## Chapter 1

## INTRODUCTION

### 1.1 Background of the Study

Bank is considered as the backbone in the development of the national economy. It is a financial institution, which act 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 investors is the major function. Through the loan, there will be increase in the environment of the investment and the bank has the major role in creating such an environment.

After democratically elected government adopted the liberal and market oriented economic policy the number of joint venture bank has increased dramatically. Joint venture banks are established by joining different forces and ability to active a common goal with each of the partners. They are efficient and effective monetary financial institutions in modern banking bank provide the excess amount of funds to fulfill the demand of the investors and better allocation of financial resource and to encourage economic growth in the economy. For this loan should be efficiently managed and controlled. If loan is not efficiently managed, it can cause inflation or deflation recession and unemployment in the economy. Misleading of loan management can lead to misallocation of the investible resources and the economic poor concentrated the certain persons and against the social objective.

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 legal 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 careful while performing its credit creation effectively and to minimize the risk factor.

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

Thus study aims to focus on the comparative loan management of the joint venture banks namely, Everest Bank Limited and Nepal Bangladesh Bank Limited.

### 1.2 General Background of Banks in Nepal

The history of the systematic development of commercial banks in Nepal as compared to other developed countries is of recent origin. In Nepal, efforts are being made to accelerate the pace of economic development after the adaptation of first five year plan in 1956, Nepal Bank Ltd. The first and oldest bank in modern banking history of Nepal, was established in 1937A.D. (30 Kartik 1994 B.S.), with $51 \%$ government equity. Nepal Bank Ltd also used to function as central bank of the country up to 2012 B.S. on 2013 B.S.; Nepal Rastra Bank was established as central Bank of Nepal under the Nepal Rastra Bank Act 2012. Government initiated some corrective measure to stabilize the economy with the assistance of IMF standby arrangement in mid 1980s. In FY 1985, in subsequently embarked upon the structured adjustment program encompassing measures to increase domestic resource mobilization, strengthen financial sectors, and liberalize industrial and trade policies (World Bank, 1992:381). Since then several financial institutions and commercial banks have been established in the process of development and liberalization policy for the economic development of the nation.

In the early 1980s, government permitted the establishment of foreign joint venture banks in Nepal. As a result, three joint venture banks Nabil, NGLB, and NIBL came into existence by the end of the first half of the 1980s. Henceforth, a number of joint venture commercial banks came into existence. The basic objective to allow foreign joint venture banks to operate in Nepal was mainly to develop the banking sector, to create healthy competition for the further development of already existing old banks, and to introduce new technological efficiency in the banking sectors. At present, there are Twenty Five commercial banks, nine development banks, forty-five co-operative banks, twenty-five non-governmental organizations and a centreal bank.

## List of Commercial Bank

| S.N. | Commercial Banks | Operation <br> Date (A.D) | Head Office |
| :--- | :--- | :--- | :--- |
| 1 | Nepal Bank Limited(NBL) | $1937 / 11 / 15$ | Kathmandu |
| 2 | Rastriya Banijya Bank(RBB) | $1966 / 01 / 23$ | Kathmandu |
| 3 | NABIL Bank Ltd.(NABIL) | $1984 / 07 / 16$ | Kathmandu |
| 4 | Nepal Investment Bank Ltd.(NIBL) | $1986 / 02 / 27$ | Kathmandu |
| 5 | Standard Chartered Bank Nepal Ltd.(SCBL) | $1987 / 01 / 30$ | Kathmandu |
| 6 | Himalayan Bank Ltd.(HBL) | $1993 / 01 / 30$ | Kathmandu |
| 7 | Nepal SBI Bank Ltd.(NSBI) | $1993 / 07 / 07$ | Kathmandu |
| 8 | Nepal Bangladesh Bank Ltd. | $1993 / 06 / 05$ | Kathmandu |
| 9 | Everest Bank Ltd.(EBL) | $1964 / 10 / 18$ | Kathmandu |
| 10 | Bank of Kathmandu Ltd.(BOK) | $1995 / 03 / 12$ | Kathmandu |
| 11 | Nepal Industrial \& comm. Bank(NIC) | $1996 / 10 / 14$ | Sidhharthanagar |


| 12 | Lumbini Bank Ltd.(LBL) | $1998 / 07 / 17$ | Narangadh |
| :--- | :--- | :--- | :--- |
| 13 | Nepal Industrial and Commercial Bank <br> Ltd.(NIC) | $1998 / 07 / 21$ | Biratnagar |
| 14 | Machhapuchhre Bank Ltd.MBL) | $2000 / 10 / 03$ | Pokhara |
| 15 | Kumari Bank Ltd.(KBL) | $2001 / 04 / 03$ | Kathmandu |
| 16 | Laxmi Bank Ltd.(LXBL) | $2002 / 04 / 03$ | Birgunj |
| 17 | Siddhartha Bank Ltd.(SBL) | $2002 / 12 / 24$ | Kathmandu |
| 18 | Agriculture Development Bank Ltd. | $2006 / 03 / 16$ | Kathmandu |
| 19 | Global Bank Ltd. | $2007 / 01 / 02$ | Birgunj |
| 20 | Citizens Bank Ltd. | $2007 / 06 / 21$ | Kathmandu |
| 21 | Prime Commercial Bank Ltd. | $2007 / 09 / 24$ | Kathmandu |
| 22 | Bank of Asia Nepal Ltd.(BOA) | $2007 / 10 / 12$ | Kathmandu |
| 23 | Sunrise Bank Ltd. | $2008 / 05 / 25$ | Kathmandu |
| 24 | Development Credit Bank Ltd.(DCBL) | Kathmandu |  |
| 25 | NMB Bank Ltd.(NMB) | $2008 / 06 / 02 / 06 / 21$ | Kathmandu |
| 26 | Kist Bank Ltd |  |  |

Source :( Annual economic report of NRB)

### 1.3 A Brief Profile of the Banks

In the initial period capital of the both banks are shown in the table.

Table 1.1
Capital Structure of EBL and NBBL

| Capital | Everest Bank Limited | Nepal Bangladesh Bank <br> Limited |
| :--- | :--- | :--- |
| Authorized capital | Rs.1,00,00,00,000 | Rs.3,00,00,00,000 |
| Issued capital | Rs.84,06,20,000 | Rs.1,86,03,15,000 |


| Paid-up-capital | Rs.83,88,21,000 | Rs.1,86,03,15,000 |
| :--- | :--- | :--- |
| No. of share holders | 2422.00 | 24598.00 |
| Par value | Rs. 100.00 | Rs.100.00 |
| Paid-up-value | Rs.50.00 | Rs.50.00 |
| Listed in Nepal stock <br> Exchange | $2052 / 12 / 25$ (B.S.) | $2052 / 09 / 09$ (B.S.) |

Source: Nepal Stock Exchange.

### 1.3.1 Everest Bank Limited (EBL)

Everest Bank Limited was registered under the company act 1964 in $19^{\text {th }}$ November, 1993 (2049/09/03). and started banking transaction in $16^{\text {th }}$ October 1994 (2051/07/01). This is the joint venture bank with Punjab national bank of India and Nepalese promoters. A term of professionals deputed by Punjab National Bank of India and Nepal promoters. A team of professional departed by Punjab National Bank under the Technical Service Agreement manages it, and managing director is the executive director depute by PNB under this arrangement. Now the bank has 32 branches including main branch (i.e. head office) in Nepal.

An authorized capital of the bank had been Rs. 240 million issued capital of Rs. 120 million and paid up capital of Rs.117.5645 million in the beginning of the year 2051/52.

It has the following share holding patterns.

Punjab National Bank (India) 20\%

Nepalese promoters $50 \%$

General public 30\%

Similarly, the present composition of Board of Directors (BOD) of the Bank comprise as gives below.

| 1 | Chairman | Promoter | nominee |  |
| :--- | :--- | :--- | :--- | :--- |
| 1 | Executive director | - | PNB | nominee |
| 4 | Director | - | Promoter | nominee |
| 1 | Director | - | PNB | nominee |
| 2 | Director | - | Elected by public shareholders |  |

The objective of Everest Bank Limited is as follows:

- To play an important role in facilitating Indo-Nepal trade. This is growing with the support of large network of branches of Punjab National Bank in India.
- To provide a whole range of International Banking services o facilitate Nepal's trade and tourism.
- To participate in the emerging industrial scenario in Nepal Punjab's age- old exposure, banking experience and expertise would come in hand.
- To provide the full range of quality banking service to both the business community and common man.
(Source: Brochure of EBL)


### 1.3.2 Nepal Bangladesh Bank Limited (NBBL)

Nepal Bangladesh Bank Limited is a joint venture bank with International Financial Investment and Commerce Bank (IFIC) limited of Bangladesh, and was established in $6^{\text {th }}$ June 1994 (2051-2-23) 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 18 branches including main branch (i.e. head office) in Nepal.

In the initial period it has an authorized capital of Rs. 240 million, issued capital of Rs. 120 million and paid up capital of Rs. 60 million.

The ownership composition or the holding pattern of share capital of the bank is as follows:

IFIC Bank Ltd. Bangladesh 50\%

Nepali Promoters 20\%

Public shareholders $30 \%$

Similarly, the present composition of Board of Director (BOD) of the bank comprise is as given below:

1 Chairman Representation from Nepalese promoter (Group B)

1 Director (member) Representation from Nepalese promoter (Group B)

3 Directors (member) Representative from IFIC Bank

2 Directors (members)Representative from HMG/N

1 Managing Director

The goals and objectives of Nepal Bangladesh Bank limited are as follows:

- To facilitate the reliable, prompt and high standard of banking service adopting the latest version of baking technologies in compliance with the need and demand of the market.
- To develop life-long relationship with clients and achieve profitability through customer oriented service and customer satisfaction.
- To widespread its branch-net-work in different part of the countries covering at least one branch on all development regions facilitating large number of clients as far as possible.
- To support possible co-operation for the enlistment in the economic development of the country.


## (Source: Brochure of NBBL)

### 1.4 Statement of the Problem

Loan management is the essence of commercial banking; consequently the formulation and implementation of 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. All the sectors from industrial and commercial 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 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 gives 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 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 following are some notes problematic aspect of the study.

- 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 bank measures the liquidity position and impact of deposit on liquidity?
- What is the portion of lending between consumer and industrial loan?
- How the bank measures 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 adopted by the sample bank with a view to provide workable suggestion which may be helpful to the formulation of lending policy. However, the specific objectives can be set as follows:

- To analyze the effectiveness of lending policy of the selected sample banks.
- To measure the performance in quality, efficiency and contribution of profitability.
- To examine the trend of deposit and loans of commercial bank.
- To study the liquidity position, the impact of deposit on liquidity and its effect on lending performance.
- To provides suggestion and recommendation for the proper loan system.


### 1.6 Significance and Focus of the Study

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

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

### 1.7 Limitation of the Study

Since, the study is focusing to fulfill the partial requirement course of M.B.S. of T.U. It will have some limitation. We have limited resources and it 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 advances only.
- The secondary data are used to analyze for result interpretations, 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 will be taken.
- Due to time and resource factor only two commercial banks are taken for the study.
- The study covers the time period of 2004/05 to 2008/09 years of data will be taken into account due to time and cost constraint.
- There could be many factors affecting loan management decision. However only those factors related with lending policy will be considered in its study.


### 1.8 Chapter Scheme

This study has been organized into five chapters, each devoted to some aspects of loan management of joint venture commercial bank. The titles of each of these chapters are summarized and the contents of each of these chapters of this study are briefly mentioned here:

## Chapter-I: Introduction

Chapter-II: Review of Literature

Chapter-III: Research Methodology

Chapter-IV: Data Presentation and Analysis

Chapter-V: Summary, Conclusion and Recommendations.

This first chapter deals with the subject matter consisting introduction, a brief profit of the banks, focus of the study, statement of the problem, objective of the study, significance of study, limitations of the study and chapter scheme of the study.

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

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.

The fourth chapter is concerned with analytical framework. It includes the analysis of financial indicators, analysis of financial indicators, analysis of mean, correlation coefficient, regression analysis, trend analysis and financial analysis.

The fifth chapter includes the major findings and conclusion 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 2

## 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.

## 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.

According to the statistical data of NRB 2008 the following situation of the commercial banks are given below. Though Nepalese financial sector is reasonably diversified with institutional arrangement of varied nature of financial institutions, commercial banks are the major players in the system. They are holding total assets of Rs.566billion Rupees out of Rs. 706 billion, which is $80.2 \%$ share in total assets share in

Table 2: Share of Commercial Banks on Financial Claims

| Banks and financial institutions | Total Assets(billion in <br> rupees) | Share |
| :--- | :--- | :--- |
| Commercial Banks | 566 | 80.2 |
| Development Banks | 40 | 5.6 |
| Finance Companies | 80 | 11.4 |
| Micro Credit Dev. Banks | 13 | 1.8 |
| Other(Co-operative and NGO) | 7 | 1.0 |
|  | 706 | 100 |

Source :( Annual report of central bank)

The commercial banks are supervised by the Bank Supervision Department while the rest of the institutions are supervised by Financial Institution Supervision Department.

### 2.1.1 The Banking Sector

The banking sector is an important part of the national economy. Banks accept deposits, support the payment system and provide the largest source of funds in the market. Safe and sound banking is crucial for the financial stability and sustainable development. Nepal has a special characteristic of bank dominated financial sector. As the domestic capital market is in the initial stage of development, the banking sector largely dominates the entire financial sector.

The first conventional bank in Nepal was the Nepal Bank Limited, established in 1937A.D. followed by Rastriya Banijya Bank in 1966 A.D. These two banks are the pioneers of the Nepalese Banking industry. These banks hold the largest network and operate even in remote areas of the country. Rastriya Banijya Bank is fully owned by the Nepal Government while government is holding forty percent stakes of Nepal Bank Limited.

As the financial market was barred for private investors till the mid 1980s, these two banks were the only players in the banking industry. The economic liberalization policy adopted in the mid 1980s brought about a surge in the banking industry. A large number of banks in 1937 A.D. followed by Rastriya Banijya Bank in 1966 A.D. These two banks are the pioneers of the Nepalese Banking industry. These banks hold the largest network and operate even in remote areas of the country. Rastriya Banijya Bank is fully owned by the Nepal Government while government is holding forty percent stakes of Nepal Bank Limited. As the financial market was barred for private investors till the mid 1980s, these two banks were the only players in the banking industry. The economic liberalization policy adopted in the mid 1980s brought about a surge in the banking industry. A large number of banks were established and the number continues to grow even today.nks were established and the number continues to grow even today.

### 2.1.2 Access of Banking Services and Branch Network

As on mid July 2009, there were 26 commercial banks including 3 public banks. Out of total 555 branches, 278 branches belonged to 3 public banks and remaining 277 belonged to 22 private sector commercial banks.

Bank Supervision Report 2009.The total assets of the banking industry were increased by 27.86 percent in the year 2007/08 followed by 28.3 percentages increase in the year 2008/2009. Similarly, the total assets of public sector banks were increased by 2.07 percentage and the private sector banks by 40.96 percentages. The growth rate in assets of private sector banks was the record break of last five years and the public sector banks has also given green signal to its last year's negative growth of $5.27 \%$

Source: (Annual Reports of central Bank)

The 28.3 percentage growth in the total assets was mainly due to a substantial

Increase in the loan portfolio of the banks and the addition of one commercial bank. The loan and advances alone was increased by $23.3 \%$ during the year 2008/09,last year it was increased by $32.5 \%$.
. The loan portfolio of public sector banks was increased by Rs.8.4 billion where as the loan portfolio of private sector bank was increased by Rs. 65.5 billion.

Figure 6: Total Assets of the Banking Industry (Mid July 2008)

| Banks | $2003 / 04$ | \%change | $2005 / 06$ | \%change | $2006 / 07$ | \%change | $2007 / 08$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| public | 126.09 | $3.63 \%$ | 130.67 | $-5.27 \%$ | 123.79 | $2.67 \%$ | 126.35 |
| private | 175.28 | $20.24 \%$ | 210.76 | $15.69 \%$ | 243.82 | $40.96 \%$ | 343.68 |
| Industry | 301.37 | $13.29 \%$ | 341.43 | $7.67 \%$ | 367.61 | $27.86 \%$ | 470.63 |

Source:(Annual Supervision Report 2008)

The assets of the banking industry comprises of various assets, but is dominated by loans, which accounts for almost 59 percentage of the total assets. Thereafter, it is followed by investment ( $22 \%$ ) and cash and bank balance (13\%). Fixed assets and other assets have relatively low proportions, which comprise only 1 percentage and 5percentage of total assets respectively.

### 2.1.3Loans and Advances

The total loans and advances dispersed by the banking industry on Mid July 2009rose by 23.3 percentages as compared to previous year and reached to Rs. 518 billion. The loans and advances of the public banks have increased by $32.5 \%$ and private banks by $31.6 \%$. The credit flow of the private commercial banks is growing in increasing trend. Though the credit growths of public sector banks are not consistent still their credit is also increasing.

## Table16: Loans and Advances of the Banks

| Banks | $2004 / 05$ | \%change | $2005 / 06$ | \%change | $2006 / 07$ | \%change | $2007 / 08$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Private | 95.66 | 16.52 | 111.46 | $35.29 \%$ | 150.79 | $43.46 \%$ | 216.33 |
| Public | 44.29 | -44.86 | 24.42 | $107.17 \%$ | 50.59 | $14.31 \%$ | 57.83 |
| Industry | 139.95 | -2.91 | 135.88 | $48.20 \%$ | 201.38 | $36.14 \%$ | 274.16 |

Source: Annual Reports of 25 Commercial Banks '2007/08'

The Nepalese Banking system is riddled with a significant amount of Non Performing assets (NPA). The total volume of NPA as on Mid July 2008 was Rs. 20.47 billion, which was Rs. 25.56 billion in the previous year. The NPL ratio of public sector banks has come down to 15.01 percent from 55.13 percent of year 2003/04. Similarly, the NPL ratio of private sector banks combined has also come down to 2.55 percent from 5.82 percent of year 2003/04. It is clearly evident from the following picture that the volume of Non Performing assets is on the decline while the total loans (shown in above table) are continuously increasing, thus resulting in a favorable proportion of Non Performing assets. The NPA ratio of public banks, however, is still a long way from being at a satisfactory level.

With regard to quality of the loan portfolio of the individual banks, Nepal Bangladesh Bank (NPL-31.73\%) followed by Rastriya Banijya Bank (21.43\%), Nepal Credit \& Commerce Bank (16.42\%), Lumbini Bank Ltd. (14.92\%), Nepal Bank Ltd. (12.38\%), and Agriculture Development Bank (11.69\%) hold double digit NPL. The volume of Non Performing assets, which was largely on account of the portfolio of the public banks last year, has switched to private banks in year 2007/08.

According to annual report of Central Bank total NPL of commercial Banks was $6.3 \%$ of total loan but this year this was decreased to $3.6 \%$. Because of the improvement programmed held by Nepal Government, there has seen improvement in NPL of 3 commercial Banks.At the end of 2061/062 Nepal Bank has NPL of $49.6 \%$ but it is decreased to $5.4 \%$ at the end of 2065/66.Banks like NBL, Rastriya Banijya Bank, NBBL and Lumbini Bank has more NPL than other Banks.

## Situation of NPL in commercial Bank

| Commercial Banks | $2061 / 62$ | $2062 / 63$ | $2063 / 64$ | $2064 / 65$ | $2065 / 66$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Nepal Bank | 49.6 | 25.1 | 13.5 | 12.1 | 5.4 |
| Rastriya Banijya Bank | 53.0 | 45.3 | 27.6 | 21.7 | 15.7 |
| NABIL Bank Ltd | 1.3 | 1.3 | 1.1 | 0.7 | 0.8 |
| Nepal Investment Bank | 2.7 | 2.3 | 2.4 | 1.1 | 0.6 |
| Standard Chartered Bank | 2.7 | 2.1 | 1.8 | 0.9 | 0.7 |
| Himalayan Bank | 7.4 | 6.1 | 3.6 | 2.4 | 2.2 |
| Nepal SBI Bank | 6.5 | 6.3 | 4.6 | 3.8 | 2.0 |
| Nepal Bangladesh Bank | 19.0 | 12.3 | 39.8 | 31.7 | 19.3 |
| Everest Bank | 1.6 | 1.2 | 0.8 | 0.7 | 0.5 |
| Bank of Kathmandu | 5.0 | 2.5 | 2.5 | 1.7 | 2.3 |
| Nepal Credit and Commerce <br> Bank | 8.6 | 11.1 | 31.4 | 16.4 | 2.7 |
| Lumbini Bank | 15.2 | 31.9 | 20.4 | 14.9 | 9.1 |
| NIC Bank | 3.8 | 2.6 | 1.1 | 0.7 | 0.9 |
| Machhapuchhre Bank | 0.4 | 0.3 | 1.2 | 1.0 | 2.3 |
| Kumari Bank | 1.0 | 0.9 | 0.7 | 1.3 | 0.4 |
| Laxmi Bank | 1.6 | 0.7 | 0.4 | 0.1 | 0.1 |
| Siddhartha Bank | 2.6 | 1.3 | 0.3 | 0.7 | 0.4 |
| ADB Bank | 21.2 | 18.6 | 11.7 | 8.9 |  |
| Global Bank |  |  |  | 0.2 | 0.1 |


| Citizens Bank |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Prime Bank |  |  |  |  |  |
| Sunrise Bank |  |  |  |  | 0.2 |
| Bank of Asia |  |  |  |  | 0.1 |
| Development Credit Bank |  |  |  |  | 1.6 |
| NMB Bank |  |  |  | 0.5 |  |
| Total | 18.9 | 14.2 | 10.3 | 6.3 | 3.6 |

(Source: Annual report of Central Bank)

Nepal Rastra Bank has prescribed a provision on all loan accounts of the banks, which escalates as the quality of the loan deteriorates. The banks are required to create loan loss provisions on the gross value of outstanding loans, rather than on the net loans, and they are not allowed the relaxation in terms of the value of the collaterals.

The banks, thus, have to create provisions in accordance to the quality of their loan portfolios. So, the public banks with large volumes of Non Performing assets have large provisions in their balance sheets while the provisions of the private banks (except NBBL, NCCL, and LBL) are relatively lower.

After the reform program was initiated in the public banks, the volume of NPA, both gross as well as net has come down, significantly. The loan loss provision being higher than non-performing assets indicates that the proportion of good loan is getting higher in the total credit portfolio and non-performing loans are getting lower.

### 2.1.4 Sources of Major Problem in Credit Risk Management

Effective credit risk management allows a bank to reduce risks and potential NPLs. It also offers other benefit. Once banks understand their risk and their costs, they will be
able to determine their most profitable business and thus j , credit-risk strategy supported by organizational changes, risk measurement technique and fresh credit process and systems. In the context of Nepal, the sources of major problems in credit risk management are as follows (Ramamurthy, 2004:3-5). Financial statement (including audited) do not reflected a "true and fair view" of the business entity due to creative accounting. The audited financial statements as submitted by the customers do not reflect details relating to:

- Encumbrance's change on the company's current/ fixed assets plus to whom they are changed.
- Details of group company lending/borrowings
- Status of income assessment etc.
- Contingent liabilities.
- Accounting policies.
- Delegation of finding authority is based on seriously and not a complexes of the concerned officials.
- No exchange of credit information/ lack of transparency among the competition banks giving rise to multiple banking (some customers having facilities with different base) complicating to excessive shortfall etc.
- Absence of :

Risk based pricing methodologies
Customer risk rating methods
Facility risk rating models

- Pronounced name lending.
- Collateral based lending instead o need based/ cash flow base lending.
- Over banked center contributing for severe competition and price cutting.
- Lack of corporate governance
- Permissive banking practice including names, lending, multiple banking etc.
- Macro level scenario of political in ability slow growing economy, small domestic market.
- Ineffective judiciary
- Cross border risk disappearance of promoters
- Inadequacy of low to dial with crime like cheating, misfeasance.


### 2.2Review of Empirical Studies

A bank is a government regulated, profit making business that operates in competition with other banks and financial institutions to serve 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).

Bhattacharya in his book," banking strategy, credit appraisal and lending decision has put the recommendation to Tandon committee. He has prepared this report in 1975; however these recommendation stills deserve great significance in the sector of credit appraisal. The system proposed by the committee enjoying upon the banker are as follow:
a) To assess the need based credit of the borrower on a rational basis.
b) To ensure proper and use of bank credit by keeping a closer watch on the borrower business and thus ensure safety of the banks funds.
c) To improve the financial discipline of the borrower and
d) To develop healthy banker borrower relationship.

The committee examined the existing system of lending and recommended the following broad changes in lending system.

- The credit needs of borrowers are assessed on the basis of their business plans.
- Bank credit only be supplementary to the borrowers resources and not in replacement of them ,i.e. banks mot to finance one hundred percent of borrowers, requirement,
- Borrowers are required to old inventory and receivables according to norms prescribed by the reserve bank of India from time to time.
- Credit may be available in different components only, depending upon the nature of holding of various current's assets.
- In order to facilitate a close watch on the operations of borrowers, they are required to summit, at regular intervals, data regarding their business and financial operations, both for the past and future period.

The committee including stores and other items uses in the manufacturing process are:

- Raw material including stores and other items uses in the manufacturing process.
- Stock in process
- Finished goods
- Receivable
- Spares
"Bank growth and profitability are the result of carefully forecasting funding needs, competitively attracting funds efficiently borrowing funds and effectively investing, funds in safe but profitable earning assets. Depending on a bank's size and location and on local and national economic conditions, a bank may have adequate, relatively stable
sources of low cost funds or it may have to compete regularly and aggressively for funds at high market prices for an increasing number of banks, the second situation is becoming the norm as more, the second situation is becoming the norm as more and more banks face increasing pressure to attract adequate funds at reasonable costs (Bhattacharya, 1998:3209).

In the word of S.P Singh and S. Singh, credit policies of banks are condition to great extent by the national policy framework, every banker has to apply his own judgment for arriving at a credit decision, keeping of course, bankers and credit policy also in mind (Singh and Singh, 1983:34).
H.D Gross stated lending is the essence of commercial banking; consequently the formulation and implementation of sound lending policies are among the most important responsibilities of bank directors and management. Dell conceived lending policies are essential in a bank to perform its credit creating function effectively and minimize the risk interest in any intention of credit (Gross, 1963:45).

Shrestha (1995) said that the commercial banks should not concentrated on the specific sector but should fulfill the credit need of various sector of the economy including agriculture, industry, commercial and social sector of the economy service sector. The commercial banks should very effective while providing loans. While providing loans, the bank should think on the maximizing the economic growth of the country as well as the profit from providing the loan for the operation of the country.

### 2.3 Review of Nepalese Studies

The banking sector is severally affected by the Non- performing loans problem. It is estimated that the NPL of the Nepalese Banking system is around $16 \%$. Therefore, there is no doubt that it has a serious implication on economic performance of the country (Dhungana, 2058:127).

NRB register the one thousand five hundred and thirty eight borrowers, who have not repaid the loan they received from the fifteen major commercial banks of the country, in 'black list".

The black listed number of borrowers and the amount of different commercial banks are reported as follows.

## Table 2.1

Bank Wise Black Listed Borrowers and the Account Due

| Banks | No. of Black Listed <br> Borrowers | Amount Due from them <br> (in million) |
| :--- | :--- | :--- |
| RBB | 546 | 5526.66 |
| NBL | 673 | 3904.47 |
| HBL | 57 | 383.04 |
| NBBL | 45 | 317.23 |
| NABIL | 32 | 229.3 |
| BOK | 17 | 116.45 |
| NSBIBL | 26 | 102.96 |
| NIBL | 17 | 56.06 |
| NSBI | 9 | 33.89 |
| NCCBL | 19 | 32.38 |
| SCBNL | 4 | 19.13 |
| NICBL | 2 | 7.19 |
| LBL | 2 | .64 |

SOURCE: NRB Report, 2065.

The principal loan amount due from these one thousand five hundred and thirty eight borrowers in different banks is totaling Rs. 5731 million 609 thousand. the interest due in total Rs. 5,717 million 8 hundred thousand (Bhatta, 2006:56).
F. Morris (1990) in the discussion paper has concluded that "most of the banks concentrated on compliance with central bank rules on reserve requirements, operating efficiency and soundness of bank investment management has largely been overlooked. The huge loosed now found in the bank's portfolio in many developing countries are testimony to the poor quality of this oversight investment function.

He further adds that mismanagement in financial has involved inadequate and over optimistic loan appraisal, tax loan recovery, high risk diversification of landing and investment high risk concentrated, concocted and insider landing, loans mismatching, this has led many banks of developing countries the failure of 1980's "(Morris,1990:81)."

Sunity Shrestha (1995) has presented with objective to make analysis of commercial banks lending to the Gross Domestic product (GDP) of Nepal. She has set hypothesis that there has been positive impact of lending of the commercial banks to the GDP. In research methodology she has considered GDP as the dependent variable and various sectors of lending dependent variable and various sectors of lending visa, agriculture, industrial, commercial service and social sectors as independent variables. A multiple regression techniques have been applied to analyze the contribution.

The multiple analyzes have shown that all the variables except service sector lending has positive impact on GDP. Thus in conclusion, she has accepted the hypothesis i.e. there has been positive impact by the lending of commercial in various sectors of economy, expect service sector investment. (Shrestha, 1995:18).
"A study on deposit and credit of commercial banks in Nepal concluded that the credit deposit ratio would to $51.30 \%$, other things remaining the same. In Nepal that was the lowest under the period of review. Therefore, he had strongly recommended that the joint venture banks should to give more credit entering new fields as far as possible; otherwise, they might not be able to absorb even the total expenses (Shrestha, 1998:15)."

In the same way, Mr. 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 Rastria Banijya Bank has awarded the management contact to foreign companies to improve the condition of nonperforming assets. The policy of gibing management is professional consultant is a part of the financial sector reform policy of NRB. (K.C. 1996:27-32).

Raja Ram Khadka (1998) in this study entitled "a study in the investment policy of Nepal Arab Band Ltd. In comparison to other joint venture banks of Nepal" has recommended that, the bank should utilize its deposit account as loans and advances to get success in competitive banking investment. Loans and advances are the profitable
asset for the banks but ineffective management of the loans and advances create the serious. Problems to the banks and the major reason behind the band liquidation and failure could be the weakness of the loan management.

Rawat Bahadur Karki(2000) has summarizes some of the challenge 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 it 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 then 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 identity new area of investment to increase loans and advances in reducing the liquidity position.

With the rapid growth of the number of banks and financial institution, deposit insurance scheme is a must. The principle reasons for introducing such deposit insurance should be one of the 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).

A study conducted by Upendra Shrestha (2000) regarding the investment practices of joint venture banks in Nepal with special reference to NABIL Bank Limited, Started Charted Bank Nepal Limited and Nepal NSBI Bank Limited has figured out the problem and conclusion as follows.
"Commercial Banks are more emphasized to be making loans on short term basis against movable merchandise. Commercial Banks have a lot of deposit but very little investment opportunity. They are even discouraging people by offering very low interest rate and minimum threshold balances."

Commercial Banks invests their funds in limited areas to achieve higher amount of profit. This regarded as a very risky step, which may lead to lose in profit as well as principle. The credit extends by commercial Bank to agriculture and industrial sector is not satisfactory to meet the growing need of the present situation.

He has concluded that the liquidity position of NABIL and SCBNL have not found satisfactory, it is therefore, suggested them to improve cash and bank balance to met current obligations SCBNL's loan and advance to total deposit ratio is lower at all, it is recommended to follow liberal lending policy for enhancement of fund mobilization. It is recommended to NSBIBL that is has to invest its fund in share and debenture of other companies. It is suggested to enhance off balance sheet transaction, diversifying their investments, own new branched, play merchant banking role and invest their risky assets and shareholders fund to gain higher risky assets and shareholder fund to gain higher
profit margin. NABIL and SCBNL are recommended to increase cash and balance to meet current obligations and loan demand.

The above study shows that Mr. Shrestha has concluded some conflicting statement which is obviously not matching with his statement of problem. His recommendation ignores the industry average and also failed to figure out what is right in the industry like banking along the excess of investment or loans and advances. And he thinks liberal lending policies solve the problem to increase the level of loans and Advances.

But somewhere in his recommendation, he has warned commercial Banks to increase the level of loan and Advances and suggested them to increase the level of investment in government securities or in other safe instrument just to avoid the risk arising from lending. Form this, it can be concluded that Mr. Shrestha has made his entire conclusion absolutely and has not made any relative analysis of the pros and cons of the entire factor affecting his study.

A study conducted by Lila Prasad Ojha (2002) entitled "lending practices: A study on NABIL Bank Limited, Started Charted Bank Limited and Himalayan Bank Limited" has find found out that the measurement of lending strength in relative term 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 for 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 o 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 sue to the low share capital, reserve and surplus in its capital mix. But the volume contributed by NABIL in 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 SCNNL is the most likely. Since the market is highly sensitive towards the interest rate an 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 chapter 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 bask in the top positive in the lending function as demand buy 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).

Sabitri Shrestha (2003) in her study entitled " impact and implementation of NRB Guidelines (Directive of Commercial Banks - A study of NABIL Bank limited and Nepal NSBI Bank have been fully implantation the NRB's directives. Capital adequacy Ratio of NABIL and Nepal NSBI are $13.40 \%$ and $12.86 \%$ respectively, which are more than $9 \%$. Banks are following the directives but in some cases such like supplementary capital and balance of NRB there is shortfall. The excurses amount of total deposit in balance of NRB there is shortfall. The banks have categorized the loan amount into four diffident categories as per NRB's directives. The increasing loan loss- providing amount decreased the profit of the banks. The charge in the single borrower limit has brought down the limits of the fund based and non-fund based loans which have resulted to reduced loan exposure to banks.

In her thesis she has recommended that both NABIL and NSBI banks to increase it supplementary capital as it has shortfall in comparison with NRB guidelines and to meet the supplementary capital adequacy ratio even though it can be compensated by the compensated by the excess amount of core capital. The supplementary capital needs to be increased by Rs. 122.74 million in NABIL Bank and Rs. 125.57 million in Nepal NSBI Bank. She says liquidity and profitability are kike two wheels of one cart so banks cannot run in the absence of any one of them. One can be activated only at the cost of the other. Only liquid banks can attract loan core deposit, which help in reducing interest expenses and gibe loan to good customer at lower rate, which results in requirement of less provision and high net profit. So banks should increase their primary reserve now to maintain the liquidity risk due to scrap out the secondary reserve. On the basis of findings, NABIL Banks has a shortfall of Rs. 140.74 million thus NABIL has to increase its balance at NRB by such amount for better performance even after adding $1 \%$ excess amount of cash of total deposit.

Primary data has been used in order to get the view of banks on the directives issued by NRB. Question related to NRB directives 1.5 are used to collect for the study and implementation of directive by commercial bank. Secondary data are also used for the analysis this study the general directives issued in 2001 and 2002 are considered for the study. In issued directives of 2001 and 2002 there are 10 directives but only 5 directives i.e. (1-5) are highlighted and taken in the study.

Ram Prasad Kafle (2005) in his study entitled 'Non- performing loans of Nepalese commercial banks. "The researcher's mean objective of the study was to know the problems of the non-performing loans and its effect in the ROA and ROE of the Nepalese commercial banks and to find out whether the Nepalese commercial banks are following the NRB directives regarding loan loss provision for non-performing loan or hot.

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

A study conducted by Rajan Subedi (2006) entitled "A Comparative Study of Financial Performance between Himalaya Bank limited and Everest Bank limited" of the period from 200 to 2005 has outlined his major finding and conclusion as follows.
"The mean and total loans and Advances to total saving deposit ratio of NSBI is greater than that of HBL and the coefficient of variation between the ratios of HBL is less than NSBI. It means that the ratio of HBL is less than NSBI is more uniform than NSBI. According to analysis, it found that NSBI is more employing its saving deposit in term of loans and advances than that of HBL. So, loans and advances to total saving deposit ratio appear better in NSBI than HBL.

The mean total investment to total deposit ratio of NSBI is significantly greater than that of HBL, but the coefficient of variation between the ratio of HBL, but the NSBI. it means that the variability of the ratios of HBL is more consistent than that of NSBI. According to analysis, it if found that NSBI is more successful in utilizing its resources an investment.

However, he failed to give his overall conclusion regarding the superiority of the financial performance of these two banks during the period of the study (1996-2000). He has also put several recommendations out of which few important recommendation are outlined here.

The liquidity of a bank many of affected by external as well as internal factors such as the interest ratio, supply and demand position of loans, saving to investment situation. Central bank requirements and the growth or slackening tending policies management capability. HBL has maintained the ratio of cash and bank balance to total deposit considerably lower than that of NSBI. So, NSBI is recommended to increase cash and balance to meet loan demand.

Mr. Subedi recommended that HBL should increase its cash and bank balance to meet loan demand does not sound logical since nowhere in his study he has conclude that HBL
has failed to meet its demand loans. Being the low level of cash and bank balance as compare to another specific bank does not necessary conclude the necessity of increasing this asset.

A study conducted by Prem Krishna Shestha (2007) in his thesis entitled "profitability Analysis of Standard Chartered Bank Nepal Limited and NABIL Bank Limited" found out the following:

- SCBNL had more consistent operating efficiency ratio than NABIL bank limited during the study period.
- Both of the banks data showed that more than $90 \%$ of their total liabilities paid interest. These banks showed that the smaller portion of their interest bearing liabilities paid as interest expenses.
- Both the banks weighted average cost of deposit ratio was found to be at decreasing rate.
- NABIL bank had lower EPS than SCBNL, which indicated that the performance of SCBNL was better than NABIL.
- SCBNL was paying more dividend than NABIL bank limited during the study period. The amount of dividend was almost double for SCBNL than NABIL . it meant that NABIL was in need of fund, so it was paying fewer dividends and adding more amounts under the head of retained earnings.
- Among the total income, more than $75 \%$ of the income came from interest sector. That indicated the main source of income was interest for both the banks.
- The operating expenses ratio over total expenses comprised of more than $40 \%$ for both the banks.
- NABIL had fluctuating return on total assets than SCBNL. SXBNL had higher return on equity than NABIL. Return on equity of NABIL was more fluctuating than that of SCBNL. SCBNL had higher return on equity ratio than that of NABIL.
- SCBNL had also higher interest earned to total asset ratio than NABIL.
- The total interest income to total earning assets ratio of both the banks were found decreasing over the years, which indicates a negative sign to the bank's performance.
- NABIL Bank's net profit margin ratio was higher than that of SCNNL. Similarly, net interest margin of NABIL was also higher than that of SCBNL (Shrestha, 2007:76-77).


### 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 Everest Bank Limited to support in fulfilling research gap. The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make study meaningful and purposive. There has been lots of article published on field of investment policy. Loans and advances of commercial banks .there are various research available on investment analysis and policy of commercial banks, impact and implementation of NRB guideline I commercial banks but there are not sufficient researches available on lending aspect of commercial banks. In addition to this, mo one has done a study on "loan management" with reference to Nepal Bangladesh Limited and Everest 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 3

## 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 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 designed serves as a framework for the study, guiding the research instruments to be utilized, and the sampling plan to be followed. In other word research design describes the general plan for collecting, analyzing and evaluating data. Research design is planned structure and strategy of investigation conceived to obtain answer to research objective through analysis of data. The study is based on 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 conclusion about characteristics of the population is known as sampling. Sampling may be defined as the selection of part of the population on the basis of which a judgment or inference about the universe is made. Here only 2 sample joint venture commercial banks have been taken out of 26 commercial banks according to their performance which is about $10 \%$ of total industry. All the commercial banks in Nepal are the population of the study. The sample taken from the commercial banks are as follows:

| TOTAL BANKS | SAMPLE TAKEN |
| :--- | :--- |
| 26 Commercial Banks | Everest Bank Limited <br> 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, annual report of central bank were collected. Similarly, financial statement of commercial banks and various markets related information were collected and tabulated in spreadsheet. Such secondary information was gathered from the share department of the concerned banks and Security Board of Nepal. In addition, an answer on certain queries made to staffs o0f concerned organization personal enquires and discussions were also being conducted for clarification and verification of collated 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. Simple descriptive analysis tools such as frequency, Mean, standard deviations are used. The ratio analysis involves comparison for a useful interpretation of financial statements. The quantities judgment regarding loan management of a firm can be done with the help of rate analysis. For the analysis of the data the financial and statistical tools relevant to the topic are used. They are as follows:

### 3.4.1 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.
$\checkmark$ Current Ratio
$\checkmark$ Liquid fund to Total liabilities Ratio
$\checkmark$ Liquid funds to Total Deposit Ratio
$\checkmark$ Loans and Advances to Total Assets Ratio
$\checkmark$ Loans and Advances and Investment to Total Deposit Ratio
$\checkmark$ Loans and Advances to Shareholders Equity
$\checkmark$ Interest Income to Total Income Ratio
$\checkmark$ Interest Expenses to Total Deposit Ratio
$\checkmark$ Interest Income to Interest Expenses Ratio
$\checkmark$ Growth Ratio of Total Deposit
$\checkmark$ Growth Ratio of Loans and Advances
$\checkmark$ Growth Ratio of Total Investment
$\checkmark$ 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 :

$$
\text { currentratio }=\frac{\text { currentasset }}{\text { currentliabilities }}
$$

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 :

Liquid fund to Totalliabilitie s Ratio $=\frac{\text { Liquid fund }}{\text { Totalliabilities }}$
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:

Liquid fund
Liquid fund to Total Deposit Ratio=
Total Deposit
4) Loans and Advances to Total Assets Ratio: this ratio judge the position of loan and advances o0n total assets. It is calculated by dividing loan and advances by total assets. Its formula is as follows:

Loansand Advancesto TotalAssetsRatio $=\frac{\text { Loansand Advances }}{\text { Totalassets }}$
5) 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:

Loansand Advancesand Investmentto TotalDeposit Ratio $=\frac{\text { Loans\& Advances\& Investment }}{\text { Totaldeposit }}$
6) Loans and Advances to Shareholders Equity: it is calculated by dividing loans and advances to shareholders equity. Its formula is as follows:

Loans and Advances to Shareholders Equity: $=\frac{\text { Loansand Advances }}{\text { Shareholders Equity }}$
7) Interest Income to Total Income Ratio: it is measured by dividing Interest Income to Total Income. Its formula is as follows:

Loans and Advances to Shareholders Equity $=\frac{\text { Interestincome }}{\text { Totalincome }}$
8) 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.

Interest Expenses to Total Deposit Ratio: $=\frac{\text { Interestexpenses }}{\text { TotalDeposit }}$
9) 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:

Interest Income to Interest Expenses Ratio: Interest income
Interest expenses
10) Growth Ratio of Total Deposit: it measures the growth ratio of the company or organization, which is compared by two years deposits i.e. currents year deposit and previous years deposit. The calculation may be shows the increasing or decreasing rate of growth of the deposit. It is calculated by dividing currents year deposit by previous year deposit. Its formula is as follows:

Growth Ratio of Total Deposit: $=\frac{\text { currentsyearsdeposit }}{\text { Previousyeardeposit }}$
11) Growth Ratio of Loans and Advances: its measure the growth rate of loan and advances comparative by currents years and last years. It is calculated by dividing current year's loan and advances by last year loans and advances. Its formula is as follows:

$$
\text { growth ratio of loans and advances: }=\frac{\text { currentyearsloan anddeposit }}{\text { Previousyearsloan andadvances }}
$$

12)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:

Growth Ratio of Total Investment : $=\frac{\text { currentyearstotalinvestment }}{\text { Previousyearstotalinvestment }}$
13)Growth Ratio of Net Profit: it usually measures the growth rate of net profit, which is computed by dividing currents year's net profit by previous year's net profit. Its formula is as follows:

Growth Ratio of Net Profit: $=\frac{\text { currentyearsnet profit }}{\text { Previousyearsnet profit }}$

### 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. It is calculated by:
$r=\frac{\mathrm{n} \sum \mathrm{xy}-\sum \mathrm{x} \cdot \sum \mathrm{y}}{\left[\mathrm{n} \sum \mathrm{x}^{2}-\left(\sum x\right)^{2}\right]\left[n \sum y^{2}-\left(\sum y\right)^{2}\right]}$

Where,
r $=$ Correlation coefficient
$\mathrm{n} \quad=$ Number of years
$\sum \mathrm{x}=$ Sum of X series
$\sum \mathrm{y}=$ Sum of Y series
$\sum \mathrm{xy}=$ Sum of X and Y series
$\sum \mathrm{x}^{2}=$ 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 or 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.

When, $\mathrm{r}=1$, then is perfect positive correlation.

When $r=-1$, then is perfect negative correlation.

When $\mathrm{r}=0$, then is no correlation.

When, ' $r$ ' lies between 0.7 to 0.999 ( -0.7 to -0.999 ), then is high degree of positive (negative) correlation.

When ' $r$ ' lies between 0.5 to 0.6999 there is moderate degree of correlation.

When, ' $r$ ' is less than 0.5 . There is low degree of correlation.

Probable Error or P.E $(\mathrm{r})=0.6745\left(1-\mathrm{r}^{2}\right)$

$$
\sqrt{\mathrm{N}}
$$

### 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 4

## 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.

### 4.1.1 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 band 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 | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ | Mean |
| EBL | 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 |
| Combined <br> Mean |  |  |  |  |  | 1.04196 |

Source: Annual Report of EBL and Nepal Bangladesh Bank limited.

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

Table measures the current ratio of two banks of five consecutive years. EBL has highest ratio in 2006/07 i.e.1. 0895 and lowest ratio in 2005/6 i.e. 1.0359.Similarly NBBL has highest ratio in 2005/06 i.e.1.0298and lowest ratio in 2007/08 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.

### 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 call 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 | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ | Mean |
| EBL | 0.137 | 0.101 | 0.111 | 0.111 | 0.166 | 0.1252 |
| NBBL | 0.105 | 0.147 | 0.167 | 0.20 | 0.21 | 0.1658 |


| Combined mean | 0.1455 |
| :--- | :--- |

Source: Annual Report of Everest bank and NBBL.

Table 4.2 explains that the ratio has been ranged from 0.101 to 0.166 of Everest Bank and 0.01057 to 0.21 of NBBL. The ratio of Everest Bank of first two years has decreasing trend; remains constant in 2006/07 and in 2007/08 .and increased in 2008/09. The ratios of NBBL have the increasing trend. in increasing trend. Unlike current ratio, the liquid fund to current liability ratio has been declined. This declined in bank has caused due to high degree of increase in investment and decreased or lower level of increase in placement.

### 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
Liquid Fund to Total Deposit Ratio

| Banks | Fiscal Year |  |  |  |  | Mean |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
| EBL | 1.6 | 0.11 | 0.13 | 0.12 | 0.18 | 0.428 |
| NBBL | 0.11 | 0.13 | 0.12 | 0.17 | 0.25 | 0.78 |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of Everest Bank and NBBL.

Above table explains that the ratio has ranged from 0.11 to 1.6 of Everest Bank and 0.11 to 0.25 of NBBL . The ratio of Everest bank decreased in 2005/06, decreased in 2007/08 and again increased in 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 0.604 . The mean ratio of Everest Bank is 0.428 and NBBL is 0.78 and this is higher ratio than Everest Bank.

### 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 slassets conversion and vice versa.

Table 4.4
Total Assets to Total Liabilities Ratio

| Banks | Fiscal Year |  |  | Mean |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2002 / 03$ | $2003 / 04$ | $2004 / 05$ |  | $2006 / 07$ |  |
| EBL | 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 |  |  |  |  |  |  |

Source: Annual Report of EBL and NBBL.

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 EBL is decreasing. The ratio has been ranging from 1.0654 to 1.0595 of EBL 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 EBL is 1.0625 which is higher than the mean ratio of NBBL (1.0579). Taking the standard of mean ratio the performance of EBL 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 extend. 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 EBL can be regarded the best.

### 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 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ |  |  |
| EBL | 0.544 | 0.7101 | 0.751 | 0.785 | 0.7343 |  |
| NBBL | 0.643 | 0.496 | 0.469 | 0.501 | 0.670 |  |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of EBL and NBBL.

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 EBL in FY 2002/03 and 2003/04 0.8555 and to 0.6753 of NBBL in FY 2003/04 and 2006/07. 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.

### 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

Loan and Advances and Investment to Total Deposit Ratio

| Banks | Fiscal Year |  |  |  | Mean |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
| Everest | 9.65 | 1.01 | 1.025 | 0.99 | 0.91 | 2.717 |
| NBBL | 0.84 | 0.7 | 0.57 | 0.62 | 0.89 | 0.724 |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of Everest Bank and NBBL.
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 0.91 to 9.65 in Everest Bank and 0.57 to 0.89 in NBBL. Everest Bank has the highest ratio for the whole period. NBBL has the lowest ratio throughout five years.

This combined mean ratio of these two banks is 1.7205 . Everest Bank has the mean ratio of 2.717 and. NBBL has the mean ratio of 0.724 . From this analysis Everest Bank can be concluded as the best performs in utilizing its deposit irrespective of the area of its utilization.

### 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 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
|  | 9.89 | 1.017 | 11.37 | 9.8 | 11.10 | 8.635 |
| NBBL | 33.19 | -4.13 | -1.68 | -2.49 | -6.028 | 3.7724 |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of Everest and NBBL.

Table 4.7 explains that ratio of Everest Bank has ranged from 11.10 to 1.017 and the ratio of NBBL has ranged from -6.028 to 33.19 .

The combined mean ratio of these two banks is 6.2037 and mean ratio of Everest Bank is 8.635 and mean ratio of NBBL is 3.7724 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.

### 4.3 Analyzing the Lending Efficiency and its Contribution in Total Profitability

## Table 4.8

## Purpose-wise Loan Classification of EBL: Loans disbursed for different purposes to <br> Total Loans and Advances

Ratio (in \%)

| Purposes | Fiscal year (Mid July) |  |  |  | Mean |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ |  |  |
| Industrial Sector | 15.2026 | 11.2508 | 6.5053 | 4.0462 | 2.5326 | 7.8875 |
| 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 | 1.5390 |
| Deprived Sector | 0.4419 | 0.3780 | 0.3318 | 0.3521 | 0.3826 | 0.3772 |

Source: Annual Report of EBL.

The above table explains EBL trend of lending for different purposes as percentage of total loans and advances. EBL 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 $7.8875 \%$, $5.5951 \%, 1.5390$ and 0.3772 respectively in the lending portfolio of the bank. The
highest portion of lending in industrial sector, commercial sector, priority sectors and deprived sector is $15.2026 \%, 8.4636,2.1585 \%$ and 0.4419 in the year 2004/05 respectively.

Mean Ratios of Loans disbursed for different purposes to total loans an advances over the study period.


Figure 2: Mean Ratios of EBL: Loans Disbursed for different purposes to Total loans and Advances over the study period
(Source: Annual Reports of Nepal Bangladesh Bank Limited)

## Table 4.9

## Purpose wise Loan Classification of NBBL: loans disbursed for different purpose to Total loans and Advances

Ratio (in \%)

| Purposes | Fiscal year (Mid July) |  |  |  | Mean |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ |  |  |
| Industrial Sector | 10.8269 | 5.8575 | 5.77999 | 5.4424 | 5.7196 | 6.7252 |
| Commercial Sector | 9.1981 | 4.0627 | 4.0884 | 3.0709 | 3.1023 | 4.7045 |
| Priority Sector | 1.8320 | 0.9515 | 0.9202 | 1.1225 | 0.9435 | 1.1540 |
| Deprived Sector | 0.4827 | 0.3242 | 0.3678 | 0.4245 | 0.3784 | 0.3955 |

Source: Annual Report of NBBL.

The above table 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 $6.7252 \%$, $4.7045 \%, 1.1540 \%$ and $0.3955 \%$ respectively in the lending portfolio of the bank. The highest portion of lending in industrial sector, commercial priority and deprived sector is $10.8269 \%, 9.181 \%, 18320$ and $0.4827 \%$ in year 2004/05 respectively.

Mean Ratios of Loans disbursed for different purposes to total loans an advances over the study period.


Figure 3: Mean Ratios of NBBL: Loans Disbursed for different purposes to Total loans and Advances over the study period

## (Source: Annual Reports of Everest Bank Limited)

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 ant 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 banks 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 measures the banks performance on how well they are mobilizing their fund for the purpose of income generation. This ratio also helps to measure the banks performance on other fee-based activities, since after investing functions fee based activities are the major source of banks income to total income.

Table: $\mathbf{4 . 1 0}$

Interest Income to Total Income Ratio (\%)

| Banks | Fiscal year |  |  |  |  | Mean |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
| Everest | 1.29 | 1.36 | 1.36 | 1.27 | 1.41 | 1.338 |
| NBBL | 1.63 | 1.73 | 1.23 | 0.64 | 1.065 | 1.259 |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of Everest Bank and NBBL.

The above table shows that the ratio of NBBL has ranged from 0.64 to 1.73 and the ratio of Everest Bank ranged from 1.27 to 1.41 .

The combined mean ratio of these two banks is 1.2985 . Mean ratio of Everest Bank is 1.338 and mean ratio of NBBL is 1.259 . Everest Bank 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.

### 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 cheater 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 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
| Everest | 0.29 | 0.037 | 0.023 | 0.016 | 0.03 | 0.0792 |
| NBBL | 0.045 | 0.039 | 0.046 | 0.036 | 0.04 | 0.0412 |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of Everest Bank and NBBL.

The ratio ranges from minimum of 0.016 in FY 2007/08 to maximum of 0.29 in FY 2004/05 of Everest Bank and ratio ranges from minimum of 0.036 in FY 2007/08 to maximum of 0.046 on FY 2006/07 of NBBL.

The combined mean ratios of these two banks are 0.0602 . The mean ratio of Everest Banks 0.0792 and mean ratio of NBBL is lower than that of Everest Bank. The mean ratio of NBBL is lower than that of Everest Bank due to lack of lending opportunities, the supply of the fund is exceeding the demand of the fund.

### 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 interview 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 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
| Everest | 2.40 | 2.25 | 2.21 | 2.44 | 2.15 | 2.29 |
| NBBL | 1.59 | 1.46 | 2.27 | 1.32 | 3.26 | 1.98 |
| Combined Mean |  |  |  |  |  |  |

Source: Annual Report of Everest Bank and NBBL.

From the above table it can be analyzed that the mean ratio of NBBL is lower than the mean ratio of Everest Bank. The ratio ranged from 1.46of HBL in 2005/06 to 3.26 of NBBL in 2008/09. The combined mean of these two banks is 2.135.Mean ratio of Everest Bank is 2.29 and means ratio of NBBL is 1.98 .

### 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 Everest Bank 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 EBL and NBBL

(Rs. In million)

| Banks | Fiscal year |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |
| EBL | 0.125 | 13.66 | 1.31 | 1.31 | 1.38 |
| NBBL | 0.94 | 1.07 | 0.721 | 1.159 | 0.918 |

Source: Annual Report of EBL and NBBL.

Figure: 4.3
Growth trend of Deposit

$\square$ Deposit of EBL ■Deposit of NBBL

The above table shows the growth of total deposit by analysis of five years period of EBL and NBBL. NBBL has the highest deposit of Rs. 130151.36 million and EBL has Rs333229.million which is higher than that of NBBL. According to highest range of the total deposit, we can conclude that EBL has good performance than HBBL.

## 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 EBL and NBBL

（Rs．In million）

| Banks | Fiscal year |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |
| EBL | 1.29 | 1.286 | 1.394 | 1.378 | 1.299 |
| NBBL | 0.9 | 0.829 | 0.682 | 1.237 | 1.228 |

Source：Annual Report of EBL and NBBL．

Figure： 4.4
Growth Ratio of Loans and Advances of HBL and NBBL


ELoan and Advance of EBL⿴囗十⿴囗十丁

The above table shows the growth of loans and advances of EBL and NBBL. There is increasing trend on loans and advances of EBL. Loans and Advances of EBL is higher than that of HBBL 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 EBL and NBBL
(Rs.In million)

| Banks | Fiscal year |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :---: |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |  |
| EBL | 0.83 | 1.973 | 1.186 | 1.015 | 1.17 |  |
| NBBL | 0.89 | 1.103 | 0.388 | 1.343 | 1.598 |  |

Source: Annual Report of EBL and NBBL.

Figure: 4.5: Growths Trend of Total Investment of EBL and NBBL


The above table shows that there is an increasing trend of EBL and fluctuating trend of NBBL. During the study period total investment of EBL is higher than that of HBBL.

### 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 EBL and NBBL
(Rs. in million)

| Banks | Fiscal year |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $2004 / 05$ | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ |
| EBL | 1.189 | 1.389 | 1.249 | 0.8 | 0.72 |
| NBBL | -283.59 | 2.39 | 0.59 | -0.56 | 3.61 |

Source: Annual Report of EBL and NBBL.

Figure: 4.6
Growths Trend of Net Profit of EBL and NBBL


The above table describes the growth rate of net profit of EBL and NBBL of five years the study period. EBL has the highest profit of Rs. 170.80 million in FY 2006/07 and NBBL has the highest profit of Rs. 198.75 million in FY 2003/03. It has increasing trend of profit of EBL but profit of NBBL has fluctuation over the study period.

### 4.5 Relation between Deposit and Loans of Everest Bank and NBBL

Relationship between deposit and loans of Everest Bank 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 <br> Coefficient | $\mathrm{r}^{2}$ | P.Er. | 6 P.Er. |
| :--- | :--- | :--- | :--- | :--- |
| Everest | 0.957 | 0.0105 | 0.2985 | 0.7910 |
| NBBL | 0.9538 | 0.9097 | 0.2744 | 1.6464 |

Source: Annual Report of Everest Bank and NBBL.

The above table shows the Correlation Coefficient between deposit and loans and advances of Everest Bank 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 NBBL have lower degree of relationship.

The value of (r) above explains that a percentage increase in deposit likely generate. Similarly, coefficient of determination ( $\mathrm{r}^{2}$ ) was 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 Everest Bank, 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 Everest Bank 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 NBBL 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 | $6 \times$ P.Er |
| :--- | :--- | :--- | :--- |
| NBBL | -0.6144 | 0.1163 | 0.6978 |
| Everest Bank | 0.8394 | 0.0891 | 0.5346 |

Source: annual report of Everest Bank and NBBL.

Through the above table, we can conclude that NBBL 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 <br> coefficient | P.Er | $6 \times$ P.Er |
| :--- | :--- | :--- | :--- |
| NBBL | 0.3819 | 0.2926 | 1.7556 |
| Everest Bank | 0.9810 | 0.1135 | 0.0681 |

Source: annual report of Everest Bank and NBBL

Table 4.19 presented above has shown the tight degree of positive correlation of Everest Bank. The value of $r$ in Everest Bank 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 | $6 \times$ P.Er |
| :--- | :--- | :--- | :--- |
| NBBL | -0.7676 | 0.1385 | -0.1063 |
| Everest Bank | 0.7318 | 0.1401 | -0.1063 |

Source: annual report of Everest Bank and NBBL

The table explains that the value of r Everest Bank high degree of correlation, as the value of $r$ of NBBL is negative correlation. There is a significant, as role of ' $r$ ' of Everest Bank 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 Everest Bank 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 Everest Bank 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 Everest Bank and NBBL

| Fiscal Year (Mid Value) | Everest (Trend Value) | NBBL ( Trend Value) |
| :--- | :--- | :--- |
| $2002 / 03$ | 4044.82 | 6848.95 |
| $2003 / 04$ | 4044.96 | 6847.10 |
| $2004 / 05$ | 4045.11 | 6847.26 |
| $2005 / 06$ | 4045.25 | 6847.42 |
| $2006 / 07$ | 4045.40 | 6847.57 |
| $2007 / 08$ | 4045.55 | 6847.73 |
| $2008 / 09$ | 4045.69 | 6847.89 |
| $2009 / 10$ | 4045.84 | 6847.85 |
| $2010 / 11$ | 4045.98 | 6848.20 |
| $2011 / 12$ | 4046.13 | 6848.35 |

Source: Appendix-14

Figure: 4.7

## Trend Analysis of Loans \& Advances and Total Deposit



The above table shows that the total loans and advances and deposit of Everest Bank and NBBL is in increasing trend. Everest Bank has the highest trend value of 4046.13 in the year 20011/12. The increasing trend of loans and advances and total deposit ratio of both books shows the good performance of the selected banks is providing loans and advances in deposit in profit earning sector.

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

The trend analysis of investment and total deposit ratio of Everest Bank 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 Everest Bank and NBBL

| Fiscal Year (Mid Value) | Everest Bank (Trend <br> Value) | NBBL ( Trend Value) |
| :--- | :--- | :--- |
| $2002 / 03$ | 4583.90 | 8212.09 |
| $2003 / 04$ | 4584.63 | 8213.09 |
| $2004 / 05$ | 4586.37 | 8214.089 |
| $2005 / 06$ | 4586.12 | 8215.10 |
| $2006 / 07$ | 4586.85 | 8216.16 |
| $2007 / 08$ | 4587.59 | 8217.11 |
| $2008 / 09$ | 4588.33 | 8218.11 |
| $2009 / 10$ | 4589.07 | 8219.12 |
| $2010 / 11$ | 4589.80 | 8220.12 |
| $2011 / 12$ | 4590.54 | 8221.13 |

Source: Appendix-13

Figure: 4.8

Trend Analysis of Investment and Total Deposit Ratio Everest Bank and NBBL


The above table shows that the total investment and total deposit of Everest Bank and NBBL is in increasing trend. Everest Bank 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 band on investing the deposit in profit earning sectors.

### 4.7 Major Findings of the Study

In the research data mainly secondary data are used and the analysis is computed with the help of different financial and statistical tools. In financial tools ratio analysis has been used and on statistical tools correlation coefficient, and trend analysis has been used. A primary data analysis is done from the information collected from structured interview with the concerned banks officials. This chapter focuses on the major findings from analysis of Everest Bank Limited and Nepal Bangladesh Bank Limited from the year 2004/5 to 2008/09.

The major findings of the financial and statistical analysis are presented below serially.

## Measuring the liquidity position of the Bank

Total Assets to total liability ratio of EBL and NBBL has the highest ratio.

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 EBL, which signifies that EBL is more capable of meeting immediate liabilities in contrast to NBBL. The ratio was found more consistent in EBL. Hypothesis test showed that the mean ratio of two banks did not differ significantly.
2. Liquid fund to current liability ratio of EBL 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 deposit ratio of banks. EBL and NBBL are in fluctuated trend. Mean ratio appeared marginally greater in NBBL, which means that NBBL has maintained greater portion of fixed deposit as liquid asset. The ratio 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 EBL is highest than that of EBL. The highest ratio of EBL and NBBL is 1.0632 and 1.0635 in year 2004/05 respectively. The mean ratio of EBL is greater than NBBL. The ratio remained more consistency in EBL. Hypothesis test showed that the man ratio of the sample banks does not differ significantly.
5. Loans and advances to total deposit ratio of EBL and NBBL is in fluctuating trend. The mean ratio of EBL is higher than that of HBBL. The overall performance of EBL seems the best with the higher mean ratio.
6. Loans and Advances and investment to total deposit ratio of appeared significantly higher in EBL. It indicates the better utilization of loans and advances and investment in EBL than NBBL. The ratio remained more uniform in EBL. As depicted by higher loans and advances and investment to total deposit in EBL. EBL 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 EBL. This indicates that the NBBL having small volume of capital in business have been succeeded in generating proportionately higher volume of loans and advances due to the entire business in future.
8. Interest income to total income ratio of NBBL is greater than EBL over the year 2002/03 to 2004/05 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 EBL than NBBL which reveals that EBL invested the fund from more successfully to earn the interest from total deposit.
10. Interest income to interest expenses ratio of EBL is lower than that of NBBL which signifies that EBL invested the fund 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 EBL 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 than that of EBL over the study period. It has a significant growth of NBBL than EBL and explains its aggressiveness.
13. Growth ratio of total investment of NBBL is higher than that of EBL. The highest value increase in total investment of NBBL explains it aggressiveness.
14. The growth ratio of net profit of EBL is in increasing trend. But the growth ratio of net profit of NBBL is in decreasing trend. So the increasing trend of net profit of EBL explains its aggressiveness.
15. Correlation coefficient between total deposit and loans and advances were found positively correlated of EBL 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 were found positively correlated of EBL and NBBL. NBBL has high degree of positive correlation shows the significant relation between net deposit and loans and advances.
17. Correlation coefficient between investment and loans and advances were found positively correlated in NBBL and negatively correlated in EBL. The high degree positively 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 EBL shows poor relationship between those
two variables. If shows that the bank could not succeeded in contribution of significant proportion of total investment and loans and advances.
18. Correlation coefficient between interest income and net profit of EBL shows high degree of correlation. But NBBL has the negative correlation coefficient between these two variables. Due to high degree of positive correlation EBL shows signifies relationship between interest income and net profit.
19. Trend analysis of loans and advances and total deposit ratio of EBL has highly increasing trend then NBBL. The analysis concludes the good performance of EBL in deposit utilization in relation to loans and advances.
20. Trend analysis of investment and total deposit of NBBL and EBL has nearly same increasing trend. The analysis concludes the good performance of both NBBL and EBL in deposit utilization in relation to investment.

## CHAPTER V SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter highlights some selected actionable conclusions and recommendation on the basis of the major findings of the study derived from the comparative analysis of EBL and NBBL. The study has covered 5 years data from the year 2004/5 to 2005/06. The major findings of the study based on financial and statistical analysis listed in chapter-4, of this report in order to carry out this study mainly secondary data are used. The analysis of the data is carried out with the help of various financial and statistical tools. The findings of the study are summarized and conclusion and some recommendation drawn as below:

### 5.1 Summary

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 book. There is intense competition in banking business with limited market and less investment opportunities available. A study on the liquidity position, loans and advances, profitability, deposit position of EBL and NBBL is analyzed and the bank's lending strength lending efficiency and its contribution in total profitability has been measured.

In this study, the financial tools-ratio analysis viz. asset management ratios and profitability ratios are calculated to find out the lending strength of this commercial bank. 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 bank and website of Nepal stock exchange, annual reports of NRB. The financial statements of five years (2004/05 to 2008/09) were selected for the study purpose. And Analysis of primary data structured interview done with the concerned bank official has also presented.

The mean of current ratio of those two banks over the five year Period is 1.0654 and 1.01852 respectively and it is consistent over the years. Although the current ratio of $2: 1$ is considered as standard, acceptability of the value depends $1: 1$ or above would be considered acceptable. Therefore the liquidity position of EBL and NBBL is normal.

Mean of liquid fund to total liability ratio of these two banks over the five years period is 0.166 and 0.21 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 EBL and NBBL is 0.428 and 0.78 respectively and it is less consistent. The ratio measure how well the deposit is 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 Analysis of Lending Strength

The mean ratio of EBL 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 concluded 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 EBL 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. Here own 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 2003/04 the ratio of EBL 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 EBL and NBBL is 2.717 and 0.724 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 EBL has above 1 in year 2004/05 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 EBL and NBBL over the five year period has mean ratio of 8.635 and 3.7724 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 2004/05, 2007/08 and 2007/08 shows that the book has been successful in generating proportionately higher volume of loans and advances .EBL has higher ratio in the year 2004/05.

## Lending efficiency and its contribution in total profitability

Interest income to total income ratio of EBL and NBBL over the study period has fluctuating trend. Lower ratio of EBL 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 EBL and NBBL over the study period are in decreasing trend. This indicates the decrease in profit of the banks.

## From the analysis of growth ratio

The growth ratio EBL 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 to be fluctuating. The growth ratio of Net profit of EBL is increasing trend but the ratio of NBBL is in fluctuating trend.

## From the analysis of correlation

The correlation analysis shows that the correlation coefficient ' $r$ ' between deposit and loans and advances of NBBL is high degree of positive correlation but EBL has low degree of positive correlation. The correlation of NBBL has significant relationship between deposit and loans and advances and the bank is mobilizing the deposit as loans and advance successfully. Similarly the analysis shows high degree positive correlation of NBBL between investments and loans and advances. But EBL has negative correlation coefficient between investment 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 then 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 of ' $r$ ' 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, EBL and NBBL have the increasing trend in loans and advances to total deposit and also increasing trend in total investment to total deposit.

### 5.2 Conclusion

The overall performance of Everest Bank Ltd is satisfactory than Nepal Bangladesh Bank. The liquidity position of NBBL is better than that of EBL. 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 EBL bank 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 EBL. 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 bank instead of holding high volume of non-performing assets. After comparatively study of NBL and EBL banking performance. It can be concluded that EBL has better performance than that of NBBL.

### 5.3 Recommendation

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

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 nonorganized 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 at the same time contribute 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
this bank is suggested to reduce 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. EBL's contribution in loans and advances is the lowest and this has low degree of variation and low growth rate as compare to NBBL and 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 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 EBL 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 EBL is highly unfavorable for the national development since this gap is 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 indicating 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.

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## ANNEXES

Annex 1
Analysis of Current Ratio

| Year | Current Assets |  | Current Liabilities |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBL | EBL | NBL | EBL | NBL |
| $2004 / 05$ | 3334.59 | 7034.51 | 3204.27 | 6945.64 | 1.0406 | 1.0128 |
| $2005 / 06$ | 5049.85 | 9636.94 | 4874.79 | 9358.28 | 1.0359 | 1.0298 |
| $2006 / 07$ | 6607.18 | 10727.83 | 6063.87 | 10441.04 | 1.0895 | 1.0275 |
| $2007 / 08$ | 8052.20 | 11345.52 | 7420.73 | 1123.70 | 1.0761 | 1.0099 |
| $2008 / 09$ | 9608.56 | 13758.05 | 8928.24 | 13586.40 | 1.0654 | 1.1438 |

Annex 2
Analysis of Liquid Fund to Total Liability Ratio

| Year | Liquid Fund |  | Total Liability |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 16199.89 | 14017.67 | 117921.26 | 132771.50 | 0.137 | 0.105 |
| $2005 / 06$ | 16199.27 | 17247.14 | 159592.85 | 117092.81 | 0.101 | 0.147 |
| $2006 / 07$ | 23914.2 | 12140.53 | 214325.74 | 72545.48 | 0.111 | 0.167 |
| $2007 / 08$ | 30139 | 19238.47 | 271493.42 | 93910.26 | 0.111 | 0.20 |
| $2008 / 09$ | 61644 | 25724.16 | 369168.48 | 119645.52 | 0.166 | 0.21 |

## Annex 3

Analysis of Liquid Fund to Total Deposit Ratio

| Year | Liquid Fund |  | Total Deposit |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 16199.89 | 14017.67 | 10097.69 | 121255.78 | 1.6 | 0.11 |
| $2005 / 06$ | 16199.27 | 17247.14 | 138024.45 | 130151.36 | 0.11 | 0.13 |
| $2006 / 07$ | 23914.2 | 12140.53 | 181862.54 | 93859.50 | 0.13 | 0.12 |
| $2007 / 08$ | 30139 | 19238.47 | 239763 | 108836.52 | 0.12 | 0.17 |
| $2008 / 09$ | 61644 | 25724.16 | 333229 | 99976.97 | 0.18 | 0.25 |

## Annex 5

## Analysis of Loans and Advances to Total Deposit Ratio

| Year | Loan and Advances |  | Total Deposit |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 76186.70 | 77876.90 | 117921.26 | 132771.50 | 0.64 | 0.58 |
| $2005 / 06$ | 98013.08 | 64602.46 | 159592.85 | 117092.81 | 0.61 | 0.55 |
| $2006 / 07$ | 136640.82 | 44090.13 | 214325.74 | 72545.48 | 0.63 | 0.60 |
| $2007 / 08$ | 188364.31 | 54578.08 | 276465 | 93910.26 | 0.68 | 0.58 |
| $2008 / 09$ | 244695.55 | 67049.43 | 375017 | 119645.52 | 0.65 | 0.56 |

## Annex 6

Analysis of Loans and Advances and Investment to Total Deposit

| Year | Loans and Advances <br> and Investment |  | Total Deposit |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 97476.02 | 101994.1 | 10097.69 | 121255.78 | 9.65 | 0.84 |
| $2005 / 06$ | 140018.23 | 91220.79 | 138024.45 | 130151.36 | 1.01 | 0.7 |
| $2006 / 07$ | 186483.97 | 54435.73 | 181862.54 | 93859.50 | 1.025 | 0.57 |
| $2007 / 08$ | 238960.31 | 68477.09 | 239763 | 108836.52 | 0.99 | 0.62 |
| $2008 / 09$ | 304180.55 | 89273.74 | 333229 | 99976.97 | 0.91 | 0.89 |

## Annex 7

Analysis of Loans and Advances to Share holders Equity

| Year | Loans and Advances |  | Shareholder Equity |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 76186.70 | 77876.90 | 7696.17 | 2345.76 | 9.89 | 33.19 |
| $2005 / 06$ | 98013.08 | 64602.46 | 9628.08 | -15625.84 | 1.017 | -4.13 |
| $2006 / 07$ | 136640.82 | 44090.13 | 12015.15 | -26241.63 | 11.37 | -1.68 |
| $2007 / 08$ | 188364.31 | 54578.08 | 19212 | -21914.48 | 9.8 | -2.49 |
| $2008 / 09$ | 244695.55 | 67049.43 | 22036 | -11122.42 | 11.10 | -6.028 |

## Annex 8

Analysis of Interest Income to Total Income Ratio

| Year | Interest Income |  | Total Income |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 7192.98 | 8765.08 | 5564.19 | 5352.31 | 1.29 | 1.63 |
| $2005 / 06$ | 9034.11 | 7581.32 | 6621.53 | 4371.39 | 1.36 | 1.73 |
| $2006 / 07$ | 11444.08 | 9821.96 | 8413.32 | 7938.11 | 1.36 | 1.23 |
| $2007 / 08$ | 15486.57 | 5282.75 | 12098.98 | 8164.58 | 1.27 | 0.64 |
| $2008 / 09$ | 21868.14 | 13371.12 | 15449.65 | 12553.51 | 1.41 | 1.065 |

Annex 9
Analysis of Interest Expenses to Total Deposit Ratio

| Year | Liquid Fund |  | Current Liabilities |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 2995.66 | 5479.43 | 10097.69 | 121255.78 | 0.29 | 0.045 |
| $2005 / 06$ | 4013.97 | 5180.94 | 138024.45 | 130151.36 | 0.037 | 0.039 |
| $2006 / 07$ | 5171.66 | 4322.19 | 181862.54 | 93859.50 | 0.023 | 0.046 |
| $2007 / 08$ | 6326.09 | 3979.96 | 239763 | 108836.52 | 0.016 | 0.036 |
| $2008 / 09$ | 10128.74 | 4097.75 | 333229 | 99976.97 | 0.03 | 0.04 |

## Annex 10

Analysis of Interest Income to Interest Expenses Ratio

| Year | Interest Income |  | Interest Expenses |  | Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | EBL | NBBL | EBL | NBBL | EBL | NBBL |
| $2004 / 05$ | 7192.98 | 8765.08 | 2995.66 | 5479.43 | 2.40 | 1.59 |
| $2005 / 06$ | 9034.11 | 7581.32 | 4013.97 | 5180.94 | 2.25 | 1.46 |
| $2006 / 07$ | 11444.08 | 9821.96 | 5171.66 | 4322.19 | 2.21 | 2.27 |
| $2007 / 08$ | 15486.57 | 5282.75 | 6326.09 | 3979.96 | 2.44 | 1.32 |
| $2008 / 09$ | 21868.14 | 13371.12 | 10128.74 | 4097.75 | 2.15 | 3.26 |

## Annex 11

## Everest Bank Limited

## Correlation Coefficient between Deposit and Loans and Advances

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

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 1009.76 | 7618.67 | -17049.77 | -7259.33 | 290694657.1 | 52697872.05 | 123769906.9 |
| $2005 / 06$ | 13802.44 | 9801.30 | -4257.09 | -5076.7 | 18122815.27 | 25772882.89 | 21611968.8 |
| $2006 / 07$ | 18186.25 | 13664.08 | 126.72 | -1213.92 | 16057.95 | 1473601.76 | -153827.94 |
| $2007 / 08$ | 23976.3 | 18836.43 | 5916.77 | 3958.43 | 35008167.23 | 15669168.06 | 23421119.87 |
| $2008 / 09$ | 33322.9 | 24469.55 | 15263.37 | 9591.55 | 232970463.8 | 91997831.4 | 146399376.5 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 90297.65 | 74390.04 |  |  | 576812161.4 | 187611356.2 | 315048544.2 |


| $\operatorname{Mean}(\bar{X})$ | $=\frac{\sum X}{N}$ | $\operatorname{Mean}(\overline{\mathrm{Y}})$ | $=\frac{\sum \mathrm{Y}}{\mathrm{N}}$ |
| ---: | :--- | ---: | :--- |
|  | $=\frac{90297.65}{5}$ |  | $=\frac{74390.04}{5}$ |
|  | $=18059.53$ |  | $=14878$ |

$$
\begin{aligned}
\text { Correlation Coeff. }(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} & =\frac{3150485442}{\sqrt{5768121614} \sqrt{1876113562}} \\
& =\frac{3150485442}{2401691^{*} 13697.12} \\
& =0.957
\end{aligned}
$$

$$
\begin{aligned}
\text { P.Er. } & =0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
& =0.6745 \times \frac{1-(0.957)^{2}}{\sqrt{5}} \\
& =0.6745 \times 0.63763 \\
& =0.0253
\end{aligned}
$$

## Correlation Coefficient between Total Investment and Loans and Advances

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

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 2128.93 | 7618.67 | -2335.44 | -7259.33 | 5454279.9 | 52697872.05 | 16953729.6 |
| $2005 / 06$ | 4200.51 | 9801.30 | -263.86 | -5076.7 | 69622.09 | 25772882.8 | 1339538.06 |
| $2006 / 07$ | 4984.31 | 13664.08 | 519.94 | -1213.92 | 270337.60 | 1473601.76 | -631165.56 |
| $2007 / 08$ | 5059.6 | 18836.43 | 595.23 | 3958.43 | 354298.75 | 15669168.06 | 2356176.28 |
| $2008 / 09$ | 5948.5 | 24469.55 | 1484.13 | 9591.55 | 2202641.85 | 91997831.4 | 14235107.1 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 22321.85 | 74390.03 |  |  | 8351180.19 | 187611356.1 | 34253385.48 |

Mean ( $\overline{\mathrm{X}}$ )

$$
\begin{aligned}
& =\frac{\sum X}{N} \\
& =\frac{22321.85}{5} \\
& =4464.37
\end{aligned}
$$

$\operatorname{Mean}(\overline{\mathrm{Y}})$

$$
=\frac{\sum \mathrm{Y}}{\mathrm{~N}}
$$

$$
=\frac{74390.03}{5}
$$

$$
=14878
$$

Correlation Coeff. $(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} \quad=\frac{34253385.4}{\sqrt{8351180.19} \sqrt{1876113561}}$
$=\frac{34253385.8}{3958252443}$
$=0.865$
P.Er. $=0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}}$

$$
\begin{aligned}
& =0.6745 \times \frac{1-(0.865)^{2}}{\sqrt{5}} \\
& =0.0759
\end{aligned}
$$

## Correlation Coefficient between Total Income and Loans and Advances

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

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 556.41 | 7618.67 | -406.53 | -7259.33 | 165273.14 | 52697872.05 | 2951135.42 |
| $2005 / 06$ | 662.15 | 9801.30 | -300.79 | -5076.7 | 90479.43 | 25772882.89 | 1527020.59 |
| $2006 / 07$ | 841.33 | 13664.08 | -121.61 | -1213.92 | 14790.93 | 1473601.76 | 147624.81 |
| $2007 / 08$ | 1209.89 | 18836.43 | 246.94 | 3958.43 | 60980.35 | 15669168.06 | 977494.7 |
| $2008 / 09$ | 1544.96 | 24469.55 | 582.012 | 9591.55 | 338737.96 | 91997831.4 | 5582397.19 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 4814.74 | 74390.03 |  |  | 670261.81 | 187611356.2 | 11185672.7 |

$$
\begin{aligned}
\operatorname{Mean}(\bar{X}) & =\frac{\sum X}{\mathrm{~N}} \\
& =\frac{4814.74}{5} \\
& =962.948
\end{aligned}
$$

$$
\operatorname{Mean}(\overline{\mathrm{Y}})
$$

$$
=\frac{\sum \mathrm{Y}}{\mathrm{~N}}
$$

$$
\begin{aligned}
& =\frac{74390.03}{5} \\
& =14878
\end{aligned}
$$

Correlation Coeff. $(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}}$

$$
\begin{aligned}
& =\frac{11185672.7}{\sqrt{670261.81} \sqrt{1876113562}} \\
& =\frac{11185672.7}{112137739} \\
& =0.997
\end{aligned}
$$

$$
\begin{aligned}
\text { P.Er. } & =0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
& =0.6745 \times \frac{1-(0.997)^{2}}{\sqrt{5}} \\
& =0.001807
\end{aligned}
$$

## Correlation Coefficient between Interest Income and Net Profit

Let, $X$ be Interest Income and $Y$ be Net Profit respectively.

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 719.29 | 170.8 | -581.22 | -51.69 | 337816.6 | 2671.85 | 30043.26 |
| $2005 / 06$ | 903.41 | 237.29 | -397.1 | 14.8 | 157688.41 | 219.04 | -5877.08 |
| $2006 / 07$ | 1144.40 | 296.4 | -156.11 | 73.91 | 24370.33 | 5462.68 | -11538.09 |
| $2007 / 08$ | 1548.65 | 237.2 | 248.14 | 14.71 | 61573.45 | 216.38 | 3650.13 |
| $2008 / 09$ | 2186.81 | 170.8 | 886.3 | -51.69 | 785527.69 | 2671.85 | -45812.84 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=-$ |
|  | 6502.56 | 1112.49 |  |  | 1366976.4 | 11241.8 | 29534.62 |

$$
\begin{array}{rlrl}
\text { Mean }(\overline{\mathrm{X}}) & =\frac{\sum \mathrm{X}}{\mathrm{~N}} & \text { Mean }(\overline{\mathrm{Y}}) & \\
& =\frac{\sum \mathrm{Y}}{\mathrm{~N}} \\
& =1300.51 & & =\frac{1112.49}{5} \\
& & =222.49
\end{array}
$$

Correlation Coeff. $(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} \quad=\frac{-29534.62}{\sqrt{1366976.48} \sqrt{11241.8}}$
$=-0.238$

$$
\begin{aligned}
\text { P.Er. } & =0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
& =0.6745 \times \frac{1-(-0.238)^{2}}{\sqrt{5}} \\
& =0.284
\end{aligned}
$$

## 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 | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 12125.57 | 7787.6 | 1043.98 | 1623.69 | 1089894.24 | 2636395.19 | 1695099.88 |
| $2005 / 06$ | 13015.13 | 6460.2 | 1933.54 | 296.29 | 3738576.93 | 87792.5 | 572888.56 |
| $2006 / 07$ | 9385.95 | 4409.01 | -1695.64 | -1754.89 | 2875195.01 | 3079645.93 | 2975661.68 |
| $2007 / 08$ | 10883.65 | 5457.8 | -197.94 | -706.9 | 39180.24 | 499710.43 | 139923.78 |
| $2008 / 09$ | 9997.69 | 6704.9 | -1083.9 | 540.99 | 1174839.21 | 292678.83 | -586379.06 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 55407.99 | 30819.51 |  |  | 8917685.63 | 6596222.88 | 4797194.83 |

Mean ( $\overline{\mathrm{X}}$ )

$$
\begin{aligned}
& =\frac{\sum \mathrm{X}}{\mathrm{~N}} \quad \text { Mean }(\overline{\mathrm{Y}}) \\
& =\frac{55407.99}{5} \\
& =11081.59
\end{aligned}
$$

$$
\begin{aligned}
& =\frac{\sum \mathrm{Y}}{\mathrm{~N}} \\
& =\frac{30819.51}{5} \\
& =6163.902
\end{aligned}
$$

Correlation Coeff. (r) $=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} \quad=\frac{479719483}{\sqrt{891768563} \sqrt{659622288}}$

$$
=0.625
$$

$$
\begin{aligned}
\text { P.Er. } & =0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
& =0.6745 \times \frac{1-(0.625)^{2}}{\sqrt{5}} \\
& =0.183
\end{aligned}
$$

## Correlation Coefficient between Total Investment and Loans and Advances

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

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 2411.72 | 7787.6 | 467.64 | 1623.7 | 218687.16 | 2636401.69 | 759307.06 |
| $2005 / 06$ | 2661.83 | 6460.2 | 717.75 | 296.3 | 515165.06 | 87793.69 | 212669.32 |
| $2006 / 07$ | 1034.56 | 4409.01 | -909.52 | -1754.89 | 827226.63 | 3079638.91 | 1596107.55 |
| $2007 / 08$ | 1389.9 | 5457.8 | -554.18 | -706.1 | 307115.47 | 498577.21 | 391306.49 |
| $2008 / 09$ | 2222.43 | 6704.9 | 278.35 | 541 | 77478.72 | 292681 | 150587.35 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 9720.44 | 30819.5 |  |  | 1945673.04 | 6595092.5 | 1673487.77 |

Mean ( $\bar{X}$ )

$$
\begin{aligned}
& =\frac{\sum X}{\mathrm{~N}} \quad \text { Mean }(\overline{\mathrm{Y}}) \\
& =\frac{9720.44}{5} \\
& =1944.08
\end{aligned}
$$

$$
\begin{aligned}
& =\frac{\sum \mathrm{Y}}{\mathrm{~N}} \\
& =\frac{30819.51}{5} \\
& =6163.9
\end{aligned}
$$

Correlation Coeff. $(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} \quad=\frac{1673487.77}{\sqrt{1945673.04} \sqrt{65950925}}$

$$
=0.467
$$

$$
\begin{aligned}
\text { P.Er. } & =0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
& =0.6745 \times \frac{1-(0.467)^{2}}{\sqrt{5}} \\
& =0.2358
\end{aligned}
$$

## Correlation Coefficient between Total Income and Loans and Advances

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

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\mathrm{X}$ | $\mathrm{y}=\mathrm{Y}-\mathrm{Y}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2004/05 | 535.23 | 7787.6 | -76224.17 | 1623.7 | 5810124.0 | $\begin{gathered} 2636401.6 \\ 9 \end{gathered}$ | -123765184.8 |
| 2005/06 | 437.13 | 6460.2 | -76322.27 | 296.3 | 5825088898 | 87793.69 | -22614288.6 |
| 2006/07 | 793.81 | 4409.01 | -75965.59 | -1754.89 | 5770770864 | $\begin{gathered} 3079638.9 \\ 1 \\ \hline \end{gathered}$ | 133311254.2 |
| 2007/08 | 816.45 | 5457.8 | -75942.95 | -706.1 | 5767331655 | 498577.21 | 53623317 |
| 2008/09 | 1255.35 | 6704.9 | -75504.05 | 541 | 5700861566 | 292681 | -40847691.05 |
| $\mathrm{N}=5$ | $\begin{gathered} \sum X= \\ 383797 \end{gathered}$ | $\begin{gathered} \sum \mathrm{Y}= \\ 30819.5 \end{gathered}$ |  |  | $\begin{gathered} \sum \mathrm{x}^{2}= \\ 2306986311 \\ 0 \end{gathered}$ | $\begin{gathered} \sum y^{2}= \\ 6595092.5 \end{gathered}$ | $\sum \mathrm{xy}=-292593.25$ |

Mean ( $\overline{\mathrm{X}}$ )

$$
\begin{aligned}
& =\frac{\sum X}{\mathrm{~N}} \\
& =\frac{383797}{5} \\
& =76759.4
\end{aligned}
$$

Mean ( $\overline{\mathrm{Y}}$ )

$$
\begin{aligned}
& =\frac{\sum \mathrm{Y}}{\mathrm{~N}} \\
& =\frac{30819.51}{5} \\
& =6163.9
\end{aligned}
$$

Correlation Coeff. $(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} \quad=\frac{-292593.25}{\sqrt{230698631 \mathrm{D}} \sqrt{6595092.5}}$

$$
=-0.00075
$$

$$
\begin{aligned}
\text { P.Er. } & =0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}} \\
& =0.6745 \times \frac{1-(0.00075)^{2}}{\sqrt{5}} \\
& =0.3016
\end{aligned}
$$

## Correlation Coefficient between Interest Income and Net Profit

Let, X be Interest Income and Y be Net Profit respectively.

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\mathrm{X}$ | $\mathrm{y}=\mathrm{Y}-\mathrm{Y}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2004/05 | 876.5 | -749.54 | -19.94 | -578.81 | 397.6 | 335021.01 | 11541.47 |
| 2005/06 | 758.13 | -1797.15 | -138.31 | -1626.42 | 19129.65 | 2645242.01 | 224950.15 |
| 2006/07 | 982.19 | -1061.58 | 85.75 | -890.85 | 7353.06 | 793613.722 | -76390.38 |
| 2007/08 | 528.27 | 596.48 | -368.17 | 767.21 | 135549.14 | 588611.18 | -282463.7 |
| 2008/09 | 1337.11 | 2158.10 | 440.67 | 2328.82 | 194190.04 | 5423449.16 | 1026245.51 |
| $\mathrm{N}=5$ | $\begin{gathered} \sum \mathrm{X}= \\ 4482.2 \end{gathered}$ | $\begin{aligned} & \sum \mathrm{Y}=- \\ & 853.69 \end{aligned}$ |  |  | $\begin{gathered} \sum \mathrm{x}^{2}= \\ 356619.49 \end{gathered}$ | $\begin{gathered} \sum y^{2}= \\ 9785937.08 \end{gathered}$ | $\begin{gathered} \sum \mathrm{xy}= \\ 903883.056 \end{gathered}$ |
| Mean ( $\overline{\mathrm{X}}$ ) |  | $\begin{aligned} & =\frac{\sum \mathrm{X}}{\mathrm{~N}} \\ & =\frac{4482.2}{5} \\ & =896.44 \end{aligned}$ |  | Mean ( $\overline{\mathrm{Y}}$ ) |  | $\begin{aligned} & \frac{\sum \mathrm{Y}}{\mathrm{~N}} \\ & \frac{-853.69}{5} \\ & -170.73 \end{aligned}$ |  |

Correlation Coeff. $(\mathrm{r})=\frac{\sum \mathrm{xy}}{\sqrt{\sum \mathrm{x}^{2}} \sqrt{\sum \mathrm{y}^{2}}} \quad=\frac{903883.056}{\sqrt{356619.49} \sqrt{9785937.08}}$

$$
=0.4838
$$

P.Er. $=0.6745 \frac{1-\mathrm{r}^{2}}{\sqrt{\mathrm{~N}}}$

$$
\begin{aligned}
& =0.6745 \times \frac{1-(0.4838)^{2}}{\sqrt{5}} \\
& =0.231
\end{aligned}
$$

## Annex 13

## Trend Analysis of Total Investment and Loans and Advances

## EBL

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 2128.93 | 7618.67 | -2335.44 | -7259.33 | 5454279.9 | 52697872.05 | 16953729.6 |
| $2005 / 06$ | 4200.51 | 9801.30 | -263.86 | -5076.7 | 69622.09 | 25772882.8 | 1339538.06 |
| $2006 / 07$ | 4984.31 | 13664.08 | 519.94 | -1213.92 | 270337.60 | 1473601.76 | -631165.56 |
| $2007 / 08$ | 5059.6 | 18836.43 | 595.23 | 3958.43 | 354298.75 | 15669168.06 | 2356176.28 |
| $2008 / 09$ | 5948.5 | 24469.55 | 1484.13 | 9591.55 | 2202641.85 | 91997831.4 | 14235107.1 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ <br> 8351180.19 | $\sum \mathrm{y}^{2}=$ <br> 187611356.1 | $\sum \mathrm{xy}=$ <br> 34253385.48 |

$\sum \mathrm{X}=22321.85$
$\sum \mathrm{Y}=74390.03$
$\overline{\mathrm{X}}=\frac{\sum \mathrm{X}}{\mathrm{N}}$
$\overline{\mathrm{Y}}=\frac{\sum \mathrm{Y}}{\mathrm{N}}$
$=4464.37$
$y=a+b x$ $\qquad$
$\sum y=\mathrm{Na}+\mathrm{bx}$ $\qquad$
$\sum x y=a \sum x+b \sum x^{2}$

Substituting the value of $x$ and $y$ in equation (ii) and equation (iii) we get, $74390.03=5 \mathrm{a}+22321.85 \mathrm{~b}$ $\qquad$ (iv) $34253385.48=22321.85+8351180.19 b$
Multiplying equation (iv) by 4464.37 and then subtracting equation (v) from it, we get,
$332104618.2=22321.85 a+99652997.48 b$
$34253385.48=22321.85 a+8351180.19 b$
$297851232.7=91301817.29 \mathrm{~b}$
or $\quad b=\frac{2978512327}{91301817.2}$
$\therefore \quad b=3.2622$
Now, substituting the value of $b$ in equation (iv), we get
or, $\quad 74390.03=5 \mathrm{a}+22321.85 \times 3.2622$
or $\quad 5 \mathrm{a}=1571.69$
or, $\quad \mathrm{a}=\frac{1571.69}{5} \quad \therefore \mathrm{a}=314.33, \mathrm{~b}=3.2622$
Year
2004/05
2005/06
Trend Value

2006/07
2007/08
2008/09

$$
y=a+b x=314.33+3.2622 \times 0=
$$

$$
314.33
$$

$\mathrm{y}=\mathrm{a}+\mathrm{bx}_{1}=314.33+3.2622 \times 1=$
317.59
$\mathrm{y}=\mathrm{a}+\mathrm{bx}_{2}=314.33+3.2622 \times 2=\quad 320.854$
$\mathrm{y}=\mathrm{a}+\mathrm{bx}_{3}=314.33+3.2622 \times 3=$
324.1166
$y=a+b x_{4}=314.33+3.2622 \times 4=$
327.378

2009/10
$y=a+b x_{5}=314.33+3.2622 \times 5=330.641$
2010/11
$y=a+b x_{6}=314.33+3.2622 \times 6=333.90$

NBBL

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 2411.72 | 7787.6 | 467.64 | -3126.90 | 218687.16 | 2636401.69 | 759307.06 |
| $2005 / 06$ | 2661.83 | 6460.2 | 717.75 | -993.28 | 515165.06 | 87793.69 | 212669.32 |
| $2006 / 07$ | 1034.56 | 4409.01 | -909.52 | -79.262 | 827226.63 | 3079638.91 | 1596107.55 |
| $2007 / 08$ | 1389.9 | 5457.8 | -554.18 | 986.552 | 307115.47 | 4985.77 .21 | 391306.49 |
| $2008 / 09$ | 2222.43 | 6704.9 | 278.35 | 3213.72 | 77478.72 | 292681 | 150587.35 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 9720.44 | 30819.51 |  |  | 1945673.04 | 6595092.5 | 1673487.77 |

$\sum \mathrm{X}=9720.44$

$$
\begin{align*}
& \sum \mathrm{Y}=30819.51 \\
& \overline{\mathrm{Y}}=\frac{\sum \mathrm{Y}}{\mathrm{~N}} \\
& =6163.9 \tag{i}
\end{align*}
$$

$=1944.08$
$y=a+b x$
$\sum \mathrm{y}=\mathrm{Na}+\mathrm{bx}$ $\qquad$
$\sum \mathrm{xy}=\mathrm{a} \sum \mathrm{x}+\mathrm{b} \sum \mathrm{x}^{2}$

Substituting the value of x and y in equation (ii) and equation (iii) we get, $30819.51=5 \mathrm{a}+9720.44 \mathrm{~b}$ $\qquad$
$1673487.77=9720.44 a+30819.51 b$
Multiplying equation (iii) by 1944.088 and then subtracting equation (iv) from it, we get,
$59915839.56=9720.44 a+18897313 b$
$1673487.77=9720.44 \mathrm{a}+30819.51 \mathrm{~b}$

- $58242351.79=18866493.49 \mathrm{~b}$
or $\quad \mathrm{b}=\frac{58242351.7}{1886649349}$
$\therefore \quad \mathrm{b}=3.087$
Now, substituting the value of $b$ in equation (iii), we get
$30819.51=5 \mathrm{a}+9720.44 \mathrm{~b}$
or, $\quad 30819.51=5 \mathrm{a}+9720.44 \times 3.087$
or $812.511=5 \mathrm{a}$
or, $\quad \mathrm{a}=\frac{812.511}{5} \quad \therefore \mathrm{a}=162.502, \mathrm{~b}=3.087$
Year Trend Value
2004/05
$y=a+b x=162.502+3.087 \times 0=$
162.502

2005/06
2006/07
$\mathrm{y}=\mathrm{a}+\mathrm{bx}_{1}=162.502+3.087 \times 1=$
165.589
$\mathrm{y}=\mathrm{a}+\mathrm{bx}_{2}=162.502+3.087 \times 2=$
168.676

2007/08
2008/09
2009/10
2010/11

$$
y=a+b x_{3}=162.502+3.087 \times 3=
$$

$$
\mathrm{y}=\mathrm{a}+\mathrm{bx}_{4}=162.502+3.087 \times 4=
$$

$$
\mathrm{y}=\mathrm{a}+\mathrm{bx}_{5}=162.502+3.087 \times 5=
$$

$$
y=a+b x_{6}=162.502+3.087 \times 6=
$$

171.76
174.85
177.93
181.024

## Annex 14

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

## EBL

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 1009.76 | 7618.67 | -17049.77 | -7259.33 | 290694657.1 | 52697872.05 | 123769906.9 |
| $2005 / 06$ | 13802.44 | 9801.30 | -4257.09 | -5076.7 | 18122815.27 | 25772882.89 | 21611968.8 |
| $2006 / 07$ | 18186.25 | 13664.08 | 126.72 | -1213.92 | 16057.95 | 1473601.76 | -153827.94 |
| $2007 / 08$ | 23976.3 | 18836.43 | 5916.77 | 3958.43 | 35008167.23 | 15669168.06 | 23421119.87 |
| $2008 / 09$ | 33322.9 | 24469.55 | 15263.37 | 9591.55 | 232970463.8 | 91997831.4 | 146399376.5 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 90297.65 | 74390.04 |  |  | 576812161.4 | 187611356.2 | 315048544.2 |


| $\sum X=90297.65$ | $\sum Y=74390.04$ |
| :--- | :--- |
| $\sum x^{2}=576812161.4$ |  |
| $\sum x y=315048544.2$ |  |
| $y=a+b x \ldots \ldots \ldots \ldots$. (i) |  |
| $\sum y=N a+b x \ldots \ldots \ldots \ldots .$. (ii) |  |
| $\sum x y=a \sum x+b \sum x^{2} \ldots \ldots \ldots \ldots \ldots \ldots$. (iii) |  |

Substituting the value of $x$ and $y$ in equation (ii) and equation (iii) we get, $74390.04=5 \mathrm{a}+90297.65 \mathrm{~b}$ $\qquad$ (iv) $315048544.2=90297.65 \mathrm{a}+74390.04 \mathrm{~b}$ $\qquad$
Multiplying equation (iv) by 18059.53 and then subtracting equation (v) from it, we get, $1343449159=90297.65 \mathrm{a}+1630733119 \mathrm{~b}$ $315048544.2=90297.65 \mathrm{a}+74390.04 \mathrm{~b}$
$1028400615=1630658729 b$
or $\quad b=\frac{1028400615}{1630658729}$
$\therefore \quad b=0.6306$
Now, substituting the value of $b$ in equation (iv), we get

$$
74390.04=5 \mathrm{a}+90297.65 \times 0.6306
$$

or $\quad 17448.341=5 \mathrm{a}$
or, $\quad \mathrm{a}=\frac{17448.341}{5} \quad \therefore \mathrm{a}=3489.66, \mathrm{~b}=0.6306$

Year
2004/05
2005/06
2006/07
2007/08
2008/09
2009/10
2010/11

Trend Value
$y=a+b x=3489.66+0.6306 \times 0=3489.66$
$y=a+b x_{1}=3489.66+0.6306 \times 1=\quad 3490.29$
$y=a+b x_{2}=3489.66+0.6306 \times 2=\quad 3490.92$
$y=a+b x_{3}=3489.66+0.6306 \times 3=3491.55$
$y=a+b x_{4}=3489.66+0.6306 \times 4=\quad 3492.18$
$y=a+b x_{5}=3489.66+0.6306 \times 5=\quad 3492.81$
$y=a+b x_{6}=3489.66+0.6306 \times 6=\quad 3493.44$

NBBL

| Year | X | Y | $\mathrm{x}=\mathrm{X}-\overline{\mathrm{X}}$ | $\mathrm{y}=\mathrm{Y}-\overline{\mathrm{Y}}$ | $\mathrm{x}^{2}$ | $\mathrm{y}^{2}$ | xy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2004 / 05$ | 12125.57 | 7787.6 | 1043.98 | 1623.69 | 1089894.24 | 2636395.19 | 1695099.88 |
| $2005 / 06$ | 13015.13 | 6460.2 | 1933.54 | 296.29 | 3738576.93 | 87792.5 | 572888.56 |
| $2006 / 07$ | 9385.95 | 4409.01 | -1695.64 | -1754.89 | 2875195.01 | 3079645.93 | 2975661.68 |
| $2007 / 08$ | 10883.65 | 5457.8 | -197.94 | -706.9 | 39180.24 | 499710.43 | 139923.78 |
| $2008 / 09$ | 9997.69 | 6704.9 | -1083.9 | 540.99 | 1174839.21 | 292678.83 | -586379.06 |
| $\mathrm{~N}=5$ | $\sum \mathrm{X}=$ | $\sum \mathrm{Y}=$ |  |  | $\sum \mathrm{x}^{2}=$ | $\sum \mathrm{y}^{2}=$ | $\sum \mathrm{xy}=$ |
|  | 55407.99 | 30819.51 |  |  | 8917685.63 | 6596222.88 | 4797194.83 |

$\sum \mathrm{X}=55407.99$
$\sum \mathrm{Y}=42675.92$
$\sum \mathrm{x}^{2}=8917685.63$
$\sum x y=4797194.83$
$y=a+b x$
$\sum y=N a+b x$ $\qquad$
$\sum \mathrm{xy}=\mathrm{a} \sum \mathrm{x}+\mathrm{b} \sum \mathrm{x}^{2}$
Substituting the value of $x$ and $y$ in equation (i) and equation (ii) we get, $30819.51=5 \mathrm{a}+55407.99$ b $\qquad$ (iii)
$4797194.83=55407.99 \mathrm{a}+30819.51 \mathrm{~b}$ (iv)
Multiplying equation (iii) by 11081.59 and then subtracting equation (iv) from it, we get, $341529420.4=55407.99 \mathrm{a}+614008738.7 \mathrm{~b}$ $4797194.83=55407.99 \mathrm{a}+30819.51 \mathrm{~b}$
$336732225.6=613977919.2 b$
or $\quad b=\frac{3367322256}{6139779192}$
$\therefore \quad \mathrm{b}=0.548$
Now, substituting the value of $b$ in equation (iii), we get
$30819.51=5 \mathrm{a}+55407.99 \times 0.548$
or $\quad 455.931=5 \mathrm{a}$
or, $\quad \mathrm{a}=\frac{455.931}{5} \quad \therefore \mathrm{a}=91.18, \mathrm{~b}=0.1574$

## Trend Value

Year 2004/05 2005/06
2006/07
2007/08
2008/09
2009/10
2010/11
$\begin{array}{lll}y=a+b x_{1}= & 91.18+0.548 \times 0= & 91.18 \\ y=a+b x_{1}= & 91.18+0.548 \times 1= & 91.72 \\ y=a+b x_{2}= & 91.18+0.548 \times 2= & 92.27 \\ y=a+b x_{3}= & 91.18+0.548 \times 3= & 92.82 \\ y=a+b x_{4}= & 91.18+0.548 \times 4= & 93.37 \\ y=a+b x_{5}=91.18+0.548 \times 5= & 93.92 \\ y=a+b x_{6}=91.18+0.548 \times 6= & 94.46\end{array}$

