financial health of a business concern. Thus, the technique of ratio analysis is of a considerable significance in studying the financial stability, liquidity profitability and the quality of the business and industrial concerns (Kothari, 1994:169).

For the study period following ratios are analyzed.

- 1) Current Ratio
- 2) Liquid fund to Total liabilities Ratio
- 3) Liquid funds to Total Deposit Ratio
- 4) Total Assets to Total liability Ratio
- 5) Loans and Advances to Total Assets Ratio
- 6) Loans and Advances and Investment to Total Deposit Ratio
- 7) Loans and Advances to Shareholders Equity
- 8) Interest Income to Total Income Ratio
- 9) Interest Expenses to Total Deposit Ratio
- 10) Interest Income to Interest Expenses Ratio
- 11) Growth Ratio of Total Deposit
- 12) Growth Ratio of Loans and Advances
- 13) Growth Ratio of Total Investment
- 14) Growth Ratio of Net Profit

### **1) Current Ratio:**

It establishes the relationship between current assets and current liabilities. It is computed by dividing current assets by current liabilities. It is calculated as follows :

$$\text{current ratio} \times \frac{\text{current asset}}{\text{current liabilities}}$$

### **2) Liquid fund to Total liabilities Ratio:**

It establishes the relationship between liquid fund and current liabilities. It is computing by dividing liquid fund to total liabilities. It's formula is :

$$\text{Liquid fund to Total liabilities Ratio} \times \frac{\text{Liquid fund}}{\text{Total liabilities}}$$

### **3) Liquid funds to Total Deposit Ratio:**

It measures the position of the liquid fund on total deposit which is calculated by dividing to total deposit. Its formula is as follows:

### **4) Total Assets to Total liability Ratio:**

This ratio measures the relationship between total asset and total liabilities. It is computed by dividing total assets to total liabilities. Its formula is as follows:

$$\text{Total assets to total liability ratio} \times \frac{\text{Total assets}}{\text{Total liabilities}}$$

### **5) Loans and Advances to Total Assets Ratio:**

This ratio judge the position of loan and advances on total assets. It is calculated by dividing loan and advances by total assets. Its formula is as follows:

$$\text{Loans and Advances to Total Assets Ratio} \times \frac{\text{Loans and Advances}}{\text{Total assets}}$$

### **6) Loans and Advances and Investment to Total Deposit Ratio:**

This ratio measures the position of loan and advances and investment on total deposit. It is computed by dividing loan and advances and investment by total deposit. it is calculated as:

$$\text{Loans and Advances and Investment to Total Deposit Ratio} \times \frac{\text{Loans \& Advances \& Investment}}{\text{Total deposit}}$$

### **7) Loans and Advances to Shareholders Equity:**

It is calculated by dividing loans and advances to shareholders equity. Its formula is as follows:

$$\text{Loans and Advances to Shareholders Equity:} \times \frac{\text{Loans and Advances}}{\text{Shareholders Equity}}$$

### **8) Interest Income to Total Income Ratio:**

It is measured by dividing Interest Income to Total Income. Its formula is as follows:

$$\text{Loans and Advances to Shareholders Equity} \times \frac{\text{Interest income}}{\text{Total income}}$$

### **9) Interest Expenses to Total Deposit Ratio:**

It measures the position of the Interest expenses on total deposit. It is computed by dividing interest expenses to total deposit. Its formula is as follows.

$$\text{Interest Expenses to Total Deposit Ratio:} \quad \times \frac{\text{Interest expenses}}{\text{Total Deposit}}$$

### **10) Interest Income to Interest Expenses Ratio:**

It measures the position of interest income on interest expenses, which is computed by dividing interest income to interest expenses. Its formula is as follows:

$$\text{Interest Income to Interest Expenses Ratio:} = \frac{\text{Interest income}}{\text{Interest expenses}}$$

### **11) Growth Ratio of Total Deposit:**

It measures the growth ratio of the company or organization, which is compared by two years deposits i.e. current year deposit and previous year deposit. The calculation may show the increasing or decreasing rate of growth of the deposit. It is calculated by dividing current year deposit by previous year deposit. Its formula is as follows:

$$\text{Growth Ratio of Total Deposit:} = \frac{\text{current years deposit}}{\text{Previous year deposit}}$$

### **12) Growth Ratio of Loans and Advances:**

It measures the growth rate of loan and advances comparative by current year and last year. It is calculated by dividing current year's loan and advances by last year loans and advances. Its formula is as follows:

$$\text{Growth ratio of loans and advances:} = \frac{\text{current years loan and deposit}}{\text{Previous years loan and advances}}$$

### 13) Growth Ratio of Total Investment :

It usually measures the growth rate of total investment, which is computed by dividing current year's total investment and last year's investment. Its formula is as follows:

$$\text{Growth Ratio of Total Investment} : = \frac{\text{current years total investment}}{\text{Previous years total investment}}$$

### 14) Growth Ratio of Net Profit:

It usually measures the growth rate of net profit, which is computed by dividing current year's net profit by previous year's net profit. Its formula is as follows:

$$\text{Growth Ratio of Net Profit} := \frac{\text{current years net profit}}{\text{Previous years net profit}}$$

### 3.4.2 Correlation Coefficient Analysis

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

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

Where,

r = Correlation coefficient

n = Number of years

$\sum x$  = Sum of X series

$\sum y$  = Sum of Y series

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

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

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

x & y = Financial Variable of joint venture banks.

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

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

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

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

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

### **3.4.3 Trend Analysis**

Trend analysis is the analysis of a firm's financial ratio over time used to estimate the likelihood of improvement or deterioration in its financial condition. It is important to analyze trend in ratios as well as their absolute level, for trends give clues as to whether a firm's financial conduction is likely to improve or to deteriorate.

## CHAPTER-IV

### DATA PRESENTATION AND ANALYSIS

This chapter is related to presentation and analysis of data collected from various primary and secondary sources. The chapter has been divided into main three sections. The first part of the chapter involves the analysis of secondary data while the second part includes the analysis of primary data and the last part of the chapter includes the major findings of the study.

#### 4.1 Measurement of Liquidity Position

##### 4.1.1 Current Ratio

This is the crude measurement of liquidity ratio. It measures the ratio between total current assets and total current liabilities. The current asset include cash and bank balance with cheque in hand, balance with NRB, money at call and short notices, investment in government securities, bills purchased and discovered loans, and advances and other current assets, similarly, current liability includes borrowing from other banks, deposit, bills payable, and the current assets.

**Table 4.1**  
**Status of Current Ratio**

	Fiscal year					
Banks	2006/07	2007/08	2008/09	2009/10	2010/11	Mean
HBL	1.0406	1.0359	1.0895	1.0850	1.0761	1.0654
NBBL	1.0128	1.0298	1.0275	1.0099	1.0126	1.01852

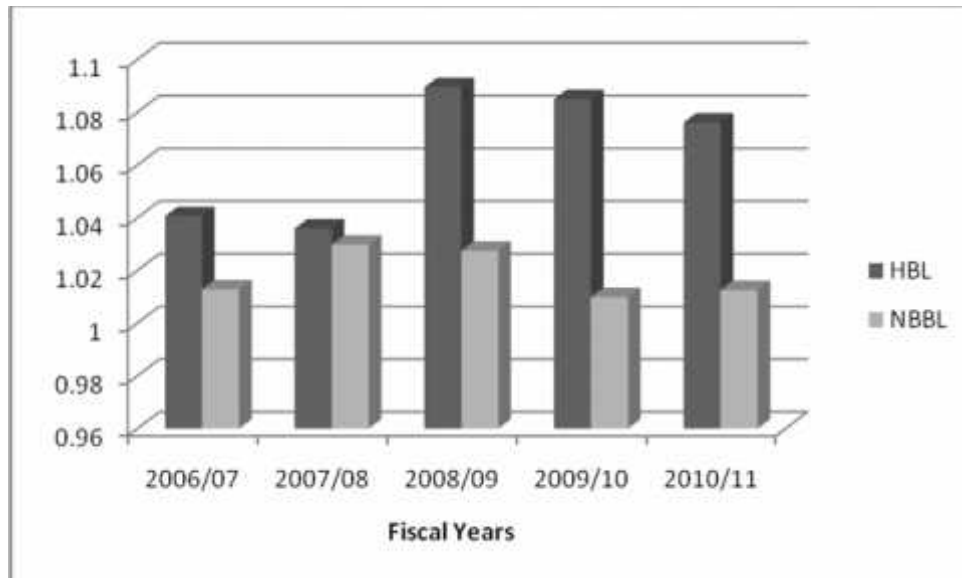
Source: Annex-1

The combined mean ratio is 1.04196, if we measure the performance of these banks based in this mean, the performance of HBL is better and the NBBL has maintained lesser liquid assets. The mean current ratio of HBL is 1.0654 and NBBL is 1.01852 which is highest than HBL. NBBL implies a high liquidity ratio.

Table measures the current ratio of two banks of five consecutive years. HBL has highest ratio in 2008/09 i.e.1.0895 and lowest ratio in 2007/08 i.e. 1.0359.Similarly

NBBL has highest ratio in 2007/08 i.e.1.0298and lowest ratio in 2009/10 i.e. 1.0099. The ratio is in fluctuating trend in both banks. The ratio has been ranged from 1.0359 to 1.0895 HBL. Table explains that the current ratio of NRB is 1.0099 to 1.0298 .The overall trend of current of the two based ratio is slightly changed.

**Figure: 4.1**  
**Status of Current Ratio**



#### **4.1.2. Liquid Fund to Current Liability Ratio**

Since the current ratio gives only the short and crude idea of liquidity position of a firm, measuring its liquidity ratio depending on liquid fund is more significant. Liquid fund comprises of those assets, which can be converted into cash within a short period without decline in their value. Cash in hand, balance with NRB, balance with other banks and money at cell included in calculating the liquid fund. The ratio measures a bank ability to discharge its current liability in an adverse condition without undergoing its liquidity risk.

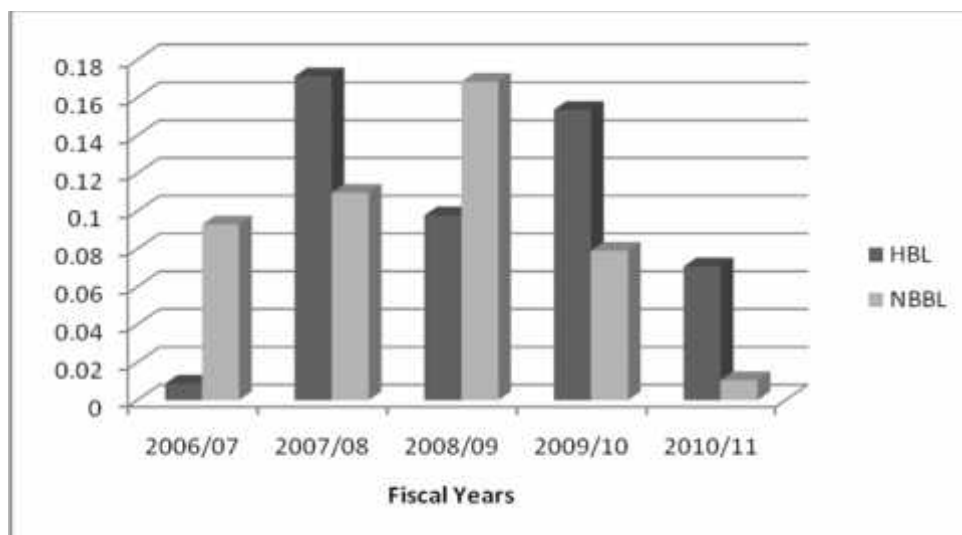
**Table: 4.2**  
**Liquid Fund to Current Liability Ratio**

	Fiscal year					
Banks	2006/07	2007/08	2008/09	2009/10	2010/11	Mean
HBL	0.00869	0.1713	0.0977	0.1536	0.0707	0.100398
NBBL	0.09297	0.1097	0.1685	0.079	0.01057	0.92148
Combined mean						0.096273

Source: Source: Annex-2

Table 4.2 explains that the ratio has been ranged from 0.00869 to 0.1713 of HBL and 0.01057 to 0.1685 of NBBL. The ratio of HBL of first two years has increasing trend; it is decreasing in 2008/09 year and then again increasing in 2009/10. The ratios of NBBL first three years have in increasing trend but it has fallen in 2009/10 and then again it has increased in FY 2010/11. Unlike current ratio, the liquid fund to current liability ratio has been declined. This declined in two banks has caused due to high degree of increase in investment and decreased or lower level of increase in placement.

**Figure: 4.2**  
**Liquid Fund to Current Liability Ratio**



### 4.1.3 Liquid Fund to total Deposit Ratio

The deposit constitutes the major part of the banks liability. Flow of these liabilities is always uncertain in the bank's fund management. Hence, the ratio of liquid fund to total deposit indicates the banks' strength to meet uncertain flow of deposit.

**Table: 4.3**  
**Loan Fund to Total Deposit Ratio**

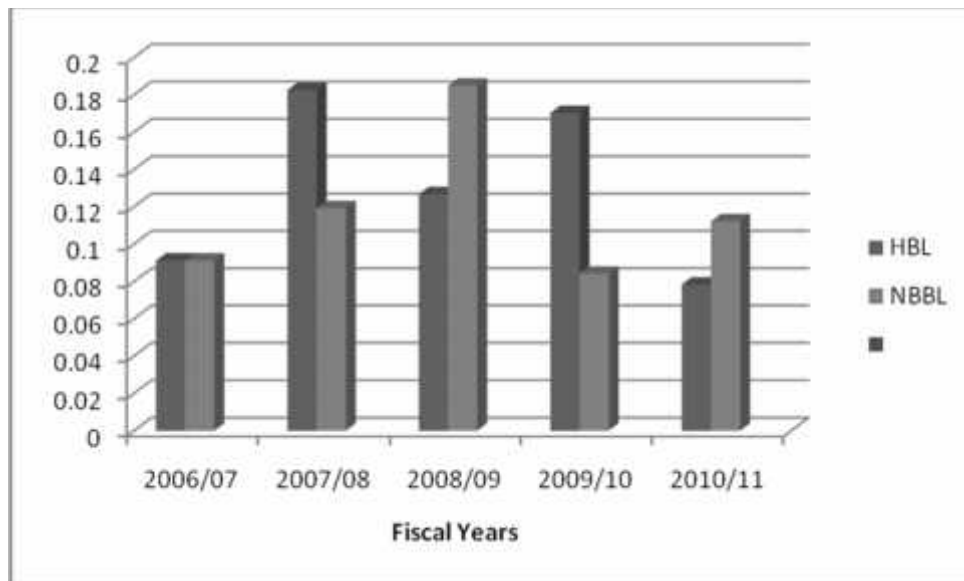
Banks	Fiscal Year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	0.09112	0.1825	0.1267	0.1702	0.0783	0.1297
NBBL	0.09112	0.1193	0.1849	0.0841	0.1122	0.118324
Combined mean						0.124012

Source: Source: Annex-3

Above table explains that the ratio has ranged from 0.0783 to 0.1825 of HBL and 0.0841 to 0.01849 of NBBL .The trend of this ratio of HBL and NBBL seems similar in nature in 2007/08 and increased in the first two years as compared to previous year and has started to decline from FY 2008/09. The trend of this ratio has not deviated from liquid fund to current liability ratio and the up and down in this ratio has caused by the some reason. The combined mean ratio of these two banks is 0.1248.The mean ratio of HBL is 0.1297 and NBBL is 0.124012 and this is lowest ratio then HBL.

**Figure: 4.3**

**Loan Fund to Total Deposit Ratio**



**4.2 Measurement of Lending Strength**

The lending strength of these two banks is measured in relative measures in this section. The relationship between various assets and liabilities of the balance sheet has been established to show the active strength of lending comparatively. An attempt is made to determine the lending strength in absolute figure of each bank, since these two banks are comparable in volume of deposit loans and advances and other variables also.

**4.2.1 Total Assets to Total Liabilities Ratio**

The ratio of total assets to total liabilities measures the volume of total liability in total assets of the firm. Then banking organization creates credit by way of lending activities and multiplies their assets many items, than their liability permits. Thus, this ratio measures the bank's ability to multiply its liability into assets. It is always recommended to have higher ratio of total assets to total liabilities ratio. Since, it signifies overall increase of credit and overall development of the organization, Higher the ratio, higher the productivity and higher the s\assets conversion and vice versa.

**Table 4.4**  
**Total Assets to Total Liabilities Ratio**

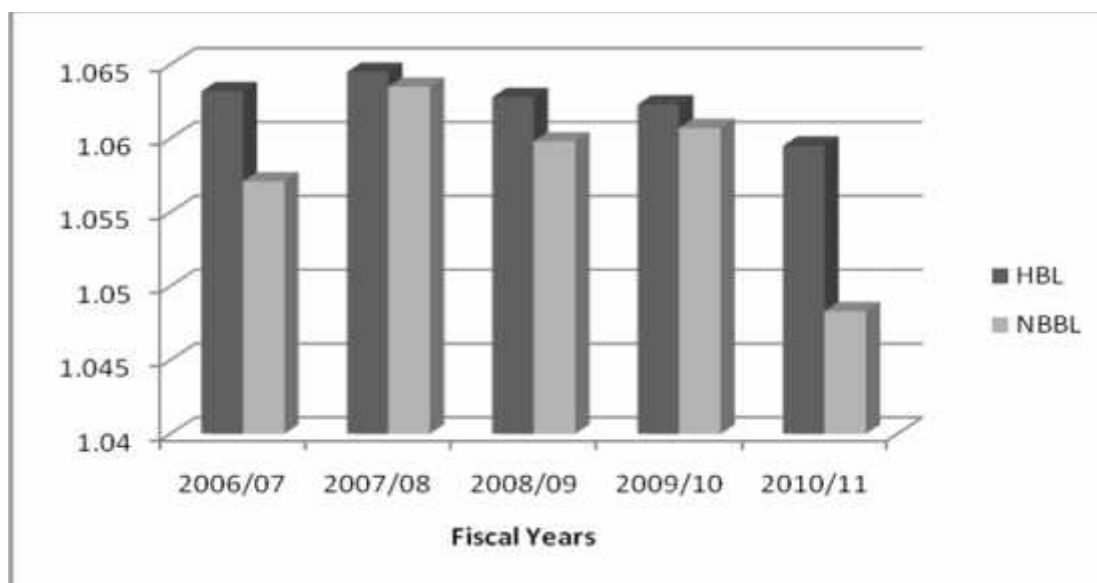
Banks	Fiscal Year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	1.0632	1.0645	1.0628	1.0623	1.0595	1.0625
NBBL	1.0571	1.0635	1.05980	1.0607	1.0483	1.0579
Combined Mean						1.0602

Source: Source: Annex-4

Table 4.4 explains the ratio of liabilities and assets of concerned bank in respective years. All these banks have high degree of ratio. The overall trend of HBL is decreasing. The ratio has been ranging from 1.0654 to 1.0595 of HBL and 1.0635 to 1.0483 NBBL. The combined mean ratio of these two banks over the period is 1.0602. The mean ratio of HBL is 1.0625 which is higher than the mean ratio of NBBL (1.0579). Taking the standard of mean ratio the performance of HBL is best and the ratio of NBBL is below the average. However, the ratio of these two banks represents a poor performance. The ratio should not be below 2 times in the developing country like Nepal. This represents that these two banks have not successfully converted their liability into asset. Table 4.4 explain that the ratio of two banks is decreasing in some extent. Looking this fact, it can be concluded that these banks are not utilizing their fund efficiently and effectively to extent, their liability permits them. As comparing between the banks the performance HBL can be regarded the best.

**Figure: 4.4**

**Total Assets to Total Liabilities Ratio**



**4.2.2 Loans and Advances to Total Deposit Ratio**

Loan and advances are the major area of fund mobilization of commercial Banks. Loans and advances is the first type of application of funds, which has more risk. Loans and advances and total deposit ratio indicates the firm's fund mobilization power in gross. The main sources of bank's lending are its deposit. Thus, this ratio measures how well deposits have been mobilized. This ratio measures the ability of a bank generating income from bank's deposit liability.

**Table: 4.5**

**Loan and Advances to Total Deposit Ratio**

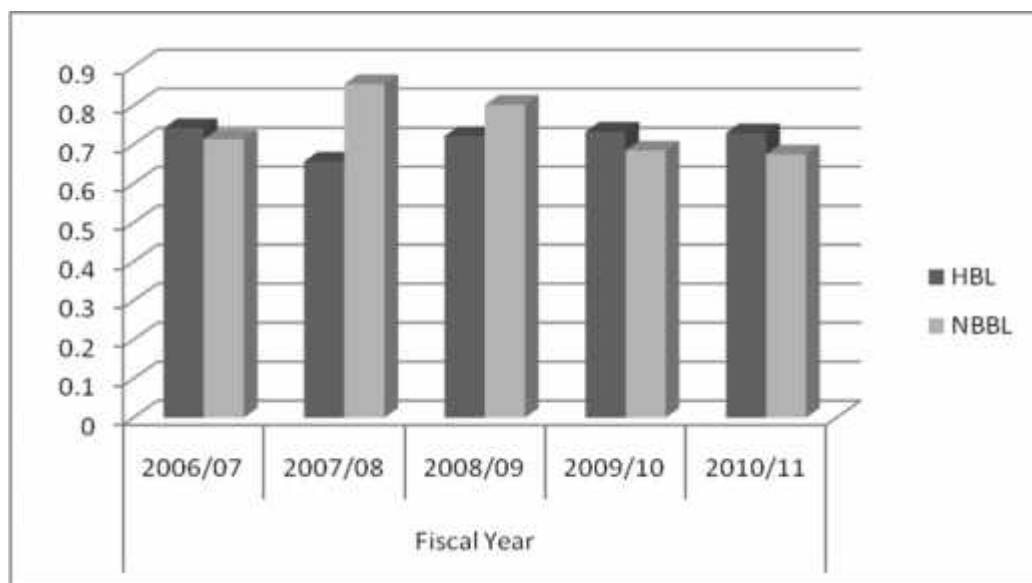
Banks	Fiscal Year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	0.7425	0.6571	0.7223	0.7331	0.7297	0.7169
NBBL	0.7139	0.8556	0.8022	0.6850	0.6753	0.7464
Combined Mean						0.7316

Source: Source: Annex-5

Table 4.5 explains the relation between a unit of deposit with the value of loans and advances of concern banks in given years. The ratios have been ranged from 0.7425 to 0.6571 of HBL in FY 2006/07 and 2007/08 0.8555 and to 0.6753 of NBBL in FY

2007/08 and 2010/11. The combined mean ratio of these two banks is 0.7316. The overall performance of NBBL seems the best with mean ratio. From this analysis, NBBL can be concluded as the best performer in utilization its deposit irrespective the area of its utilization.

**Figure: 4.5**  
**Loan and Advances to Total Deposit Ratio**



#### 4.2.3 Loans and Advances and investment to Total Deposit Ratio

Loan and advances and investment are the major area of fund mobilization of commercial banks. Loans and Advances is the first type of application of funds. This has more risk as compare to investment and gives more returns. Investment is cushion against the liquidity risk and at the same time it gives return. Loans and advances and investment to total deposit ratio indicates the firm's fund mobilizing power in gross. The main sources of bank's lending and investment is its deposit. Thus, this ratio measures how will the deposits have been mobilized. This ratio measures the ability of a bank in generating income from bank's deposit liability.

Table 4.6 explains the relation between a unit of deposit with the tabulated value in loans and advances and investment of concerning banks in given years. The ratios have been ranged from 1.0038 of HBL in FY 2008/09 to 0.9342 of NBBL in FY 2007/08. HBL has the highest ratio for the whole period. NBBL has the lowest ratio throughout five years.

**Table: 4.6**

**Loan and Advances and Investment to Total Deposit Ratio**

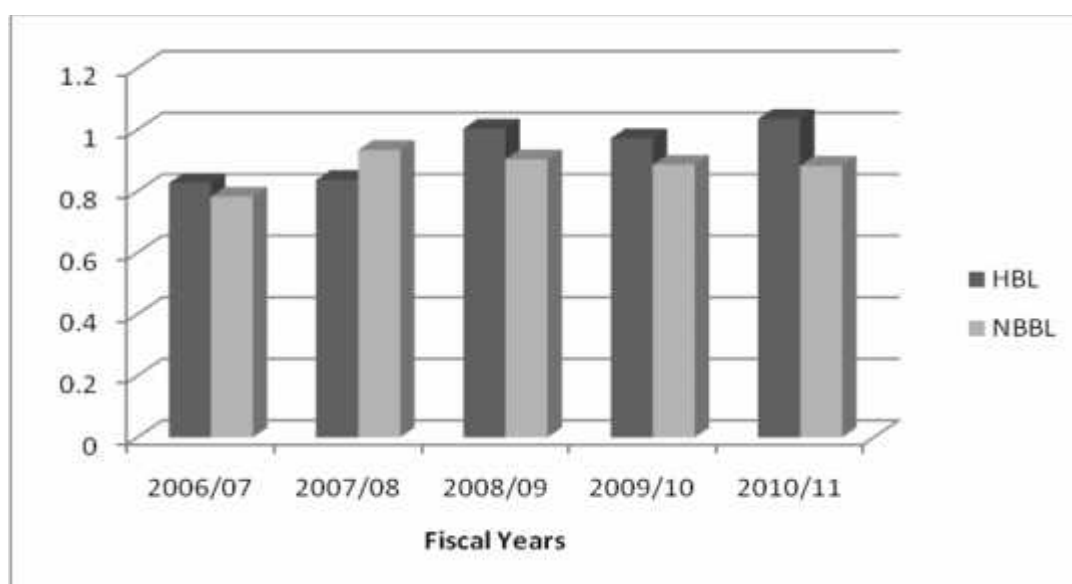
Banks	Fiscal Year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	0.8267	0.8369	1.0038	0.9720	1.0355	0.9349
NBBL	0.7825	0.9342	0.9042	0.8864	0.8830	0.8780
Combined Mean						0.9064

Source: Source: Annex-6

This combined mean ratio of these two banks is 0.9064. The overall performance of HBL seems the best with mean ratio 0.9349. NBBL has the mean ratio of 0.8780. From this analysis HBL can be concluded as the best performs in utilizing its deposit irrespective of the area of its utilization.

**Figure: 4.6**

**Loan and Advances and Investment to Total Deposit Ratio**



**4.2.4 Loan and Advances to Shareholders Equity**

Shareholders equity is consisted of share capital, share premium, reserves and retained earnings. The ratio between loans and advances to shareholders equity provides the measures regarding how far the shareholders equity has been able to

generate assets to multiply its wealth. The shareholders equity refers to the net shareholders in take in the business and their success in covering liabilities into assets.

**Table: 4.7**  
**Loan and Advances to Shareholders Equity**

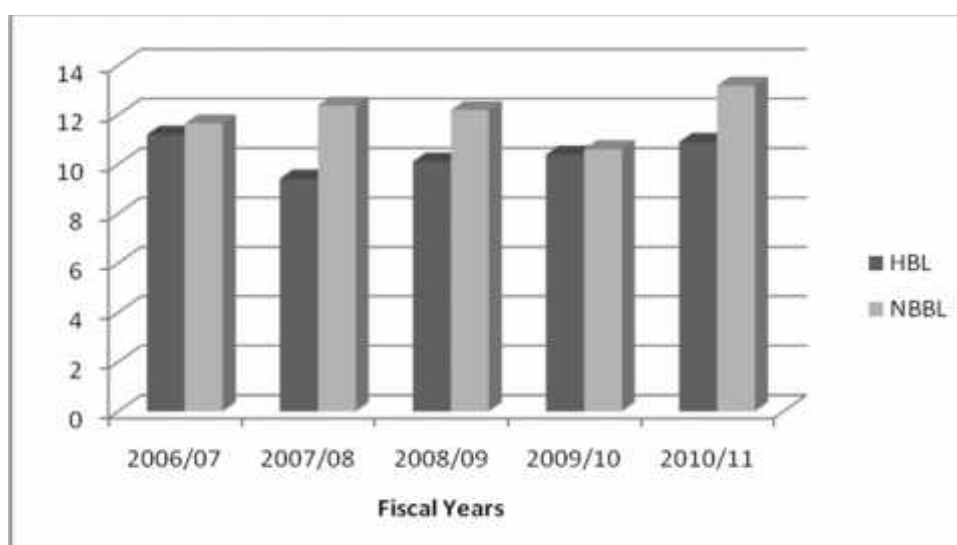
Banks	Fiscal Year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	11.1914	9.4106	10.1007	10.3810	10.8898	10.3947
NBBL	11.6419	12.3653	12.1828	10.5977	13.1726	11.9920
Combined Mean						11.1933

Source: Source: Annex-7

Table 4.7 explains that the overall ratio of these two banks has ranged from 11.1914 of HBL in FY 2006/07 to 13.1726 of NBBL in 2010/11. The ratio of HBL has continuously increasing trend from FY 2007/08.

The combined mean ratio of these two banks 11.1933 and mean ratio of HBL is 10.3947 and mean ratio of NBBL is 11.9920 respectively. This indicates that NBBL having small volume of capital in business has been succeeded in generating proportionately higher volume of loan due to the entire business.

**Figure: 4.7**  
**Loan and Advances to Shareholders Equity**



### 4.3 Analysis of Lending Efficiency and Contribution in Total profitability

Lending efficiency is one of the most important factors that have been developed to facilitate effective performance of bank management. Lending management is the formal expression of the commercial banks goals and objectives stated in financial term for specific future period of time. Lending is the very basic indicators for determining profit.

**Table: 4.8**  
**Sector wise Loan Classification of HBL**

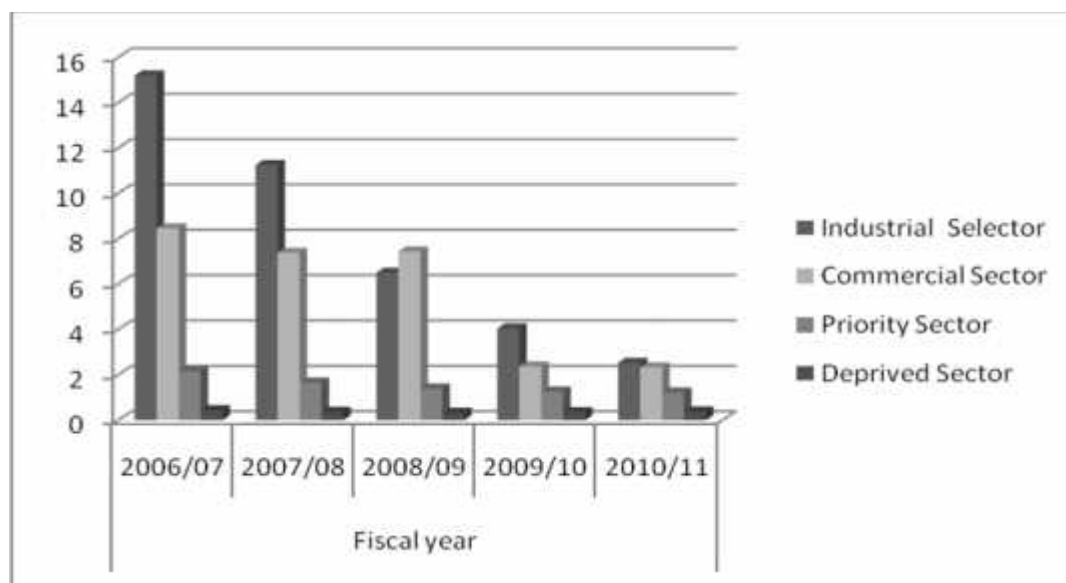
Ratio (in %)

purpose	Fiscal year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
Industrial Selector	15.2026	11.2508	6.5053	4.0462	2.5326	7.9075
Commercial Sector	8.4636	7.3851	7.4330	2.3681	2.3259	5.5951
Priority Sector	2.1585	1.6578	1.3945	1.2636	1.2212	1.5391
Deprived Sector	0.4419	0.3780	0.3318	0.3521	0.3826	0.3772

Source: Annual Report of HBL

The above table explain HBL trend of lending for different purposes as percentage of total loans and advances. HBL has mostly used its funds in industry and commercial sector. In average, lending in industrial, commercial, priority and deprived sectors take the first, second, third and fourth place with mean ratios of 7.9075%, 5.5951%, 1.5391 and 0.3772 respectively in the lending portfolio of the bank. The highest portion of lending in industrial sector, Commercial sector, and priority sectors and deprived sector is 15.2026%, 8.4636%, 2.1585% and 0.4419 in the year 2006/07 respectively. Mean Ratios of Loans disbursed for different purposes to total loans and advances over the study period.

**Figure 4.8**  
**Sector wise Loan Classification of HBL**



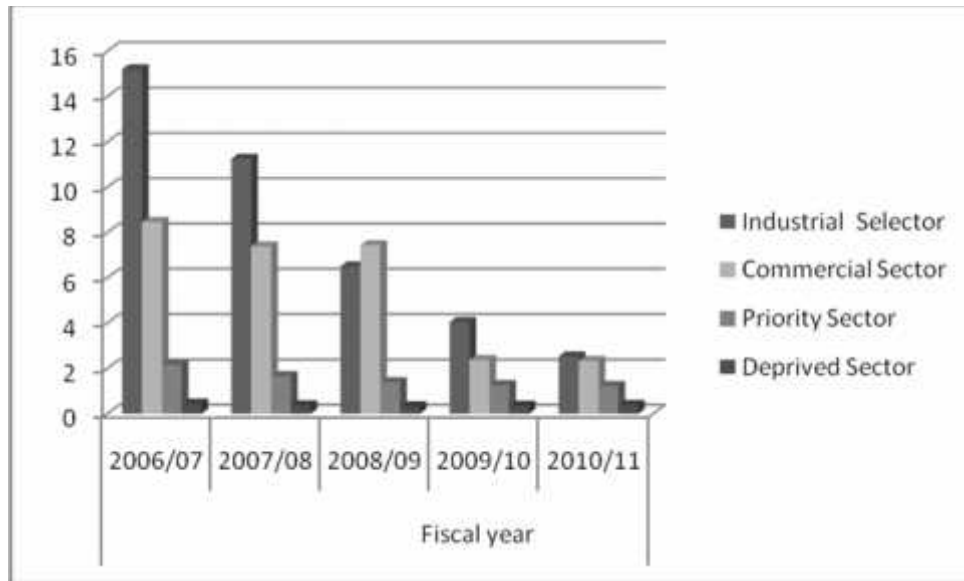
**Table: 4.9**  
**Sector wise Loan Classification of NBBL**

Purpose	Fiscal year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
Industrial Selector	15.2026	11.2508	6.5053	4.0462	2.5326	7.9075
Commercial Sector	8.4636	7.3851	7.4330	2.3681	2.3259	5.5951
Priority Sector	2.1585	1.6578	1.3945	1.2636	1.2212	1.5391
Deprived Sector	0.4419	0.3780	0.3318	0.3521	0.38026	0.3772

Source: Annual Report of NBBL.

The above table 4.9 explains NBBL's trend of lending for different purposes as percentage of total loans and advances. NBBL has mostly used its funds in industrial and commercial sector. In average, lending in industrial, commercial, priority and deprived sectors take the first, second, third and fourth place with mean ratios of 7.9075%, 5.5951%, 1.5391 and 0.3772 respectively in the lending portfolio of the bank. The highest portion of lending in industrial sector, commercial priority and deprived sector is 15.2026%, 8.4636, 2.1585% and 0.4419% in 2006/07 respectively.

**Figure: 4.9**  
**Sector wise Loan Classification of NBBL**



In this section lending efficiency is measured in terms of quality and its turnover. A relationship between different variables related to lending efficiency is taken from balance sheet and profit and loss account.

#### **4.3.1 Interest Income to Total Income Ratio**

Income is one of the most important parts of any business organization. Interest income occupies a greater portion of the total income in a banking business. This ratio measures the volume of interest income in total income. It helps to measure the bank's performance on other fee-based activities also. The high ratio indicates the high contribution made by lending and investment and high contribution by other based activities in total income. The ratio measures the volume of interest income in total income of the bank. This ratio helps to measure the bank's performance on how well they are mobilizing their fund for the purpose of income generation. This ratio also helps to measure the bank's performance on other fee-based activities, since after investing functions fee based activities are the major source of bank's income to total income.

**Table: 4.10**  
**Interest Income to Total Income Ratio (%)**

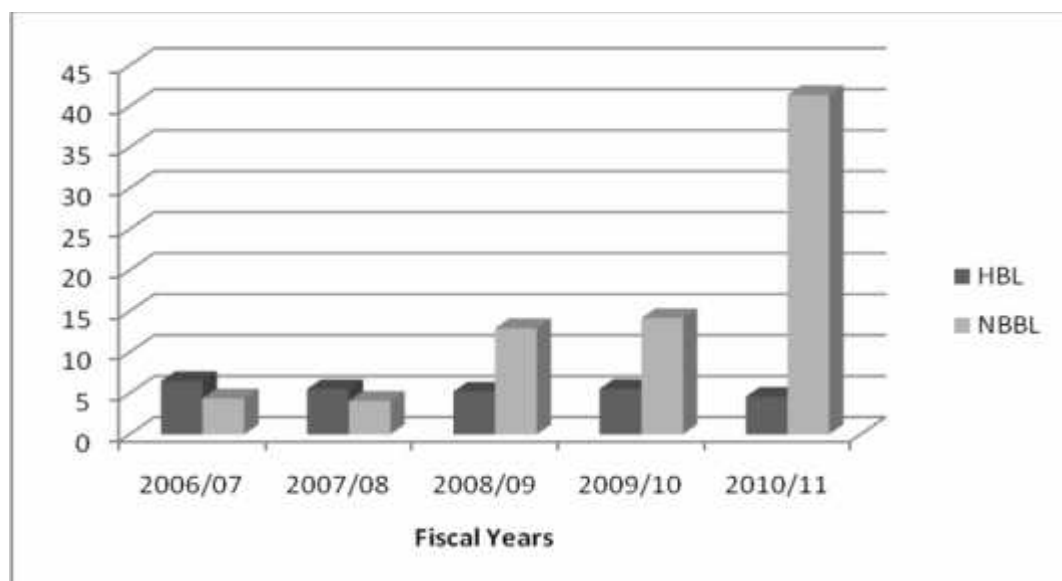
Banks	Fiscal year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	6.48	5.52	5.20	5.53	4.58	5.46
NBBL	4.37	4.07	12.93	14.17	41.39	15.38
Combined Mean						10.42

Source: Source: Annex-8

The above table shows that NBBL has the highest ratio than that of HBL. The ratio of these two Banks has ranged from 6.48 of HBL in FY 2006/07 to 41.39% of NBBL in FY 2010/11.

The combined mean ratio of these two banks is 10.42. Mean ratio of HBL is 5.46 and mean ratio of NBBL is 15.38. NBBL has higher ratio which indicates that it is largely dependent on lending activities and low ratio indicates it has low dependency on lending activity and other fee based activities.

**Figure: 4.10**  
**Interest Income to Total Income Ratio (%)**



### 4.3.2 Interest Expenses to Total Deposit Ratio

This ratio measures the cost to total deposit in relative term. The commercial banks performance depends upon its ability to generate cheaper funds. More the cheaper fund more will be the profitability in generating loans and advances and vice-versa. The high ratio indicates of costly fund and this adversely affects its lending performance.

**Table: 4.11**  
**Interest Expenses to Total Income Ratio**

Banks	Fiscal year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	0.0582	0.05162	0.04702	0.0458	0.0389	0.0483
NBBL	0.0642	0.0599	0.0578	0.0561	0.0484	0.0573
Combined Mean						0.1056

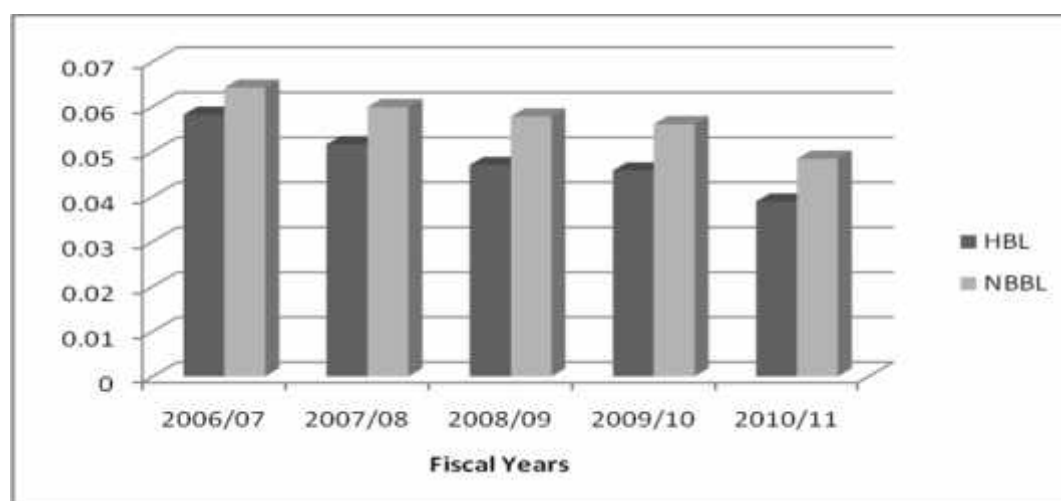
Source: Source: Annex-9

Above table shows that the ratio of HBL and NBBL are in decreasing trends. The ratio ranges from minimum of 0.0389 in FY 2010/11 to maximum of 0.0582 in FY 2007/08 of HBL. And ratio ranges from minimum of 0.484 in FY 2010/11 to maximum of 0.0642 on FY of NBBL.

The combined mean ratios of these two banks are 0.1056. The mean ratio of HBL is 0.0483 and mean ratio of NBBL is higher than that of HBL. The mean ratio of NBBL is higher than that of HBL Due to lack of lending opportunities, the supply of the fund is exceeding the demand of the fund.

**Figure: 4.11**

**Interest Expenses to Total Income Ratio**



**4.3.3 Interest Income to Interest Expenses Ratio**

The ratio of interest income to interest expenses ratio measures the difference between interest rates offered and interest rate charged. The spread between the interest income and interest expenses is the main foundation for the commercial banks. The interest offered and the interest charged should not be more than five percent. The commercial banks are free to fix interest rate on deposit and loans. Interest rate on all types of deposits and loans should be published on local newspapers and communicated to Nepal Rastra Bank quarterly and immediately when revised. Deviation of 0.50 % from the published rate is allowed on all types of loans and deposit. However with the new Financial Ordinance 2063, it has again empowered NRB to intervene in rate fixation but it does not specify condition that would oblige NRB to do so.

**Table: 4.12**

**Interest Income to Interest Expenses Ratio**

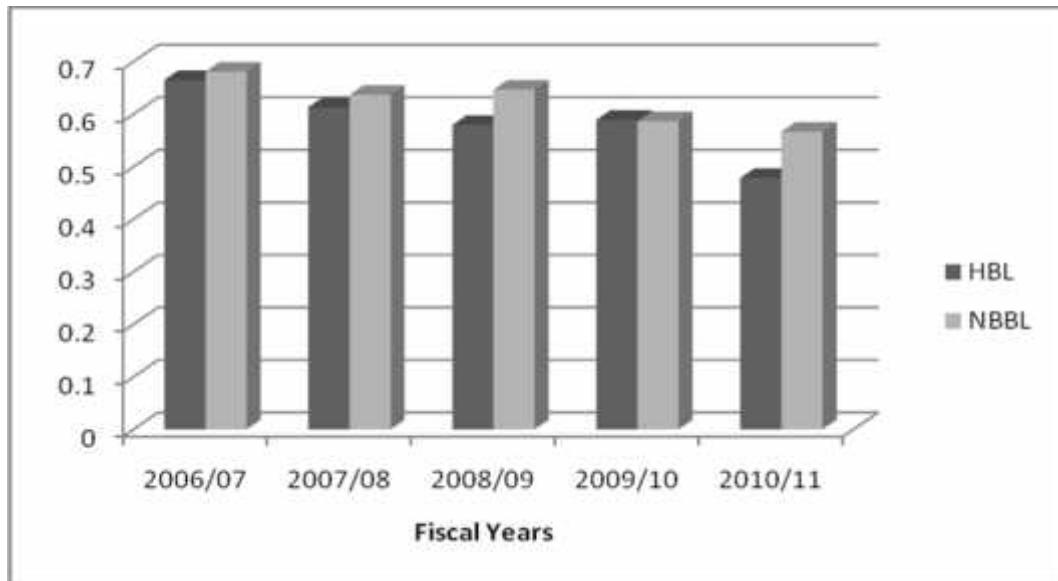
Banks	Fiscal year					Mean
	2006/07	2007/08	2008/09	2009/10	2010/11	
HBL	0.6651	0.6133	0.5792	0.5890	0.4784	0.5850
NBBL	0.6811	0.6368	0.6467	0.5865	0.5668	0.6235
Combined Mean						0.6042

Source: Source: Annex-10

From the above table it can be analyzed that the ratio of NBBL is higher than the ratio of HBL over the five years. The ratio ranged from 0.6651 of HBL in 2006/07 to 0.6811 of NBBL in 202/03. The combined mean of these two banks is 0.6042. Mean ratio of HBL.

**Figure: 4.12**

**Interest Income to Interest Expenses Ratio**



**4.4 Analysis of Growth Rate**

Growth analysis of the banks involves of growth in deposit, loans, investments and net profit. Growth analysis ascertains has much growth in deposit liability is supported by growth in assets. The analysis also concerns which asset portfolio has significant increment corresponding to the increment in deposit liability.

To examine and analyze the expansion and growth of the banking business, following growth ratios are calculated in this part of the study. The higher ratios represent the better performance of the bank. Growth ratios are directly related to the fund mobilization and investments decision of the bank. This ratio represents how well the commercial banks are maintaining their economic and financial position. These ratios can be calculated by dividing the last period figure by the first period figure then by referring to the compound interest tables. Under these topic four types of ratios

namely growth ratios of total deposit, loans and advances, Total Investment, and net profit of HBL and NBBL for the study period have been analyzed.

#### 4.4.1 Growth Ratio of Total Deposit

Deposits are the main source of capital for the commercial banks. Banks utilize these funds in loans and advances and as investments.

**Table: 4.13**  
**Growth Ratio of Total Deposit of HBL and NBBL**

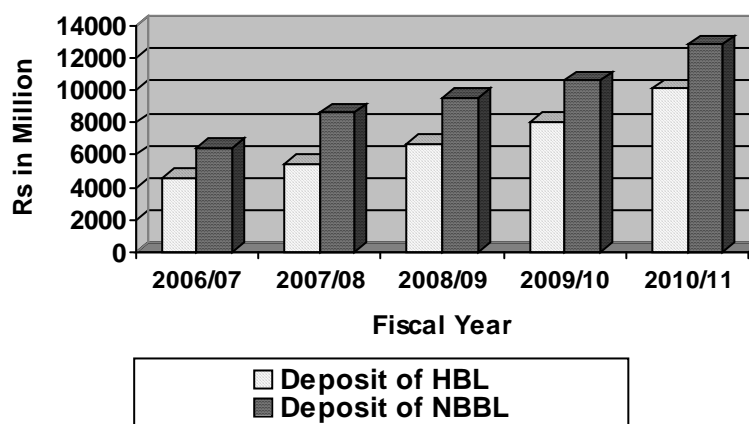
(Rs. In million)

Banks	Fiscal year				
	2006/07	2007/08	2008/09	2009/10	2010/11
HBL	4574.51	5466.60	6695.00	8063.90	10097.7
NBBL	6467.19	8600.81	9514.47	10580.65	12807.37

Source: Annual Report of HBL and NBBL.

The above table shows the growth of total deposit by analysis of five years period of HBL and NBBL. NBBL has the highest deposit of Rs. 12807.37 million and HBL has Rs10097.70.million which is lowest than that of NBBL. According to highest range of the total deposit, we can conclude that NBBL has good performance than HBL.

**Figure: 4.13**  
**Growth trend of Deposit**



#### 4.4.2 Growth Ratio of Loans and Advances

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

**Table: 4.14**

#### Growth Ratio of Loans and Advances of NSBI and NBBL

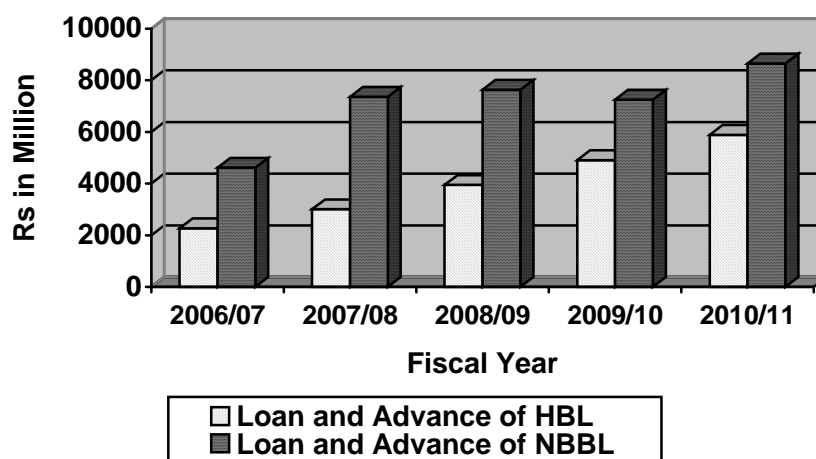
(Rs. In millions)

Banks	Fiscal year				
	2006/07	2007/08	2008/09	2009/10	2010/11
HBL	2270.18	3005.76	3948.48	4908.46	5884.12
NBBL	4617.10	7358.84	7632.42	7247	8648.74

Source: Annual Report of HBL and NBBL.

**Figure: 4.14**

#### Growth Ratio of Loans and Advances of HBL and NBBL



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

#### 4.4.3 Growth Ratio of Investment

Investment is another important function of banking besides loans and advances.

Investment determines the proper utilization of funds

**Table: 4.15**

**Growth Ratio of Total Investment of HBL and NBBL**

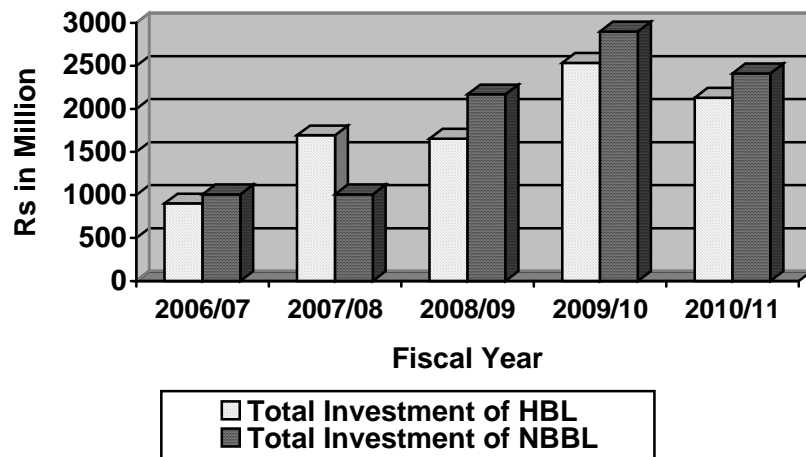
(Rs. In million)

Banks	Fiscal year				
	2006/07	2007/08	2008/09	2009/10	2010/11
HBL	901.70	1693.00	1654.00	2535.70	2128.90
NBBL	1008.64	1008.64	2168.92	2699.16	2411.72

Source: Annual Report of NSBI and NBBL.

**Figure: 4.15:**

**Growths Trend of Total Investment of HBL and NBBL**



The above table shows that there is an increasing trend over 2009/10 and then it is decreasing trend in FY 2010/11 in investment of HBL and NBBL. During the study period total investment of NBBL is height than that HBL.

**4.4.4 Growth Ratio of Net Profit**

A commercial banks performance measuring criteria is its net profit. The growth of net profit reveals the overall performance of the banks.

**Table: 4.16**

**Growth Ratio of Net Profit of HBL and NBBL**

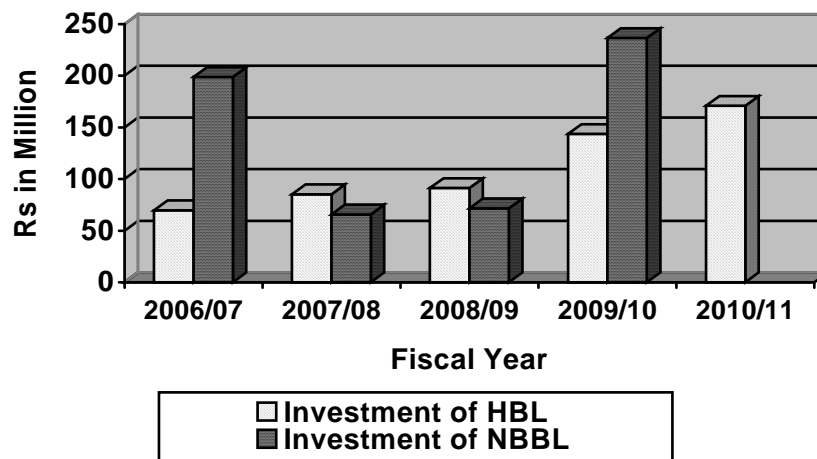
(Rs. in million)

Banks	Fiscal year				
	2006/07	2007/08	2008/09	2009/10	2010/11
HBL	69.70	85.30	91.20	143.60	170.80
NBBL	198.75	65.78	71.49	236.43	-

Source: Annual Report of HBL and NBBL.

**Figure: 4.16**

**Growth Trend of Net Profit of HBL and NBBL**



The above table describes the growth rate of net profit of HBL and NBBL of five years the study period. HBL has the highest profit of Rs.170.80 million in FY 2010/11 and NBBL has the highest profit of Rs. 198.75 million in FY 2006/07. It has increasing trend of profit of HBL but profit of NBBL has fluctuation over the study period.

**4.5 Relation between Deposit and Loans of HBL and NBBL**

Relationship between deposit and loans of HBL and NBBL can be determined by correlation coefficient between two. If the change in the value of one variable is accompanied by the change in the value of the other, the variables said to have relationship.

**Table: 4.17**

**Relationship between Deposit and Loans**

(Rs. In million)

Banks	Correlation Coefficient	$r^2$	P.Er.	6 * P.Er.
HBL	0.1027	0.0105	0.2985	0.7910
NBBL	0.9538	0.9097	0.2744	1.6464

Source: Source: Annex-11 & 12

The above table shows the Correlation Coefficient between deposit and loans and advances of HBL and NBBL is 0.9538 and 0.1027 respectively. There is high degree of positive relationship between deposit and loans and advances of NBBL. The deposit and loans and advances of HBL have lower degree of relationship.

The value of (r) above explains that a percentage increase in deposit likely generate. Similarly, coefficient of determination ( $r^2$ ) is found to be 0.9097 which indicates that 90.97 % of total change in loans has been determined by deposit. Deposits have high influence on loans of the HBL, whereas deposits low influence on loans of the NBBL as it has very low i.e. 0.0105. There is an insignificant, as role of 'r' of HBL and NBBL is less than 6 times of P.Er.

**4.6 Relationship between Total Investment and Loans and Advances**

This correlation measures the degree of relationship between investment and loans and advances. This measures of correlation explain where the banks have a rigid policy to maintain a consistent relationship between two assets or other factor such as seasonal opportunity, economic demand, NRB directives etc. has impact on the volume of these two variables since the volume of investment and advance directly reduce or increases the level of ideal fund and this idleness of fund increases the investments.

Table 4.18 reveals the poor relationship between investment and loans and advance. There is high degree of negative relationship between these two variables of NSBI has the value of r is less than the value of P.Er. However NBBL has greater than 6 times P.Er. This implies that NBBL has maintained a steady ratio between investment and

loans and advances as compared to NBBL. The value of r is NBBL suggests that it does not have rigid policy to maintain and fixed and consistent ratio between these assets and the volume of these assets in NBBL is highly of seasonal character than that is explained by the value of r is NBBL.

**Table: 4.18**

**Relationship between Total Investment and Loans and Advances**

Banks	Correlation coefficient	P.Er	6 x P.Er
NBBL	-0.6144	0.1163	0.6978
HBL	0.8394	0.0891	0.5346

Source: Source: Annex-11 & 12

Through the above table, we can conclude that HBL has the good opportunity of lending and investment than NBBL, due to highest degree of positive correlation.

**4.7 Relationship between Total Income and Loans and Advances**

The correlation between total income and loans and advances measures the degree of relationship between these two variables. The value of r explains whether a percentage change in loans and advances it is independent variable and total income is dependent variable.

**Table: 4.19**

**Relationship between Total Income and Loans and Advances**

Banks	Correlation coefficient	P.Er	6 x P.Er
NBBL	0.3819	0.2926	1.7556
HBL	0.9810	0.1135	0.0681

Source: Source: Annex-11 & 12

Table 4.19 presented above has shown the tight degree of positive correlation of HBL. The value of r in HBL is significant as it is greater than six time of probable error. This explains that a percentage charge in loans and advances is most likely to chance the same percentage of income, the lower degree of correlation of NBBL.

## 4.8 Relationship between Interest Income and Net Profit

The correlation between Interest Income and Net Profit measures the degree of relationship between these two variables. The interest income contributes a major portion of total volume of commercial banks income. In this analysis, interest income is independent variable and net profit is dependent variable.

**Table: 4.20**

**Relationship between Interest Income and Net Profit**

Banks	Correlation coefficient	P.Er	6 x P.Er
NBBL	-0.7676	0.1385	-0.1063
HBL	0.7318	0.1401	-0.1063

Source: Source: Annex-11 & 12

The table explains that the value of r HBL high degree of correlation, as the value of r of NBBL is negative correlation. There is a significant, as role of 'r' of HBL is more than 6 times P.Er. But there is not significant, as the value 'r' is less than 6 times of P.Er.

## 4.9 Trend Analysis of Deposit Utilization

This analysis includes the trend of deposit utilization in terms of loans and adverse and investment of HBL and NBBL under five years of study period. A commercial bank may grant loans advances and invest some of the funds in government securities and share and debenture of other companies to utilize its deposit.

### 4.9.1 Trend Analysis of Loans and Advances and Total Deposit Ratio

The trend analysis of loans and advances to total deposit ratio of HBL and NBBL have five years study period and projection of trend for the next five years is calculated. The following table describes the trend value of loans and advances to total deposit of the bank for five years.

**Table: 4.21**

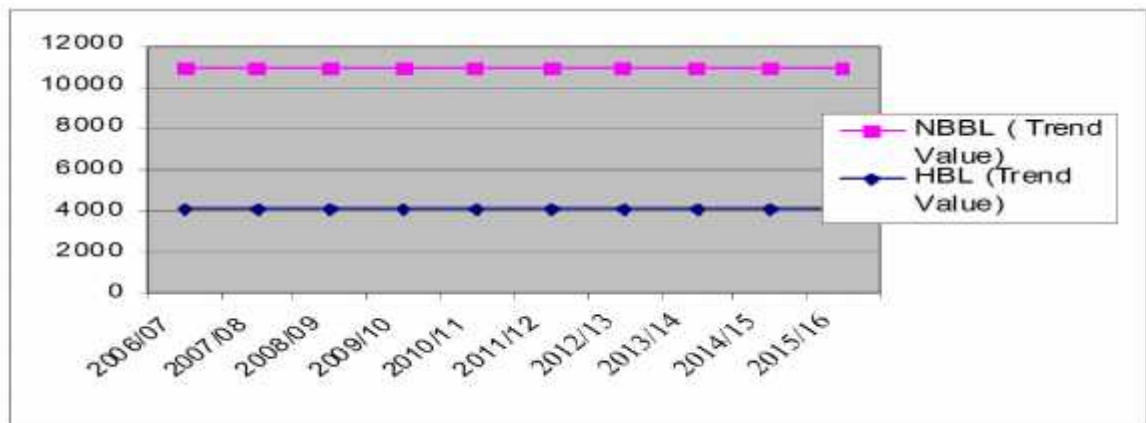
**Trend Analysis of Loans and Advances and Total Deposit Ratio of HBL and NBBL**

Fiscal Year (Mid Value)	HBL (Trend Value)	NBBL (Trend Value)
2006/07	4044.82	6848.95
2007/08	4044.96	6847.10
2008/09	4045.11	6847.26
2009/10	4045.25	6847.42
2010/11	4045.40	6847.57
2011/12	4045.55	6847.73
2012/13	4045.69	6847.89
2013/14	4045.84	6847.85
2014/15	4045.98	6848.20
2015/16	4046.13	6848.35

Source: Appendix-14

**Figure: 4.17**

**Trend Analysis of Loans & Advances and Total Deposit**



The above table shows that the total loans and advances and deposit of HBL and NBBL is in increasing trend. HBL has the highest trend value of 4046.13 in the year 2011/12. The increasing trend of loans and advances and total deposit ratio of both banks shows the good performance of the selected banks in providing loans and advances in deposit in profit earning sector.

#### 4.9.2 Trend Analysis of Investment and Total Deposit

The trend analysis of investment and total deposit ratio of HBL and NBBL shows the trend values of five years. Over the study period the analysis makes projection for the next five years. The following table describes the trend values of total investment to total deposit ratio of the selected commercial banks.

**Table: 4.22**

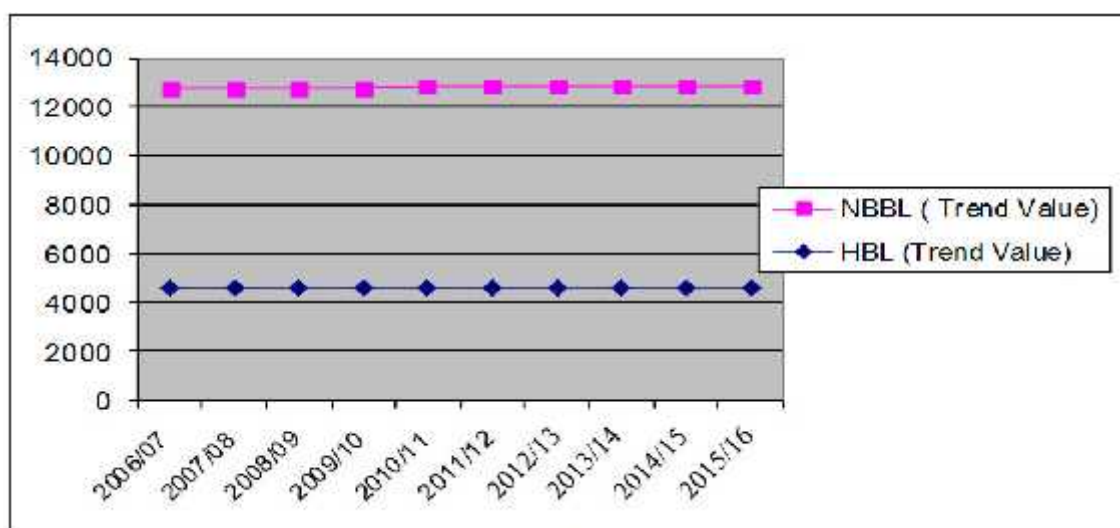
**Trend Analysis of Investment and Total Deposit Ratio HBL and NBBL**

Fiscal Year (Mid Value)	HBL (Trend Value)	NBBL (Trend Value)
2006/07	4583.90	8212.09
2007/08	4584.63	8213.09
2008/09	4586.37	8214.089
2009/10	4586.12	8215.10
2010/11	4586.85	8216.16
2011/12	4587.59	8217.11
2012/13	4588.33	8218.11
2013/14	4589.07	8219.12
2014/15	4589.80	8220.12
2015/16	4590.54	8221.13

Source: Appendix-13

**Figure: 4.18**

**Trend Analysis of Investment and Total Deposit HBL and NBBL**



The above table shows that the total investment and total deposit of HBL and NBBL is in increasing trend. HBL has the highest trend value of 4590.54 in the year 2001/12 and the NBBL has the highest trend value of 8221.13 in the year 20011/12. The increasing trend of investment and total deposit ratio of both banks shows the good performance of the selected bank on investing the deposit in profit earning sectors.

#### **4.10 Major Findings of the Study**

From the analysis of the data collected from various sources following findings have been made.

1. Current ratio of both banks showed slightly fluctuating trend. Both of the banks could not maintain the conventional standard of 2:1. However, the average of the ratios appeared higher in HBL, which signifies that HBL is more capable of meeting immediate liabilities in contrast to NBBL. The ratio is found more consistent in HBL. Hypothesis test showed that the mean ratio of two banks did not differ significantly.
2. Liquid fund to current liability ratio of HBL and NBBL in fluctuating trend. After analyzing the ratio we can conclude that both the sample banks do not differ significant with respect to this ratio.
3. Liquid fund to total asset deposit ratio of banks. HBL and NBBL are in fluctuating trend. Mean ratio appeared marginally greater in NBBL, which means that NBBL has maintained loss consistency in NBBL. Hypothesis test showed that the mean ratio of two banks does not differ significantly.
4. Total assets to total liability ratio of NSBI is highest than that of HBL. The highest ratio of HBL and NBBL is 1.0632 and 1.0635 in year 2007/08 respectively. The mean ratio of HBL is greater than NBBL. The ratio remained more consistency in NSBI. Hypothesis test showed that the man ratio of the sample banks does not differ significantly.

5. Loans and advances to total deposit ratio of HBL and NBBL is in fluctuating trend. The mean ratio of NBBL is higher than that of HBL. The overall performance of NBBL seems the best with the higher mean ratio.
6. Loans and Advances and investment to total deposit ratio of appeared significantly higher in HBL. It indicates the better utilization of loans and advances and investment in HBL than NBBL. The ratio remained more uniform in HBL. As depicted by higher loans and advances and investment to total deposit in HBL. HBL seems more successful to utilize the despite fund in investment.
7. The ratio of loans and advances to shareholders equity has gained the significant importance in measuring the capital fund and contribution in loans and advances. The analysis explain that the ratio of NBBL the highest than HBL.
8. Interest income to total income ratio of NBBL is greater than HBL over the year 2006/07 to 2010/11 which reveals the NBBL invested the fund rose from more successfully to earn the interest.
9. Interest expenses to total deposit ratio, or an average lower in NSBI than NBBL which reveals that HBL, invested the fund remove from more successfully to earn the interest from total deposit.
10. Interest income to interest expenses ratio of HBL is lower than that of NBBL which signifies that HBL invested the find remove from more successfully to earn to interest rather than paying the interest for debt.
11. Growth ratio of total deposit of NBBL is higher that of HBL by analysis over the study period, so it seems better performance of NBBL in total deposit.
12. Growth ratio of loans and advances of NBBL is higher that of HBL by analysis over the study period. It has a significant growth of NBBL than HBL and explains its aggressiveness.

13. Growth ratio of total investment of NBBL is higher than that of HBL. The highest value increase in total investment of NBBL explains its aggressiveness.
14. The growth ratio of net profit of HBL is in increasing trend. But the growth ratio of net profit of NBBL is in decreasing trend. So the increasing trend of net profit HBL explains its aggressiveness.
15. Correlation coefficient between total deposit loans and advances are found positively correlated of HBL and NBBL. NBBL has high degree of positive correlation shows the significant relation between net deposit and loans and advances.
16. Correlation coefficient between investment and loans advances are found positively correlated of HBL and NBBL. NBBL has high degree positive correlation shows the significant relation between net deposit and loans and advances.
17. Correlation coefficient between investment and loans and advances are found positively correlated in NBBL and negatively correlated in HBL. The high degree positive correlation coefficient of NBBL shows significant relationship between investment and loans and advance. This shows that the bank has succeeded in contribution of significant proportion both investment and loans and advances. But the negative correlation coefficient of HBL shows poor relationship between those two variables. It shows that the bank could not succeed in contribution of significant proportion of total investment and loans and advances.
18. Correlation coefficient between interest income and net profit of HBL shows high degree of correlation. But NBBL has the negative correlation coefficient between these two variables. Due to high degree of positive correlation HBL shows significant relationship between interest income and net profit.
19. Trend analysis of loans and advances and total deposit ratio of NBBL is highly increasing trend. Then HBL shows increasing trend. The analysis concludes the good performance of NBBL in deposit utilization in relation to loans and advances.
20. Trend analysis of investment and total deposit of NBBL is highly increasing trend then HBL. The analysis concludes the good performance of NBBL in deposit utilization in relation to investment.

# **CHAPTER-V**

## **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Summary**

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

The need of financial resources in a developing country like Nepal is essential for the economic development of country. All the sectors from industrial and commercial to agriculture and infrastructure are in need of finding. Although the growths of industrial loan has not been encouraged in the recent years. There is sizable growth in the commercial and other short term credits. Commercial banks are focusing loans on consumer loans like housing, vehicle, education loan etc. it is encouraging to explore new sector for loan management but it should also be considered that industrial loan should be given prime importance as the economy largely depends on this sector.

Lending policies are not systematic and no clear cut vision of policy is available on lending aspect. In Nepal it has been found that on approval and lending decisions are made flexible to favor to personnel networks also. A new customer finds that loan providing process being very complicated and sometimes the documents submitted for loan sanctioning being fraudulent and for formality purpose only. In this perspective the study deals with the issues: a) how effectively is the lending policy of selected sample bank is being followed? b) Whether the trend of the deposit and loans of the commercial banks are satisfactory? c) How the sample banks measures the liquidity position and impact of deposit on liquidity? d) What is the portion of lending between consumer and industrial loan? And e) How the bank

measure the lending performance in quality, efficiency and contribution of profitability?

The main objective of the study is to analyze the loan management policy adopted by the sample banks. However, the specific objectives are: a) to analyze the effectiveness of lending policy of the selected sample banks. b) To measure the performance in quality, efficiency and contribution of profitability. c) To examine the trend of deposit and loans of commercial bank. d) to study the liquidity position. The impact of deposit on liquidity and its effect on lending performance, and e) To provide suggestion and recommendation for the proper loan system.

Sampling may be defined as the selection of part of the population on the basis of which a judgment or inference about the universe is made. Here only 2 sample joint venture commercial banks have been taken out of 23 commercial banks. All the commercial banks in Nepal are the population of the study. The sample taken from the commercial banks are HBL and NBBL.

The research is based on secondary source of data. For research purpose published financial statement (i.e. Annual report) or concerned banks were collected. Similarly, financial statement of selected commercial banks and various markets related information were collected. The factors derived from previous research findings on related area are to support loan management. In addition, an answer on certain queries made to staffs of concerned for clarification personal requires and discussions were also being conducted for clarification and verification of collected data and for recommendation. The annual reports of the concerned banks are the major sources of the data for the study.

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

asset management ratios and profitability ratios are calculated to find out the lending strength of these commercial banks. Also growth ratios, statistical tools like mean correlation coefficient and trend analysis conducted for analysis and interpretation of the data. The data used in this research is mainly secondary nature and extracted from the annual reports of the concerned banks and website of Nepal Stock Exchange. The financial statements of five years (2006/07 to 2010/11) were selected for the study purpose.

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

## **5.2 Conclusions**

The mean of current ratio of those two banks over the five year period is 1.0694 and 1.222 respectively and it is consistent over the years. Although the current ratio of 2:1 is considered as standard, acceptability of the value 1:1 or above would be considered acceptable. Therefore the liquidity position of HBL and NBBL is normal. Mean of liquid fund to current liability ratio of these two banks over the five years period is 1.11604 and 0.1111 respectively and it is less consistent analyzing this ratio we can conclude that both the sample banks do not differ significant with this ratio.

Mean of liquid fund to total deposit ratio of HBL and NBBL is 0.1209 and 0.12006 respectively and it is less consistent. The ratio measure how well the deposits are being mobilized. The ratios of these two banks are in fluctuating trend. Here, none of the ratios is above 1, which refers that some deposit is idle and there is not maximum utilization of the funds. The mean ratio of HBL and NBBL is 1.0626 and 1.0483 respectively and it is consistent over the years after analyzing the assets to total liabilities it can be conclude that these two banks are not utilizing their fund

efficiently and effectively to extent their liability permits them. Mean ratio of loans and advances to total deposit HBL and NBBL is 0.7169 and 0.7464 respectively and it is less consistent. The ratio measures how well the deposit are being mobilized and in the income generating sector. The ratios are in fluctuating trend. Her one of the ratios is above 1. Which refers that some deposit is idle and then it is not maximum utilization of the funds? But in the year 2009/10 the ratio of HBL is nearly equal to 1, which refers that there is very less deposit which is remained idle in utilization of funds.

Means ratio of loans and advances and investment to total deposit ratio of HBL and NBBL is 0.9349 and 0.8780 respectively and is less consistent. This ratio measures how well the deposit are being mobilized and in the income generating sector. There is fluctuating trend of ratio. Here the ratio of HBL has above 1 in year 2009/10 which refers that deposit is not idle and there is maximum utilization of the funds in this year. Loans and advances to shareholders equity ratio of HBL and NBBL over the five year period has mean ratio of 10.3947 and 11.9920 respectively and is less consistent. The ratio shows how well the investment made by the investor. It also measures the success of converting liability into assets and measures size of the business. The higher ratio of NBBL in the year 2007/08, 2008/09 and 2010/11 shows that the bank has been successful in generating proportionately higher volume of loans and advances in the year 2006/07 and 2009/10.

Interest income to total income ratio of NSBI over the study period is decreasing trend but the ratio of NBBL is in increasing trend. Lower ratio of HBL shows low contribution made by lending and investment and high contribution by other fee based activities in total income. But higher ratio of NBBL shows high contribution made by lending and investment and low contribution by other fee based activities in total income. Interest expenses to total deposit ratio of the banks over the study period are in decreasing trend with consistent values. This indicates the decrease in cost of fund. Interest income to interest expenses ratio of HBL and NBBL over the study period are in decreasing trend. This indicates the decrease in profit of the banks. The growth ratio HBL and total deposit of NBBL is in increasing trend. The growth ratio of loans and advances during the study period is found to be increasing

trend in every year. The growth ratio of total investment of during the study period is found fluctuating. The growth ratio of Net profit of NSBI is increasing trend but the ratio of NBBL is in fluctuating trend.

The correlation analysis shows that the correlation coefficient 'r' between deposit and loans and advances of NBBL is high degree of positive correlation but HBL has low degree of positive correlation. The correlation of NBBL has significant relationship between deposit and loans and advances and the bank is mobilizing he deposit as loans and advance successfully. Similarly the analysis shows high degree positive correlation of NBBL between investments and loans and advances. But HBL has negative correlation coefficient between total income and loans and advances. The correlation coefficient between total income and loans and advances of NBBL is high degree of positive correlation shows good fund mobilization and the there is how degree of positive correlation of NBBL between income and loans and advances the correlation coefficient between total income and loans and advances of NBBL shows positive correlation. So, the value or 'r' is significant. But the correlation coefficient between total income and loans and advances of NBBL show negative correlation. From trend analysis of deposit utilization and its projection for next 5 years, HBL and NBBL have the increasing trend in loans and advances to total deposit and also increasing trend in total investment to total deposit.

The overall performance of NBBL is satisfactory then NSBI. The liquidity position of NBBL is better than that of HBL. As loans and advances of NBBL is increasing trend deposit is also increasing trend during the study period. There is increasing trend in profit of NBBL shows that improvement in performance and success of the firm. Purpose wise loan classification show that the NBBL and HBL banks have given priority to industrial and commercial sector lending, as well as priority and deprived sector lending. NBBL has higher lending portion in these sectors than NSBI. From the selected bank NBBL has performed well in increasing growth ratio of deposit, loans and advances, investment and profit.

NBBL has good lending procedure, preliminary screening is done of all the loan application, credit appraisal and financial position of the business and cash flows of the proposal is given high importance, which is essential criterion for loan approval. There is proper control mechanism like delegation of authority, follow up visits and books of accounts inspection of the client, which results in good performance of the bank. The banks follow NRB guidelines of loans classification and provisioning which makes strong financial position of the comparatively study of holding high volume of non-performing assets. After comparatively study of NBBL and NSBI banking performance, it can be concluded that NBBL has better performance than that of HBL.

### **5.3 Recommendations**

Based on above findings and conclusion the following recommendations have been made.

1. As the liquidity position of these two banks is found to be high, they are recommended to look upon the new area of lending and investment. The rural economy has always been realizing the credit needs: the dominancy of non-organized moneylender. In this area has been prevailing. To compromise between the liquidity and credit need of rural economy, these banks are highly fund in business and the same time contributes to the national economy also.
2. The ratio of loans and advances and investment to total deposit of NBBL is the lowest and this has result in the highest ratio of interest expenses to total deposit. At the same time total deposit to total fund utilized is below the average and there is high propensity of growth in deposit as compare to loans and advances. Hence these banks suggested reducing the interest rate. Consequently the volume of interest bearing deposit in its deposit mix reduces: increase the gap between consequent assets the liquidity arising from high prosperity of deposit.
3. HBL's contribution in loans and advances is the lowest and this has low degree of variation and low growth rate as compare to NBBL an NBBL since the entire economy is largely dependent on the proper execution of lending performance of all the banks in long run due to its paradox how level of

lending constitutes the low level of lending constitutes the low level of investment, resulting in low level of productive and employment generation and this causes slack in economy .this slackness in economy adversely effects the funding as well as non- funding activities of banking business. Thus, especially HBL is recommended to give more priority on productive and priority sector loan.

4. As examined by interest income to interest expenses ratio, the interest gap in NBBL and HBL is highly unfavorable for the national development since this gap as not existed due to credit creation power of these banks. As the total loans and advances to total deposit ratio is not even 1:1, this gap has its reason with high interest charged and low interest offering. This ratio has clearly indication that the bank has not followed that the NRB directives to maintain overall 5% gap in interest charged and interest offered. Thus bank is recommended to lower this gap by charging low interest in lending lowering this gap results in high volume of loans and advances and helps in increasing the sustainable lending practice.
5. The high volume of liquidity shows that the high degree of lending strength has been prevailing in all of these banks. The lack of reliable lending opportunities and fear of losing the principle in rural sector has been keeping these banks to less orient toward the lending function. Hence the government should take appropriate action to initiate these directives does not create long term healthy lending practices unless the commercial banks are not self motivated to flow credit in this sector, “But in view of the risk element in lending, the banker still prefers to have a negative outlook in handling proposals. This attitude requires to be changed among the bankers and any proposal coming to them should be processed to conform to banking norms so that it can be sanctioned for alignment for production or approved social objectives.

## ANNEXES

### Annex 1

#### Analysis of Current Ratio

Year	Current Assets		Current liabilities		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	3334.59	7034.51	3204.27	6945.64	1.04061	1.0128
2007/08	5049.85	9636.94	4874.79	9358.28	1.0359	1.0298
2008/09	6607.18	10727.83	6063.87	10441.04	1.0895	1.0275
2009/10	8052.20	11345.52	7420.73	1123.70	1.0761	1.0099
2010/11	9608.56	13758.05	8928.24	13586.40	1.0654	1.1438

Source: Annual Report of HBL & NBBL

### Annex 2

#### Analysis of Liquid fund to Current Liability Ratio

Year	Liquid fund		Current liabilities		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	278.60	645.75	3204.27	6945.64	0.0869	0.0930
2007/08	834.99	1025.82	4874.79	9358.28	0.1713	0.1096
2008/09	692.76	759.31	6063.87	10441.04	0.1142	0.1685
2009/10	1139.57	889.51	7420.73	11233.70	0.1536	0.0792
2010/11	631.81	1436.48	8928.24	13586.40	0.0708	0.1057

Source: Annual Report of HBL & NBBL

### Annex 3

#### Analysis of Liquid Fund to Total Deposit Ratio

Year	Liquid fund		Current liabilities		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	278.60	645.75	3204.27	6467.19	0.0911	0.0998
2007/08	35.79	1025.82	4874.79	8600.81	0.1825	0.1193
2008/09	692.76	759.31	6063.87	954.47	0.1267	0.1849
2009/10	1139.59	889.51	7420.73	10580.65	0.1702	0.841
2010/11	631.21	1436.48	8928.24	12807.37	0.0783	0.1122

Source: Annual Report of HBL & NBBL

### Annex 4

#### Analysis of Total Assets to Total Liabilities Ratio

Year	Liquid fund		Current liabilities		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	3334.59	7347.23	3208.86	6950.62	1.0632	1.0571
2007/08	5049.85	9962.69	4883.18	9367.57	1.0654	1.0635
2008/09	6607.18	11102.24	6216.27	10475.74	1.0628	1.0598
2009/10	8052.20	11932.60	7579.37	11248.69	1.0623	1.0607
2010/11	9608.56	14257.97	9068.24	13601.39	1.0595	1.0483

Source: Annual Report of HBL & NBBL

## Annex 5

### Analysis of Loans and Advances to Total Deposit Ratio

Year	Loan and Advances		Total Deposit		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	2270.18	461710	3057.43	6467.43	0.7425	0.7139
2007/08	3005.76	7358.84	4574.51	8600.81	0.6571	0.8556
2008/09	3948.48	7632.42	5466.61	9514.47	0.7223	0.8022
2009/10	4908.46	7247.98	6694.95	10580.65	0.7331	0.6850
2010/11	5884.12	8648.74	8063.90	1287.37	0.7297	0.6753

Source: Annual Report of HBL & NBBL

## Annex 6

### Analysis of Loans and Advances and Investment to Total Deposit

Year	Loan and Advances and Investment		Total Deposit		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	2527.79	5060.65	3057.43	6467.19	0.8267	0.7825
2007/08	3828.76	8034.92	4574.51	8600.81	0.8369	0.9342
2008/09	5487.38	8602.65	5466.61	9514.47	1.0038	0.9042
2009/10	6507.81	9378.49	6694.95	10580.65	0.9720	0.8864
2010/11	8350.55	11309.49	8063.90	12807.37	1.0355	0.8830

Source: Annual Report of HBL & NBBL

## Annex 7

### Analysis of Loans and Advances to Share holders Equity

Year	Loan and Advances		Shareholders' Equity		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	2270.18	461710	202.85	396.59	11.1914	11.6419
2007/08	3005.76	7358.84	319.40	595.12	9.1406	12.3653
2008/09	3948.48	7632.42	390.91	626.49	10.1007	12.1828
2009/10	4908.46	7247.98	472.83	683.92	10.3810	10.5977
2010/11	5884.12	8648.74	540.33	656.57	10.8898	13.1726

Source: Annual Report of HBL & NBBL

## Annex 8

### Analysis of Interest Income to Total Income Ratio

Year	Interest Income		Total Income		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	267.44	609.27	41.27	139.53	6.48	4.37
2007/08	385.02	810.05	69.70	198.75	5.52	4.07
2008/09	443.82	850.53	85.33	65.78	5.20	12.93
2009/10	520.17	1013.71	74.17	71.51	5.52	14.17
2010/11	657.25	1095.50	143.57	265.0	4.58	41.34

Source: Annual Report of HBL & NBBL

## Annex 9

### Analysis of Interest Expenses to Total Deposit Ratio

Year	Interest Expenses		Total Deposit Ratio		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	177.89	414.99	3057.43	6467.19	0.0582	0.6811
2007/08	236.14	515.84	4574.51	8600.81	0.0516	0.6368
2008/09	257.05	550.06	5466.61	9514.47	0.04702	0.6467
2009/10	306.41	594.58	6694.95	10580.65	0.0458	0.5865
2010/11	314.44	620.94	8063.90	12807.37	0.0389	0.5668

Source: Annual Report of HBL & NBBL

## Annex 10

### Analysis of Interest Income to Interest Expenses Ratio

Year	Interest Income		Interest Expenses		Ratio	
	HBL	NBBL	HBL	NBBL	HBL	NBBL
2006/07	267.44	609.27	177.89	414.99	0.6651	0.6811
2007/08	385.02	810.05	236.14	515.84	0.6193	0.6368
2008/09	443.82	850.53	257.05	550.06	0.5792	0.6467
2009/10	520.17	1013.71	306.41	594.58	0.5890	0.5865
2010/11	657.25	1095.50	314.44	620.94	0.4784	0.5668

Source: Annual Report of HBL & NBBL

## Annex 11

### HBL Bank Limited

#### Correlation Coefficient between Deposit and Loans and Advances

Let, X be Deposit and Y be loans and advances respectively.

Year	X	Y	x=X- $\bar{X}$	y=Y- $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2006/07	4574.5	2959.44	-2405.03	-2104.39	5784169.30	4428457.27	5061121.08
2007/08	5466.61	3948.47	-1512.92	-1115.36	2288926.3	1244027.93	1687,450.45
2008/09	6694.96	4908.46	-284.57	-155.37	80980.08	24139.84	44213.64
2009/10	8063.9	5884.12	1084.37	820.29	1175858.30	672875.68	889497.87
2010/11	10097.69	7618.67	3118.16	2554.84	9722921.79	652707.43	7966399.89
N=5	X=34897.66	Y=25319.16			x <sup>2</sup> =19052856.37	y <sup>2</sup> =7022208.15	xy=15648682.74

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{X}{N} \\ &= \frac{34897.66}{5} \\ &= 6979.53 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{Y}{N} \\ &= \frac{25319.16}{5} \\ &= 5063.83 \end{aligned}$$

$$\begin{aligned} \text{Correlation coeff.}(r) &= \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{1610247.36}{\sqrt{1905286.37} \sqrt{12896698.13}} \\ &= \frac{1610247.36}{4364.95 \times 3591.19} \\ &= 0.1027 \end{aligned}$$

$$\begin{aligned} \text{P.Er} &= 0.6745 \times \frac{1-r^2}{\sqrt{5}} \\ &= 0.6745 \times \frac{1-(0.1027)^2}{2.24} \\ &= 0.2985 \end{aligned}$$

## Correlation Coefficient between Total Investment and Loans and Advances

Let, X be Total investment and Y be loans and Advances respectively.

Year	X	Y	x=X- $\bar{X}$	y=Y- $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2006/07	9017	2959.44	5611.28	-2104.39	31486463.24	4428457.27	-11808321.52
2007/08	1693.06	3948.47	-1712.66	-1115.36	2933204.28	1244027.93	1910232.46
2008/09	1653.97	4908.46	-1751.75	-155.37	3068628.06	24139.84	272169.40
2009/10	2535.65	5884.12	-870.07	820.29	757021.80	672875.68	-713709.72
2010/11	2128.93	7618.67	-1276.79	2554.84	1630192.70	6527207.43	-3261994.16
N=5	X= 17028.61	Y= 25319.16			x= 39875510.07	y= 1228153.49	xy= -13600984.84

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

$$= \frac{17028.61}{5}$$

$$= 3405.72$$

$$= 5063.83$$

$$\text{Mean } (\bar{Y}) = \frac{Y}{N}$$

$$= \frac{25319.16}{5}$$

$$\text{Correlation coeff.}(r) = \frac{xy}{\sqrt{x^2} \sqrt{y^2}} = \frac{-13600984.84}{\sqrt{1905286.37} \sqrt{12896698.13}}$$

$$= \frac{1610247.36}{631.706 \times 3591.19}$$

$$= -0.6144$$

$$\text{P.Er} = 0.6745 \times \frac{1-r^2}{\sqrt{5}}$$

$$= 0.6745 \times \frac{1 - (-0.6144)^2}{2.24}$$

$$= 0.1163$$

## Correlation Coefficient between Total income and Loans and Advances

Let, X be total income and Y be Loans and Advances respectively

Year	X	Y	x=X- $\bar{X}$	y=Y- $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2006/07	4655.1	2959.44	-1916.32	-2104.39	3672282.34	4428457.27	4032684.64
2007/08	5409	3947.47	-1162.42	-1115.36	47707.30	1244027.93	1296516.68
2008/09	6353	4908.46	-218.42	-155.37	1637324.98	24139.84	33935.92
2009/10	7851	5884.12	1279.58	820...29	4070629.06	672875.68	1049626.68
2010/11	8589	7618.67	2017.58	2554.84		6527207.43	5154594.09
N=5	X= 32857.1	Y=			x= 10779163.90	y= 12896708.13	xy= 11567358.07

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{X}{N} \\ &= \frac{32857.1}{5} \\ &= 6571.42 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{Y}{N} \\ &= \frac{25319.16}{5} \\ &= 5063.83 \end{aligned}$$

$$\begin{aligned} \text{Correlation coeff.}(r) &= \frac{xy}{\sqrt{x^2} \sqrt{y^2}} = \frac{11567358.07}{\sqrt{10779163.9} \sqrt{12896698.13}} \\ &= \frac{11567358.07}{3283.16 \times 3591.19} \\ &= 0.9810 \end{aligned}$$

$$\begin{aligned} \text{P.Er} &= 0.6745 \times \frac{1-r^2}{\sqrt{5}} \\ &= 0.6745 \times \frac{1-(0.9810)^2}{2.24} \\ &= 0.01135 \end{aligned}$$

## Correlation Coefficient between Interest Income and Net Profit

Let X be the Interest Income and Y be the Net Profit

Year	X	Y	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2006/07	267.44	697.06	-187.3	-296.50	35081.29	87912.25	55534.45
2007/08	385.02	853.47	-69.72	-140.09	4860.88	19625.21	9767.07
2008/09	443.82	273.30	-10.92	-720.26	119.25	518774.47	7865.24
2009/10	520.17	1436.00	65.43	442.44	4281.08	195753.15	28948.85
2010/11	657.25	1708.00	202.51	714.44	41010.30	510424.51	144681.24
N=5	X= 2273.7	Y= 4967.83			x= 85352.78	y= 1332503.4 5	xy= 246796.18

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{X}{N} \\ &= \frac{2273.7}{5} \\ &= 454.74 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{Y}{N} \\ &= \frac{4967.83}{5} \\ &= 993.56 \end{aligned}$$

$$\begin{aligned} \text{Correlation coeff. (r)} &= \frac{xy}{\sqrt{x^2} \sqrt{y^2}} = \frac{246796.18}{\sqrt{85352.78} \sqrt{1332503.45}} \\ &= \frac{246796.18}{292.15 \times 1154.34} \\ &= 0.7318 \end{aligned}$$

$$\begin{aligned} \text{P.Er} &= 0.6745 \times \frac{1-r^2}{\sqrt{5}} \\ &= 0.6745 \times \frac{1-(0.7318)^2}{2.24} \\ &= 0.1401 \end{aligned}$$

## Annex 12

### Nepal Bangladesh Bank Limited

#### Correlation Coefficient between Deposit and Loans and Advances

Let, X be Deposit and Y be Loans and Advances respectively.

Year	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2006/07	8600.81	7358.84	-2124.96	-1176.34	4515455.00	1383775.80	2499675.45
2007/08	9514.96	8083.97	-1210.81	-451.21	1466060.86	203590.46	546329.58
2008/09	10580.65	7961.51	-145.12	-573.67	21059.81	329097.27	83250.99
2009/10	12807.37	9644.69	2081.6	1109.51	433058.56	1231012.44	2309556.02
2010/11	12125.57	9626.91	1399.8	1091.73	1959440.04	1191874.39	1528203.65
N=5	X= 53628.86	Y= 42675.92			$x^2$ = 1229285.32	$y^2$ = 4339350.34	xy= 6967241.28

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{X}{N} \\ &= \frac{53628.86}{5} \\ &= 10725.77 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{Y}{N} \\ &= \frac{42675.92}{5} \\ &= 8535.18 \end{aligned}$$

$$\begin{aligned} \text{Correlation coeff. (r)} &= \frac{xy}{x^2 y^2} = \frac{6967241.28}{\sqrt{1229285.32} \sqrt{4339350.34}} \\ &= \frac{6967241.28}{3506.60 \times 2083.11} \\ &= 0.9538 \end{aligned}$$

$$\begin{aligned} \text{P.Er} &= 0.6745 \times \frac{1 - r^2}{\sqrt{5}} \\ &= 0.6745 \times \frac{1 - (0.9538)^2}{2.24} \\ &= 0.2744 \end{aligned}$$

## Correlation coefficient between Total Investment and Loans and Advances

Let, X be Total investment and Y be Loans and Advances respectively.

Year	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2006/07	691.08	7358.84	-1104.82	-1176.34	1220627.23	1383775.80	1299643.96
2007/08	1008.64	8083.97	-787.26	-451.21	619778.31	203590.46	355219.58
2008/09	2168.16	7961.51	373.02	-573.67	139143.92	329097.24	-213990.38
2009/10	2699.16	9644.69	903.06	1109.51	815878.63	1231012.44	1002176.00
2010/11	2411.72	9626.91	615.82	1091.73	379234.27	1191874.39	672309.17
N=5	$\bar{X} =$ 8979.52	$\bar{Y} =$ 42675.92			$\bar{x^2} =$ 3174662.34	$\bar{y^2} =$ 4339350.34	$\bar{xy} =$ 3115358.31

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{X}{N} \\ &= \frac{8979.52}{5} \\ &= 1795.90 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{Y}{N} \\ &= \frac{42675.92}{5} \\ &= 8535.18 \end{aligned}$$

$$\begin{aligned} \text{Correlation coeff.}(r) &= \frac{\bar{xy}}{\sqrt{\bar{x^2} \bar{y^2}}} = \frac{3115358.31}{\sqrt{3174662.34 \times 4339350.34}} \\ &= \frac{3115358.31}{1781.75 \times 2083.11} \\ &= 0.8394 \end{aligned}$$

$$\begin{aligned} \text{P.Er} &= 0.6745 \times \frac{1 - r^2}{\sqrt{5}} \\ &= 0.6745 \times \frac{1 - (0.8394)^2}{2.24} \\ &= 0.0891 \end{aligned}$$

### Correlation Coefficient between Total Income and Loans and Advances

Let, X be Total income and Y Loan and advances respectively.

Year	X	Y	x=X- $\bar{X}$	y=Y- $\bar{Y}$	x <sup>2</sup>	y <sup>2</sup>	xy
2006/07	1080	7358.84	-82.19	-1176.34	6755.20	1383775.80	96683.38
2007/08	1076.81	8083.97	-85.38	-451.21	7289.74	203590.46	38524.31
2008/09	1243.83	7961.51	81.64	-573.67	6665.09	329097.27	-46834.42
2009/10	1327.19	9644.69	165	1109.51	27225.00	1231012.44	183069.15
2010/11	1083.16	9626.91	-79.03	1091.73	6245.74	1191874.39	-86279.42
N=5	X= 5810.99	Y= 42675.92			x <sup>2</sup> = 54180.76	y <sup>2</sup> = 4339350.34	xy= 185163

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

$$= \frac{5810.99}{5}$$

$$= 1162.19$$

$$\text{Mean } (\bar{Y}) = \frac{Y}{N}$$

$$= \frac{42675.92}{5}$$

$$= 8535.18$$

$$\text{Correlation coeff.}(r) = \frac{xy}{x^2 y^2} = \frac{185163}{\sqrt{54180.76} \sqrt{4339350.34}}$$

$$= \frac{185163}{3115358.31}$$

$$= \frac{185163}{232.76 \times 2083.11}$$

$$= 0.3819$$

$$\text{P.Er} = 0.6745 \times \frac{1-r^2}{\sqrt{5}}$$

$$= 0.6745 \times \frac{1-(0.3819)^2}{2.24}$$

$$= 0.2926$$

## Correlation Coefficient between Interest Income and Net Profit

Let, X be interest income and Y be Net profit respectively.

Year	X	Y	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2006/07	810.05	198.75	-132.4	108.14	17529.76	11694.26	-14317.74
2007/08	850.53	65.78	-91.92	-24.83	8449.29	616.53	2282.37
2008/09	1013.71	71.49	71.26	-19.12	5077.99	365.57	-1362.49
2009/10	1095.5	26.43	153.05	-64.18	23424.30	4119.07	-9822.75
2010/11	-	-	-	-	-	-	-
N=5	X= 3769.79	Y= 362.45			$x^2$ = 54481.32	$y^2$ = 16795.41	xy= -23220.60

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{X}{N} \\ &= \frac{3769.79}{5} \\ &= 942.45 \end{aligned}$$

$$\begin{aligned} \text{Mean } (\bar{Y}) &= \frac{Y}{N} \\ &= \frac{362.45}{5} \\ &= 90.61 \end{aligned}$$

$$\begin{aligned} \text{Correlation coeff.}(r) &= \frac{xy}{x^2 y^2} = \frac{-23220.60}{\sqrt{54481.32} \sqrt{16795.41}} \\ &= \frac{-23220.60}{30249.56} \\ &= -0.7676 \end{aligned}$$

$$\begin{aligned} \text{P.Er} &= 0.6745 \times \frac{1-r^2}{\sqrt{5}} \\ &= 0.6745 \times \frac{1 - (-0.7676)^2}{2.24} \\ &= 0.1385 \end{aligned}$$

**Annex 13**  
**Trend Analysis of Total Investment and Loans and Advances**  
**HBL**

Year	X	Y	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2006/07	257.61	3057.43	-1079.45	-2514.05	1165212.30	6320447.40	2713791.27
2007/08	823.00	4574.51	-514.06	-996.97	264257.68	993949.18	512502.39
2008/09	1538.90	5466.61	201.84	-104.87	40739.38	10997.72	-21166.96
2009/10	1599.35	6694.95	262.29	1123.47	68796.04	1262184.84	294674.94
2010/11	2466.43	8063.90	1129.37	2492.42	1275476.59	6212157.46	28146864.37
N=5	X= 6685.29	Y= 27857.40			$x^2=$ 2814481.99	$y^2=$ 1479936.60	xy= 6314666.01

$$X = 6685.29$$

$$Y = 27857.40$$

$$\bar{X} = \frac{X}{N}$$

$$= \frac{6685.29}{5}$$

$$= 1337.06$$

$$\bar{Y} = \frac{Y}{N}$$

$$= \frac{27857.40}{5}$$

$$= 5571.48$$

$$y = a + bx \dots \dots \dots (i)$$

$$y = Na + bx \dots \dots \dots (ii)$$

$$xy = a \quad x + b \quad y \dots \dots \dots (iii)$$

Substituting the value of x and y in equation (ii) and equation (iii) we get,

$$27857.40 = 5a + 6685.29 b \dots \dots \dots (iv)$$

$$6314666.10 = 6685.29a + 2814481.99 b \dots \dots \dots (v)$$

Multiplying equation (iv) by 1337.058 and then subtracting equation (v) from it,

We get,

$$37246959.53 = 6685.29a + 44693102.38b$$

$$6314666.01 = 6685a + 2814481.99b$$

$$\begin{array}{r} - \\ - \\ - \\ \hline \end{array}$$

$$30932293.52 = 41878620.39b$$

$$\text{or, } b = \frac{30932293.52}{41878620.39}$$

$$\dots \quad b = 0.7386$$

Now subtracting the value of b in equation (iv), we get

$$27857.40 = 5a + 6685.29b$$

$$\text{or, } 27857.40 = 5a + 6685.29 * 0.7386$$

$$\text{or, } a = \frac{22919.52}{5} = 4583.90$$

$$\dots a = 4583.90, b = 0.7386$$

Year	Trend value
2006/07	$y = a + bx = 4583.52 + 0.7386 * 0 = 4583.90$
2007/08	$y = a + bx_1 = 4583.52 + 0.7386 * 1 = 4584.63$
2008/09	$y = a + bx_2 = 4583.52 + 0.7386 * 2 = 4586.37$
2009/10	$y = a + bx_3 = 4583.52 + 0.7386 * 3 = 4586.12$
2010/11	$y = a + bx_4 = 4583.52 + 0.7386 * 4 = 4586.85$
2011/12	$y = a + bx_5 = 4583.52 + 0.7386 * 5 = 4587.59$
2012/13	$y = a + bx_6 = 4583.52 + 0.7386 * 6 = 4588.33$
2013/14	$y = a + bx_7 = 4583.52 + 0.7386 * 7 = 4589.07$
2014/15	$y = a + bx_8 = 4583.52 + 0.7386 * 8 = 4589.80$
2015/16	$y = a + bx_9 = 4583.52 + 0.7386 * 9 = 4590.54$

**NBBL**

Year	X	Y	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2006/07	443.55	6467.19	-932.69	-3126.90	869918.09	977553.64	2916428.36
2007/08	676.08	8600.81	-700.16	-993.28	490229.62	986621.05	695454.92
2008/09	970.23	9514.47	-406.01	-79.262	164847.36	6340.61	32181.16
2009/10	2130.51	10580.65	754.26	986.552	568917.19	973284.84	744116.71
2010/11	2660.75	12807.37	1284.50	3213.72	1649955.66	10325116.95	4127447..88
N=5	X= 6881.12	Y = 47970.49			$x^2$ = 3743867.92	$y^2$ = 22068917.09	xy= 8515627.03

$$X = 6881.12$$

$$Y=47970.49$$

$$\bar{X} = \frac{X}{N}$$

$$= 1376.224$$

$$\bar{Y} = \frac{Y}{N}$$

$$= 9594.098$$

$$y=a+bx.....(i)$$

$$y =Na +bx.....(ii)$$

$$xy = a \quad x + b \quad y..... (iii)$$

Substituting the value of x and y in equation (ii) and equation (iii) we get,

$$47970.49= 5a + 68812 b..... (iv)$$

$$8515629.03 = 6881.12a + 3743867.92 b..... (v)$$

Multiplying equation (iv) by 1376.224 and then subtracting equation

(v) From it, we get,

$$66018139.63 = 688.12a +9469962.49b$$

$$8515629.03 =6881.12a +3743867.92b$$

---


$$5750210.60 = 5726094.57b$$

$$\text{or, } b = \frac{5750210.60}{5726094.57}$$

$$\dots \quad b = 1.0042$$

Now subtracting the value of b in equation (iv), we get

$$47970.49 = 5a + 6881.12 \times 0.1.0042$$

$$\text{or, } 47970.49 = 5a + 6910.02$$

$$\text{or, } 47970.49 - 6910.02 = 5a$$

$$\text{or, } a = \frac{4106046}{5} = 8212.09$$

$$\dots a = 8212.09, b = 0.1460$$

Year	Trend value	
2006/07	$y = a + bx =$	$8212.09 + 1.0042 \times 0 = 8212.09$
2007/08	$y = a + bx_1 =$	$8212.09 + 1.0042 \times 1 = 8213.09$
2008/09	$y = a + bx_2 =$	$8212.09 + 1.0042 \times 2 = 8214.09$
2009/10	$y = a + bx_3 =$	$8212.09 + 1.0042 \times 3 = 8215.10$
2010/11	$y = a + bx_4 =$	$8212.09 + 1.0042 \times 4 = 8216.16$
2011/12	$y = a + bx_5 =$	$8212.09 + 1.0042 \times 5 = 8217.11$
2012/13	$y = a + bx_6 =$	$8212.09 + 0.1460 \times 6 = 4045.69$
2013/14	$y = a + bx_7 =$	$8212.09 + 1.0042 \times 7 = 8219.12$
2014/15	$y = a + bx_8 =$	$8212.09 + 1.0042 \times 8 = 8220.12$
2015/16	$y = a + bx_9 =$	$8212.09 + 1.0042 \times 9 = 8221.13$

## Annex 14

### Trend Analysis of Loans and Advances and Total Deposit Ratio

#### HBL

Year	X	Y	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2006/07	4574.5	2959.44	-2405.03	-2104.39	5784169.30	4428457.27	5061121.08
2007/08	5466.61	3948.47	-1512.92	-1115.36	2288926...93	1244027.93	44213.64
2008/09	6694.96	4908.46	-284.57	-155.37	80980.08	24139.84	889497.87
2009/10	8063.9	5884.12	1084.37	820.29	1175858.30	672875.68	7966399
2010/11	10097.69	7618.67	3118.16	2554.84	9722921.79	652707.43	
N=5	X=34897.66	Y=25319.16			$x^2=$ 19052856.37	$y^2=$ 12896698.13	xy= 1610247.36

$$X = 34897.66$$

$$Y = 25319.16$$

$$x^2 = 12896698.13$$

$$xy = 610247.36$$

$$y = a + bx \dots \dots \dots (i)$$

$$y = Na + bx \dots \dots \dots (ii)$$

$$xy = a \quad x + b \quad y \dots \dots \dots (iii)$$

Substituting the value of x and y in equation (ii) and equation (iii) we get,

$$25319.16 = 5a + 34897.66 b \dots \dots \dots (iv)$$

$$1610247.36 = 34897.66a + 19052866.37 b \dots \dots \dots (v)$$

Multiplying equation (iv) by 1072.772 and then subtracting equation (v) from it, we get,

$$176715887.40 = 34897.66a + 1217846673b$$

$$1610247.36 = 34897.66a + 19052866.37b$$

$$\begin{array}{r} - \\ - \\ - \\ \hline 17510247.36 = 11987938.07b \end{array}$$

or,  $b = \frac{17510247.36}{11987938.07}$

$$\dots b = 0.1460$$

Now subtracting the value of b in equation (iv), we get

$$25319.16 = 5a + 34897.66 \times 0.1460$$

or,  $25319.16 = 5a + 5095.05$

or,  $25319.16 - 5095.05 = 5a$

$$\text{or, } a = \frac{20224.10}{5} = 4044.82$$

$$\dots a = 4044.82, b = 0.1460$$

Year	Trend value
2006/07	$y = a + bx = 4033.82 + 0.1460 * 0 = 4044.82$
2007/08	$y = a + bx_1 = 4044.82 + 0.1460 * 1 = 4044.96$
2008/09	$y = a + bx_2 = 4044.82 + 0.1460 * 2 = 4045.11$
2009/10	$y = a + bx_3 = 4044.82 + 0.1460 * 3 = 4045.25$
2010/11	$y = a + bx_4 = 4044.82 + 0.1460 * 4 = 4045.40$
2011/12	$y = a + bx_5 = 4044.82 + 0.1460 * 5 = 4045.55$
2012/13	$y = a + bx_6 = 4044.82 + 0.1460 * 6 = 4045.69$
2013/14	$y = a + bx_7 = 4044.82 + 0.1460 * 7 = 4045.84$
2014/15	$y = a + bx_8 = 4044.82 + 0.1460 * 8 = 4045.98$
2015/16	$y = a + bx_9 = 4044.82 + 0.1460 * 9 = 4046.13$

**NBBL**

Year	X	Y	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2006/07	8600.81	7358.84	-2124.96	-1176.34	4515455.00	1383775.80	2499675.45
2007/08	9514.96	8083.97	-1210.81	-451.21	1466060.86	203590.46	546329.58
2008/09	10580.65	7961.51	-145.12	-573.67	21059.81	329097.27	83250.99
2009/10	12807.37	9644.69	2081.6	1109.51	433058.56	1231012.44	2309556.02
2010/11	12125.57	9626.91	1399.8	1091.73	1959440.04	1191874.39	1528203.65
N=5	X= 53628.86	Y= 42675.92			$x^2$ = 1229285.32	$y^2$ = 4339350.34	xy= 6967241.28

$$X = 53628.86$$

$$x^2 = 1229285.32$$

$$xy = 6967241.28$$

$$Y=42675.92$$

$$y=a+bx \dots\dots\dots(i)$$

$$y =Na +bx \dots\dots\dots(ii)$$

$$xy = a \quad x + b \quad y \dots\dots\dots(iii)$$

Substituting the value of x and y in equation (ii) and equation (iii) we get,

$$42675.92 = 5a + 53628.86 b \dots\dots\dots(iv)$$

$$6967241.28 = 53628.86a + 12296285.32 b \dots\dots\dots(v)$$

Multiplying equation (iv) by 1072.772 and then subtracting equation (v) from it, we get,

$$42675.92 = 5a + 53628.86 b$$

$$6967241.28 = 53628.86a + 12296285.32 b$$


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$$450764946.50 = 286375834b$$

or,  $b = 450764946.50$

$$\frac{450764946.50}{2863759340}$$

...  $b = 0.1574$

Now subtracting the value of b in equation (iv), we get

$$42675.92 = 5a + 53628.86 \times 0.1574$$

or,  $25319.16 = 5a + 8441.18$

$$\text{or, } 25319.16 - 84411.18 = 5a$$

$$\text{or, } a = \frac{34234.74}{5} = 6846.95$$

$$\dots a = 6846.95, b = 0.1574$$

Year	Trend value
2006/07	$y = a + bx = 6846.95 + 0.1574 * 0 = 6848.95$
2007/08	$y = a + bx_1 = 6846.95 + 0.1574 * 1 = 6847.10$
2008/09	$y = a + bx_2 = 6846.95 + 0.1574 * 2 = 6847.26$
2009/10	$y = a + bx_3 = 6846.95 + 0.1574 * 3 = 6847.42$
2010/11	$y = a + bx_4 = 6846.95 + 0.1574 * 4 = 6847.57$
2011/12	$y = a + bx_5 = 6846.95 + 0.1574 * 5 = 6847.73$
2012/13	$y = a + bx_6 = 6846.95 + 0.1574 * 6 = 6847.89$
2013/14	$y = a + bx_7 = 6846.95 + 0.1574 * 7 = 6847.85$
2014/15	$y = a + bx_8 = 6846.95 + 0.1574 * 8 = 6848.20$
2015/16	$y = a + bx_9 = 6846.95 + 0.1574 * 9 = 6848.35$