

# **INVESTMENT POLICY OF COMMERCIAL BANKS**

(With special reference to NABIL and HBL)

Submitted by

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**RECOMMENDATION**

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Submitted by

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Entitled

**Investment Policy of Commercial Banks**

(With special reference to NABIL and HBL)

has been prepared as approved by this College in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

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and found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for degree of **Master of Business Studies (M.B.S.)**.

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## DECLARATION

I hereby declare that the work reported in this thesis entitled **Investment Policy of Commercial Banks** (With special reference to NABIL and HBL) submitted to the Office of Dean, Faculty of Management, Tribhuvan University, is my original work done according to the prescribed format in the partial fulfillment of the requirement for the degree of Master of Business Studies (M.B.S.) under the supervision of Mr. Nawaraj Poudel, Lecturer, Vishwa Adarsha College.

Suman Rakhali

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## Table of Contents

Recommendation	ii
Viva-Voce Sheet	iii
Declaration	iv
Acknowledgements	v
Table of Contents	vi
List of Tables	xii
List of Figures	xiii
Abbreviations	xiv
<b>Chapter: I Introduction</b>	<b>1-10</b>
1.1 Background of the Study	1
1.2 Focus of the Study	6
1.3 Statement of the Problem	6
1.4 Objectives of the Study	7
1.5 Significance of the Study	8
1.6 Limitation of the Study	9
1.7 Organization of the Study	9
<b>Chapter: II Review of Literature</b>	<b>11-23</b>
2.1 Conceptual Framework	11
2.1.1 Overview of Banking System	11
2.1.2 Commercial Bank	12
2.1.3 Investment Policy of Bank	13
2.1.3.1 Principle of Liquidity	14
2.1.3.2 Principle of Profitability	15
2.1.3.3 Principle of Safety	15

2.1.3.4 Principle of Diversification	16
2.1.3.5 Principle of Marketability	17
2.1.3.6 Principle of National Interest	17
2.1.3.7 Principle of Tax Immunity	17
2.2 Some Important Terms	18
2.2.1 Loan & Advances	18
2.2.2 Investment on Government Shares & Debentures	18
2.2.3 Deposits	18
2.2.4 Investment on Other Company's Shares & Debentures	19
2.3 Review of Studies	19
2.3.1 Review of Books	19
2.3.2 Review of Master's Degree Thesis	20
<b>Chapter: III Research Methodology</b>	<b>24-35</b>
3.1 Introduction	24
3.2 Research Design	24
3.3 Sources of Data	24
3.4 Population & Sample	24
3.5 Data Analysis Tools	26
3.5.1 Financial Tools	26
3.5.1.1 Liquidity Ratios	26
3.5.1.1.1 Current Ratio	27
3.5.1.1.2 Cash & Bank Balance to Total Deposit Ratio	27
3.5.1.1.3 Cash & Bank Balance to Current Assets Ratio	27
3.5.1.1.4 Investment on Government Securities to CA Ratio	27
3.5.1.1.5 Loans & Advances to Current Assets Ratio	28
3.5.1.2 Assets Management Ratios	28

3.5.1.2.1 Loans & Advances to Total Deposit Ratio	28
3.5.1.2.2 Total Investment to Total Deposit Ratio	28
3.5.1.2.3 Loans & Advances to Total Assets Ratio	29
3.5.1.2.4 Invest on Government Securities to Total Assets Ratio	29
3.5.1.2.5 Investment on Shares & Debentures to Total Assets Ratio	29
3.5.1.3 Profitability Ratios	29
3.5.1.3.1 Return on Loans & Advances Ratio	30
3.5.1.3.2 Return on Total Assets Ratio	30
3.5.1.3.3 Total Interest Earned to Total Outside Assets Ratio	30
3.5.1.3.4 Total Interest Earned to Total Assets Ratio	30
3.5.1.3.5 Total Interest Paid to Total Assets Ratio	31
3.5.1.3.6 Total Interest Earned to Total Operating Income Ratio	31
3.5.1.4 Risk Ratios	31
3.5.1.4.1 Liquidity Risk Ratio	31
3.5.1.4.2 Credit Risk Ratio	32
3.5.1.5 Growth Ratios	32
3.5.2 Statistical Tools	32
3.5.2.1 Average	32
3.5.2.2 Standard Deviation	33
3.5.2.3 Coefficient of Variation	33
3.5.2.4 Coefficient of Correlation	33
3.5.2.5 Trend Analysis	35

4.1 Financial Analysis	36
4.1.1 Liquidity Ratios	36
4.1.1.1 Current Ratio	37
4.1.1.2 Cash & Bank Balance to Total Deposit Ratio	37
4.1.1.3 Cash & Bank Balance to Current Assets Ratio	38
4.1.1.4 Investment on Government Securities to Current Assets Ratio	39
4.1.1.5 Loans & Advances to Current Assets Ratio	40
4.1.2 Assets Management Ratios	41
4.1.2.1 Loans & Advances to Total Deposit Ratio	42
4.1.2.2 Total Investment to Total Deposit Ratio	42
4.1.2.3 Loans & Advances to Total Assets Ratio	43
4.1.2.4 Investment on Government Securities to Total Assets Ratio	44
4.1.2.5 Investment on Shares & Debentures to Total Assets Ratio	45
4.1.3 Profitability Ratios	46
4.1.3.1 Return on Loans & Advances Ratio	47
4.1.3.2 Return on Total Assets Ratio	47
4.1.3.3 Total Interest Earned to Total Outside Assets Ratio	48
4.1.3.4 Total Interest Earned to Total Assets Ratio	49
4.1.3.5 Total Interest Paid to Total Assets Ratio	50
4.1.3.6 Total Interest Earned to Total Operating Income Ratio	51
4.1.4 Risk Ratios	52
4.1.4.1 Liquidity Risk Ratio	52
4.1.4.2 Credit Risk Ratio	53
4.1.5 Growth Ratio	54

4.1.5.1 Growth Rate of Total Deposit	54
4.1.5.2 Growth Rate of Total Loans & Advances	55
4.1.5.3 Growth Rate of Total Investment	55
4.1.5.4 Growth Rate of Total Net Profit	56
4.2 Statistical Analysis	57
4.2.1 Coefficient of Correlation Analysis	57
4.2.1.1 Coeff of Correlation between Total Deposit and Loan & Advances	57
4.2.1.2 Coeff of Correlation between Total Deposit and Total Investment	59
4.2.1.3 Coeff of Correlation between Total Outside Assets and Net Profit	60
4.2.1.4 Coeff of Correlation between Total Deposit and Net Profit	61
4.2.1.5 Coeff of Correlation between Total Deposit and Interest Earned	62
4.2.1.6 Coeff of Correlation between Loan & Advances and Interest Paid	63
4.2.1.7 Coeff of Correlation between Total Assets and Net Profit	64
4.2.2 Trend Analysis and Projected for Next 5 years	64
4.2.2.1 Trend Analysis of Total Deposit	65
4.2.2.2 Trend Analysis of Loan & Advances	66
4.2.2.3 Trend Analysis of Total Investment	67
4.2.2.4 Trend Analysis of Net Profit	67
4.3 Major Findings of the Study	68
4.3.1 Liquidity Ratio	68
4.3.2 Assets Management Ratio	69
4.3.3 Profitability Ratio	69
4.3.4 Risk Ratio	70
4.3.5 Growth Ratio	70

4.3.6 Coefficient of Correlation Analysis	70
4.3.7 Trend Analysis	71
<b>Chapter: V Summary, Conclusion and Recommendation</b>	<b>73-77</b>
5.1 Summary & Conclusion	73
5.2 Recommendation	74
Bibliography	78
Appendix	81

## List of Tables

<b>Table No.</b>	<b>Page No.</b>
1. Current Ratio	37
2. Cash & Bank Balance to Total Deposit Ratio	38
3. Cash & Bank Balance to Current Assets Ratio	39
4. Investment on Government Securities to Current Assets Ratio	40
5. Loan & Advance to Current Assets Ratio	41
6. Loan & Advance to Total Deposit Ratio	42
7. Total Investment to Total Deposit Ratio	43
8. Loan & Advance to Total Assets Ratio	44
9. Investment on Government Securities to Total Assets Ratio	45
10. Investment on Share & Debenture to Total Assets Ratio	46
11. Return on Loan & Advance Ratio	47
12. Return on Total Assets	48
13. Total Interest Earned to Total Outside Assets Ratio	49
14. Total Interest Earned to Total Assets Ratio	50
15. Total Interest Paid to Total Assets Ratio	50
16. Total Interest Earned to Operating Income Ratio	51
17. Liquidity Risk Ratio	52
18. Credit Risk Ratio	53
19. Growth Rate of Total Deposit	54
20. Growth Rate of Total Loans & Advance	55
21. Growth Rate of Total Investment	56
22. Growth Rate of Total Net Profit	57
23. Correlation between Total Deposit and Loan & Advance	58
24. Correlation between Total Deposit and Total Investment	59
25. Correlation between Total Outside Assets and Net Profit	60
26. Correlation between Total Deposit and Net Profit	61
27. Correlation between Total Deposit and Interest Earned	62
28. Correlation between Loan & Advance and Interest Paid	63
29. Correlation between Total Assets and Net Profit	64

**List of Figures**

<b>Figure No.</b>	<b>Page No.</b>
1. Trend Value of Total Deposit	65
2. Trend Value of Loan & Advances	66
3. Trend Value of Total Investment	67
4. Trend Value of Net Profit	68

### Abbreviations

a/c	:	Account
B.S.	:	Bikram Shambath
CA	:	Current Assets
CL	:	Current Liabilities
Coeff	:	Coefficient
CR	:	Current Ratio
C.V.	:	Co-efficient of Variation
e.g.	:	For example
F/Y	:	Fiscal Year
HBL	:	Himalayan Bank Limited
i.e.	:	That is
MBS	:	Masters of Business Studies
NABIL	:	Nepal Arab Bank Limited
No.	:	Number
NRB	:	Nepal Rastra Bank
P.Er.	:	Probable Error
Pvt. Ltd.	:	Private Limited
ROA	:	Return on Assets
r	:	Correlation of Coefficient
Rs	:	Rupees
S.D.	:	Standard Deviation
TU	:	Tribhuvan University
www	:	World Wide Web

## CHAPTER I

### Introduction

#### 1.1 Background of the Study:

Nepal is a least-developed landlocked country, situated between two most crowded and fast growing economies, China and India. Nepal is developing country in the world and has also increasing the trend of the economic condition. Development of every country is always measured by its economic indices. National development of any country depends upon the economic development and economic development is supported by financial infrastructure, so financial institutions are viewed as catalyst in the process of the economic growth. The mobilization of domestic resources is one of the key factors in the economic development of country. Every well-organized financial institutions including finance companies, commercial banks and other financial institution play an important role for the development of the country. They collect scattered financial resources from the mass and social activities of the country. This factor will provide fuel of the development process.

Economic indices are taken as index for measuring pole for measuring the development of a country. Hence every country, be it a developed or an undeveloped or developing one, has the primary goal to uplift the economy through rapid economic growth. Rapid economic growth ensures improvement in the standard of living, equal distribution of income, stability of prices, employment generation, balance in payment etc. Nepal is trying to get on the path of economic development by developing the various sectors of the economy. Therefore, the process of economic development depends upon capital formation and its proper utilization. Capital formation is one of the most important factors in economic development as it leads to increase national output, input and employment level and solve the problem of inflation, balance of payment and free the economy from the burden of foreign debt. The financial sector of any country has strategic, central and leading role in the process of economic development. In the regard, the network of well-organized financial institutions has vital role. Financial institutions are the institutions which collect funds from the public and place them in financial assets, such as deposits, loans and bonds rather than tangible property. Financial institutions either banking or non-banking also act as the 'Middlemen' between lender and borrower of the fund.

Banking in general terms, is the business activity of accepting and safeguarding money owned by other individuals and entities and then lending out this money in order to earn a profit. The banking sector is one of the grounds of economic development. In other words, the banking sector is the catalyst of economic development as it provides capital to trade, commerce, industry & agriculture. Bank and financial institution are playing a vital role in the economic development of the country. The function of banks is not only accepting deposits and granting loans but also including wide range of services to the different strata of society, to facilitate the growth of trade, commerce, industry and agriculture of the national economy. In the absence and insufficiency of banking and financial facilities, the growth of the economic development becomes slow. However, bank is a resource for economic development, which maintains the self-confidence of various segments of society and advances credit to the people.

Bank plays a significant role in the development of nation in the modern day business world. The scope of bank has become so wide that it covers all the financial activities from the issue of money to the performance of agency services to its customers. In this sense, a bank may be defined as financial institution, which accept the deposit for the purpose of lending or investment from the public, repayable on demand through cheques, draft or otherwise and also performs number of agency services to its clients, on instruction. Modern bank prefers varieties of functions, therefore it is difficult to decide the function of modern bank because of their complexity and versatile in operation.

Commercial bank is one of the major media in the frameworks of every economy because they collect saving as a deposit and invest for development of trade, business and industry, thus they contribute to the economic growth of the nation as whole. Commercial banks have to provide services at the same time earn more profit by investing funds. A bank invests the resources mainly in the forms of loans and advances and investment for the purpose of income generation. Investment function of the bank comprises lending loans & advances and purchasing the securities issued by the government and organized institutions. The business of banking is one of collecting funds from the community and extending credit to people for useful purposes. The revenue of the banks of Nepal is dominated by the interest income which contributes close to three quarters of the total revenue of the banks. Besides, the interest income, other major source of income is other income, non-operating

income and commission and discount income. The investment activities of the Nepalese banks can be classified as limited. The banks have been predominantly investing in the government securities like the treasury bills and government bonds. This investment in the government securities is government securities are for the liquidity benefit it offers. The other areas of investment include inter-bank placement and investment in shares and debentures.

The increase in capital has always been sort of prime mover in the process of materials growth and the rate of capital formation has been the principal variable in sitting the overall pace of economic development. Investment is concerned with management of an investor's wealth, which are the sum of current income and the present value of all future income. Fund to be invested come from assets already owned borrowed money and saving or forgone consumption "The investment objective is to increase systematically the higher the level of desired wealth the higher the must be received an investment seeking higher return must be willing to take higher level of risk". Investment is very well known and prestigious word in financial term. It is clear that all people want to invest their money in the best firm for good return but the return may be both favourable and unfavourable.

### **Nabil Bank Limited**

Nabil Bank limited is the first joint venture bank of Nepal. It started operations in 12<sup>th</sup> July, 1984, Nabil was incorporated with the objective of extending international standard modern banking services to various sector of the society pursuing its objective, Nabil provides a full range of commercial banking services through its 51 points of representation across the kingdom and over 170 reputed correspondent banks across the globe. It was earlier known as Nepal Arab Bank Ltd. It has its head office located at Nabil Center, Durbar Marga, which is also a premium location of the capital. Nabil is come as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking in story of Nepal. It started an era of modern banking with customer satisfaction, measured as a focal objective while doing business. Operation of the bank including day to day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped by modern technology which includes ATMs, credit Card, state of art, and world renowned

software from Infosys technologies system. Bangalore, India, Inter banking system and tele-banking system.

The bank set up well equipped marketing teams conceptualizing the need for identification of customers' requirements and designing products and services to their full satisfaction. Since the beginning this culture was so deeply rooted that it has continued over time while we reached to every new locations. It has therefore established brand Nabil for quality banking. This can appropriately be attributed to this culture the bank has instilled from generation to generation and the legacies of professionalism left behind by the predecessors. Looking back upon a long stretch of time it has had a series of achievements to celebrate. Difficulties and crises were there but Nabil saw a sea of opportunities and worked to cash in on them. Its inexorable endeavours and a clear vision had capacitated to plough through some of the most testing moments in our nation history.

### **Himalayan Bank Limited**

Himalayan Bank was established in January 18<sup>th</sup>, 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities- Loans and Deposits. Its head and corporate office is at Thamel, Kathmandu.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer service. Products such as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following our lead by introducing similar products and services. Therefore, we stand for the innovations that we bring about in this country to help our Customers besides modernizing the banking sector. With the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other local banks under our credit standing with foreign correspondent banks, we believe we obviously lead the banking sector of Nepal. The most recent rating of HBL by Bankers' Almanac as country's number 1 Bank easily confirms our claim.

All Branches of HBL are integrated into Globus (developed by Temenos), the single Banking software where the Bank has made substantial investments. This has

helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the Customers and other stakeholders of being innovative, HBL introduced several new products and services. Millionaire Deposit Scheme, Small and Medium Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking at the number of Nepalese workers abroad and their need for formal money transfer channel; HBL has developed exclusive and proprietary online money transfer software- Himal Remit TM. By deputing our own staff with technical tie-ups with local exchange houses and banks, in the Middle East and Gulf region, HBL is the biggest inward remittance handling Bank in Nepal. All this only reflects that HBL has an outside-in rather than inside-out approach where Customers' needs and wants stand first.

Corporate Social Responsibility holds one of the very important aspects of HBL. Being one of the corporate citizens of the country, HBL has always promoted social activities. Many activities that do a common good to the society have been undertaken by HBL in the past and this happens as HBL on an ongoing basis. Significant portion of the sponsorship budget of the Bank is committed towards activities that assist the society as large.

Himalayan Bank Limited holds of a vision to become a Leading Bank of the country by providing premium products and services to the customers, thus ensuring attractive and substantial returns to the stakeholders of the Bank.

The Bank's mission is to become preferred provider of quality financial services in the country. There are two components in the mission of the Bank; Preferred Provider and Quality Financial Services; therefore we at HBL believe that the mission will be accomplished only by satisfying these two important components with the Customer at focus. The Bank always strives positioning itself in the hearts and minds of the customers. To become the Bank of first choice is the main objective of the Bank.

Both the banks provide their services like accept the deposit with suitable interest rate as well as minimum balancing amount by different types of saving a/c, current a/c & fixed a/c and provide different type of loan i.e. Education loan, Business loan, Vehicle loan, Mortgage loan etc. by taking suitable rate of interest.

At last bank help the people in different sectors like personal business, industry, commercial area & Social Corporation to progress and development of the economy.

### **1.2 Focus of the Study**

Investment policy is concerned with deploying financial resources in a profitable manner. It ensures that its funds are distributed on different types of assets with profitability on one hand and provides maximum security safety and security to the depositors and to the bank on the other hand.

This study is mainly focused on the investment policies of NABIL & HBL, the two largest commercial banks of Nepal so as to evaluate the mobilization of the funds accepted as deposits in different financial, accounting and statistical tools. Further, the study has made comparative evaluation of the banks on the basis of different parameters to find the areas where they excel meet or lag behind.

### **1.3 Statement of the Problem**

The establishments of the commercial banks have aided the development of private sectors to a great extent; however they have not been making adequate investments in the priority and productive sectors. A serious allegation against banks in Nepal has been that they have not been able to reach the majority of Nepal's population who reside in rural areas and are involved in agriculture. There seem to be three reasons for this. The first is obviously the political situation during the last decade while the second is that agriculture in Nepal is not commercialized enough for banking purpose and last but not the least weak, unsound and inconsistent investment policy. Also lending policy is not effective. Granting loan against inadequate deposit, overpopulation of asset pledged or mortgage, risk averting decision regarding loan recovery and negligence in recovery of overdue loan are some of the basic lapses and the results of unsound investment policy prevalent in the banks. Thus, the problem has become grave in developing countries like Nepal.

The banks indicate growing tendencies of concentration of large exposures in the hands of few groups of borrowers. The banks, in order to get a large piece of the cheese are pursuing these borrowers with discounted rates and relaxation in terms of the security requirements. This has gradually led the large number of borrowers exploring multiple banking facilities. The risk exposure of the banks, meanwhile, has

increased because of compromises in the collateral security and the ever growing bargaining strength of these borrowers.

Nepalese commercial banks have neither formulated their investment policy in an organized and systematic manner nor implemented the formulated investment policy effectively. Most commercial banks formulate their investment policies neglecting different risks (interest risk, liquidity risk, default risk etc.) associated with the investment. They lack independent clear views regarding investment policy. They only rely upon the instructions, directives and guidelines of NRB. Thus, the present study will make a modest attempt to analyze investment policy of Nepalese private sectors commercial banks (for sample NABIL & HBL).

This study mainly deals with the following problems:|

- Nepalese commercial banks are highly profit-oriented and they make investment mainly in profitable sector having quick and easy return. They are concentrated merely on urban areas.
- The credit provided by commercial banks to the agriculture, industrial and service sector (priority sector credit) is not satisfactory and adequate to the present need.
- The banks are security minded to disburse credit.
- Banks have huge liquidity as they are unable to invest in different sectors. They are choosing conventional lending only. Many banks are focusing on the same clients, the same sectors and are not trying to diversify their portfolio.
- What is the relationship between investment on Loan & Advance, deposit and net profit?
- What is the investment portfolio behavior of the banks and the available funds are properly used or not?

#### **1.4 Objectives of the Study**

The main objectives of the study are to compare and evaluate the investment policy of the commercial banks: NABIL and HBL of Nepal to achieve these prime objectives.

The following objectives are considered in the study:

- a. To analyze the investment procedures of NABIL & HBL.
- b. To evaluate the liquidity, assets management efficiency, profitability and risk of the selected banks.

- c. To determine the growth rate of the banks in term of investment, deposits, loan & advance and net profit of the banks.
- d. To determine the relationship of deposit with loan & advances, deposit with investment, outside assets with net profit, deposit with net profit, deposit with interest earned, loans & advances with interest paid and assets with net profit.
- e. To suggest and recommend on the investment policy of sample banks.

### **1.5 Significance of the Study**

It is an open secret that there neither adequate awareness among us about the investment policy of commercial banks as well as financial institutions nor adequate availability of research work, journals and articles in investment policy of commercial bank and financial institutions. As the economic and development and prosperity of the whole country is more or less directly or indirectly rely on commercial banks, this study has been undertaken in order to highlight the investment policy of the Nepalese private sector commercial banks expecting that the study can bridge the gap between deposit, loan & advance and investment policies. On the other hand, the study would provide information to the management of the bank to help them take corrective actions when deviation found and also revise the policy if needed to achieve the predetermined goals or set of goals. Moreover, from the study shareholders, potential investors and customers would get information to make decisions while making investment on share and transactions of various banks.

- a. This study is important to know how sound, practicable and feasible the investment policies are and how efficiently the collected funds accepted as deposits are mobilized in the different sectors of the economy.
- b. This study is important to policymakers and academic professional to formulate policies and on the basis of the performance of the bank.
- c. This study is important to the management of the respective banks to learn where they excel, lag behind or meet their rival's performance in business and acknowledge where they stand.
- d. This study is important to investors, potential investor customers and borrowers to know the health of the banks and their future moves and make various decisions.

- e. Since this study incorporates the actual accounting figures (i.e. not rounded figures) it assists the management of respective banks to make decision with greater accuracy and precision.
- f. This study may encourage researchers to research further.

### **1.6 Limitations of the Study**

This study has been done for the partial requirement for the degree of M.B.S. within the constraint of time and resources. Hence, the study can't cover the overall dimensions of the subject matter and penetrate the extreme depth. As in the process of the study the research has certain limitations. Such limitations arise here due to various circumstances. So, there are some limitations for the reliable and valid analysis. The present study has following assumptions and limitations:

- 1) This study is mainly concerned to only two banks i.e. NABIL and HBL which may not represent the whole techniques.
- 2) The whole study is based on secondary data from the respective banks and websites on net, article, newspapers.
- 3) The study is based only on the latest five years data which is not sufficient to conduct any solid result.
- 4) Time periods to prepare report and resources are not enough to make findings accuracy or more analytical.
- 5) The overall financial performance has been measured applying limited tools and techniques.
- 6) This study is conducted only for suggestion not for directing.

### **1.7 Organization of the Study**

This research 'Investment policy of commercial banks (with special reference to NABIL & HBL)' has been organized into five chapters; each chapter deals some important factors of working capital management. The titles of each of these chapters are listed below.

- Chapter I - Introduction
- Chapter II - Review of Literature
- Chapter III - Research Methodology
- Chapter IV - Presentation and Analysis of Data
- Chapter V - Summary, Conclusion and Recommendation

**Chapter I: Introduction**

This chapter deals with the subjects matters of the study consisting background of the study, statement of the problem, objective of the study, focus of the study and limitation of the study and organization of the study.

**Chapter II: Review of Literature**

This chapter deals with review of the different literature of the study field. Therefore, it includes conceptual framework along with the review of major books, journal, research work and thesis etc.

**Chapter III: Research Methodology**

This chapter deals with research methodology and it includes research design, population and sample, source and technique of data collection, data analysis tools and method of analysis.

**Chapter IV: Presentation and Analysis of Data**

The fourth chapter is the analysis of various financial ratios related to investment policy and deposit mobilization of NABIL and HBL by using statistical tools and non-statistical tools as well.

**Chapter V: Summary, Conclusion and Recommendations**

This chapter includes summary, conclusion and recommendations. The bibliography and appendices are also included in addition to the above mentioned chapters.

## **CHAPTER II**

### **Review of Literature**

The past on historical knowledge parody the base: therefore the literature is based on the previous knowledge. The effort has been to cover as much literature, articles, and thesis and research paper as possible to make the study in informative & broad. This chapter has been divided into two main sections: The four sectors of the chapter implore with the can capital frame work of study. Second sectored implores the review of previous studies.

#### **2.1 Conceptual Framework**

##### **2.1.1 Overview of Banking System**

The term “Bank” is derived from Italian word “Banko” which means a counter table or bench used by medieval money exchanges. The origin of commercial banking can be traceable in the early times of human history. In the ancient Rome and Greece, the practice of storing precious metals and coins at safe places and loaning out money for public and private purpose one interest was prevalent. In England, banking had its origin with the London goldsmiths who in the 17<sup>th</sup> century begun to accept deposits from merchants and other for safe keeping of money and other valuables. Banking made its first appearance in Italy in 1157 when the bank of Venice was founded following it were established the bank of Barcelona and the bank of Geneva in 1401 and 1407 respectively. Subsequently bank of Amsterdam set up in 1609, which enjoyed the prestigious position, after that, bank of England and bank of Hindustan was established in 1694 and 1779 respectively. The growth of bank accelerated only after the introduction of the banking act 1883 in United Kingdom as it allowed for open joint stock company banks.

The modern banking system started in Nepal after the establishment of Nepal Bank Limited on 30<sup>th</sup> Kartik 1994 B.S. (1938A.D.) under the Nepal Bank Act 1994 B.S. (1938 A.D.) with the initial authorized capital of Rs. 10 million. At first this bank was given the authority and responsibility of central bank, but with the course of time, the need of a central bank is felt. As a result, Nepal Rastra Bank was established in 2013 B.S. (1957 A.D.) under the Nepal Rastra Bank Act 2012. But then this act has been repealed and the Nepal Rastra Bank Act 2058 has been enacted by the

Parliament which has provided more autonomy, authority and accountability to the core central banking function. During the early period of the bank's establishment, its effort was primarily focused on increasing the circulation of Nepalese currency throughout the country, developing the domestic banking system and stabilizing the exchange rates of Nepalese currency. After its establishment the first five year plan was introduced for the first time. Likewise, Nepal Industrial Development Corporation 2016, Agriculture Bank 2024 and National Insurance Corporation were established under the special consideration of NRB to fulfil the necessity of the financial institution to achieve the fixed goal of the project. Similarly another important bank, Nepal Banijya Bank was established in 2022 B.S. recommendation of NRB.

Till the early 1980s, the financial sector was not opened up for private sector. Only two commercial banks- Rastriya Banijya Bank and Nepal Bank Limited, that were government controlled, were functioning in Nepal. The economic reforms initiated by the government more than one and half decade ago have changed the landscape of several sectors of the Nepalese economy. The Nepalese banking industry is no exception. 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. As a result of this policy, large number of banks and financial institutions mushroomed across the country and is still in growing trend. Banking system of Nepal has undergone through significant change since liberalization. Free market operation in the area of interest rate, foreign exchange rate and diversified banking products, which are latest development in the banking sector. Through banking system in Nepal is not so multifaceted when compared to that of developed countries; it has definitely grown to become more complex in recent year. Further, electronic and interest though the public banks in Nepal are far outweighed by the number of private banks, these two banks are still the largest banks in all aspects from deposit and credit mobilization to the number of branches in operation. But, the concentration in the two public banks is slowly but surely getting diluted every year.

### **2.1.2 Commercial Bank**

A commercial bank is an institution which accepts deposits, makes business loans and offers related services. Commercial banks also allow for a variety of deposit accounts,

such as checking, saving and time deposit. These institutions are run to make a profit and owned by a group of individuals, yet some may be members of the Federal Reserve System. While commercial banks offer services to individuals, they are primarily concerned with receiving deposits and lending to businesses.

In the Nepalese context, Commercial bank Get 1975 A.D. (2031 B.S.) defended "A commercial bank is one which exchange money, deposits money, accepts deposits, grant loans and performs commercial banking function which is not a bank meant or for co-operative, agriculture, industries or for such specific purpose"

Commercial bank is a corporation which accepts demand deposits subject to check & makes short term loans to bus mess enterprises, regardless of the scope of its other service (banking USA 172).

"A bank is one who in the or diary covers of This bus mess recovers money which he repays by honouring chives of persons from which of one whose account it receives it" (Bradford, 453-454)

Commercial bank has main role in the economic development. For economic development, commercial bank should mobilize then collection towards the profitable, secured & marketable sectors.

The income & profit of the bank depend upon the lending procedure applied by the bank as well as lending policy & investment in different securities also affect the income & profit in the investment procedures & policies it is always taken in MMD that "the greater the credit created by the bank-higher will be the profitability." Sound policies help commercial banks to maximize quality & quantity of investment and thereby: achieve the own objective of profit maximization & social welfare.

### **2.1.3 Investment Policy of Bank**

#### **Concept of Investment**

The income receives by a person may be used to purchasing goods and services that he currently requires or it may be saved for purchasing goods and services that he may require in the future. In other words, income can be spent for consumption or saved for the future consumption. Savings are generated when a person or an organization abstains from present consumption for a future use. Investment is an activity that is engaged in by people who have savings, i.e. investment is made from savings. But all savers are not investors. Investment is an activity which is different from saving.

An investment is simply any alternative into which funds can be placed with the expectations that they will generate positive income and/or that their value will be preserved or increased. If one person has advanced some money to another, he may consider his loan as an investment. He expects to get back the money along with interest at future date. A person may have purchased one ounce gold for the purpose of price appreciation and may be consider it as an investment. A person may purchase an insurance plan for the various benefits it promises in future. Investment may be defined as the purchase by an individual or institutional investor of a financial or real asset that produces a return proportional to the risk assumed over some future investment period.

Investment, in its broadest sense, means the sacrifice of current dollars for future dollars. Two different attributes are generally involved: time and risk. The sacrifice takes place in the present and is certain. The reward comes later, if at all, and the magnitude is generally uncertain (Sharpe, Alexander and Bailey, 2000).

An investment is a commitment of funds made in expectation of some positive rate of return. If the investment is properly undertaken, the return will be commensurate with the risk the investor assumes (Donald and Ronald, 2000).

Thus, investment may be defined as a commitment of funds made in the expectation of some positive rate of return.

From the analysis of the above definitions makes it clear that investment has the following attributes:

1. Anticipation of Return
2. Involvement of Risk
3. Time Dimension

Without investment, a bank can't gain profit. The bank can't be successful until it gains profit. Therefore to make safe, sound and profitable investment the banks should adopt the following principles:

#### **2.1.3.1 Principle of Liquidity**

Liquidity means the whole money stock in the economy. The liquid property means cash stock of the commercial banks, the amount of short term, current account and short term government security and the treasury bills. A bank should not forget the principle of liquidity while it is following its investment policy. The commercial banks are considered to be financial mediators. The commercial banks have liability

to the deposits and they immediately should give it in time when the depositors ask. For this purpose, the banks should keep adequate liquid funds and also they should gain the profit by utilizing the deposit as loans and advance. If the bank cannot return the deposit at the time of demand it may lose the customers and their trust. If adequate liquid fund is kept they can return the deposit at the will of depositors but such banks cannot run for a long time. In the same way, if they invest the whole deposit in the form of loans and advances, they cannot give it at the time of demand by the depositors. So the commercial banks should try to move the liquidity and profit together. It is a great challenge for the manager of banks. The banks should be able to honour the demand for payment by its depositors and other stakeholders. In order to do so, banks maintain certain volume of liquid assets, the size and volume determined by the bank's size of operations and the past trends.

#### **2.1.3.2 Principle of Profitability**

The primary objective of commercial banks is to earn profit. The banks should follow the objective by focusing them on the sectors in which they can earn much profit. The banks should not keep their means and materials inactive. They should keep on investing the means and materials in appropriate and safe area. The banks can gain much profit from the safe and long term investments. But there is less liquidity in such investments. It may lose the investment in the sector where the profit is not gained. There is much profit where there is much risk. But sometimes it may create a situation where a bank may have to face a great economic loss, by loss of the investment in such a risky sector. So the profit and liquidity are two opposite principles. If a bank pays its attention to the profitability, the liquidity becomes less. If it pays attention to liquidity, it cannot be a long term investment and the bank does not earn much profit. So it should maintain equality on them. The profit of the banks is interest and bank charges. So the banks should always think of applying an appropriate investment policy in such sector from which they can earn much.

#### **2.1.3.3 Principle of Safety**

A bank should pay special emphasis on safety. If the invested area is unsafe, it isn't good omen for the bank should pay much emphasis on the principle of safety, to follow investment policy. There will be no doubt of loss whether it is great or little, if the bank has not invested in a safe sector. The bank should think it with much

sensibility. To invest in an unsafe with the hope of gaining much is to accept the security of low quality. To invest large loan against less securities by receiving commission, to invest in new places without care, observation and to flow the long-term loan including these all various reasons will make unsafe banks' investment. They should be avoided as much as can be. There will be no loss to the bank, if it invests in profitable sector. So, the bank should seriously study whether there is a possibility of investment or not. It should invest in a safe sector. If property taken as the securities are ruined, securities is low in standard or low valued and if there is no possibility of sale of the security, the bank suffers from loss. The bank should follow the principle of safety, should flow the short-term loan and invest in profitability sector. In such conditions there will be no possibility of loss. The secured sectors mean the securities of the inland and foreign, company's shares debentures and government bond etc.

#### **2.1.3.4 Principle of Diversification**

The principle of diversification means, the banking policy of investing the money in various sectors. The bank should not follow the policy of investment policy of investment only in one or two sectors. If it follows such policy, certainly its investment policy will not be successful. The bank by studying and analyzing the different sectors where it is possible to earn from little investment should extend its investment. If it invests in many sectors, it becomes successful to keep it in balance. There will be less profit from investment of some sector and there will be maximum profit from some another sector. There may be loss too in some sector. On the whole a bank should be able to itself a competent. If it happens so, the banking transaction does not go up and down. It can run the bank comfortably and smoothly. In case of earning profit, the banks should the policy of investing various fields. So, there is a statement "a bank should not lay all its egg in the same basket". By following this principle, on the basis of gold, silver, diamond, development bonds, shares of company, debentures, goods, imports and export bills and other appropriate securities, the bank have moved ahead of their investment policy. The bank always gets success in their working from such investment. And the bank becomes successful in its goal.

#### **2.1.3.5 Principle of Marketability**

A bank should adopt the principle of marketability in investment policy. In certain way, the bank moves its investment or flows loan against security. To invest the money, the bank should follow the policy of taking the security of high quality as far as possible. The market of Nepal is small. In such a small market in order to livingness to its banking transaction, a bank should flow its loan by taking the first class securities. The bank should keep in mind the main principle of marketability while it makes investment. Are the goods taken as securities saleable in the market or not? Can the loan recovered by selling it in the market or not? The bank should do such thing, which would help to earn the profit and make the investment policy successful. The bank should not investment money by taking the securities of goods, which are not saleable in the market and through they are sold but not fetch the responsible price and there is no value of such things. The bank should take as far as possible such goods which keeps may be safely and freshly in the market and the loan will be recovered like gold, silver, diamond, company's shares certificates, debentures, development bonds and other similar types of securities of immovable property like house, land can't be sold in time. So if the bank provides loan by taking reasonable goods as securities it can be sold in the market easily and the bank can be saved from becoming insecure.

#### **2.1.3.6 Principle of National Interest**

A bank, while it applies its investment policy should give importance to the principle of nation interest. The objectives of commercial bank to gain maximum profit shouldn't go against the national interest. The banks should follow the rules, regulations, ordinances and directives laid by the central banks from time to time. They should make investment in priority sectors to ensure the national interest.

#### **2.1.3.7 Principle of Tax Immunity**

As far as possible, a bank should make investment in such sector which is entitled to the immunity. By increasing the investment to tax immunized sectors the bank can achieve its goal. The tax immunized areas like treasury bills, national development bonds etc are notable. Similarly, it can also invest in priority sectors to enjoy the facilities provided by the government.

## **2.2 Some Important Terms**

The various sections in this study comprise some important banking terms. The efforts have been made to clarify the meaning, which are frequently used in this study are given below:

### **2.2.1 Loan & Advances**

Loan, advances and overdraft are the main source of income for a bank. Bank deposit can cross beyond a desired level but the level of loans, advances and overdraft will never cross it.

### **2.2.2 Investment on Government Securities, Shares and Debentures**

Though a commercial bank can earn some interest and dividend from the investment on government securities, shares and debentures, it is not the major portion of income, but it is treated as a second source of income of banking business. A commercial bank may extend credit by purchasing government securities bond and shares for several reasons.

Some of them are given as:-

- It may want to spare it maturates so that the inflow of cash coincide with expected withdrawals by depositors or large loan demands of its customers.
- It may also be forced to invest because the demand for loans of it decreased or is not sufficient to absorb its excess reserves.
- It may wish to have grade marketable securities to liquidate if its primary reserve becomes inadequate.

However, investment portfolio of commercial bank is established and maintained primarily with a view of nature of banks liabilities that is since depositor's may demands fund in great volume without previous notice to banks. The investment must be of a type that can be marketed quickly with little or no shrinkage in value.

### **2.2.3 Deposits**

Financial institution collect deposits from the customers in various accounts, like: current account, saving account and fixed account. Therefore, the sums of money collected by the financial institutions from the depositors in various accounts are called deposits. Deposit is the main source of fund of the financial institutions.

#### **2.2.4 Investment on Other Company's Share and Debenture**

Due to excess funds and least opportunity to invest these funds in much more profitable sector and to meet the requirement of Nepal Rastra Bank's directives many commercial banks have to utilize their funds to purchase shares and debentures of other financial and non-financial companies. Nowadays most of the commercial banks purchase shares and debentures of regional development bank, NID's and other development bank's shares.

### **2.3 Reviews of Studies**

#### **2.3.1 Reviews of Books**

The secret of successful banking is to distribute resources between the various forms of assets in such a way as to get a sound balance between liquidity and profitability so that there is cash (on hand quickly realizable) to meet every claim and at the same time enough income for the bank to pay its way and earn profit for its shareholders (Swamy and Vasudevan, 1979).

Chandler (1985) says in this regard that a banker seeks optimum combination of earning liquidity and safety, while formulating investment policy.

Baxley (1987) expresses his views as investment policy fixed responsibilities for the investment disposition of the bank's assets in term of allocating funds for investment and loan and establishing responsibility funds for day to day management of those assets.

Singh (1991) has defined investment as investment is the employment of funds with the aim of achieving additional income of growth in value. The essential quality of an investment is that it involves 'waiting' for a reward.

The term investing can cover a wide range of activities. It often refers to investing money in certificates of deposit, bonds, common stocks or mutual funds. More knowledgeable investors would include other financial assets such as warrants, put and calls future contracts and convertible securities. Investing encompasses very conservative positions and aggressive speculation (Cheney and Moses, 1992).

Reilly (1998) defines investment as an investment may be defined as the current commitment of funds for a period of time to derive future flow of funds that will compensate the investing unit for the time the funds are committed for the

expected rate of inflation and also for the uncertainty involved in the future flow of the funds.

Singh and Sing (1998) argue that the investment (credit) policies of banks are conditional 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 his bank's credit policy also in mind.

Gitman and Jochnk (1988) define investment is any vertical into which funds can be placed with the expectation that will preserve or increase in value and generate positive returns.

Sharpe, Alexander and Bailey (2000) stress that investment, in its broadest sense means the sacrifice of certain present value for (positive uncertain) future value.

Various above definitions and views of authors, it is clear that an investment means to trade a known rupee amount today for some expected future stream of payments or benefits. That will exceed the current outlay by an amount that will compensate the investor for the time the fund are committed for the expected change in prices during the period and uncertainty involve in expected future cash flows. Thus, investment is the most important function of commercial banks. So a bank has to be very cautious while investing their funds in various sectors. The success of a bank heavily depends upon the proper management of its investable funds. Investment Management of bank is guided by the investment policy adopted by the bank. The investment policy of the bank helps the investment operation of the bank to be efficient and profitable by minimizing the interest risk. So that, an investment word is attach in economics risk and return theory of future result.

### **2.3.2 Review of Master's Degree Thesis**

Poudyal (1984) points out that the procedure of loan sanctioning is rather slow and clumsy. Loan repayment was more satisfactory from agriculture sector than the cottage industries and services sector. Short-term credit was important for the rural people. Loan in priority sector has significantly generated the employment opportunity. Loan in priority sector has increased the rural banking system in the rural areas and bank branch expansion. A sort of pressure groups like local people, politicians and administrators etc affect in loan granting process.

Bajracharya (2057) conducted that interest charged on the loan disbursed in this sector is fairly less than interest charge on loans for other purposes. In addition to this, there is high overhead cost incurred for supervision administration and others in this program. Regression analysis shows positive relation between investment and repayment. Investment on agriculture is higher than investment on industry and service sector. The study revealed that the procedure of loan disbursing itself is complicated for the borrowers to understand it.

Dhungana (2002) found that the liquidity position of NBBL is comparatively not better than that of HBL and NSBI. It has the lowest current ratio, cash and bank balance to current deposit, cash and bank balance to current asset ratio and investment on government securities to current assets ratios. The liquidity ratios of NBBL are more stable and consistent than other two banks, which indicate the stable policy of NBBL. At last it can be concluded that NBBL has not good deposit collection, it doesn't have made enough cash and bank balance and it not good negligible amount of investment in government securities. The profitability position of NBBL is comparatively not better than that of HBL but better than that of NSBI. The bank has followed moderate position in comparison to other two banks. The interest earned to total assets ratio for NBBL is higher than that of HBL and NSBI and it has also the higher interest paid to total assets, which reveals that the bank is collecting fund from expensive sources, which may be the higher portion of fixed deposit in its total deposit. Interest earned portion out of operation income of NBBL is lower of all. This shows that NBBL has earned other income more than interest earned on Loan & Advances and investment.

Bajracharya (2003) had found that the liquidity position of HBL was better than NABIL and had made more investment on government securities and slightly more portion of Loan & Advances in current assets. However, comparatively NABIL has more efficiently mobilized its resources despite investing less investment on government securities in comparison to HBL. Likewise the profitability position of NABIL is higher than HBL. However it has less interest income to total assets. The growth ratios of HBL are more satisfactory in comparison to NABIL.

Shrestha (2003) has conducted that NBBL has higher liquidity than that of NABIL. However, the former has invested its fewer funds in government securities but more on Loan & Advances than the later. Comparatively NABIL has better profitability position; however, it has more variable and investment ratios than that of NBBL. Likewise she has also found that NBBL has higher growth regarding deposits, Loan & Advances, total investment but lower growth ratio of net profit than NABIL.

She has recommended NABIL to increase cash and bank balance to meet the current obligations and loan demand and also increase investment in Loan & Advances. NBBL has also been recommended to form a committee to identify the reasons behind the fluctuation in profit over years and invest in more productive sectors to increase its profitability. She has recommended both examine their portfolio condition from time to time and pay attention to maintain equilibrium in the portfolio.

Shrestha (2003) found that all banks should be in rural areas & have to take effective marketing strategy for their promotion. New technologies have to be introducing so to develop new banking system.

Shrestha (2004) conducted that bank is in good position to meet the daily cash requirement as bank has maintained the average cash & bank balance in respect to total deposit. Interest earned to total operating income of NIBL is high. However bank failed to maintain net profit on the study.

Joshi (2005) point out that the liquidity position of the EBL is comparatively better than NABIL & BOK. EBL has the highest cash & bank balance to total deposit, cash & bank balance to current assets ratio. Nabil has lowest liquidity position than that of other two banks. EBL has good deposit collection & has made enough investment on government securities but it is maintained moderate investment policy on loan & advances. In analysis of profitability, total interest earned to total outside assets of EBL is lowest at all. But overall analysis of profitability ratios. EBL is average profitability ratios. EBL is average profitable in comparison to other compared banks i.e. Nabil & BOK. From the view point of risk ratio, EBL has higher capital risk but average of credit risk ratio in compared to Nabil & BOK.

Amatya (2005) has pointed out that the sampled firms haven't properly analyzed the causes & effects of the variables so they are recommended to prepare future

investment policies & plan after detail analysis of causes & effect of the variables. Evaluate the investment opportunities & alternatives using statistical, capital budgeting & other financial tools to avoid the large amount of doubtful & risks as they have main trends a large amount of loan loss provision. Commercial banks & finance companies need to add extra amount or investment on government securities as they are less risk investment & are considered as liquid assets.

## **CHAPTER –III**

### **Research Methodology**

#### **3.1 Introduction**

Research methodology describes that the methods and process applied in the entire subject of the related study. The basic objective of this study is to evaluate about the investment policy of concern commercial bank. In my study, that has been dealt with general background of commercial banks and investment policy of the bank and reviews of literature with possible reviews of relevant books, articles and thesis. This has provided me the necessary base for this study and helped me to choose the research methodology to support my study. Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view so it is a way to solve systematically about the research problems, which includes many tools, if it is necessary in each every steps of this study.

#### **3.2 Research Design**

The research design is descriptive cum analytical because the historical secondary data have been used to describe and analyze using variables which is related to investment policy of the commercial banks. The study has been conducted to assess the existing situation of investment policy of commercial banks of Nepal and describe the situation and event occurring at present.

#### **3.3 Sources of Data**

The relevant data have been collected from the annuals reports of respective banks, Nepal Rastra Bank, Ministry of Finance, National Planning Commission and related websites, the branches of the respective banks and the publications, press release of concerned authorities, articles, periodicals bulletins, journals available in the business related magazines etc.

#### **3.4 Population and Sample**

There are thirty-one banks (including the commercial banking wing of the Agriculture Development Bank) operating in Nepal. It is not possible to study all of them due to constraint of time and resources. Hence, the total commercial banks constitute the

population and the banks under the study i.e. NABIL & HBL constitute the samples for the study. For study the audited data from 2007/08 to 2011/12 of NABIL & HBL.

The population as follows:

1. Nepal Bank Limited
2. Rastriya Banijya Bank
3. Agriculture Development Bank Limited
4. Nabil Bank Limited
5. Nepal Investment Bank Limited
6. Standard Chartered Bank Nepal Limited
7. Himalayan Bank Limited
8. Nepal SBI Bank Limited
9. Nepal Bangladesh Bank Limited
10. Everest Bank Limited
11. Bank of Kathmandu Limited
12. Nepal Credit and Commerce Bank Limited
13. Lumbini Bank Limited
14. Machhapuchhre Bank Limited
15. Kumari Bank Limited
16. Laxmi Bank Limited
17. Siddhartha Bank Limited
18. Global IME Bank Limited
19. Citizens Bank International Limited
20. Prime Commercial Bank Limited
21. Sunrise Bank Limited
22. NIC Asia Nepal Limited
23. Grand Bank Nepal Limited
24. NMB Bank Limited
25. Kist Bank Limited
26. Janata Bank Nepal Limited
27. Mega Bank Nepal Limited
28. Commerz & Trust Bank Nepal Limited
29. Civil Bank Limited
30. Century Commercial Bank Limited
31. Sanima Bank Limited

### **3.5 Data Analysis Tools**

In this study, various financial, accounting and statistical tools have been used to achieve the objectives of the study. The analysis of data is done according to the pattern of data available. The various tools applied in this study, are presented as follows:

#### **3.5.1 Financial Tools**

Financial tools are used to examine the financial strength and weakness of bank. In this study financial tool like ratio analysis has been used.

#### **Ratio Analysis**

Ratio analysis is the single most important technique of financial analysis in which quantities are covered into ratios for meaningful comparisons, with past ratios and ratios of other firms in the same or different industries. Ratio analysis determines trends and exposes strength or weakness of a firm. Ratios are usually two financial statement items that may be related to one another and may provide the prudent user a good deal of information. Of the myriad of ratios that could be generated, some will be more meaningful than others. Once ratios are calculated, an analyst needs some benchmarks to find out where the company stands at that particular point. Thus ratio analysis is used to compare a firm's performance and status to that of other's or to itself over time.

Though there are many ratios, only those ratios which are related to investment operation of the bank. This study contains the following ratios:

##### **3.5.1.1 Liquidity Ratios**

Deposit, borrowing and cash generated from operation formed major source of liquid funds for commercial banks. The liquidity ratio measures the extent to which a corporation or other entities can quickly liquidity assets and cover short-term liabilities and therefore is of interest to short-term creditors. In others words, it measures the speed at which a bank's asset can be converted into cash so as to meet deposit withdrawal and other current obligation. For a bank this is the cash held by the as a proportion of deposits in the bank.

The following ratios are evaluated under liquidity ratios:

### 3.5.1.1.1 Current Ratio

This ratio reflects the ability of the banks to meet their short term liabilities that are likely to mature in the short time (i.e. less than a year). It is derived by dividing current assets by current liabilities where current assets include cash and bank balance, money at call and short notice, inventories, investment on securities, bills purchased and discounted, Loan & Advance and other current liabilities include deposits, bills payable, borrowing from other banks and other liabilities.

$$= \frac{\text{Current Assets}(CA)}{\text{Current Liabilities}(CL)}$$

### 3.5.1.1.2 Cash and Bank Balance to Total Deposit Ratio

Cash and bank balance are the most liquid assets. This ratio measures the percentage of most liquid asset fund with the bank to immediate payment to the depositor. Cash and bank balance includes cash in hand cheques, foreign cash on hand, cheques and other items, balance with domestic banks and balance held in foreign banks. The total deposit includes current deposit, saving deposit, fixed deposit, money at call or short notices and other deposits. This ratio is computed as follows:

$$= \frac{\text{Cash and Bank Balance}}{\text{Total Deposits}}$$

### 3.5.1.1.3 Cash and Bank Balance to Current Asset Ratio

This ratio reflects the proportion of most liquid asset i.e. cash and bank balance among the total current asset of the bank. High ratio indicates the more liquidity of a firm and low ratio indicates the low liquidity of a firm. The ratio is computed as follows:

$$= \frac{\text{Cash and Bank Balance}}{\text{Current Assets}}$$

### 3.5.1.1.4 Investment on Government Securities to Current Asset Ratio

The ratio is computed to find the percentage of current asset invested in government securities i.e. treasury bills and development bonds. It is derived by dividing investment on securities by current asset. Where investment on government securities include investment made in treasury bills, development banks and national saving bond and current assets include cash ad bank balance, money at call and short notice,

inventories, investment on securities, bills purchased and discounted, Loan & Advance and other assets. This ratio is computed as follows:

$$= \frac{\textit{Investment on Government Securities}}{\textit{Current Assets}}$$

#### **3.5.1.1.5 Loan & Advances to Current Assets Ratio**

Loan & advances is the current asset which is the general income to the banks, it shows the percentage of loan & advances in the total assets. It includes loan, advances, cash credit, loan and foreign bills purchased and discounted. This ratio is computed by dividing loan & advances by current assets. It can be computed as:

$$= \frac{\textit{Loan & Advances}}{\textit{Current Assets}}$$

#### **3.5.1.2 Asset Management Ratios**

Asset management ratios measure how efficiency the banks' resources are managed. The following ratios are computed under asset management ratios:

##### **3.5.1.2.1 Loan & Advances to Total Deposit Ratio**

It is the amount of a bank's loans divided by the amount of its deposits at any given time. The higher the ratio, the more the bank is relying on borrowed funds, which are generally more costly than most types of deposits. This ratio is calculated to find out, how to successfully the banks are utilizing their total deposits on loans and advances for profit generating purpose. Greater ratio implies the better utilization of total deposits. This can be obtained by dividing Loan & Advances by total deposits, which can be stated as:

$$= \frac{\textit{Loan & Advances}}{\textit{Total Deposits}}$$

##### **3.5.1.2.2 Total Investment to Total Deposit Ratio**

This ratio shows the relative amount of deposit utilized. Investment is one of the credited to earn income. This implies the utilization of firm's deposit on investment government securities and shares debenture of other companies and bank. This ratio can be obtained by dividing total investment by total deposit. This can be mentioned as:

$$= \frac{\textit{Total Investment}}{\textit{Total Deposits}}$$

### **3.5.1.2.3 Loan & Advances to Total Assets Ratio**

Loan & Advance is the major component in the total assets, which indicates the ability of the bank to channelize its deposits in the form of Loan & Advances to earn high return. This ratio is computed by dividing Loan & Advances by total assets. This can be state as:

$$= \frac{\textit{Loan \& Advances}}{\textit{Total Assets}}$$

### **3.5.1.2.4 Investment on Government Securities to Total Assets Ratio**

This ratio shows the banks' investment on government securities in comparison to the assets. This ratio is calculated by dividing investment on the government securities by total assets. This can be presented as:

$$= \frac{\textit{Investment on Government Securities}}{\textit{Total Assets}}$$

### **3.5.1.2.5 Investment on Shares and Debentures to Total Assets Ratio**

This ratio shows banks investment in shares and debenture of and other companies. This ratio can be derived by dividing investment on shares and debentures by total assets, which can be mentioned as:

$$= \frac{\textit{Investment on Shares \& Debentures}}{\textit{Total Assets}}$$

The numerator includes investment on debentures, bonds and shares of other companies.

### **3.5.1.3 Profitability Ratios**

Profitability ratios are calculated to measure the efficiency of operation of a firm in term of profit. It is the indicator of the financial performance of any institution. This implies that higher the profitability ratio, better the financial performance of the bank and vice versa. Profitability position can be evaluated in following different ways:

### 3.5.1.3.1 Return on Loan & Advance Ratio

This ratio includes how efficiently the bank has employed its resources in the form of Loan & Advances. This ratio is computed by dividing net profit (loss) by Loan & Advances. This can be expressed as,

$$= \frac{\text{Net Profit}}{\text{Loan \& Advances}}$$

### 3.5.1.3.2 Return on Total Assets Ratio (ROA)

This ratio measures the overall profitability of all assets. It is also known as return on assets (ROA). A firm has to earn satisfactory return on assets to assets its survival. This ratio is calculated by dividing net profit (loss) by total assets. This can be mentioned as,

$$= \frac{\text{Net Profit(Loss)}}{\text{Total Assets}}$$

The numerator includes the portion of income left to the internal equities after all costs, charges, expenses have been deducted.

### 3.5.1.3.3 Total Interest Earned to Total Outside Assets Ratio

This ratio measures the interest earnings capacity of the bank through the efficient utilization of outside assets. Higher ratio implies efficient use of outside assets to earn interest. This ratio is calculated by dividing total interest earned by total outside assets and can be mentioned as,

$$= \frac{\text{Total Interest Earned}}{\text{Total Outside Assets}}$$

The denominator includes Loan & Advances, bills purchased and discounted and all types of investments. The numerator comprises total interest income from loans, advances, cash credit and overdraft, government securities, inter-bank and other investments.

### 3.5.1.3.4 Total Interest Earned to Total Assets Ratio

This ratio is calculated to find out the percentage of interest earned to total assets. Higher ratio implies better performance of the bank, in terms of interest, earning on its total assets. This ratio is calculated by dividing total interest earned by total assets. This is stated as,

$$= \frac{\textit{Total Interest Earned}}{\textit{Total Assets}}$$

### **3.5.1.3.5 Total Interest Paid to Total Assets Ratio**

This ratio is calculated to find out the proportion of interest expenses in relation to total assets. The high ratio reflects the costly sources of finance and vice-versa. It is computed by dividing total interest expenses by total assets. Mathematically, it can be presented as follows:

$$= \frac{\textit{Total Interest Paid}}{\textit{Total Assets}}$$

### **3.5.1.3.6 Interest Earned to Total Operating Income Ratio**

This ratio is calculated to find out the portion of interest in total operating income of the bank. It indicates how efficient the bank is in the mobilization of its resources (funds) in interest earning assets, i.e. Loan & Advance investment etc. this ratio is calculated by dividing total interest earned by total operating income. This ratio can be stated as,

$$= \frac{\textit{Total Interest Earned}}{\textit{Total Operating Income}}$$

### **3.5.1.4 Risk Ratios**

Risk taking is the prime business of bank's management. It increases effectiveness and profitability of the bank. These ratios indicate the amount of risk associated with various banking operations, which ultimately influences the bank's investment policy.

The following ratios are evaluated under this topic:

#### **3.5.1.4.1 Liquidity Risk Ratio**

This ratio measures the level of risk associated with the liquid assets i.e. cash and bank balance that are kept in the bank for the purpose of satisfying the depositor's demand for cash. Higher ratio shows lower liquidity risk. This ratio is calculated by dividing total cash and bank balance by total deposits. It can be mentioned as:

$$= \frac{\textit{Cash and Bank Balance}}{\textit{Total Deposits}}$$

### 3.5.1.4.2 Credit Risk Ratio

This ratio measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. According to definition credit risk is expressed as the percentage of total Loan & Advances to total assets. This ratio is calculated by dividing total Loan & Advances by total assets. It can be calculated as:

$$= \frac{\text{Total Loan \& Advances}}{\text{Total Assets}}$$

### 3.5.1.5 Growth Ratios

Growth ratios examine and analyze the expansion and growth of the banks business. The following growth ratios are calculated in this study,

- Growth ratio of total deposits
- Growth ratio of loan & advances
- Growth ratio of investment
- Growth ratio of net profit

## 3.5.2 Statistical Tools

Statistical analysis is the collection, examination, summarization, manipulation and interpretation of quantitative data to discover its underlying causes, patterns, relationships and trends.

### 3.5.2.1 Average

Average is the most popular and widely used measure of representing the entire data by one single value. It is calculated as under in this study:

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$\bar{X}$  = Average or mean value

$\sum X$  = Sum of all the items in the observation

n = Total number of items

The calculation of average is of great importance as it is the single value that represents the characteristics of the entire mass of data. It sets aside the unnecessary

details of the data and put forward a concise picture of the complex phenomena under investigation.

### 3.5.2.2 Standard Deviation (SD)

The standard deviation measures the absolute average is known as dispersion. The standard deviation measures the absolute dispersion. The greater the amount of dispersion, greater the standard deviation means a high degree of uniformity of the observation as well as homogeneity of the serve as large standard deviation means just the opposite. In this study standard deviations of different ratios are calculated as follows:

$$SD (\sigma) = \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

### 3.5.2.3 Coefficient of Variation (C.V.)

It is the % measure of coefficient of standard deviation used for comparing the homogeneity, uniformity and variability of two or more distributions. It is calculated as follows:

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

Where,

C.V. = Coefficient of Variation

$\sigma$  = Standard Deviation

$\bar{X}$  = Mean

### 3.5.2.4 Coefficient of Correlation

Correlation coefficient is the statistical tool used to describe the degree and direction of linear relationship between variables. Karl Pearson has defined the simple correlation coefficient( $r$ ) of X and Y variables as follows:

$$r_{XY} = \frac{\sqrt{xy}}{\sqrt{\sum x^2} \times \sqrt{\sum y^2}}$$

Where,

$$x = X - \bar{X}$$

$$y = Y - \bar{Y}$$

Generally, (r) helps to depict:

- (i) Whether positive or negative relationships exist between X and Y.
- (ii) The relationship is statistically significant or not.
- (iii) Cause and effect relation between X and Y if any.

The value of correlation coefficient is always lies between -1 to +1 and decisions under this analysis have been taken on the following theoretical ground:

When  $r = +1$ , there is perfect positive correlation between two variables.

When  $r = -1$ , there is perfect negative correlation between two variables.

When  $r = 0$ , there is no correlation between two variables.

When 'r' lies between 0.7 to 0.999, there is high degree of positive correlation.

When 'r' lies between -0.7 to -0.999, there is high degree of negative correlation.

When 'r' lies within 0.500 to 0.699, there is a moderate correlation.

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

### **Probable Error (PE)**

Probable error of the correlation coefficient (r) denoted by PE is the measure of testing the reliability of the calculated value of (r). If the calculated value of correlation coefficient from a sample of (n) pair of observations, and then PE is defined by:

$$PE = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

It has been used for the interpretation, whether calculated value of (r) is statistically significant or not. The decisions have been taken on the basis of following theoretical ground: If  $r < 6PE$  it is insignificant. So, perhaps there is no evidence of correlation; if  $r > 6PE$ , it is significant; in other cases, nothing can be done.

The probable error of correlation coefficient may be used to determine the limits within which the population correlation coefficient lies. Limits for population correlation coefficient are  $(r) \pm PE$ .

### 3.5.2.5 Trend Analysis

Trend analysis is a comparative analysis of a company's financial ratios over time. Trend analysis evaluates the future trends of banks investible funds, deposits, positions of loan & advance, condition of profitable and retained ratings from FY 2007/08 to 2011/12 and forecasts for the next years till FY 2016/17. It shows the percentage change in several successive years. Under this topic the following subtopic have been presented:

- Trend analysis of total deposits
- Trend analysis of loan & advances
- Trend analysis of investment
- Trend analysis of net profit

The trends of related variables can be calculated as;

$$Y = a + bx$$

Where,

Y = dependent variables

X = independent variables

$$a = \frac{\sum Y}{n}$$

$$b = \frac{\sum XY}{\sum X^2}$$

## **CHAPTER IV**

### **Data Presentation and Analysis**

The purpose of this chapter is to study evaluate and analysis those major financial and statistical performance which are mainly related to investment management and fund mobilization of NABIL and HBL. The study cannot be fulfilled without the analytical scheme that follows to result oriented under chapter. There are many types of financial ratios but only those ratios are calculated and analyzed which are very important to evaluate fund mobilization of commercial banks.

#### **4.1 Financial Analysis**

Financial analysis is the act of identifying the financial strength and weakness of the organization presenting the relationship between the items of balance sheet. For the purpose of this study, ratio analysis has been mainly used.

Various financial ratios are related to the fund mobilization which are presented and discussed to evaluate and analyze the performance of NABIL and HBL. Financial ratios are calculated and data will be analyzed with the help of those ratios. Some important financial ratios are only calculated from the point view of the fund mobilization and investment policy. The ratios are designed and calculated to highlight the relationship between financial terms and figures. It is a kind a mathematical relationship and procedure dividing one item by another. All these calculations are based on financial statement of concerned banks. The important and needed financial ratios which are to be calculated for the purpose of this study are mentioned below.

- a. Liquidity Ratio
- b. Assets Management Ratio
- c. Profitability Ratio
- d. Risk Ratio
- e. Growth Ratio

##### **4.1.1 Liquidity Ratio**

Liquidity ratio measure the firm's ability to meet its current obligation. Commercial bank must maintain its satisfactory liquidity position to satisfy the credit needs of the community to meet demands for deposits, withdraws, pay maturity obligation in time

and convert non- cash satisfy immediate needs without loss to bank and consequent impact in long run profit. The liquidity position of the commercial banks is comparatively studied through the following ratios.

#### 4.1.1.1 Current Ratio

Current ratio indicates the ability of the bank to meet its current obligation. It measures the liquidity position of financial institutions. Current ratio is calculated dividing current assets by current liabilities. The current ratio of NABIL and HBL is given in the following table:

**Table No. 1**  
**Current Ratio (in times)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	0.9067	0.8924	0.9512	0.9924	0.9792	0.9444	0.0387	4.10
HBL	0.9014	0.9480	0.9715	1.0223	1.0600	0.9806	0.0563	5.74

Source: Appendix A.1

From the table it is clear that the current assets of NABIL are less than its current liabilities. Where, current assets of HBL are more than current liabilities in F/Y 2010/11 and 2011/12. It indicates that HBL has sound abilities to meet their current obligation in last two year but NABIL has not sound ability to pay their current obligation due to more liabilities. NABIL's ratios are fluctuating trend under the study period where as, HBL has increasing trend. NABIL has highest current ratio in F/Y 2010/11 and lowest in F/Y 2008/09. Similarly, HBL has highest current ratio in F/Y 2011/12 and lowest in F/Y 2007/08. In average, HBL has maintained higher current ratio than NABIL i.e.  $0.9806\% > 0.9444\%$ . It states that liquidity position of HBL is fair from above calculation. It shows the risk is highly associates with HBL in comparison to NABIL i.e.  $0.0563\% > 0.0387\%$ . Coefficient of variation of NABIL is lower than HBL i.e.  $4.10\% < 5.74\%$ .

#### 4.1.1.2 Cash and Bank Balance to Total Deposit Ratio

This ratio measures the availability of bank's high liquid or immediate funds to meet its unanticipated calls on all type of deposits. Cash and bank balance consists of cash

on hand, foreign cash on hand, cheque and other cash items, balance with domestic banks. This ratio is calculated dividing cash and bank balance by total deposit.

A high ratio indicates the greater ability to meet their deposits and vice-versa. The following table shows the cash and bank balance to total deposit ratios of NABIL and HBL.

**Table No. 2**  
**Cash and Bank Balance to Total Deposit Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	16.39	12.82	11.70	12.26	12.09	13.052	1.7074	13.08
HBL	8.26	13.96	13.90	12.74	16.89	13.15	2.8031	21.32

Source: Appendix A.1

The above table shows that the comparison cash and bank balance to total deposit of both NABIL and HBL are fluctuating trend NABIL has decreasing trend some extent. NABIL's highest ratio is 16.39% in F/Y 2007/08 and lowest ratio is 11.70% in 2009/10. Similarly in case of HBL, the highest ratio is 16.89% in 2011/12 and lowest ratio is 8.26% in 2007/08. The mean ratio of HBL is higher than NABIL i.e.  $13.15\% > 13.052\%$  respectively. The coefficient of variation of HBL is higher than that of NABIL i.e.  $21.32\% > 13.08\%$ . On the basis of coefficient of variation it can be concluded that HBL's ratios have higher variation than NABIL.

#### **4.1.1.3 Cash and Bank Balance to Current Assets Ratio**

This ratio examines the banks liquidity capacity on the basis of its most liquid assets i.e. cash and bank balance. This ratio reveals the ability of the bank make the quick payment of its customer deposits. Higher ratio indicates the sound ability to meet the daily cash requirement of their customer deposit and vice-versa but higher ratio is not preferred because it indicates the bank has to pay more interest on deposit and will increase the cost of fund. Lower ratio is also very dangerous for the bank because bank may not be able to make the payment against the cheques presented by the customer. Therefore, bank has to balance the cash bank balance to current assets ratio in such a manner that it should have the adequate cash for the customers demand against deposit when required and less interest is required to be paid against the cash deposit.

We have,

$$\text{Cash and Bank Balance to Current Assets Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Current Assets}}$$

Where,

Cash and bank balance consists cash in hand, foreign cash on hand cheques and other cash terms, balance with domestic banks and balance held in foreign banks.

Current assets consists of cash and bank balance, money at call and short notice, Loan & Advance, investment on government securities and other interest receivable and other miscellaneous current assets.

Cash and bank balance to current asset ratio of NABIL and HBL is given in following table.

**Table No. 3**  
**Cash and Bank Balance to Current Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	16.74	13.27	11.89	11.52	11.82	13.048	1.9424	14.89
HBL	8.80	14.30	13.88	12.07	15.45	12.90	1.2426	9.63

Source: Appendix A.1

From the above table it is clear that cash and bank balance to current asset of HBL in fluctuating trend and NABIL has decreasing trend some year. In case of NABIL, it has maintained highest ratio in 2007/08 i.e. 16.74% and lowest in 2010/11 i.e. 11.52%. Similarly, HBL has highest ratio in 2011/12 i.e. 15.45% and lowest in 2007/08 i.e. 8.80%. Coefficient of variation of NABIL is higher than HBL i.e. 14.89% > 9.63%. It shows that NABIL's variability of ratio is more than HBL.

In conclusion it can be said that NABIL is not in better position in maintain its cash and bank balance in comparison to HBL but it doesn't mean it can't meet daily requirement to make payment on customer deposit.

#### **4.1.1.4 Investment on Government Securities to Current Assets Ratio**

This ratio examines that position of commercial bank's current assets which is invested on different government securities. More or less each commercial bank is interested to invest their collected fund on different types of securities issued by government at different times to utilize their excess fund and have other purpose. The

government securities are not so much liquid as cash and bank balance but it can be easily sold in the market or they can be converted into cash in other ways.

This ratio shows that out of total current assets, how much percentage of it has been occupied by the investments on government securities. This ratio is computed by dividing investment on government securities by total current assets. This ratio is presented in the following table.

**Table No. 4**  
**Investment on Government Securities to Current Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	14.87	10.27	17.46	16.54	14.22	14.672	7.155	48.77
HBL	25.27	12.45	11.85	14.84	17.56	16.394	4.8736	29.73

Source: Appendix A.2

The above table reveals that NABIL and HBL investment on government securities to current assets ratios are fluctuating trend. The highest ratio of NABIL in 2009/10 i.e. 17.46% and lower in 2008/09 i.e. 10.27% whereas HBL's highest ratio is 25.27% in 2007/08 and lowest ratio is 11.85% in 2009/10. In overall, the mean ratio of HBL is higher than NABIL i.e. 16.394% > 14.672%. It means NABIL's performance is poor from this point of view. Coefficient of variation of HBL is very less than NABIL i.e. 48.77% > 29.73%. It indicates consistency of ratio of HBL is high in comparison to NABIL.

From the analysis, we can say that NABIL has not invested its more portions of current assets in government securities than HBL. It has made negligible amount of investment on government securities this is because of more investment on other productive sectors.

#### **4.1.1.5 Loan & Advances to Current Assets Ratio**

Loan & Advances are the current assets of commercial bank, which includes Loan & Advances, cash credit, loan and foreign bills purchased, overdraft and discount. To make a high profit mobilizing its fund in the best way, a commercial bank should not keep its all collected funds as cash and bank balance but they should be invested as Loan & Advances to the customers. If sufficient Loan & Advances cannot be granted, it should pay interest on these unutilized deposits funds and may lose some earnings,

but high Loan & Advances may also be harmful to keep the bank in most liquid position because they can only be collected at the time of maturity only. Thus, a bank must maintain its Loan & Advances in appropriate level to find out portion of current assets which is granted as Loan & Advances.

This ratio is calculated by dividing Loan & Advances to current assets. This ratio is presented in the following tables.

**Table No. 5**  
**Loan & Advances to Current Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	68.39	76.46	70.65	71.94	73.96	72.28	2.764	3.82
HBL	65.94	73.25	74.27	73.10	67.00	70.712	3.503	4.95

Source: Appendix A.2

The above comparative table shows that fluctuating trend of NABIL and HBL have increasing trend in 3 years after that decreasing trend. NABIL highest ratio is in F/Y 2008/09 i.e. 76.46% and lowest ratio in F/Y 2007/08 i.e. 68.39%. Similarly, highest ratio of HBL is in 2009/10 i.e. 74.27% and lowest ratio in 2007/08 i.e. 65.94%. In case of mean ratio, NABIL has maintained high ratio in comparison to HBL i.e.  $72.28\% > 70.712\%$ . The coefficient of variation of HBL is higher than NABIL i.e.  $4.95\% > 3.82\%$ .

Finally, it can be said that mean ratio of loan & advances to current assets ratio of NABIL reveals that its liquidity position with regard to its current assets is more satisfactory than HBL.

#### **4.1.2 Assets Management Ratio**

Assets management ratio measures the efficiency of the bank to manage its assets in profitable and satisfactory manner. A commercial bank should be able to manage its assets very well to earn high profit, to satisfy its customers and for its own existence. The following ratios are measured the assets management ratio of the NABIL & HBL in comparison.

#### 4.1.2.1 Loan & Advance to Total Deposit Ratio

This ratio measures the banks success to mobilize their funds on Loan & Advance for the purpose of income generation. Increase in Loan & Advances results increase in profit of the banks. Hence, commercial banks target to increase the Loan & Advances to yield higher profit. Higher ratio indicates better utilization of fund.

A high ratio indicates better mobilization of collected deposit and vice-versa. But it is known that high ratio may not be better from the liquidity point of view. This ratio is calculated by dividing Loan & Advances by total deposits. The following table shows the Loan & Advance to total deposit of the sample bank.

**Table No. 6**  
**Loan & Advances to Total Deposits Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	66.94	73.87	69.53	76.53	75.61	72.496	3.6749	5.07
HBL	61.93	71.49	74.39	77.14	73.26	71.642	5.1912	7.25

Source: Appendix A.2

The above table shows that HBL has increasing trend during first 4 years and lastly decrease and NABIL has fluctuating trend. NABIL has highest ratio in 2010/11 i.e. 76.53% and lowest ratio in 2007/08 i.e. 66.94%. And HBL has highest ratio in 2010/11 i.e. 77.14% and lowest ratio in 2007/08 i.e. 61.93%.

In average, NABIL has maintained higher loan & advance to total deposit ratio than that of HBL i.e. 72.496% > 71.642%. It shows that NABIL seems to be strong to mobilize its total deposit as loan & advances in comparison to HBL. On the basis of coefficient of variation we can say that NABIL loan & advance ratio is more consistent than HBL because of its lower C.V. i.e. 5.04% < 7.25%. From point of view of risk, it is highly associated with HBL in comparison to NABIL. From the above analysis, it is concluded that NABIL is successful to mobilize its total deposit as loan & advance in comparison to HBL. Whereas, high ratio is not better from the point of view of liquidity as the loan & advance are not as liquid as cash and bank balance.

#### 4.1.2.2 Total Investment to Total Deposit Ratio

A commercial bank mobilizes its deposit by investing its fund in different securities issued by government and other financial or non-financial institutions. This ratio

measures the extent to which the banks are able to mobilize their deposits on investment in various securities. A high ratio is the indicator of high success to mobilize the banking fund as investment and vice-versa.

This ratio is calculated by dividing total investment by total deposit and the ratio of NABIL & HBL is presented in the following table:

**Table No. 7**  
**Total Investment to Total Deposits Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	31.14	28.99	29.53	26.32	25.55	28.306	2.0754	7.33
HBL	42.37	25.12	22.45	21.43	21.02	26.478	8.0734	30.49

Source: Appendix A.3

The above table reveals that NABIL's total investment to total deposit ratios have fluctuating trend during the study period. In 2011/12 it has lowest ratio of 25.55% and in 2007/08 it has highest ratio of 31.14%. In case of HBL it has decreasing trend during study period. In 2011/12 has lowest ratio of 21.02% and in 2007/08 it has highest ratio of 42.37%.

From mean ratio point of view, it can be said that NABIL's capacity to mobilize its deposit on total investment is very high than HBL, because it has highest mean ratio of 28.306%. Likewise observing the coefficient of variation of the ratio we can conclude that ratios during the study period, it has been seen more consistent than that of HBL because of its lower CV i.e. 7.33% < 30.49%.

From the above analysis, we can say that HBL is not so successful in utilizing its resources as an investment point of view than NABIL. It invests less amount of total deposit.

#### **4.1.2.3 Loan & Advance to Total Assets Ratio**

Loan & Advances is an important part of total assets. A commercial bank's assets should play very significant for role in profit generation through fund mobilization. This ratio reflects the extent to which the banks are successful in mobilizing their assets loan & advances for the purpose of income generation. A high ratio indicates better in mobilization of funds as Loan & Advances and vice-versa. The ratio is

calculated by dividing Loan & Advances by total assets and such ratio of NABIL & HBL is presented in following table:

**Table No. 8**  
**Loan & Advance to Total Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	57.54	62.89	61.88	65.42	65.83	62.712	2.9843	4.76
HBL	53.90	63.05	65.50	67.54	64.32	62.862	4.7185	7.51

Source: Appendix A.3

The above comparative table shows that NABIL's ratio increasing trend from 3<sup>rd</sup> year and HBL's ratio also increasing trend for 4 year after that decrease in next year. The highest ratio is 65.83% in 2011/12 and lowest ratio is 57.54% in 2007/08 in case of NABIL and HBL's highest ratio is 67.54% in 2010/11 and lowest ratio is 53.90% in 2007/08.

On the basis of mean ratio of loan & advances to total assets, it can be said that HBL has highest ratio than NABIL. It is clear that HBL has strong position to mobilize its assets as loan & advance than NABIL. The coefficient of variation of NABIL is less than HBL i.e. 4.76% < 7.51%.

From the above analysis, it can be concluded that HBL's fund mobilizing ratio in terms of loan & advances with respect to total assets is satisfactory than NABIL.

#### **4.1.2.4 Investment on Government Securities to Total Assets Ratio**

All the resources of a bank are never used as Loan & Advances. A bank mobilizes its funds in various ways. So commercial banks seem to be interested to invest those types of funds by purchasing government securities. A government security is a safe medium of investment though it is not liquid as cash and bank balance. This ratio is very important to know the extent to which the banks are successful in mobilizing their total funds on different types of government securities to maximize their income. A high ratio indicates better mobilization of funds as invested in government securities and vice-versa.

This ratio is calculated by dividing investment on government securities by total assets and this ratio of NABIL & HBL is presented in following table:

**Table No. 9**  
**Investment on Government Securities to Total Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	12.51	8.45	15.29	15.04	12.66	12.79	3.5763	27.96
HBL	20.65	10.71	10.45	13.71	16.85	14.474	3.866	26.71

Source: Appendix A.3

The above table reveals that the ratio of NABIL is in fluctuating trend where the highest ratio is 15.29% in 2009/10 and the lowest ratio is 8.45% 2008/09. In case of HBL, the ratios are first 3 year after that increasing trend. Its highest ratio is 20.65% in 2007/08 and lowest in 2009/10 i.e. 10.45%.

Comparing the mean ratio of investment on government securities to total assets, NABIL seems to week to mobilize its assets as investment on government securities than HBL (i.e.12.79%<14.474%). The coefficient of variation of HBL is lower than that of NABIL during the study period i.e. 26.71%<27.96%. It indicates that HBL's ratio is more consistent than that of NABIL.

From the above analysis, it can be conclude that NABIL has not invested its more potions of assets on government securities than HBL.

#### **4.1.2.5 Investment on Share and Debentures to Total Assets Ratio**

Total investment has been broken down into two parts i.e. investment on government securities and investment on share & debentures. Now a day a commercial bank is interested to invest its fund not only on government securities but also shares and debentures of other different types of companies. During the study period, most of the commercial banks including NABIL & HBL have purchased the share of other companies to earn profit.

Investment on share and debentures to total assets ratio reflects the extent to which banks are successful to mobilize their assets in purchasing share and debentures of other companies to generate income and utilize extra fund. The high ratio indicates the more portion of assets investment on share and debenture and vice-versa. This ratio has been shown in the following table:

**Table No. 10**  
**Investment on Share and Debentures to Total Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	14.25	16.23	10.99	7.46	9.58	11.702	3.1623	27.02
HBL	16.22	11.44	9.32	5.06	1.60	8.728	5.0616	57.99

Source: Appendix A.4

From the above comparative table, it is formed that the both banks NABIL & HBL have invested fine percentage of total assets into share and debentures of other companies. NABIL's ratios are good at comparison to HBL because HBL ratios are in decreasing trend during study period. It shows the lack of efficient and uniform investment policy to regard investment on share and debenture of HBL whereas, NABIL maintain nominal percentage.

On the basis of mean ratio, it can be mentioned that NABIL has invested higher amount in share and debentures in comparison to HBL i.e.  $11.702\% > 8.728\%$ . The coefficient of variance of NABIL is 27.02% which is very far less than HBL 57.99%. It shows that NABIL's ratio is much consistence than that of HBL. From above analysis we can say that HBL have to invest higher amount of share and debentures for better result.

#### **4.1.3 Profitability Ratio**

Profitability ratios are very helpful to measure the overall efficiency in operation of a financial institution. In the context of banks, strictly speaking no banks can survive without profit. Profit is one of the major indicators of efficient operation of a bank. The bank acquire profit by providing different services to its customers or by making investment opportunities, expanding banking transaction, financing government during the need of development funds, overcoming the future contingencies and fixing the need of internal obligation for a bank. Profitability ratios measure the efficiency of bank. A higher profit ratio shows the higher efficiency of a bank. The following ratios are calculated under this profitability ratio topic:

#### 4.1.3.1 Return on Loan & Advance Ratio

Return on Loan & Advances ratio measures the earning capacity of the commercial banks through its fund mobilization as Loan & Advances. A high ratio indicates greater success to mobilize fund as Loan & Advances and vice-versa.

This ratio is calculated by dividing net profit by total amount of Loan & Advances. The ratio is shown in the following table of NABIL & HBL during the study period.

**Table No. 11**  
**Return on Loan & Advance Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	4.82	2.71	3.54	3.52	4.08	3.734	0.6973	18.67
HBL	3.26	3.04	1.82	2.83	2.74	2.738	0.4929	18.00

Source: Appendix A.4

Above table clear that both banks have fluctuating trend on return on loans and advances ratios. NABIL has highest ratio in 2007/08 i.e. 4.82% and lowest ratio of 2.71% in 2008/09 where as HBL's highest ratio in 2007/08 i.e. 3.26% and lowest ratio in 2009/10 i.e. 1.82%.

Comparing the mean ratio, NABIL has higher ratio than HBL i.e. 3.734% > 2.738%. It means NABIL seems to be successful in maintaining its higher return on loan & advances in comparing to HBL. Similarly, the coefficient of variation of NABIL is higher than that of HBL i.e. 18.67% > 18.00%. It indicates less consistency of NABIL than that of HBL. Both banks return on loan & advances are not satisfactory so both banks have to invest their fund in productive sector to increase return ratios.

#### 4.1.3.2 Return on Total Assets Ratio

Return on total assets ratio is a profitability indicator with respect to each financial resources investment of bank's assets. If the bank's total assets is well managed and effectively utilized the return on such assets will be higher and vice-versa.

This ratio is calculated by dividing net profit by total assets or total assets the following table shows the profitability with respect to total assets of NABIL & HBL.

**Table No. 12**  
**Return on Total Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	2.78	1.70	2.19	2.30	2.68	2.33	0.3853	16.54
HBL	1.76	1.91	1.19	1.91	1.76	1.706	0.2666	15.63

Source: Appendix A.4

The above table reveals that return on total assets is in fluctuating trend of both banks. In case of NABIL, it maintained highest ratio 2.78% in 2007/08 and lowest ratio 1.70% in 2008/09. Whereas, HBL has maintained highest ratio 1.76% in two year 2007/08 & 2011/12 and lowest ratio 1.19% in 2009/10.

On the basis of mean ratio, NABIL has high ratio i.e. 2.33% and HBL has low i.e. 1.706%. It means NABIL is able to earn high profit on total assets in comparison to HBL. Similarly, the coefficient of variation of NABIL is higher than HBL (i.e. 16.54% > 15.63%). It indicates that HBL's ratios are consistent in comparison to NABIL. Therefore, NABIL seems better to earn high return on its assets than HBL. Overall, both banks must have to efforts to earn high profit by mobilizing its working assets more efficiently.

#### **4.1.3.3 Total Interest Earned to Total Outside Assets Ratio**

The outside assets have played a significant role in commercial banks as main assets, which includes Loan & Advances, investment on government securities, investment on shares and debentures and all other type of investment. A high ratio indicates high earning on total outside assets and vice-versa.

This ratio is calculated by dividing total interest earned by total outside assets. The following table presents the total interest earned to total outside assets of NABIL & HBL during the study period.

**Table No. 13**  
**Total Interest Earned to Total Outside Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	4.40	7.28	8.81	10.28	11.02	8.358	2.3585	28.22
HBL	5.98	6.99	8.64	10.73	10.50	8.568	2.6598	31.04

Source: Appendix A.5

The above comparative table reveals that both banks' ratios are increasing trend during the study period except 2011/12 for HBL. NABIL has maintained higher ratio i.e. 11.02% in 2011/12 and lowest ratio i.e. 4.40% in 2007/08. In case of HBL, it has highest ratio in 10.73% in 2010/11 and lowest ratio i.e. 5.98% in 2007/08.

The mean ratio of NABIL has lower than that of HBL i.e. 8.358% < 8.568%. It seems that HBL has earned higher amount of interest on its outside assets in comparison to NABIL. Similarly the coefficient of variation of HBL is quite higher than NABIL i.e. 31.04% > 28.22%. It indicates that the ratios of NABIL are more consistency than HBL.

From the above analysis, it can be concluded that HBL seems successful in earning high interest from its total assets than NABIL. So, NABIL would be increased its fund on total outside assets.

#### **4.1.3.4 Total Interest Earned to Total Assets Ratio**

This ratio reflects the extent to which banks are successful in mobilizing their assets to generate high income. In another words to represent the earning capacity of commercial bank in its assets, total interest earned to total assets ratio is very helpful. A high ratio is an indicator of high earning power of the bank on its total assets and vice-versa.

This ratio is calculated by dividing total interest earned by total assets. The following table shows the interest to total assets ratio of NABIL & HBL.

**Table No. 14**  
**Total Interest Earned to Total Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	5.33	6.38	7.77	9.04	9.71	7.646	1.6239	21.24
HBL	5.43	5.96	7.37	9.26	8.69	7.342	1.4874	20.26

Source: Appendix A.5

The above comparative table reveals that the total interest earned to total assets ratios of both banks are in increasing trend during study period except in 2011/12 for HBL. NABIL maintained higher ratio 9.71% in 2011/12 and lowest ratio 5.33% in 2007/08. Whereas, higher ratio of HBL is 9.26% in 2010/11 and lowest ratio is 5.43% in 2007/08.

After observing the mean ratio, it is found that NABIL has highest mean ratio than HBL (i.e. 7.646% > 7.342%). It indicates that NABIL's interest earning power with respect to total assets seems to be effective than HBL. Similarly, the coefficient of variation of NABIL found to higher than HBL i.e. 21.24% > 20.26%. It seems that the earnings ratio with respect to total assets of HBL is most stable than NABIL because of lower CV.

#### 4.1.3.5 Total Interest Paid to Total Assets Ratio

The ratio measure the percentage of total interest paid against the total assets. A high ratio indicates higher interest expenses on total assets. This ratio calculated by dividing total interest paid by total assets. The following table shows the total interest paid to total assets ratio of NABIL & HBL during the study period.

**Table No. 15**  
**Total Interest Paid to Total Assets Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	2.04	2.63	3.76	5.08	4.99	3.70	1.2225	33.04
HBL	2.28	2.38	3.64	5.17	5.18	3.73	1.2735	34.14

Source: Appendix A.5

The above comparative table shows that the total interest paid to total assets of both banks have increasing trend except 2011/12 for NABIL during study period. NABIL's

has highest ratio 5.08% in 2010/11 and lowest ratio 2.04% in 2007/08 whereas, HBL's highest ratio 5.18% in 2011/12 and lowest ratio 2.28% in 2007/08.

After the observing the mean ratio, it is found that HBL has highest mean ratio than NABIL i.e. 3.73% > 3.70%. It indicates that the interest paying capacity of HBL on its assets is high than of NABIL. On the other hand NABIL has lower CV than HBL i.e. 33.04% < 34.14%, which indicates that NABIL has more consistency in the ratio than HBL. So, HBL is in better position from interest payment point of view than NABIL.

#### 4.1.3.6 Total Interest Earned to Operating Income Ratio

This ratio reflects the extent to which the bank has successfully mobilized its fund in interest bearing assets. Total operating income include interest income, commission and discount, dividend income, foreign exchange income and non-interest income etc. interest earned to total operating ratio shows the magnitude of interest income in total income.

This ratio is calculated by dividing interest earned by total operating income. The following table exhibits the ratio of interest earned to total operating income of NABIL & HBL during the study period.

**Table No. 16**

#### **Total Interest Earned to Operating Income Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	118.45	126.00	146.41	172.48	153.71	143.41	19.423	13.54
HBL	122.92	117.81	145.91	167.24	162.30	143.236	20.03	13.98

Source: Appendix A.6

The above comparative table exhibits that, both banks' ratios are good during the study period because all ratios are above the 100%. NABIL has maintained highest ratio 172.48% in 2010/11 and lowest ratio 118.45% in year 2007/08. Similarly, HBL has maintained highest ratio in 2010/11 i.e. 167.24% and lowest ratio 117.81% in 2008/09.

On the basis of mean ratio, HBL has lower ratio than that of NABIL i.e. 143.236% < 143.41%. It shows that NABIL seems to have earned comparatively higher amount of interest income than HBL. The coefficient of variation of HBL is

higher than NABIL i.e.  $13.98\% > 13.54\%$  which indicates that HBL has low degree of stability than that of NABIL.

#### 4.1.4 Risk Ratio

The possibility of risk makes bank's investment is a challenging task. Bank has to take risk to get return on investment. The risk taken is satisfied by the increase in profit. A bank has to take high risk if it expects high return on its investment. So the bank operating for high profit has to accept the risk and manage its efficiently.

Through following ratios, efforts have been made to measure the level of risk essential in the NABIL & HBL comparatively.

- (i) Liquidity Risk Ratio
- (ii) Credit Risk Ratio

##### 4.1.4.1 Liquidity Risk Ratio

The liquidity risk of the bank defines its liquidity need for deposit. The ratio of cash and bank balance to total deposit is the indicator of bank liquidity needed. The cash and bank balance are the most liquid assets and they are considered as banks liquidity sources and deposit as the liquidity need. A higher liquidity indicates less risk and less profitable bank and vice-versa.

The ratio is calculated by dividing liquid assets or total cash and bank balance by total deposit. The following table shows the liquidity ratio of NABIL & HBL in comparison.

**Table No. 17**  
**Liquidity Risk Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	16.39	12.83	11.70	12.26	12.09	13.054	1.7072	13.08
HBL	8.26	13.96	13.90	12.74	16.89	13.15	2.8031	21.32

Source: Appendix A.6

The above comparative table shows that the liquidity risk ratio of HBL bank has fluctuating trend and NABIL has in decreasing trend. In case of NABIL, it has recorded highest ratio i.e. 16.39% in 2007/08 and lowest ratio i.e. 11.70% in 2009/10.

Similarly, the highest ratio of HBL is 16.89% in 2011/12 and lowest ratio i.e. 8.26% in 2007/08.

The mean ratio of NABIL is lower than that of HBL i.e. 13.054% < 13.15%. It shows that HBL has beard more risky its total deposit of cash and bank balance, similarly the coefficient of variation of NABIL is lower than HBL which shows that NABIL maintained more consistency in comparison to HBL. In conclusion, it can be said that NABIL has comparatively lower degree of liquidity risk than HBL.

#### 4.1.4.2 Credit Risk Ratio

Bank utilizes its collected fund in providing credit to different sectors. While making investment, bank examines the credit risk involved in the profit. This ratio calculated by dividing total loan & advances by total assets. The following table shows the comparative credit risk ratio of NABIL & HBL under the study period.

**Table No. 18**  
**Credit Risk Ratio (%)**

Banks	Financial Year					Mean	S.D.	CV(%)
	2007/08	2008/09	2009/10	2010/11	2011/12			
NABIL	57.54	62.89	61.88	65.42	65.83	62.712	2.9842	4.76
HBL	53.90	63.05	65.50	67.54	64.32	62.862	4.7185	7.51

Source: Appendix A.6

The above table shows that NABIL's ratios are fluctuating trend and HBL's ratios are increasing except in year 2011/12. NABIL's highest ratio is 65.83% in 2011/12 and lowest ratio is 57.54% in 2007/08 similarly, HBL's highest ratio is 67.54% in 2010/11 and lowest ratio is 53.90% in 2007/08.

The mean ratio of NABIL is lower than HBL i.e. 62.712% < 62.862%. It shows that HBL has beard more risk on its total assets of loan & advances in comparison to NABIL. Similarly, the coefficient of variation of NABIL is lower than HBL which shows that NABIL risk ratios are more consistence than that of HBL.

From the above analysis, it can be concluded that NABIL has comparatively lower degree of credit risk than HBL.

#### 4.1.5 Growth Ratio

Growth ratio is directly related to the fund mobilization and investment of a commercial bank. It represents how well the commercial bank maintaining the economic and financial position. Under this topic, there are four type of growth ratios are studied which are as follows:

- (i) Growth Ratio of Total Deposit
- (ii) Growth Ratio of Total Loan & Advances
- (iii) Growth Ratio of Total Investment
- (iv) Growth Ratio of Net Profit

These ratios can be calculated by dividing the last period figure by the first period figure.

The high ratio generally indicates better performance of a bank and vice-versa. The calculation of growth rates is as follows:

##### 4.1.5.1 Growth Rate of Total Deposit

The following table exhibits growth of total deposit of both NABIL and HBL over the study period i.e. from the F/Y 2007/08 to F/Y 2011/12.

**Table No. 19**  
**Growth Rate of Total Deposit**

Financial Year	NABIL		HBL	
	Total Deposit (Rs)	%	Total Deposit (Rs)	%
2007/08	31,915,047,467	0	31,482,789,356	0
2008/09	37,348,255,840	17.02	34,681,345,179	10.16
2009/10	46,410,700,628	24.26	37,611,202,274	8.45
2010/11	49,696,112,934	7.08	40,920,627,030	8.80
2011/12	55,023,695,253	10.72	47,730,993,909	16.64
Mean		11.816		8.81
S.D.		8.3088		5.3081
C.V.		70.32		60.25

Source: Appendix D.1 & D.2

The above table shows that the growth rate of total deposit of both bank are in fluctuating trend. The mean growth of NABIL is higher than HBL i.e.

11.816% > 8.81% and the coefficient of variation of NABIL is also higher than HBL. It

indicates that NABIL's ratios are more variability than HBL i.e.  $70.32\% > 60.25\%$ . The position of total deposits of both banks has presented in the graph below.

#### 4.1.5.2 Growth Rate of Total Loans & Advances

The following table depicts growth of loan & advance of both NABIL and HBL over the study period i.e. from the F/Y 2007/08 to F/Y 2011/12.

**Table No. 20**  
**Growth Rate of Total Loans & Advances**

Financial Year	NABIL		HBL	
	Loan & Advance(Rs)	%	Loan & Advance(Rs)	%
2007/08	21,365,053,318	0	19,497,520,482	0
2008/09	27,589,933,041	29.14	24,793,155,269	27.16
2009/10	32,268,873,283	16.96	27,980,628,760	12.86
2010/11	38,034,097,554	17.87	31,566,976,755	12.82
2011/12	41,605,682,634	9.39	34,965,433,862	10.77
Mean	-	14.672	-	12.722
S.D.	-	9.6742	-	8.6504
C.V.	-	65.94	-	68.00

Source: Appendix D.1 & D.2

The growth rate of loan & advances of NABIL bank is in fluctuating trend whereas HBL is in decreasing trend. The mean growth rate of NABIL is higher than that of HBL i.e.  $14.672\% > 12.722\%$ . It indicates the NABIL is more successful in utilizing its collection fund as loan & advances in comparison to HBL. The coefficient of variation of HBL is higher than that of NABIL. It indicates that HBL is less uniform than NABIL.

#### 4.1.5.3 Growth Rate of Total Investment

The following table displays growth of total investment of both NABIL and HBL over the study period i.e. from the F/Y 2007/08 to F/Y 2011/12.

**Table No. 21**  
**Growth Rate of Total Investment**

Financial Year	NABIL		HBL	
	Total Investment	%	Total Investment	%
2007/08	9,939,771,428	0	13,340,176,785	0
2008/09	10,826,379,001	8.92	8,710,690,646	-34.70
2009/10	13,703,024,181	26.57	8,444,910,165	-3.05
2010/11	13,081,205,527	-4.54	8,769,938,671	3.85
2011/12	14,055,850,055	7.45	10,031,580,497	14.39
Mean	-	7.68	-	-3.902
S.D.	-	10.6464	-	16.4873
C.V.	-	138.625	-	-4.23

Source: Appendix D.1 & D.2

The above comparative table demonstrates that the growth rates of total investment of both banks are in fluctuating trend. The average growth rate of NABIL is higher than HBL i.e. 7.68% > -3.902%. The coefficient of variation of HBL is lower than that of NABIL i.e. -4.23% < 138.625%. Although having lower CV of HBL variability is not sufficient, as it has negative CV.

#### **4.1.5.4 Growth Rate of Total Net Profit**

The following table shows growth of total net profit of both NABIL and HBL over the study period i.e. from the F/Y 2007/08 to F/Y 2011/12.

**Table No. 22**  
**Growth Rate of Total Net Profit**

Financial Year	NABIL		HBL	
	Net Profit	%	Net Profit	%
2007/08	1,031,053,098	0	635,868,519	0
2008/09	746,468,394	-27.60	752,834,735	18.39
2009/10	1,141,051,430	52.86	508,798,193	-32.42
2010/11	1,337,745,485	17.24	893,115,143	75.53
2011/12	1,696,276,110	26.80	958,638,260	7.34
Mean	-	13.86	-	13.768
S.D.	-	26.8734	-	35.214
C.V.	-	193.89	-	255.77

Source: Appendix D.1 & D.2

The average growth rate of NABIL is higher than that of HBL i.e.  $13.86\% > 13.768\%$ . It indicates that NABIL is successful to invest its large amount in various secured and more profitable sectors than HBL. The CV of NABIL is lower than HBL i.e.  $193.89\% < 255.77\%$  and it means that NABIL is more consistency than HBL.

## 4.2 Statistical Analysis

Under this topic, some statistical tools such as trend analysis of deposits, loan & advances, investment and net profit and coefficient of correlation between variable are used to achieve the objective of the study. They are as follows:

### 4.2.1 Coefficient of Correlation Analysis

Correlation refers to the relationship between variable. Under this topic, Karl Pearson's coefficient of correlation is used to describe the degree of relationship that exists between two variables. It interprets whether two variables are correlated or not. If correlated positively or negatively and to what extent. This tool helps examines, analyzes and interprets the relationship of those variables of the banks which have directly associated to the investment policy.

#### 4.2.1.1 Coefficient of Correlation between Total Deposit and Loan & Advances

Deposits have played a very important role in performance of commercial bank and similarly loan & advances are important to mobilize the collected deposits.

Coefficient of correlation between deposit and loan & advances measure the degree of relationship between these two variables. In this analysis, deposit is independent variable (X) and loan & advances is dependent variable (Y) the main objective of computing “r” between these two variables is to justify whether deposits are significantly used as loan & advances in a proper way or not. The following table shows the value of r,  $r^2$ , P.Er and 6P.Er between total deposit and loan & advances of NABIL during the study of period.

**Table No. 23**

**Correlation between Total Deposit and Loan & Advances**

Bank	Evaluation Criteria			
	R	$r^2$	P.Er	6P.Er
NABIL	0.7839	0.6145	0.1163	0.6978
HBL	0.9690	0.9389	0.0184	0.1106

Source: Appendix B.1 & B.2

From the above table, in case of NABIL, it is found that coefficient of correlation between total deposit and loan & advances is 0.7839. It shows positive relationship between these two variables moreover when we consider the value of coefficient of determination ( $r^2$ ), it is 0.6145 and it means 61.45% of variation of dependent variables (loan & advances) has been explained by the independent variable (total deposit). Similarly, considering the value of r i.e. 0.7839 and comparing it with 6P.Er i.e. 0.6978, we can find that r is lower than 6P.Er, this reveals that the value of r is not significant. In other word, there is no significant relationship between total deposit and loan & advances.

Likewise, when we observe correlation between total deposit and loan & advances of HBL, the coefficient of correlation between these two variables is 0.9690, which indicates higher positive correlation between them. Similarly, the value of coefficient of determination ( $r^2$ ) is to be found 0.9389, which shows that 93.89% in the dependent variable has been explained by the independent variable. Moreover considering the 6P.Er i.e. 0.1106, which mean the relationship between total deposit and loan & advances is significant.

From the above analysis, we can conclude that both banks have positive relationship between total deposit and loan & advances. The relationship is significant in case of HBL and the value of  $r^2$  shows good percentage of dependency and in case

of NABIL the relationship is not significant and  $r^2$  shows the lower percentage of dependency than HBL.

#### 4.2.1.2 Coefficient of Correlation between Total Deposit and Total Investment

Coefficient of correlation( $r$ ) between total deposit and total investment measures the degree of relationship between two these variables. Here, deposit is independent variable (X) and total investment is dependent variables (Y). The purpose of computing coefficient of correlation is to justify whether the deposits are significantly used in proper way not and whether there is any relationship between these two variables. The following table shows the coefficient of correlation between total deposit and total investment of NABIL and HBL.

**Table No. 24**

#### **Correlation between Total Deposit and Total Investment**

Bank	Evaluation Criteria			
	R	$r^2$	P.Er	6P.Er
NABIL	0.9564	0.9146	0.0258	0.1545
HBL	-0.3895	0.1517	0.2559	1.5353

Source: Appendix B.3 & B.4

From the above table coefficient of correlation between total deposit (independent) and total investment (dependent) is 0.9564 in case of NABIL, it shows positive relationship between these two variables. However, by considering coefficient of determination the value of  $r^2$  is 0.9146, which indicates that 91.46% of variation in the dependent variable has been explained by the independent variable. Moreover, by considering the probable error since the value of 'r' is higher than 6P.Er i.e.  $0.9564 > 0.1545$ . So we can say that there is significant relationship between total deposit and total investment in case of NABIL.

Similarly, the coefficient of correlation between total deposit and total investment in case of HBL is found to be -0.3895, which shows negative relationship between these two variables. If we consider the value of coefficient of determination  $r^2$  is 0.1517, it indicates that nominal percent in the dependent variable has been explained by the independent variable. Moreover, the value of 6P.Er is 1.5353, we can say that the relationship between total deposit and total investment is not significant because 6P.Er is greater than r i.e.  $1.5353 > -0.3895$ .

From the above analysis, it can be concluded that in case of both banks, there is significant positive relationship between total deposit and total investment in case of NABIL and non-significant negative relationship with variables in case of HBL.

#### 4.2.1.3 Coefficient of Correlation between Total Outside Assets and Net Profit

Coefficient of correlation 'r' between outside assets and net profit the degree of relationship between these two variables. In analysis, outside asset is independent variable (X) and net profit is dependent variables (Y). The purpose of computing coefficient of correlation between outside asset and net profit is to justify whether the net profit is significantly correlation with total outside assets or not. The following table shows the value of r,  $r^2$ , P.Er and 6P.Er between outside assets and net profit of NABIL and HBL.

**Table No. 25**

#### **Correlation between Total Outside Assets and Net Profit**

Bank	Evaluation Criteria			
	R	$r^2$	P.Er	6P.Er
NABIL	0.9906	0.9814	0.0056	0.0337
HBL	0.7369	0.5431	0.1378	0.8270

Source: Appendix B.5 & B.6

From the above table has been found that correlation coefficient between total outside assets (independent) and net profit (dependent) is 0.9906 in case of NABIL which indicates positive relationship between these two variables. Similarly, considering the value of coefficient of determination ( $r^2$ ) i.e. 0.9814, which indicates that 98.14% of the variation in the dependent variable has been explained by independent variable. Moreover, there is significant relationship between outside asset and net profit because 'r' is higher than 6P.Er i.e.  $0.9906 > 0.0337$ .

Similarly, the Karl Person's coefficient of correlation between outside assets and net profit in case of HBL is found to be 0.7369, which indicates that there is positive relationship between two variables. If considering the value of  $r^2$  is 0.5431, which means 54.31% in the dependent variable has been explained by the independent variable. Moreover, the value of 6P.Er is higher than r so we can say that there is non-significant relationship i.e.  $0.8270 > 0.7369$ .

Finally, we can be conducted NABIL has significant positive relationship and HBL has non-significant relationship between total outside assets (independent variable) and net profit (dependent variable).

#### 4.2.1.4 Coefficient of Correlation between Total Deposit and Net Profit

The coefficient of correlation between total deposit and net profit measures the degree of relationship between these two variables. Here, total deposit is independent variable (X) and net profit is dependent variable(Y). The main objective of computing of 'r' between these two variables is to justify whether total deposit are significantly used to obtain return in a proper way or not. The following table reveals the value of r,  $r^2$ , P.Er and 6P.Er of NABIL and HBL during the study period.

**Table No. 26**

#### **Correlation between Total Deposit and Net Profit**

Bank	Evaluation Criteria			
	R	$r^2$	P.Er	6P.Er
NABIL	0.8424	0.7096	0.0876	0.5256
HBL	0.7142	0.5101	0.1478	0.8866

Source: Appendix B.7 & B.8

From the above table, it has been seen that correlation between total deposit and net profit is 0.8424 in case of NABIL. It indicates that there is positive relationship between these two variables. The value of coefficient determination ( $r^2$ ) is 0.7096, which indicates that 70.96% of variation in dependent variable has been explained by independent variable. Moreover, by considering probable error, we can say that there is significant relationship between total deposit and net profit because the value of 'r' is higher than 6P.Er i.e.  $0.8424 > 0.5256$ .

Likewise, the correlation coefficient between total deposit and net profit of HBL is 0.7142. The value of  $r^2$  is 0.5101, which indicates that 51.01% of total change in dependent variable is due to the effect of independent variable. By considering probable error, we can further say that there is no significant relationship between total deposit and net profit because the value of 'r' is lower than 6P.Er i.e.  $0.7142 < 0.8866$ .

In conclusion, the coefficient of correlation between total deposit and net profit of both banks has positive relationship.

#### 4.2.1.5 Coefficient of Correlation between Total Deposit and Interest Earned

The correlation coefficient between total deposit and interest earned measures the degree of relationship between these two variables. Here, total deposit is independent variable (X) and interest earned is dependent variable (Y). The objective of computing 'r' between two variables is to justify where total deposit is significantly used as to earned interest in a proper way or not. The following table shows the required value between two variables of NABIL and HBL.

**Table No. 27**  
**Correlation between Total Deposit and Interest Earned**

Bank	Evaluation Criteria			
	R	$r^2$	P.Er	6P.Er
NABIL	0.9896	0.9792	0.0063	0.0376
HBL	0.9578	0.9174	0.0249	0.1495

Source: Appendix B.9 & B.10

From the above table shows that in case of NABIL, the value of 'r' comes in positive i.e. 0.9896 so, there is positive relationship between these two variable. The value of coefficient of determination ( $r^2$ ) is 0.9792 which means 97.92% of the variation in dependent variable has been explained by independent variable. Moreover, by considering probable error, we can say that there is significant relationship between total deposit and interest earned because of the value of 'r' is higher than 6P.Er i.e.  $0.9896 > 0.0376$ .

Similarly, in case of HBL, the correlation coefficient between total deposit and interest earned 'r' is 0.9578, which means there is positive relationship between these two variables. The value of coefficient of determination ( $r^2$ ) is 0.9174, it indicates that 91.74% of the variation in dependent variable has been explained by independent variable. While considering P.Er we can say that there is significant relationship between total deposit and interest earned due to value of 'r' is greater than 6P.Er i.e.  $0.9578 > 0.1495$ .

In conclusion the value of 'r' is positive relationship between these two variables with both banks. Similarly, both banks have significant relationship between total deposit and interest earned.

#### 4.2.1.6 Coefficient of Correlation between Loan & Advances and Interest Paid

The correlation coefficient between loan & advances and interest paid makes the degree of relationship between these two variables. Here, loan & advances is independent variable (X) and interest paid is dependent variable (Y). The main purpose of computing 'r' between these two variables is whether increase in loan & advances and decrease the interest paid of the banks and vice-versa. The following table shows the require value between two variables of NABIL & HBL.

**Table No. 28**

#### **Correlation between Loan & Advances and Interest Paid**

Bank	Evaluation Criteria			
	R	$r^2$	P.Er	6P.Er
NABIL	0.9850	0.9702	0.0090	0.0540
HBL	0.9548	0.9117	0.0266	0.1599

Source: Appendix B.11 & B.12

The above table shows that, NABIL's correlation coefficient between loan & advances and interest paid is 0.9850, which indicates that there is positive relationship between these two variables. The value of coefficient of determination ( $r^2$ ) is 0.9702, it means 97.02% of the variation in dependent variable has been explained by the independent variable. Moreover by considering P.Er, we can further say that there is significant relationship between loan & advances and interest paid due to the value of 'r' is higher than 6P.Er i.e.  $0.9850 > 0.0540$ .

Similarly, in case of HBL, the value of 'r' is 0.9548, which means there is positive relation between two variables while considering coefficient of determination ( $r^2$ ) i.e. 0.9117, which indicates that 91.17% of variation in dependent variable has been explained by the independent variable. Likewise, value of 'r' is higher than 6P.Er i.e.  $0.9548 > 0.1599$ , it means there is significant relationship between loan & advances and interest paid.

Finally, we can be concluded that the value of 'r' of both banks have positive relationship. Similarly, considering P.Er of both banks, there is significant relationship between two variables.

#### 4.2.1.7 Coefficient of Correlation between Total Assets and Net Profit

The correlation coefficient between total assets and net profit measures the degree of relationship between these two variables. In analysis, total assets are taken as independent variable (X) and net profit is dependent variable (Y). The main objective of computing 'r' between these two variables is to justify whether total assets is significantly used as to earn net profit in proper way or not. The following table shows the required value of between these two variables of NABIL and HBL.

**Table No. 29**

#### **Correlation between Total Assets and Net Profit**

Bank	Evaluation Criteria			
	r	$r^2$	P.Er	6P.Er
NABIL	0.8392	0.7042	0.0892	0.5353
HBL	0.7206	0.5193	0.1450	0.8701

Source: Appendix B.13 & B.14

From the above listed table a show, in case of NABIL, the value of 'r' is 0.8392, which indicates there is positive relationship between total assets and net profit. The value of coefficient of determination ( $r^2$ ) is 0.7042. It means 70.42% of the variation in the dependent variable has been explained by independent variable. While considering probable error, we can say that there is significant relationship between assets and net profit because value of 'r' is greater than 6P.Er i.e.  $0.8392 > 0.5353$ . Similarly, the value of 'r' is 0.7206 in case of HBL, which indicates that there is positive relationship between total assets and net profit. The value of coefficient of determination is 0.5193. It means 51.93% of the total change in dependent variable is due to the effect of independent variable. By considering P.Er, the value of 'r' is less than 6P.Er i.e.  $0.7206 < 0.8701$  which indicates that there is no significant relationship between total assets and net profit.

In conclusion, both banks have positive relationship between total assets and net profit. NABIL has significant relationship and HBL has no significant relationship with two variables.

#### 4.2.2 Trend Analysis and Projected for Next Five Years

The objectives of this analysis are to analyze the trend of deposit collection its utilization and net profit of NABIL and HBL. Granting Loan & Advances and

investing some of the fund in government securities, share and debenture of other companies by the commercial banks is the utilization of deposit. The topic analyzes the trend of deposit, Loan & Advances, total investment and net profit are forecasting for next five years.

The projection is based on the following assumption:

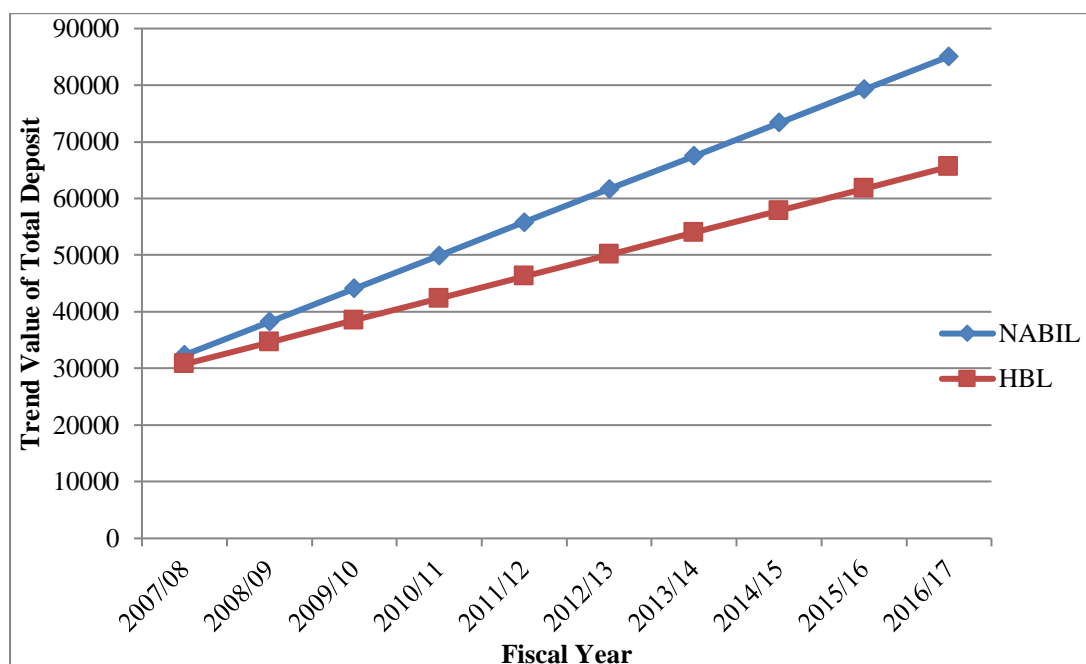
- ❖ The main assumption is that other thing will remain unchanged.
- ❖ The forecast will be true only when the limitation of least square method is carried out.
- ❖ The bank will run in present position.
- ❖ The economy will remain in the present stage.
- ❖ Nepal Rastra Bank will not change its guidelines to commercial banks.

#### 4.2.2.1 Trend Analysis of Total Deposit

Under this topic, an effort has been made to calculate the trend values of deposit of NABIL and HBL for five years from 2007/08 to 2011/12 and forecast for five years from 2012/13 to 2016/17. The following table shows the trend value of deposit of NABIL and HBL for ten years from 2007/08 to 2016/17.

**Figure No : 1**

**Trend Value of Total Deposit**



Source : Appendix C.1

The above figures shows that total deposit of both NABIL and HBL are in increasing trend. Things remaining the same the total deposit of NABIL in 2016/17 is predicted is Rs. 85073.20 million, which is the highest amount under the study period and same year of HBL, be Rs. 65599.30 million.

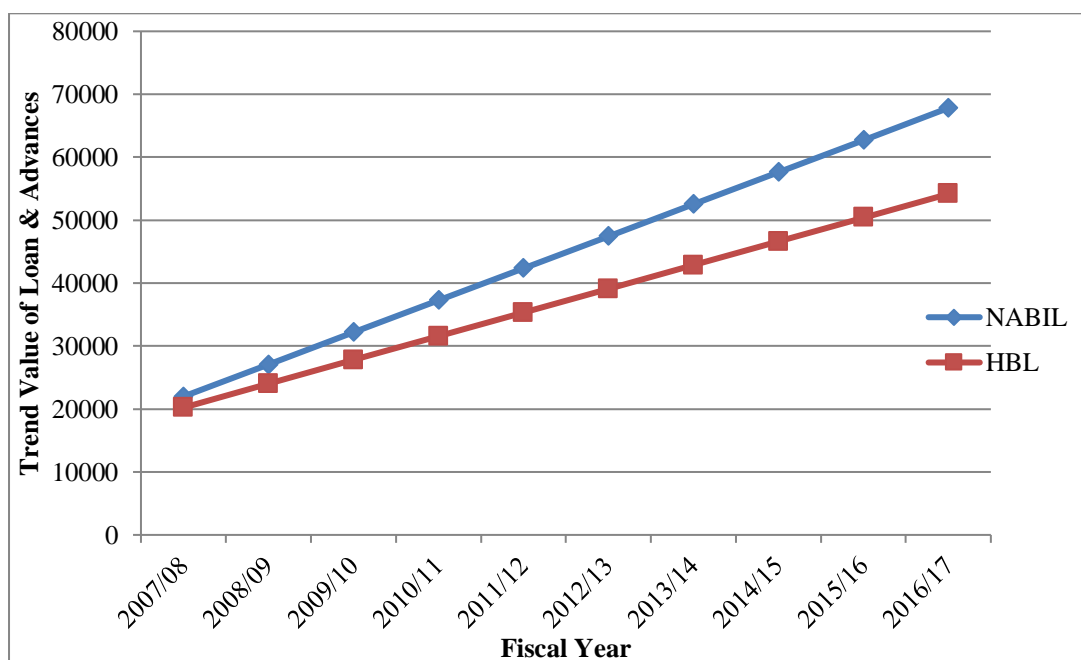
From the above analysis, it is found that the deposit position of both banks NABIL and HBL are increasing in the same proportion. But NABIL will be successful to deposit huge amount in comparison to HBL.

#### 4.2.2.2 Trend Analysis of Loan & Advances

Here the trend value of Loan & Advances of NABIL and HBL have been calculated for five years from 2007/08 to 2011/12 and forecast for five years from 2012/13 to 2016/17. The following table shows the trend value of Loan & Advances of NABIL and HBL for ten years from 2007/08 to 2016/17.

**Figure No. 2**

**Trend Value of Loan & Advances**



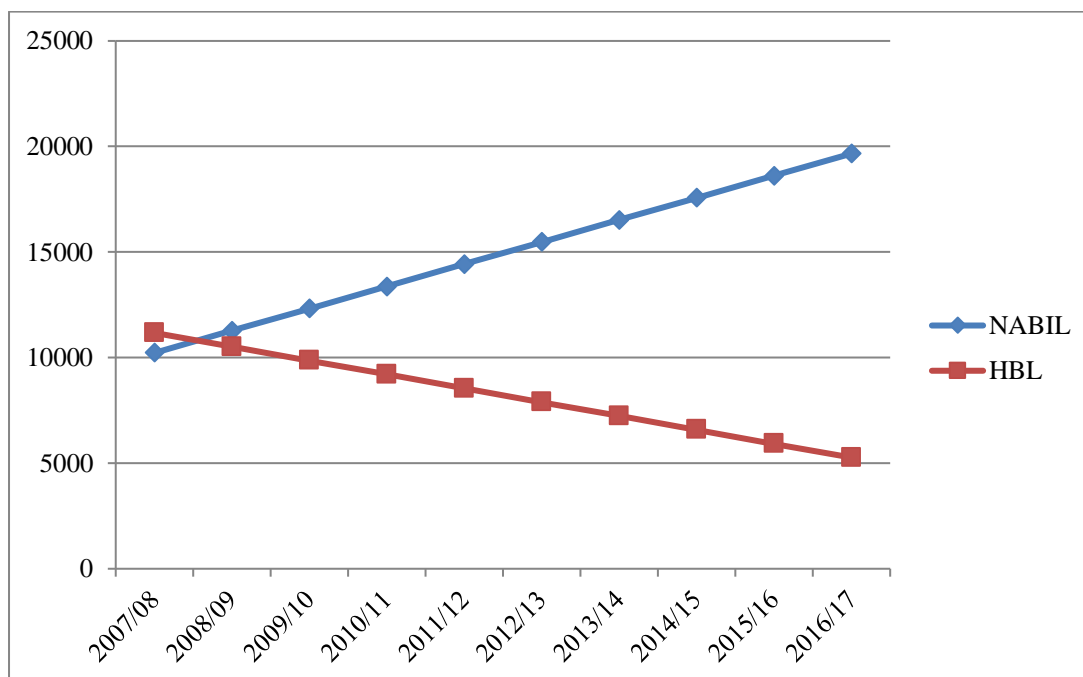
Source : Appendix C.2

The above figure shows that the trend value of Loan & Advances of both banks are in increasing trend. If other things remain the same, the Loan & Advances of NABIL in 2016/17 will be Rs. 67819.50 million. Similarly, the same of HBL will be Rs. 54156.50 million, which is the highest during the study period. From the above analysis, it is clear that NABIL utilization of deposit in term of Loan & Advances is comparatively high than that of HBL.

#### 4.2.2.3 Trend Analysis of Total Investment

Under this topic, the trend value of total investment for five years from the 2007/08 to 2011/12 have been calculated and forecast next five years from 2012/13 to 2016/17 the following table and figure show the trend value of total investment of ten years from 2007/08 to 2016/17 of NABIL and HBL.

**Figure No. 3**  
**Trend Value of Total Investment**



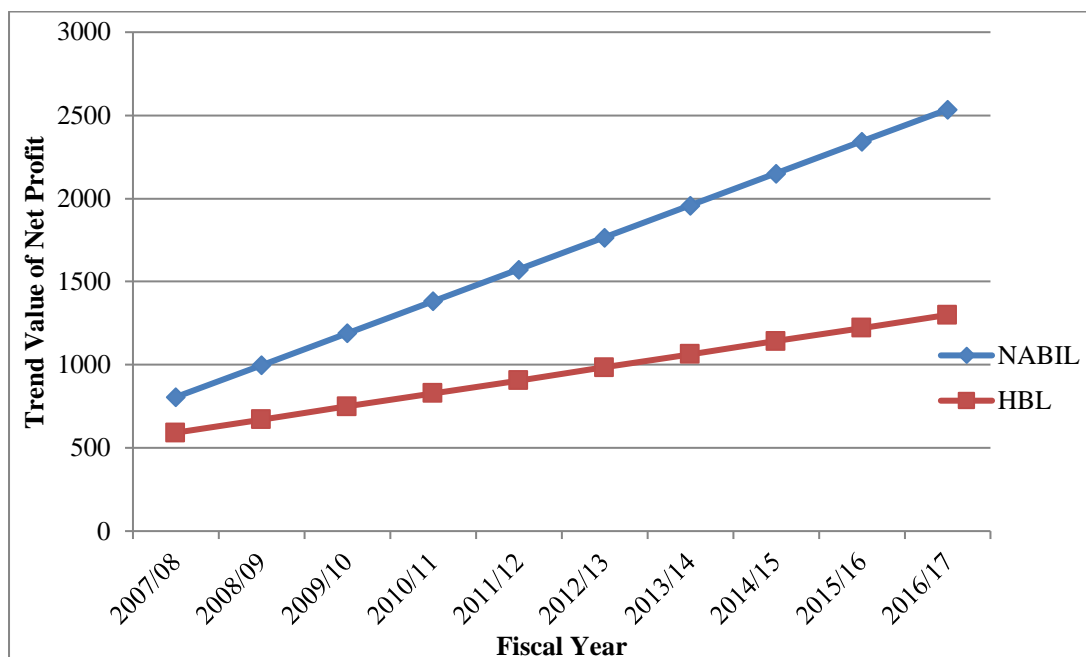
Source : Appendix C.3

From the above figure, it is found that the trend value of total investment of NABIL is increasing trend whereas HBL is decreasing trend. Other things remaining the same the total investment of NABIL will be highest in 2016/17 Rs. 19661.70 million which is highest amount under the study period. The highest in year 2007/08 Rs. 11170.60 million and the lowest will be in 2016/17 Rs. 5267.50 million during the study period. So, it can be concluded that NABIL is far better than that of HBL.

#### 4.2.2.4 Trend Analysis of Net Profit

Under this topic, an effort has been made to analyze, net profit for five years from the 2007/08 to 2011/12 have been calculated and forecast next five years from 2012/13 to 2016/17 the following table and figure show the trend value of net profit of ten years from 2007/08 to 2016/17 of NABIL and HBL.

**Figure No. 4**  
**Trend Value of Net Profit**



Source : Appendix C.4

The above comparative figure show that the trend value of net profit of both banks NABIL and HBL are in increasing trend. Other thing remaining the same, the net profit of NABIL in 2016/17 will be Rs. 2534.90 million, which the highest under the review period. Similarly, the same of HBL will be Rs. 1300.10 million, which is the highest amount under the study period.

### 4.3 Major Findings of the Study

The main finding of the study are derived on the analysis of financial and statistical data of NABIL and HBL are given below,

#### 4.3.1 Liquidity Ratio

The liquidity position of NABIL and HBL reveals that:

- The mean current ratio of HBL is slightly higher than that of NABIL likewise; variability of NABIL is more uniform than HBL in comparison.
- The mean ratio of cash and bank balance to total deposit of NABIL is lower in comparison to HBL. It means HBL has better liquidity position that NABIL. Moreover, NABIL's ratios are more consistency than HBL.

- The mean ratio of cash and bank balance to current assets of NABIL is higher than HBL. However, HBL's ratios are more uniform than that of NABIL.
- The mean ratio of investment on government securities to current assets of NABIL is lower in comparison to HBL. We found that NABIL's ratios are less consistency than that of HBL.
- The mean ratio of loan & advances of current assets of NABIL is higher than that of HBL. Moreover, NABIL's ratios are less variable in comparison to HBL.

#### **4.3.2 Assets Management Ratio**

The assets management ratios of NABIL and HBL reveal that:

- The mean ratio of loan & advances and total deposit of NABIL is higher than that of HBL. Likewise, NABIL's ratios are less variable than HBL.
- The mean ratio of total investment to total deposit of NABIL is higher in comparison to HBL and the ratios of NABIL are more consistency than that of HBL.
- In case of loan & advances to total assets ratio, the NABIL's ratio is less than that of HBL and NABIL's ratios are less variable than that of HBL in comparison.
- The mean ratio of investment on government securities to total assets of NABIL is lower than that of HBL. NABIL's ratios are more variable in comparison to HBL.
- Similarly, the mean ratio of investment on share & debenture to total assets of NABIL is higher than that of HBL. NABIL's ratios are more consistency in comparison to HBL.

#### **4.3.3 Profitability Ratio**

The profitability ratios of NABIL and HBL reveal that:

- The mean ratio of return on loan & advances of NABIL is higher than that of HBL. Likewise, the ratios of NABIL are more variability in comparison to HBL.
- The mean ratio of return on total assets of NABIL is higher than HBL and NABIL's ratios are less consistency than HBL.

- The mean ratio of total interest earned to total outside assets of NABIL is lower than HBL. However, NABIL's ratios are more uniform than HBL.
- The average ratio of total interest earned to total assets of NABIL is higher than HBL and the ratios of NABIL are more variable than HBL.
- The mean ratio of total interest paid to total assets of NABIL is slightly lower than HBL. And NABIL's ratios are also slightly consistency than HBL.
- The mean ratio of total interest earned to operating income of NABIL is higher than that of HBL and NABIL's ratios are more consistency than that of HBL.

#### **4.3.4 Risk Ratio**

The risk ratios of NABIL and HBL show that:

- By considering risk ratio, we found that the liquidity risk ratio of NABIL is less than that of HBL. However, NABIL has maintained more consistency in comparison to HBL.
- The mean ratio of credit risk ratio of NABIL is also lower than that of HBL and NABIL's ratios are less variability in comparison to HBL.

#### **4.3.5 Growth Ratio**

The growth ratio of NABIL and HBL shows that:

- The mean growth rate of total deposit of NABIL is more than that of HBL i.e.  $11.816\% > 8.81\%$  and NABIL's ratios are more variability than HBL.
- The mean growth rate of total loan & advances of NABIL is more than that of HBL i.e.  $14.672\% > 12.722\%$ . NABIL's ratios are consistency than that of HBL.
- The mean growth rate of total investment of NABIL is higher than that of HBL and NABIL's ratios are more variability in comparison to HBL.
- The growth rate of net profit of NABIL is slightly higher than that of HBL i.e.  $13.86\% > 13.768\%$ . NABIL's ratios are more consistency in comparison to HBL.

#### **4.3.6 Coefficient of Correlation Analysis**

Coefficient of correlation analysis between variables of NABIL and HBL shows that:

- Coefficient of correlation between total deposit and loan & advances of both banks has positive value. The value of 'r' of NABIL is lower than that of HBL. In case of probable error, both have significant relationship between total deposit and loan & advances.
- Likewise, the relationship between total deposit and total investment of NABIL positive and significant relationship. HBL has negative relationship and there is no significant relationship with two variables.
- Coefficient of correlation between total outside assets and net profit of banks has positive value. Likewise, the relationship between total outside assets and net profit of NABIL is significantly correlated whereas HBL has no significant relationship with two variables.
- Similarly, coefficient of correlation between total deposit and net profit of banks has positive value. NABIL's coefficient of correlation is higher than that of HBL. It has been found that there is significant relationship in case of NABIL and no significant relationship in case of HBL.
- Both banks have positive coefficient of correlation with total deposit and interest earned. It has been found that there is significant relationship between total deposit and interest earned in case of both banks.
- Coefficient of correlation between loan & advances and interest paid of both banks has positive relationship and significant relationship between two banks' dependent and independent variables.
- Coefficient of correlation between total assets and net profit of both banks has positive relationship. It has been found that there is significant relationship between these variables in case of NABIL .Whereas HBL has no significant relationship between these variables.

#### **4.3.7 Trend Analysis**

The trend analysis of deposit, Loan & Advances, total investment and net profit for next years of NABIL and HBL shows that:

- The trend value of total deposit of both banks NABIL and HBL are found to be increasing trend. The increment ratio on total deposit of NABIL is higher in comparison to HBL. The trend value of total deposit in case of NABIL in

2016/17 will be Rs. 85073.20 million which is higher than that of HBL. Whereas the same value of HBL will be Rs. 65599.30 million.

- The trend value of Loan & Advances of both banks NABIL and HBL have been seen to be in increasing trend. The trend value of NABIL in 2016/17 will be Rs. 67819.50 million and of HBL will be Rs. 54156.50 million which is lower than that of NABIL.
- The trend value of total investment of NABIL is in increasing trend and HBL is in decreasing trend. The trend value of NABIL in 2016/17 will be Rs. 19661.70 million and the trend value of HBL in 2016/17 will be Rs. 5267.50 million, which is lower than NABIL in comparison.
- The trend values of net profit of both banks are in increasing trend. The trend value of NABIL in 2016/17 will be Rs. 2534.90 million and same value will be Rs. 1300.10 million, which is the lowest amount in comparatively.

## **Chapter – V**

### **Summary, Conclusion and Recommendation**

This chapter is developed from the comparative analysis of various aspects of the investment of the commercial banks by using some important financial as well as statistical tools. After completing the basic analysis required for the study the final and the most important tasks of the researchers are to be summarized the study and recommended for the further importance. This would be meaningful to the top management of the concerned banks to initiate the action and achieve the desired results.

#### **5.1 Summary and Conclusion**

From the above analysis, it has been found that liquidity position of both banks have satisfactory. The liquidity position of HBL is comparatively better than NABIL. It has the highest current ratio, cash and bank to total deposit and cash and bank to current assets is better on NABIL. This may be the bank is in a good position to meet the daily cash requirement but it has to bear high cost of fund. Since, investment on government securities of HBL is far better than NABIL. But high ratio shows unstable policy of investment. At last, we can be concluded that HBL has good deposit collection and can success to invest more amounts on government securities whereas NABIL has success on loan & advances.

The asset management ratios of both banks are satisfactory, it can be shown that NABIL is able to provide its total deposits as Loan & Advances in comparison to HBL. Similarly, NABIL has more portions of total deposits invested as investment in different sectors. Moreover, NABIL has not utilized its assets as loan & advances in comparison to HBL. Similarly, due to security NABIL has not invested its assets in government securities and it has able to invest its assets into other company's share and debentures than that of HBL.

It can be concluded that profitability proportion of NABIL is effective in comparison to HBL. From the study, in all case of NBAIL in term of making return from loan & advances and from assets similarly, interest earning capability from total assets and operating income is far better than HBL. Beside this, HBL is better in interest making from outside assets and interest paying ability from total assets.

From the risk ratios point of views, it can be concluded that NABIL has bared lower degree of liquidity risk and credit risk in comparison to HBL regarding various aspects of banking activities. However, it can be said that NABIL has followed a stable liquidity policy justified by lower coefficient of variation.

NABIL has successfully collected and utilized fund among its customer due to high mean growth rate of total deposit and loan & advances in comparison to HBL. NABIL has able to invest its fund on secured field, only then it can be succeed to increase net profit in comparison to HBL. HBL's mean growth rate of investment is negative so it has to rethink to increase its investment on secured field.

From the study we can be concluded that both banks have significant relationship between total deposits and loans & advances; total deposits and interest earned and loans & advances and interest paid. NABIL has significant correlated with total deposit and investment; outside assets and net profit; total deposit and net profit and assets and net profit whereas HBL has no significant relationship with these two variables.

From trend analysis of total deposit, Loan & Advances, total investment and net profit of both banks are increasing trend except total investment of HBL has decreasing trend.

## **5.2 Recommendation**

Recommendations are the final output of the whole study. It helps to convey positive information and proper way of improvement for the concerned banks and other interest researches in upcoming days. Various analyses have been done still these steps. On the basis of analysis and finding of this study, following suggestion and recommendation can be advanced to overcome weakness, inefficiency and satisfactory improvement policy of NABIL and HBL.

### **Maintain Standard Ratio**

The current ratio of NABIL is fluctuating and the ratio of HBL is increasing over the study period but it is not satisfactory. Both the banks should maintain its current ratio better than this to meet obligation due within one year. As a conventional rule the current ratio 2: 1 is employed as a standard of comparison. So NABIL and HBL should have to improve its current assets to make the firm liquid. Lastly, below 2

current ratio means not able to meet its liability paying or more than 2 is harmful to earn more because of freeze amount.

### **Liberal Lending Policy**

To get success in competitive banking environment depositor's money must be utilized as Loan & Advances. It found that NABIL has higher total deposit ratio than HBL. Both banks ratio are fluctuating trend which is not satisfactory. So, both banks have recommended following liberal policy, investing more and more percentage of total deposit in Loan & Advances and maintaining more stability on their investment policy.

### **More Investment on Government Securities**

From average, it has been found that NABIL has not invested more amounts in government securities than that of HBL and both banks in fluctuating trend too. Investment on those securities issued by government i.e. treasury bills, development bonds, saving certificates are free of risk and highly liquid in nature such as securities fields the low interest rate of particular maturity due to lower risk to future. So, both banks are strongly recommended to give more importance to invest amount on government securities from the view point of safety rather than making cash freeze.

### **Increase Investment on Share and Debentures**

It's good to invest more on share and debenture as it encourages financial economic development of the country. Investment on share and debenture ratio average of NBIL is better than HBL but NABIL has fluctuating and HBL has decreasing trend. So, NABIL is recommended to stable its ratio and both banks should increase invest more on share and debentures to earn more profit.

### **Minimize Loan Loss**

Loan & Advances takes large amount of the bank in the asset side. So, proper utilization and maintenance of Loan & Advances increase profit for the banks. Return from Loan & Advance of NABIL is higher than that of HBL but nominal percentage and both banks has fluctuating trend also. So, both banks have to recommend that their income generating form Loan & Advances should increase. Many banks having suffering from the loan loss for this, banks should encourage in lending business for

project. Risk is high but the project is important from the point of view of national economy. The project should be allowed to make them capable to generate their own focus and to repay loans timely. Lastly they should blocked non-performing assets which reduce income and should be enacted loan recovery act.

### **Maintain Sound Net Profit**

Profit is the life blood of any organization. Profit maximization is the main objectives of any banking industries. The growth ratio of net profit of NABIL is high in comparison to HBL. So, HBL is recommended to diversify its investment on more profitable sector and adopt sound investment policy. By seeing, the trends of net profit of both banks are fluctuating so they should maintain stable or increase their net profit.

### **Considering Other Forms of Risk**

Both banks have to consider other types of risks such as; inflation risk, currency or exchange rate risk, political risk and crime risk. Inflation risk the probability that an increasing price level for goods and services will unexpectedly erode the purchasing power of bank earnings and the return to its shareholders. Currency or exchange rate risk the probability that fluctuations in the market value of foreign currencies will create losses for the bank by altering the market values of its assets and liabilities. Political risk the probability that changes in government laws or regulations, home or abroad, will adversely affect the bank's earnings, operations and future prospects. Crime risk the probability that bank owners, employees or customers may choose to violate the law and subject the bank to loss from fraud, embezzlement, theft or other illegal acts.

### **Social Responsibility**

Both banks need to learn about how private profit and social profit can be brought closer to each other through corporate social responsibility and a new business ethics. They will have to grapple with, make its contribution in its own innovative ways, through job creation primarily and reckon with the 'grand equity' debates of the day, so to speak: namely, gender empowerment, dalit and ethnic inclusion and regional balance. It could be through micro-finance or small medium enterprise lending. These investments can broad and multiple impacts on the economy and can be proven very

good in Nepal. However, it must be realized that it doesn't happen overnight. They have to good systems, technologies, know-how and capable human capital.

### **Expansion of Branches**

Economic growth of the country depends upon the high grow of the commercial banks. If the services of commercial bank expand all over the nation it will collect idle money from different areas and can be utilized for income generation purpose.

NABIL has succeeded to expand more branches office in comparison to HBL in the country but both banks' braches have been limited only at the towns. Therefore, these banks are recommended to expand its branches and provide banking service and facilities to the rural and communities to accelerate rural areas economic development through opening new more branches in particular areas after making feasibility study and study saving and business potentiality of those areas.

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## Appendix-A.1

### Liquidity Ratios

#### i. Current Ratio (NABIL & HBL)

Fiscal Year	Current Asset	Current Liabilities	Ratio	Current Asset	Current Liabilities	Ratio
2007/08	31,241,831,859	34,455,560,160	0.9067	29,570,647,611	32,802,540,035	0.9014
2008/09	36,086,132,179	40,437,156,867	0.8924	33,847,040,719	35,700,441,532	0.9480
2009/10	45,673,444,978	48,015,482,818	0.9512	37,675,716,100	38,777,919,483	0.9715
2010/11	52,870,373,705	53,274,920,380	0.9924	43,186,134,705	42,240,725,611	1.0223
2011/12	56,256,882,229	57,449,412,884	0.9792	52,189,706,325	49,232,417,749	1.0600

Source: Appendix D.1 & D.2

#### ii. Cash and Bank Balance to Total Deposit Ratio (NABIL & HBL)

Fiscal Year	Cash and Bank Balance	Total Deposit	Ratio (%)	Cash and Bank Balance	Total Deposit	Ratio (%)
2007/08	5,229,895,405	31,915,047,467	16.39	2,601,459,225	31,482,789,356	8.26
2008/09	4,790,096,476	37,348,255,840	12.82	4,841,585,071	34,681,345,179	13.96
2009/10	5,430,907,688	46,410,700,628	11.70	5,229,714,931	37,611,202,274	13.90
2010/11	6,091,045,653	49,696,112,934	12.26	5,211,795,409	40,920,627,030	12.74
2011/12	6,651,222,292	55,023,695,253	12.09	8,062,049,166	47,730,993,909	16.89

Source: Appendix D.1 & D.2

#### iii. Cash and Bank Balance to Current Asset Ratio (NABIL & HBL)

Fiscal Year	Cash and Bank Balance	Current Asset	Ratio (%)	Cash and Bank Balance	Current Asset	Ratio (%)
2007/08	5,229,895,405	31,241,831,859	16.74	2,601,459,225	29,570,647,611	8.80
2008/09	4,790,096,476	36,086,132,179	13.27	4,841,585,071	33,847,040,719	14.30
2009/10	5,430,907,688	45,673,444,978	11.89	5,229,714,931	37,675,716,100	13.88
2010/11	6,091,045,653	52,870,373,705	11.52	5,211,795,409	43,186,134,705	12.07
2011/12	6,651,222,292	56,256,882,229	11.82	8,062,049,166	52,189,706,325	15.45

Source: Appendix D.1 & D.2

**Appendix-A.2****iv. Investment on Government Securities to Current Asset Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Investment on Government Securities</b>	<b>Current Asset</b>	<b>Ratio (%)</b>	<b>Investment on Government Securities</b>	<b>Current Asset</b>	<b>Ratio (%)</b>
2007/08	4,646,883,136	31,241,831,859	14.87	7,471,667,904	29,570,647,611	25.27
2008/09	3,706,102,662	36,086,132,179	10.27	4,212,300,379	33,847,040,719	12.45
2009/10	7,973,664,007	45,673,444,978	17.46	4,465,372,409	37,675,716,100	11.85
2010/11	8,745,230,498	52,870,373,705	16.54	6,407,362,541	43,186,134,705	14.84
2011/12	7,999,977,303	56,256,882,229	14.22	9,162,223,297	52,189,706,325	17.56

Source: Appendix D.1 &amp; D.2

**v. Loans and Advances to Current Asset Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Loans and Advances</b>	<b>Current Asset</b>	<b>Ratio (%)</b>	<b>Loans and Advances</b>	<b>Current Asset</b>	<b>Ratio (%)</b>
2007/08	21,365,053,318	31,241,831,859	68.39	19,497,520,482	29,570,647,611	65.94
2008/09	27,589,933,041	36,086,132,179	76.46	24,793,155,269	33,847,040,719	73.25
2009/10	32,268,873,283	45,673,444,978	70.65	27,980,628,760	37,675,716,100	74.27
2010/11	38,034,097,554	52,870,373,705	71.94	31,566,976,755	43,186,134,705	73.10
2011/12	41,605,682,634	56,256,882,229	73.96	34,965,433,862	52,189,706,325	67.00

Source: Appendix D.1 &amp; D.2

**Asset Management (Efficiency) Ratio****i. Loan & Advances to Total Deposit Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Loan &amp; Advances</b>	<b>Total Deposit</b>	<b>Ratio (%)</b>	<b>Loan &amp; Advances</b>	<b>Total Deposit</b>	<b>Ratio (%)</b>
2007/08	21,365,053,318	31,915,047,467	66.94	19,497,520,482	31,482,789,356	61.93
2008/09	27,589,933,041	37,348,255,840	73.87	24,793,155,269	34,681,345,179	71.49
2009/10	32,268,873,283	46,410,700,628	69.53	27,980,628,760	37,611,202,274	74.39
2010/11	38,034,097,554	49,696,112,934	76.53	31,566,976,755	40,920,627,030	77.14
2011/12	41,605,682,634	55,023,695,253	75.61	34,965,433,862	47,730,993,909	73.26

Source: Appendix D.1 &amp; D.2

**Appendix-A.3****ii. Total Investment to Total Deposit Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Total Investment</b>	<b>Total Deposit</b>	<b>Ratio (%)</b>	<b>Total Investment</b>	<b>Total Deposit</b>	<b>Ratio (%)</b>
2007/08	9,939,771,428	31,915,047,467	31.14	13,340,176,785	31,482,789,356	42.37
2008/09	10,826,379,001	37,348,255,840	28.99	8,710,690,646	34,681,345,179	25.12
2009/10	13,703,024,181	46,410,700,628	29.53	8,444,910,165	37,611,202,274	22.45
2010/11	13,081,205,527	49,696,112,934	26.32	8,769,938,671	40,920,627,030	21.43
2011/12	14,055,850,055	55,023,695,253	25.55	10,031,580,497	47,730,993,909	21.02

Source: Appendix D.1 &amp; D.2

**iii. Loan & Advances to Total Assets Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Loan &amp; Advances</b>	<b>Total Assets</b>	<b>Ratio (%)</b>	<b>Loan &amp; Advances</b>	<b>Total Assets</b>	<b>Ratio (%)</b>
2007/08	21,365,053,318	37,132,759,149	57.54	19,497,520,482	36,175,531,637	53.90
2008/09	27,589,933,041	43,867,397,504	62.89	24,793,155,269	39,320,322,069	63.05
2009/10	32,268,873,283	52,150,237,343	61.88	27,980,628,760	42,717,124,613	65.50
2010/11	38,034,097,554	58,141,437,401	65.42	31,566,976,755	46,736,203,884	67.54
2011/12	41,605,682,634	63,200,298,255	65.83	34,965,433,862	54,364,427,882	64.32

Source: Appendix D.1 &amp; D.2

**iv. Investment on Govt. Securities to Total Assets Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Investment on Government Securities</b>	<b>Total Assets</b>	<b>Ratio (%)</b>	<b>Investment on Government Securities</b>	<b>Total Assets</b>	<b>Ratio (%)</b>
2007/08	4,646,883,136	37,132,759,149	12.51	7,471,667,904	36,175,531,637	20.65
2008/09	3,706,102,662	43,867,397,504	8.45	4,212,300,379	39,320,322,069	10.71
2009/10	7,973,664,007	52,150,237,343	15.29	4,465,372,409	42,717,124,613	10.45
2010/11	8,745,230,498	58,141,437,401	15.04	6,407,362,541	46,736,203,884	13.71
2011/12	7,999,977,303	63,200,298,255	12.66	9,162,223,297	54,364,427,882	16.85

Source: Appendix D.1 &amp; D.2

**Appendix-A.4****v. Investment on Share, Debenture to Total Assets Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Investment on Share, Debenture</b>	<b>Total Assets</b>	<b>Ratio (%)</b>	<b>Investment on Share, Debenture</b>	<b>Total Assets</b>	<b>Ratio (%)</b>
2007/08	5,292,888,292	37,132,759,149	14.25	5,868,508,881	36,175,531,637	16.22
2008/09	7,120,276,339	43,867,397,504	16.23	4,498,390,267	39,320,322,069	11.44
2009/10	5,729,360,174	52,150,237,343	10.99	3,979,537,756	42,717,124,613	9.32
2010/11	4,335,975,029	58,141,437,401	7.46	2,362,576,130	46,736,203,884	5.06
2011/12	6,055,872,752	63,200,298,255	9.58	869,357,200	54,364,427,882	1.60

Source: Appendix D.1 &amp; D.2

**Profitability Ratio:****i. Return on Loan & Advances (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Net Profit</b>	<b>Loan &amp; Advances</b>	<b>Ratio</b>	<b>Net Profit</b>	<b>Loan &amp; Advances</b>	<b>Ratio</b>
2007/08	1,031,053,098	21,365,053,318	4.82	635,868,519	19,497,520,482	3.26
2008/09	746,468,394	27,589,933,041	2.71	752,834,735	24,793,155,269	3.04
2009/10	1,141,051,430	32,268,873,283	3.54	508,798,193	27,980,628,760	1.82
2010/11	1,337,745,485	38,034,097,554	3.52	893,115,143	31,566,976,755	2.83
2011/12	1,696,276,110	41,605,682,634	4.08	958,638,260	34,965,433,862	2.74

Source: Appendix D.1 &amp; D.2

**ii. Return on Total Assets Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Net Profit</b>	<b>Total Assets</b>	<b>Ratio</b>	<b>Net Profit</b>	<b>Total Assets</b>	<b>Ratio</b>
2007/08	1,031,053,098	37,132,759,149	2.78	635,868,519	36,175,531,637	1.76
2008/09	746,468,394	43,867,397,504	1.70	752,834,735	39,320,322,069	1.91
2009/10	1,141,051,430	52,150,237,343	2.19	508,798,193	42,717,124,613	1.19
2010/11	1,337,745,485	58,141,437,401	2.30	893,115,143	46,736,203,884	1.91
2011/12	1,696,276,110	63,200,298,255	2.68	958,638,260	54,364,427,882	1.76

Source: Appendix D.1 &amp; D.2

**Appendix-A.5****iii. Total Interest Earned to Total Outside Asset (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Total Interest Earned</b>	<b>Total Outside Asset</b>	<b>Ratio</b>	<b>Total Interest Earned</b>	<b>Total Outside Asset</b>	<b>Ratio</b>
2007/08	1,978,696,727	44,997,014,359	4.40	1,963,647,472	32,837,697,267	5.98
2008/09	2,798,486,196	38,416,312,042	7.28	2,342,198,179	33,503,845,915	6.99
2009/10	4,049,714,179	45,971,897,464	8.81	3,148,605,196	36,425,538,925	8.64
2010/11	5,254,030,458	51,115,303,081	10.28	4,326,140,588	40,336,915,426	10.73
2011/12	6,133,739,091	55,661,532,689	11.02	4,724,887,323	44,997,014,359	10.50

Source: Appendix D.1 &amp; D.2

**iv. Total Interest Earned to Total Assets (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Total Interest Earned</b>	<b>Total Assets</b>	<b>Ratio</b>	<b>Total Interest Earned</b>	<b>Total Assets</b>	<b>Ratio</b>
2007/08	1,978,696,727	37,132,759,149	5.33	1,963,647,472	36,175,531,637	5.43
2008/09	2,798,486,196	43,867,397,504	6.38	2,342,198,179	39,320,322,069	5.96
2009/10	4,049,714,179	52,150,237,343	7.77	3,148,605,196	42,717,124,613	7.37
2010/11	5,254,030,458	58,141,437,401	9.04	4,326,140,588	46,736,203,884	9.26
2011/12	6,133,739,091	63,200,298,255	9.71	4,724,887,323	54,364,427,882	8.69

Source: Appendix D.1 &amp; D.2

**v. Total Interest Paid to Total Assets Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Total Interest Paid</b>	<b>Total Assets</b>	<b>Ratio</b>	<b>Total Interest Paid</b>	<b>Total Assets</b>	<b>Ratio</b>
2007/08	758,436,212	37,132,759,149	2.04	823,744,838	36,175,531,637	2.28
2008/09	1,153,280,052	43,867,397,504	2.63	934,778,015	39,320,322,069	2.38
2009/10	1,960,107,902	52,150,237,343	3.76	1,553,530,687	42,717,124,613	3.64
2010/11	2,955,430,746	58,141,437,401	5.08	2,414,807,243	46,736,203,884	5.17
2011/12	3,155,490,469	63,200,298,255	4.99	2,816,441,404	54,364,427,882	5.18

Source: Appendix D.1 &amp; D.2

**Appendix-A.6****vi. Interest Earned to Total Operating Income (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Interest Earned</b>	<b>Total Operating Income</b>	<b>Ratio</b>	<b>Interest Earned</b>	<b>Total Operating Income</b>	<b>Ratio</b>
2007/08	1,978,696,727	1,670,427,262	118.45	1,963,647,472	1,597,495,036	122.92
2008/09	2,798,486,196	2,220,983,026	126.00	2,342,198,179	1,988,047,919	117.81
2009/10	4,049,714,179	2,766,076,583	146.41	3,148,605,196	2,157,958,409	145.91
2010/11	5,254,030,458	3,046,127,914	172.48	4,326,140,588	2,586,743,976	167.24
2011/12	6,133,739,091	3,990,479,187	153.71	4,724,887,323	2,911,212,795	162.30

Source: Appendix D.1 &amp; D.2

**Risk Ratio****i. Liquidity Risk Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Cash &amp; Bank Balance</b>	<b>Total Deposit</b>	<b>Ratio</b>	<b>Cash &amp; Bank Balance</b>	<b>Total Deposit</b>	<b>Ratio</b>
2007/08	5,229,895,405	31,915,047,467	16.39	2,601,459,225	31,482,789,356	8.26
2008/09	4,790,096,476	37,348,255,840	12.83	4,841,585,071	34,681,345,179	13.96
2009/10	5,430,907,688	46,410,700,628	11.70	5,229,714,931	37,611,202,274	13.90
2010/11	6,091,045,653	49,696,112,934	12.26	5,211,795,409	40,920,627,030	12.74
2011/12	6,651,222,292	55,023,695,253	12.09	8,062,049,166	47,730,993,909	16.89

Source: Appendix D.1 &amp; D.2

**ii. Credit Risk Ratio (NABIL & HBL)**

<b>Fiscal Year</b>	<b>Loan &amp; Advances</b>	<b>Total Assets</b>	<b>Ratio</b>	<b>Loan &amp; Advance</b>	<b>Total Assets</b>	<b>Ratio</b>
2007/08	21,365,053,318	37,132,759,149	57.54	19,497,520,482	36,175,531,637	53.90
2008/09	27,589,933,041	43,867,397,504	62.89	24,793,155,269	39,320,322,069	63.05
2009/10	32,268,873,283	52,150,237,343	61.88	27,980,628,760	42,717,124,613	65.50
2010/11	38,034,097,554	58,141,437,401	65.42	31,566,976,755	46,736,203,884	67.54
2011/12	41,605,682,634	63,200,298,255	65.83	34,965,433,862	54,364,427,882	64.32

Source: Appendix D.1 &amp; D.2

## Appendix B.1

### i. Correlation between Total Deposit and Loans & Advances

#### a. Correlation between Total Deposit and Loans & Advances of NABIL (in million).

F/Y	Deposit(X)	Loans & Advance(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,915	21,365	-12163.4	-10807	147948299.6	116795571.8	131452296
2008/09	37,348	27,589	-6730.4	4583.2	45298284.16	21005722.24	-30846769.3
2009/10	46,410	32,268	2331.6	95.8	5436358.56	9177.64	223367.28
2010/11	49,696	38,034	5617.6	5861.8	31557429.76	34360699.24	32929247.7
2011/12	55,023	41,605	10944.6	9432.8	119784269.2	88977715.84	103238223
$\Sigma X = 220392$		$\Sigma Y = 160861$		$350024641.2$		$261148886.8$	$236996365$

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 44078.4$$

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

$$= 32172.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.7839$$

$$r^2 = 0.6145$$

#### Calculation of Probable Error

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

$$P.Er = 0.1163$$

$$6P.Er = 0.6978$$

## Appendix B.2

### b. Correlation between Total Deposit and Loans & Advances of HBL (in million).

F/Y	Deposit(X)	Loans & Advance(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,482	19,497	-7002.8	-8263.2	49039207.84	68280474.24	57865537
2008/09	34,681	24,793	-3803.8	-2967.2	14468894.44	8804275.84	11286635.4
2009/10	37,611	27,980	-873.8	219.8	763526.44	48312.04	-192061.24
2010/11	40,920	31,566	2435.2	3805.8	5930199.04	14484113.64	9267884.16
2011/12	47,730	34,965	9245.2	7204.8	85473723.04	51909143.04	66609817
$\Sigma X = 192424$		$\Sigma Y = 138801$		$155675550.8$		$143526318.8$	$144837812$

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 38484.8$$

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

$$= 27760.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9690$$

$$r^2 = 0.9389$$

#### Calculation of Probable Error

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

$$P.Er = 0.0184$$

$$6P.Er = 0.1106$$

### Appendix B.3

#### ii. Correlation between Total Deposit and Total Investment

##### a. Correlation between Total Deposit and Total Investment of NABIL (in million).

F/Y	Deposit(X)	Total Investment(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,915	9,939	-12163.4	-2381.8	147948299.6	5672971.24	28970786.1
2008/09	37,348	10,826	-6730.4	-1494.8	45298284.16	2234427.04	10060601.9
2009/10	46,410	13,703	2331.6	1382.2	5436358.56	1910476.84	3222737.52
2010/11	49,696	13,081	5617.6	760.2	31557429.76	577904.04	4270499.52
2011/12	55,023	14,055	10944.6	1734.2	119784269.2	3007449.64	18980125.3
	$\Sigma X = 220,392$	$\Sigma Y = 61,604$			350024641.2	13403228.8	65504750.4

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 44078.4$$

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

$$= 12320.8$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9564$$

$$r^2 = 0.9146$$

#### Calculation of Probable Error

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

$$P.Er = 0.0258$$

$$6P.Er = 0.1545$$

## Appendix B.4

### b. Correlation between Total Deposit and Total Investment of HBL (in million).

F/Y	Deposit(X)	Total Investment(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,482	13,340	-7002.8	3481.2	49039207.84	12118753.44	-24378147.4
2008/09	34,681	8,710	-3803.8	-1148.8	14468894.44	1319741.44	4369805.44
2009/10	37,611	8,444	-873.8	-1414.8	763526.44	2001659.04	1236252.24
2010/11	40,920	8,769	2435.2	-1089.8	5930199.04	1187664.04	-2653880.96
2011/12	47,730	10,031	9245.2	172.2	85473723.04	29652.84	1592023.44
$\Sigma X = 192424$		$\Sigma Y = 49,294$			155675550.8	16657470.8	-19833947.2

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 38484.8$$

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

$$= 9858.8$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = -0.3895$$

$$r^2 = 0.1517$$

#### Calculation of Probable Error

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

$$P.Er = 0.2559$$

$$6P.Er = 1.5353$$

## Appendix B.5

### iii. Correlation between Outside Assets and Net Profit

#### a. Correlation between Outside Assets and Net Profit of NABIL (in million).

F/Y	Outside Assets(X)	Net Profit(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	44,997	1,031	-2235	-159.2	4995225	25344.64	355812
2008/09	38,416	746	-8816	-444.2	77721856	197313.64	3916067.2
2009/10	45,971	1,141	-1261	-49.2	1590121	2420.64	62041.2
2010/11	51,115	1,337	3883	146.8	15077689	21550.24	570024.4
2011/12	55,661	1,696	8429	505.8	71048041	255833.64	4263388.2
$\Sigma X = 236160$		$\Sigma Y = 5951$			170432932	502462.8	9167333

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 47232$$

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

$$= 1190.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9906$$

$$r^2 = 0.9814$$

#### Calculation of Probable Error

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

$$P.Er = 0.0056$$

$$6P.Er = 0.0337$$

## Appendix B.6

### b. Correlation between Outside Assets and Net Profit of HBL (in million).

F/Y	Outside Assets(X)	Net Profit(Y)	$x = \bar{X} - X$	$y = \bar{Y} - Y$	$x^2$	$y^2$	$xy$
2007/08	32,837	635	-4782.6	-114.2	22873262.76	13041.64	546172.92
2008/09	33,503	752	-4116.6	2.8	16946395.56	7.84	-11526.48
2009/10	36,425	508	-1194.6	-241.2	1427069.16	58177.44	288137.52
2010/11	40,336	893	2716.4	143.8	7378828.96	20678.44	390618.32
2011/12	44,997	958	7377.4	208.8	54426030.76	43597.44	1540401.12
$\Sigma X = 188098$		$\Sigma Y = 3746$			103051587.2	135502.8	2753803.4

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 37619.6$$

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

$$= 749.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.7369$$

$$r^2 = 0.5431$$

#### Calculation of Probable Error

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

$$P.Er = 0.1378$$

$$6P.Er = 0.8270$$

## Appendix B.7

### iv. Correlation between Total Deposit and Net Profit

#### a. Correlation between Total Deposit and Net Profit of NABIL (in million).

F/Y	Total Deposit(X)	Net Profit(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,915	1,031	-12163.4	-159.2	147948299.6	25344.64	1936413.28
2008/09	37,348	746	-6730.4	-444.2	45298284.16	197313.64	2989643.68
2009/10	46,410	1,141	2331.6	-49.2	5436358.56	2420.64	-114714.72
2010/11	49,696	1,337	5617.6	146.8	31557429.76	21550.24	824663.68
2011/12	55,023	1,696	10944.6	505.8	119784269.2	255833.64	5535778.68
$\Sigma X = 220,392$ $\Sigma Y = 5951$					350024641.2	502462.8	11171784.6

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 44078.4$$

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

$$= 1190.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.8424$$

$$r^2 = 0.7096$$

#### Calculation of Probable Error

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

$$P.Er = 0.0876$$

$$6P.Er = 0.5256$$

## Appendix B.8

### b. Correlation between Total Deposit and Net Profit of HBL (in million).

F/Y	Total Deposit(X)	Net Profit(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,482	635	-7,002.8	-114.2	49039207.84	13041.64	799719.76
2008/09	34,681	752	-3,803.8	2.8	14468894.44	7.84	-10650.64
2009/10	37,611	508	-873.8	-241.2	763526.44	58177.44	210760.56
2010/11	40,920	893	2,435.2	143.8	5930199.04	20678.44	350181.76
2011/12	47,730	958	9,245.2	208.8	85473723.04	43597.44	1930397.76
$\Sigma X = 192424$ $\Sigma Y = 3746$					155675550.8	135502.8	3280409.2

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 38484.8$$

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

$$= 749.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.7142$$

$$r^2 = 0.5101$$

#### Calculation of Probable Error

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

$$P.Er = 0.1478$$

$$6P.Er = 0.8866$$

## Appendix B.9

### v. Correlation between Total Deposit and Total Interest Earning

#### a. Correlation between Total Deposit and Total Interest Earning of NABIL (in million).

F/Y	Total Deposit(X)	Total Interest Earning(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	31915	1978	-12163.4	-2064.4	147948299.6	4261747.36	25110123
2008/09	37348	2798	-6730.4	-1244.4	45298284.16	1548531.36	8375309.76
2009/10	46410	4049	2331.6	6.6	5436358.56	43.56	15388.56
2010/11	49696	5254	5617.6	1211.6	31557429.76	1467974.56	6806284.16
2011/12	55023	6133	10944.6	2090.6	119784269.2	4370608.36	22880780.8
$\Sigma X = 220392$		$\Sigma Y = 20212$			350024641.2	11648905.2	63187886.2

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 44078.4$$

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

$$= 4042.4$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9896$$

$$r^2 = 0.9792$$

#### Calculation of Probable Error

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

$$P.Er = 0.0063$$

$$6P.Er = 0.0376$$

## Appendix B.10

### b. Correlation between Total Deposit and Total Interest Earning of HBL(in million).

F/Y	Total Deposit(X)	Total Interest Earning(Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	xy
2007/08	31,482	1,963	-7,002.8	-1,337.6	49039207.84	1789173.76	9366945.28
2008/09	34,681	2,342	-3,803.8	-958.6	14468894.44	918913.96	3646322.68
2009/10	37,611	3,148	-873.8	-152.6	763526.44	23286.76	133341.88
2010/11	40,920	4,326	2,435.2	1,025.4	5930199.04	1051445.16	2497054.08
2011/12	47,730	4,724	9,245.2	1,423.4	85473723.04	2026067.56	13159617.7
	$\Sigma X = 192,424$	$\Sigma Y = 16,503$			155675550.8	5808887.2	28803281.6

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 38484.8$$

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

$$= 3300.6$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9578$$

$$r^2 = 0.9174$$

#### Calculation of Probable Error

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

$$P.Er = 0.0249$$

$$6P.Er = 0.1495$$

## Appendix B.11

### vi. Correlation between Loans & Advance and Interest Paid

#### a. Correlation between Loan & Advance and Interest Paid of NABIL (in million).

F/Y	Loan & Advance(X)	Interest Paid(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	21,365	758	-10,807.2	-1,238.2	116795571.8	1533139.24	13381475
2008/09	27,589	1,153	-4,583.2	-843.2	21005722.24	710986.24	3864554.24
2009/10	32,268	1,960	95.8	-36.2	9177.64	1310.44	-3467.96
2010/11	38,034	2,955	5,861.8	958.8	34360699.24	919297.44	5620293.84
2011/12	41,605	3,155	9,432.8	1,158.8	88977715.84	1342817.44	10930728.6
	$\Sigma X = 160,861$	$\Sigma Y = 9,981$			261148886.8	4507550.8	33793583.8

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 32172.2$$

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

$$= 1996.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9850$$

$$r^2 = 0.9702$$

#### Calculation of Probable Error

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

$$P.Er = 0.0090$$

$$6P.Er = 0.0540$$

## Appendix B.12

### b. Correlation between Loan & Advance and Interest Paid of HBL(in million).

F/Y	Loan & Interest		$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	$xy$
	Advance(X)	Paid(Y)					
2007/08	19,497	823	8,263.2	-885.0	68280474.24	783225	7312932
2008/09	24,793	934	2,967.2	-774.0	8804275.84	599076	2296612.8
2009/10	27,980	1,553	219.8	-155.0	48312.04	24025	-34069
2010/11	31,566	2,414	3,805.8	706.0	14484113.64	498436	2686894.8
2011/12	34,965	2,816	7,204.8	1,108.0	51909143.04	1227664	7982918.4
$\Sigma X = 138,801$		$\Sigma Y = 8,540$			143526318.8	3132426	20245289

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 27760.2$$

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

$$= 1708$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.9548$$

$$r^2 = 0.9117$$

#### Calculation of Probable Error

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

$$P.Er = 0.0266$$

$$6P.Er = 0.1599$$

### Appendix B.13

#### vii. Correlation between Total Assets and Net Profit

##### **a. Correlation between Total Assets and Net Profit of NABIL (in million).**

F/Y	Total Assets(X)	Net Profit(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	$xy$
2007/08	37,132	1,031	13,766.0	-159.2	189502756	25344.64	2191547.2
2008/09	43,867	746	-7,031.0	-444.2	49434961	197313.64	3123170.2
2009/10	52,150	1,141	1,252.0	-49.2	1567504	2420.64	-61598.4
2010/11	58,141	1,337	7,243.0	146.8	52461049	21550.24	1063272.4
2011/12	63,200	1,696	12,302.0	505.8	151339204	255833.64	6222351.6
	$\Sigma X = 254,490$	$\Sigma Y = 5,951$			444305474	502462.8	12538743

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 50898$$

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

$$= 1190.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.8392$$

$$r^2 = 0.7042$$

#### Calculation of Probable Error

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

$$P.Er = 0.0892$$

$$6P.Er = 0.5353$$

## Appendix B.14

### b. Correlation between Total Assets and Net Profit of HBL(in million).

F/Y	Total Assets(X)	Net Profit(Y)	$x=X-\bar{X}$	$y=Y-\bar{Y}$	$x^2$	$y^2$	xy
2007/08	36,175	635	-7,687.4	-114.2	59096118.76	13041.64	877901.08
2008/09	39,320	752	-4,542.4	2.8	20633397.76	7.84	-12718.72
2009/10	42,717	508	-1,145.4	-241.2	1311941.16	58177.44	276270.48
2010/11	46,736	893	2,873.6	143.8	8257576.96	20678.44	413223.68
2011/12	54,364	958	10,501.6	208.8	110283602.6	43597.44	2192734.08
$\Sigma X = 219,312$ $\Sigma Y = 3,746$					199582637.2	135502.8	3747410.6

Source: Appendix D.1 & D.2

Now, we have

$$N = 5$$

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

$$= 43862.4$$

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

$$= 749.2$$

#### Calculation of Coefficient of Correlation

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

$$r = 0.7206$$

$$r^2 = 0.5193$$

#### Calculation of Probable Error

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

$$P.Er = 0.1450$$

$$6P.Er = 0.8701$$

## Appendix C.1

### i. Trend Analysis of Total Deposit (in million)

#### Trend Value of Total Deposit of NABIL

F/Y(X)	Deposit(y)	x=X-3	x <sup>2</sup>	xy	Y = a + bx	F/Y(X)	x=X-3	Y = a + bx
2007/08(1)	31,915	-2	4	-63,830.0	32365.60	2012/13(6)	3	61647.60
2008/09(2)	37,348	-1	1	-37,348.0	38222.00	2013/14(7)	4	67504.00
2009/10(3)	46,410	0	0	0.0	44078.40	2014/15(8)	5	73360.40
2010/11(4)	49,696	1	1	49,696.0	49934.80	2015/16(9)	6	79216.80
2011/12(5)	55,023	2	4	110,046.0	55791.20	2016/17(10)	7	85073.20
$\Sigma y = 220392$		$\Sigma x^2 = 10$		$\Sigma xy = 58564$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 44078.40$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 5856.40$$

#### Trend Value of Total Deposit of HBL

F/Y(X)	Deposit(y)	x=X-3	x <sup>2</sup>	xy	Y = a + bx	F/Y(X)	x=X-3	Y = a + bx
2007/08(1)	31,482	-2	4	-62964.00	30737.80	2012/13(6)	3	50105.30
2008/09(2)	34,681	-1	1	-34681.00	34611.30	2013/14(7)	4	53978.80
2009/10(3)	37,611	0	0	0.00	38484.80	2014/15(8)	5	57852.30
2010/11(4)	40,920	1	1	40920.00	42358.30	2015/16(9)	6	61725.80
2011/12(5)	47,730	2	4	95460.00	46231.80	2016/17(10)	7	65599.30
$\Sigma y = 192424$		$\Sigma x^2 = 10$		$\Sigma xy = 38735$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 38484.80$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 3873.50$$

## Appendix C.2

### ii. Trend Analysis of Loan & Advances (in million)

#### Trend Value of Loan & Advances of NABIL

F/Y(X)	Loans & Advance(y)	x=X-3	x <sup>2</sup>	xy	Y = a + bx	F/Y(X)	x = X-3	Y = a + bx
2007/08(1)	21,365	-2	4	-42730.00	21987.00	2012/13(6)	3	47449.50
2008/09(2)	27,589	-1	1	-27589.00	27079.50	2013/14(7)	4	52542.00
2009/10(3)	32,268	0	0	0.00	32172.00	2014/15(8)	5	57634.50
2010/11(4)	38,034	1	1	38034.00	37264.50	2015/16(9)	6	62727.00
2011/12(5)	41,605	2	4	83210.00	42357.00	2016/17(10)	7	67819.50
$\Sigma y = 160861$		$\Sigma x^2 = 10$		$\Sigma xy = 50925$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 32172.20$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 5092.50$$

#### Trend Value of Loan & Advances of HBL

F/Y(X)	Loans & Advance(y)	x=X-3	x <sup>2</sup>	xy	Y = a + bx	F/Y(X)	x = X-3	Y = a + bx
2007/08(1)	19,497	-2	4	-38994.00	20218.40	2012/13(6)	3	39072.90
2008/09(2)	24,793	-1	1	-24793.00	23989.30	2013/14(7)	4	42843.80
2009/10(3)	27,980	0	0	0.00	27760.20	2014/15(8)	5	46614.70
2010/11(4)	31,566	1	1	31566.00	31531.10	2015/16(9)	6	50385.60
2011/12(5)	34,965	2	4	69930.00	35302.00	2016/17(10)	7	54156.50
$\Sigma y = 138801$		$\Sigma x^2 = 10$		$\Sigma xy = 37709$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 27760.20$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 3770.90$$

### Appendix C.3

#### iii. Trend Analysis of Total Investment (in million)

##### Trend Value of Total Investment of NABIL

F/Y(X)	Total Investment(y)	x=X-3	$x^2$	xy	Y = a + bx	F/Y(X)	x = X-3	Y = a + bx
2007/08(1)	9,939	-2	4	-19878.00	10223.40	2012/13(6)	3	15466.90
2008/09(2)	10,826	-1	1	-10826.00	11272.10	2013/14(7)	4	16515.60
2009/10(3)	13,703	0	0	0.00	12320.80	2014/15(8)	5	17564.30
2010/11(4)	13,081	1	1	13081.00	13369.50	2015/16(9)	6	18613.00
2011/12(5)	14,055	2	4	28110.00	14418.20	2016/17(10)	7	19661.70
$\Sigma y = 61,604$		$\Sigma x^2 = 10$		$\Sigma xy = 10487$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 12320.80$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 1048.70$$

##### Trend Value of Total Investment of HBL

F/Y(X)	Total Investment(y)	x=X-3	$x^2$	xy	Y = a + bx	F/Y(X)	x = X-3	Y = a + bx
2007/08(1)	13,340	-2	4	-26680.00	11170.60	2012/13(6)	3	7891.10
2008/09(2)	8,710	-1	1	-8710.00	10514.70	2013/14(7)	4	7235.20
2009/10(3)	8,444	0	0	0.00	9858.80	2014/15(8)	5	6579.30
2010/11(4)	8,769	1	1	8769.00	9202.90	2015/16(9)	6	5923.40
2011/12(5)	10,031	2	4	20062.00	8547.00	2016/17(10)	7	5267.50
$\Sigma y = 49,294$		$\Sigma x^2 = 10$		$\Sigma xy = -6559$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 9858.80$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = -655.90$$

## Appendix C.4

### iv. Trend Analysis of Net Profit (in million)

#### Trend Value of Net Profit of NABIL

F/Y(X)	Net Profit(y)	x=X-3	x <sup>2</sup>	xy	Y = a + bx	F/Y(X)	x = X-3	Y = a + bx
2007/08(1)	1,031	-2	4	-2062.00	806.00	2012/13(6)	3	1766.50
2008/09(2)	746	-1	1	-746.00	998.10	2013/14(7)	4	1958.60
2009/10(3)	1,141	0	0	0.00	1190.20	2014/15(8)	5	2150.70
2010/11(4)	1,337	1	1	1337.00	1382.30	2015/16(9)	6	2342.80
2011/12(5)	1,696	2	4	3392.00	1574.40	2016/17(10)	7	2534.90
		$\Sigma y = 5951$	$\Sigma x^2 = 10$	$\Sigma xy = 1921$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 1190.20$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 192.10$$

#### Trend Value of Net Profit of HBL

F/Y(X)	Net Profit(y)	x=X-3	x <sup>2</sup>	xy	Y = a + bx	F/Y(X)	x = X-3	Y = a + bx
2007/08(1)	635	-2	4	-1270.00	591.80	2012/13(6)	3	985.30
2008/09(2)	752	-1	1	-752.00	670.50	2013/14(7)	4	1064.00
2009/10(3)	508	0	0	0.00	749.20	2014/15(8)	5	1142.70
2010/11(4)	893	1	1	893.00	827.90	2015/16(9)	6	1221.40
2011/12(5)	958	2	4	1916.00	906.60	2016/17(10)	7	1300.10
		$\Sigma y = 3746$	$\Sigma x^2 = 10$	$\Sigma xy = 787$				

Source: Appendix D.1 & D.2

Now, we have,

$$N = 5$$

$$a = \frac{\Sigma y}{N} \quad a = 749.20$$

$$b = \frac{\Sigma xy}{\Sigma x^2} \quad b = 78.70$$