

A STUDY ON INVESTMENT PORTFOLIO OF

HIMALAYAN BANK LIMITED

A THESIS

Submitted By

Jaya Sharma

Shankar Dev Campus, Kathmandu

Roll No.: 1865/064

T.U. Reg. No: 7-2-39-171-2004

Submitted To

Office of the Dean

Faculty of Management

Tribhuvan University

In the Partial Fulfillment of the Requirement for the Degree of

Master of Business Studies (M.B.S.)

Kathmandu, Nepal

July, 2012

RECOMMENDATION

This is to certify that the Thesis
Submitted by

JAYA SHARMA

Entitled:

***A STUDY ON INVESTMENT PORTFOLIO OF
HIMALAYAN BANK LIMITED***

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

.....
Associate Prof. Ruchila Pandey
(Thesis Supervisor)

.....
Prof. Bisheshwor Man Shrestha
(Head of Research Department)

.....
Associate Prof. Prakash Singh Pradhan
(Campus Chief)

VIVA-VOCE SHEET

We have conducted the viva-voce of the thesis presented

By

JAYA SHARMA

Entitled:

***A STUDY ON INVESTMENT PORTFOLIO OF
HIMALAYAN BANK LIMITED***

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 requirement for the

Degree of Master's in Business studies (M.B.S.)

Viva-Voce Committee

Head, Research Department

Member (Thesis Supervisor)

Member (External Expert)

DECLARATION

I, hereby, declare that the work reported in this thesis entitled “*A Study On Investment Portfolio Of Himalayan Bank Limited*” submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work done for the partial fulfillment of the requirement for the Masters of Business Studies (MBS) under the supervision of **Associate Prof. Ruchila Pandey** of Shanker Dev Campus, Putalisadak, Kathmandu.

JAYA SHARMA

Researcher

Roll No: 1865/064

Shanker Dev Campus

T.U. Regd. No: 7-2-39-171-2004

Date: - July, 2012

ACKNOWLEDGEMENT

This is an attempt to present thesis entitled “*A Study On Investment Portfolio Of Himalayan Bank Limited*” prepared for partial fulfillment of the requirement for the Degree of Master of Business Studies (MBS) is an outcome of continuous and immeasurable cooperation and support of several hands. I would like to express my heartfelt gratitude to all for their support.

I would like to express my deep and sincere gratitude to my respectable guide **Associate Prof. Ruchila Pandey** for the full initiative support, kind guidance, supervision and inspiration during the preparation of this thesis. It would be impossible to me to give present shape to the thesis without his support.

I owe great intellectual debt for support and immense contribution to Administrative of Himalayan Bank Limited. I am thankful to library staffs of Shanker Dev Campus, Nepal Commerce Campus and T.U. library for their cooperation.

JAYA SHARMA

Roll No: 1865/064

Shankar Dev Campus

Kathmandu, Nepal

TABLE OF CONTENTS

	Page No.
Recommendation	i
Viva–Voce Sheet	ii
Declaration	iii
Acknowledgement	iv
Table of Contents	v
List of Tables	viii
List of Figures	ix
Abbreviations	x

CHAPTER-ONE

INTRODUCTION

1.1	Background of the Study	1
1.2	Profile of Himalayan Bank Limited	2
1.3	Statement of the problems	4
1.4	Objective of the Study	6
1.5	Need & Significance of the Study	6
1.6	Limitations of the Study	7
1.7	Organization of the Study	8

CHAPTER-TWO

REVIEW OF LITERATURE

2.1	Conceptual Framework	10
2.1.1	Meaning of Investment	10
2.1.2	Sound Investment Policy of Commercial Bank	11
2.1.3	Investment Uncertainty (Risk)	14
2.1.4	Investment Alternatives	16
2.1.5	Portfolio Analysis	17
2.1.6	Objective of Portfolio Analysis	18
2.1.7	Investment Portfolio	18
2.1.8	Portfolio Risk and Return	19
	2.1.8.1 Portfolio Return	20
	2.1.8.2 Portfolio Risk	20
	2.1.8.3 Total Risk	21

2.1.9	Diversification of Risk	21
2.1.9.1	Simple Diversification	21
2.1.9.2	Superfluous Diversification	22
2.1.9.2	Diversification across Industries	22
2.1.6.4	Simple Diversification across Quality Rating Categories	22
2.1.9.5	Markowitz Diversification	23
2.1.10	Covariance, Correlation Coefficient and Portfolio Risk	23
2.1.11	Market Portfolio	24
2.2	Review of Legal Provision	28
2.2.1	Provisions Relating to Classification of Loans/advances and Loan Losses	25
2.2.2	Provisions Relating to Investments	26
2.2.3	Risk Measurement and Risk Weights	28
2.2.3.1	Claims on government & central bank	28
2.2.3.2	Claims on other official entities	29
2.2.3.3	Claims on banks	29
2.2.3.4	Claims on corporate & securities firms	30
2.2.4.5	Claims on regulatory retail portfolio	31
2.3	Review of Journal and Articles	33
2.4	Review of Previous Thesis	38
2.5	Research Gap	42

CHAPTER-THREE

RESEARCH METHODOLOGY

3.1	Research Design	44
3.2	Sources of Data	45
3.3	Method of Data Collection	45
3.4	Population & Sample	45
3.5	Data Analysis Tools	46
3.5.1	Financial Tools	46
3.5.1.1	Risk and Return on Individual Investment Assets and Investment Portfolio	46
3.5.1.2	Financial Ratios	50

3.5.2	Statistical Tools	51
-------	-------------------	----

CHAPTER-FOUR

PRESENTATION & ANALYSIS OF DATA

4.1	Analysis of Investment Portfolio of HBL	54
4.2	Analysis of Risk and Return on Individual Investment Assets and Investment portfolio	56
4.2.1	Return on Government Securities	56
4.2.2	Return on Loan and Advances	58
4.2.3	Return on Share	59
4.3	Risk on Individual Investment	60
4.3.1	Risk on Government Securities	60
4.3.2	Risk on Loan and Advances	61
4.3.3	Risk on Share & Debenture	62
4.4	Return on Investment Portfolio	63
4.5	Risk on Investment Portfolio	64
4.5.1	Covariance	64
4.5.2	Portfolio Risk	65
4.5.3	Correlation Analysis	66
4.6	Ratio Analysis	67
4.6.1	Total Investment to Total Deposit Ratio	67
4.6.2	Investment on Government Securities to Total Investment Ratio	68
4.6.3	Investment on Share and Debenture to Total outside Investment Ratio	70
4.6.4	Return to Total Assets Ratio	71
4.7	Trend Analysis	72
4.7.1	Trend Analysis of Total Deposit and Total Investment	73
4.7.2	Trend Analysis of Non Performing Assets (NPA)	74
5.8	Major Findings	76

CHAPTER-FIVE

SUMMARY, CONCLUSION & RECOMMENDATION

5.1	Summary	79
5.2	Conclusion	81

5.3	Recommendation	82
5.3.1	To the HBL	82
5.3.2	To the Other Researcher	83
	BIBLIOGRAPHY	84-86
	APPENDICES	87-99

LIST OF TABLES

	Page No.
Table: 4.1: Investment Portfolio of HBL	55
Table: 4.2: Return on Government Securities of HBL	57
Table: 4.3: Return on Loan & Advances of HBL	58
Table: 4.4: Return on Share of EBL	59
Table: 4.5: Calculation of Risk on Government Securities of HBL	61
Table: 4.6: Calculation of Risk on Loan & Advances of HBL	62
Table: 4.7: Calculation of Risk on Share of HBL	62
Table: 4.8: Average Risk and Return Position of HBL	63
Table: 4.9: Portfolio Return on Investment of EBL	63
Table: 4.10: Portfolio Risk, Covariance & Correlation between Different Variables	66
Table: 4.11: Computation of total Investment to Total Deposit Ratio	68
Table: 4.12: Computation of Investment in Govt. Securities to Total Investment Ratio	69
Table: 4.13: Computation of Investment on Share & Debenture to Total Investment Ratio	70
Table: 4.14: Computation of Return to Total Assets Ratio	71
Table: 4.15: Forecasted Trend Value of Deposit & Credit	73
Table: 4.16: Forecasted Trend Value of NPA	75

LIST OF FIGURES

	Page No.
Figure: 4.1: Major Investment Sector of HBL	55
Figure: 4.2: Trend of Return on Government Securities of HBL	57
Figure: 4.3: Trend of Return on Loan & Advances of HBL	59
Figure: 4.4: Trend of Return on Share of HBL	60
Figure: 4.5: Trend of Total Investment to Total Deposit Ratio	68
Figure: 4.6: Trend of Investment in Govt. Securities to Total Investment Ratio	69
Figure: 4.7: Trend of Investment on Share & Debenture to Total Investment Ratio	71
Figure: 4.8: Trend of Return to Total Assets Ratio	72
Figure: 4.9: Forecasted Trend Line of Deposit	73
Figure: 4.10: Forecasted Trend Line of Total Credit	74
Figure: 4.11: Forecasted Trend Line of Total Credit	75

ABBREVIATIONS

%	Percentage
&	And
A.D	Anno Domini
ABBS	Any Branch Banking System
ATM	Automated Teller Machine
CAR	Capital Adequacy Ratio
CRR	Cash Reserve Ratio
HBL	Himalayan Bank Limited
Ed.	Edition
FY	Fiscal Year
ISD	Investment in Share & Debenture
ISG	Investment in Government Securities
LC	Letter of Credit
LTD	Limited
MBA	Masters' of Business Administration
MBS	Masters' of Business Studies
NEPSE	Nepal Stock Exchange
No.	Number
NPAT	Net Profit After Tax
NRB	Nepal Rastra Bank
ROTA	Return on Total Assets
S.D	Standard Deviation
SDC	Shankar Dev Campus
SEBON	Securities Board of Nepal
T. U.	Tribhuvan University
TA	Total Assets
TD	Total Deposit
TI	Total Investment

CHAPTER - ONE

INTRODUCTION

1.1 Background of the Study

Nepal is considered as one of the least developed countries by the international economic standards. The predominance of agriculture and dependence on international trade (import) for basic needs have fostered a chronic and perennial unfavorable balance of payment position. Nepal lags behind in terms of GDP growth and commercial and industrial growth in comparison to its two great neighbors, China and India and many other developed countries.

In fact, the commercial sector of Nepal is very fragile. Nepal has a lot of constraints and opportunities. Unemployment is said to be the biggest problem of the country. Most of the people of the nation are engaged in traditional type of agriculture. The productive activity is the result of the investment venture in productive active enterprises. The process of the economic development depends upon various factors. However economists are now convinced that capital formation and its proper utilization plays a paramount role in rapid economic development. Hence, investment portfolio is one such tool to help proper utilization of resources.

For strengthening the economy of any country both the private and public sector should play a key role. Both private and public sector have been contributing to our nation. Integrated development of the country is possible only when competitive banking service reaches nook and corners of the country. Commercial banks occupy an important place in the framework of every economy because they provide capital for the development of industry, trade, business and other resource deficit sectors by investing the saving collected as deposits. Economic activities of a country are greatly influenced by the commercial banking business of the country.

Commercial banks and financial institution are the backbone of the Nepalese economy at present. It plays a vital role in capital formulation and proper utilization of the collected fund. Mobilization of saving is most essential for the economic growth of the country.

Commercial banks are the mediator of mobilizing such savings. Their sound performance makes them able to mobilize such fund in a proper way. Development of the country is directly related to the volume of investment in productive sectors.

Successful formulation of investment policy and its proper utilization or implementation is the prime requisite for the development of banks and other financial institution. Good investment policy has positive impact on economic development of the country and vice-versa. A healthy development of any bank depends heavily upon its investment policy. A sound and viable investment policy is one of the major effective tools of the economy to attain the economic objective directed towards the acceleration of the pace of development. Bank should attract to its customer by implementing best or competitive investment policy. It helps to increase the quality of banking services as well as volume of quality deposits, loans and investment. Investment management of bank is about operating as per investment policy adopted by bank. The best investment policy helps to minimize risk and increase efficiency of investment operations so-that the profit is maximized.

Portfolio theory deals with the selection of optimal portfolios i.e. portfolio provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified return. Portfolio theory has been developed for the financial assets. This making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

A portfolio is usually defined as combination of assets. It is a collection of securities. Portfolio provides the highest possible return for any specified degree of risk. The portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio. Portfolio simply represents the practice among the investors of having their funds in more than one asset. Successful formulation and effective implementation of investment policy is the prime requisite for the successful performance of banks. Good investment policy has a positive impact on economic development of the country and vice versa. A good investment policy attracts both borrower and lenders, which helps the investment operation of the banks to be efficient and profitable by minimizing the inherent risk. A key factor in the development in the country is the mobilization of domestic resources and their investment for productive use to the various

sectors by commercial banks. Investment portfolio is one which the income or profit of the bank depends upon directly to minimize risk. A bank must diversify its investment on different sectors, which is known as portfolio investment. Investment portfolio means to reduce risk and distributes the investment in different sectors by means of risk. Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities.

Investment portfolio is one which the income or profit of the bank depend upon directly. Commercial banks formulate sound investment policies which help maximize quality and quantity of investment and eventually to the economic growth of a country. Commercial banks must follow the rules and regulation as well as directions issued by the central bank. The loan provided by a commercial bank is guided by several principles such as time, purpose, profitability, safety, security, liquidity, diversity, stability etc. These fundamental principles of commercial bank's investment are fully considered while making investment portfolio. Investment decision is one of the major decision functions of financial management.

1.2 Profile of Himalayan Bank Limited

Himalayan Bank Limited (HBL) is one of the largest and reputed private sector banks of Nepal. The Bank was incorporated in 1992 by a few eminent individuals of Nepal in partnership with the Employees Provident Fund and Habib Bank Limited, Pakistan. The Bank commenced its operations in January 1993. Himalayan Bank is also the first commercial bank of Nepal with most of shares held by the private sector of Nepal. Besides commercial banking services, the Bank also offers industrial and merchant banking service. With its head and corporate office at Thamel, Kathmandu, the bank has 33 branches. Thirteen of its branches are located inside the Kathmandu Valley while the rest are spread across the nation.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer services. Products such as premium saving Account, HBL proprietary card and millionaire Deposit scheme besides service 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 load the banking sector of Nepal. The most recent rating of HBL by Banker's almanac as country's number 1 Bank easily confirms our claim.

All Branches of HBL are integrated into globes the single banking software where the bank has made substantial investment. 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 very recently introduced several new products and services. Millionaire Deposit scheme small Business pre-paid visa card, International Travel Quota credit card consumer Finance through credit card and online TOEFL, SAT, IELTS, etc. free payment facility are some of the product and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking of the number of Nepalese workers abroad and their need for formal money transfer channel: HBL has developed exclusive proprietary online money transfer software. Himal Remit TM.

1.3 Statement of the problems

Commercial banks are the backbone of the Nepalese economy. Nepal has been listed among the least developed countries. Nevertheless, the establishment of the commercial bank in this sector has paved the way for the building up of Nepalese economy. Its investment ranges from small-scale cottage industries to large industries in making investment in loans and government securities. One may always wonder which investment is better. It can be hypothesized that bank portfolio variables like loans, investment, cash reserve, deposit and borrowing affects the national income .The government policy affecting these functions, such as, the effect of an interest rate on the bank portfolio variables is of great concern. Hence, during money and credit monitoring process, the central bank has to keep a close eye on bank portfolio behavior. The investment planning of the commercial banks in Nepal is heavily dependent on the rules

and regulation provided by the central bank. Thus the composition of asset portfolio of the banks is governed by the central bank policy.

At present, Nepalese commercial banks appear incapable to invest their funds in more profitable sector influenced by risk. They seek more interest in investment in less risky and liquid sector, such as treasury bills or government securities, development bonds, National saving, Shares & Debenture etc. This is due to weak investment policy of commercial banks and absence of portfolio management. Nepalese commercial banks have yet to formulate their investment policy in an organized manner. They pay less attention to portfolio optimization but just rely upon the instruction and guidelines of Nepal Rastra Bank (NRB).

Furthermore, they lack their own clear vision towards investment portfolio and disregard towards proper matching of deposit and investment portfolio. It leads to financial problem enforcing commercial banks to take wrong decisions.

Most of the commercial banks invest their resources in the limited area to achieve the highest amount of profit. Under the prevailing economic situation in the country, the financial investment is insignificant particularly in the agriculture, industrial and other productive sectors, which is quite unsatisfactory to meet the economic growth of the present period. They hesitate to invest in long term projects and intend to adopt conservative loan policy.

Furthermore, there are several problems associated with resources mobilization by commercial banks in Nepal. The most critical problem is poor investment climate prevailing in Nepal due to heavy regulatory procedure, uncertain government policy, and the portfolio analysis between various types of investment made by commercial banks is the most prominent topic, which helps to minimize risk by diversifying total risk to different sectors. But portfolio management activities of Nepalese commercial banks are in an initial stage. The underlying reasons behind the non adoption of such activities by commercial banks are unawareness about portfolio management and its utility, hesitation of taking risk, lack of proper techniques to run such activities in the best manner, less developed capital market, very limited opportunity for exercising the portfolio management. Nepal Rastra Bank (NRB) has also played a key role to make commercial

banks as well as financial institutions to invest their funds in good sector, which affect the investment portfolio. NRB has imposed many rules and regulations so that commercial banks can have sufficient liquidity and security. Banking competition is gradually increasing but investment opportunity is insufficiently extended. Now, commercial banks have to compete with each other and many financial institutions too. With this background, the present study will attempt to analyze investment of HBL, portfolio analysis of HBL in investment, return on various types of investment, portfolio risk and return. Thus, this study will concentrate on the following issues.

- How far has HBL been able to transfer monetary resources from savers to users?
- What is the trend of investment in different assets by HBL?
- How do HBL analysis the risk and return through portfolio diversification?
- Whether or not HBL effectively utilize portfolio concept in investment to minimize risk and maximize return?
- Is investment portfolio oriented toward objectives of profit maximization?

1.4 Objectives of the study

The general objective of the study is to identify the current situation of investment portfolio of HBL. The specific objectives are;

- To analyze the current situation of the portfolio management of HBL
- To forecast and examine the trend of investment in different portfolios.
- To analyze the way of HBL to manage the risk and return on investment through portfolio concept.

1.5 Need & Significance of the Study

At present, commercial banks are gaining wide popularity through the efficient management and professional service and playing eminent role in the economy. Regarding the economic structure of the country, banks do not have sufficient investment opportunities. Rapidly increasing financial institutions are creating threats to the commercial banks. The main objective of commercial banks is to earn more profit by the proper mobilization of funds. They provide different banking facilities to the banking customers. Commercial banks have pivotal role in collection of dispersed small saving

and transforming them into meaningful capital investment. Success and prosperity of the bank relies heavily upon the successful investment of collected resources to the productive sector of economy. Hence, successful formulation and effective implementation of investment policy is the primerequisite for the successful performance of banks and other financial institutions. Therefore, the study is aimed to analyze the existing investment portfolio of commercial banks of Nepal and point out the various weaknesses or defect inherent in it and provide package of suggestions for its improvement. The result of the research will be helpful for CBs, especially for sample banks to formulate strategies to face the increasing competitions. There is no doubt that the study will also have multi-dimensional importance for various areas which are mentioned below in brief.

- Importance to policy formulators and also useful for teachers, students of the subject, particularly those in commerce, chartered accountancy and institutional finance.
- The study will help commercial banks minimize risk on investment and maximize return through portfolio analysis.
- Importance to Shareholders.
- Importance to government bodies and policymakers such as central banks Interested outside parties such as investors, customers (Depositors, loan takers as well as others types of clients), competitors and personnel of the banks, stockbrokers, dealers and market makers.
- The study will assist the bank management to dig out the fact for comparative profitability situation with their competitors.

1.6 Limitations of the Study

This study is not a comprehensive study. This study is conducted for the partial fulfillment of degree of MBS. So, there are many deficiencies in this study due to various limitations. Some of the limitations are as follows.

- The study has covered only one commercial bank i.e HBL.

- This study is based on secondary data, the calculation and conclusion of the study fully depends on the accuracy of data available from various sources and concerned organizations.
- The analysis period of research covers only five years i.e. the fiscal years from 2063/64 to 2067/68 A.D.
- There are many factors that affect investment decision and valuation of the firm. However, only those factors which are related with investment portfolio analysis will is considered in this study.
- Due to the wide range of data deficiencies, only simple techniques have been used in analysis.
- It focuses on investment performance and doesn't cover other aspects and in this study only selected financial and statistical tools and techniques are used.

1.7 Organization of the Study

The research will be divided into five chapters.

Chapter -1 - Introduction

It introduces background of study, statement of problem, objective of the study, significance, scope of the study and limitation of the study.

Chapter - 2 - Review of Literature

It includes pilot studies and textual concepts with regard to conceptual framework on investment, Portfolio and funds mobilization.

Chapter - 3 - Research Methodology

This chapter includes research design, population & sample, sources and types of data, data processing and method of analysis.

Chapter - 4 - Data Presentation and Analysis

This chapter deals with the presentation and analysis of data. It analyses the data and interprets the results using different financial and statistical tools.

Chapter - 5 - Summary, Conclusion and Recommendation

This is the last chapter of the study. It summarizes the result of analysis and suggestive framework.

Besides these, bibliography and annexure are presented at the end of the thesis. Similarly recommendation, viva voice sheet, acknowledgements, table of contents, list of tables, list of figures and abbreviations are included in the front part of the thesis report.

CHAPTER – TWO

REVIEW OF LITERATURE

Review of literature consists of two parts where first part deals with the advancement of knowledge regarding portfolio investment and portfolio management. In second part, researcher presents comment and resolution on the study initially made in the concerned component related to the study.

- Conceptual Framework
- Review of Related Studies

2.1 Conceptual Framework

Conceptual Review provides the fundamental theoretical frame work and foundation to the present study. In the conceptual framework, concepts related to investment portfolio are reviewed in the light of research perspectives, various books, articles etc.

2.1.1 Meaning of Investment

The simplest meaning of the investment is to employ available funds to generate additional funds in the future. An investment involves sacrifice of current rupees for future rupees. The sacrifice takes place in the present and is certain. However, the reward comes later and is uncertain. Investment generally involves real assets or financial assets. Real assets are tangible material things such as building, automobiles, machinery, factories, etc. Real assets are generally less liquid than financial assets. Financial assets are pieces of paper representing an indirect claim to real assets held by someone else. Investment is the employment of funds with the aim of achieving additional income or growth in values. It involves the commitment of resources that have been put away from current consumption in the hope that some benefits will accrue in future. Investment involves long term commitment and waiting for reward.

“Investment is any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generated positive returns.” (Gitman & Joehnk;1990:265)

“Investment is the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing unit for the time funds are committed, for the expected rate of inflation and also for uncertainty involved in the future flow of the funds.”(Frank & Reilly; 1972:299)

From the definition given above, it is clear that an investment means to trade a known rupee amount today for some expected future stream of payments or benefits.

A commercial bank must always mobilize its funds and other deposits to profitable, secured and marketable sector so that it earns a handsome amount of profit as well as it should be secured and can be converted into cash as per the requirement.

The investment process describes how an investor should go about making decisions with regard to what marketable securities to invest in, how extensive the investment should be, and when the investment should be made. A five-step procedure for making these decisions forms the basis of the investment process (Francis, J.C. :2003).

- Set investment policy
- Perform security analysis
- Construct a portfolio
- Revise the portfolio
- Evaluate the performance

2.1.2 Sound Investment Policy of Commercial Bank

It is universally known fact that the most important problem in banking administration is that of investing its deposits and paid up capital in various forms of earning assets. This is also known as portfolio policy. The bank’s portfolio being nothing but an arranged and digested scheme of its assets.

The funds of banks are generally invested either in those assets, which are non-profitable, or those, which are profitable. Non-profitable assets include cash reserve and the dead stock and profitable assets includes call money, investment, advances and loan, cash credits, overdrafts, discounting of bills and acceptances etc.The guiding principle of sound investment are as follows.

1. **Liquidity:** - In the context of the balance sheet of a bank the term liquidity has two interpretations. First, it refers to the ability of the bank to honor the claims of the depositors. Second, it connotes the ability of the bank to convert its non-cash assets into cash easily and without loss.

It is a well known fact that a bank deals in funds belonging to the public. Hence, the bank should always be on its guard in handling these funds. The bank should always have enough cash to meet the demands of the depositors. In fact, the success of a bank depends to a considerable extent upon the degree of confidence it can instill in the minds of its depositors. If the depositors lose confidence in the integrity of their bank, the very existence of the bank will be at stake. So, the bank should always be prepared to meet the claims of the depositors by having enough cash. Among the various items on the assets side of the balance sheet, cash on hand represents the most liquid asset. Next come cash with other banks and the central bank. The order of liquidity goes on descending.

Liquidity also means the ability of the bank to convert its non-cash assets into cash easily and without loss. The bank cannot have all its assets in the form of cash because each is an idle asset which does not fetch any return to the bank. So some of the assets of the bank, money at call and short notice, bills discounted, etc. could be made liquid easily and without loss.

2. **Profitability:** - A commercial bank by definition is a profit hunting institution. The bank has to earn profit to earn income to pay salaries to the staff, interest to the depositors, dividend to the shareholders and to meet the day-to-day expenditure.

Since cash is the least profitable asset to the bank, there is no point in keeping all the assets in the form of cash on hand. The bank has got to earn income. Hence, some of the items on the assets side are profit yielding assets. They include money at call and short notice, bills discounted, investments, loans and advances, etc. Loans and advances, though the least liquid asset, constitute the most profitable assets to the bank. Much of the income of the bank accrues by way of interest charged on loans and advances. But, the bank has to be highly discreet while advancing loans.

3. **Safety or Security:** - Apart from liquidity and profitability, the bank should look to the principle of safety of its funds also for its smooth working. While advancing

loans, it is necessary that the bank should consider the three 'C's of credit character, capacity and the collateral of the borrower. The bank cannot afford to invest its funds recklessly without considering the principle of safety. The loans and investments made by the bank should be adequately secured. For this purpose, the bank should always insist on security of the borrower. Of late, somehow or other the banks have not been paying adequate importance to safety, particularly in India.

4. **Diversity:** - The bank should invest its funds in such a way as to secure for itself an adequate and permanent return. And while investing its funds, the bank should not keep all its eggs in the same basket. Diversification of investment is necessary to avoid the dangerous consequences of investing in one or two channels. If the bank invest its funds in different types of securities or makes loans and advances to different objectives and enterprises, it shall ensure for itself a regular flow of income.
5. **Salability of Securities:** - Further, the bank should invest its funds in such types of securities as can be easily marketed at a time of emergency. The bank cannot afford to invest its funds in very long term securities or those securities which are unsalable. It is necessary for the bank to invest its funds in government or in first class securities or in debentures of reputed firms. It should also advance loans against stocks which can be easily sold.
6. **Stability in the Value of Investments:** - The bank should invest its funds in those stocks and securities the prices of which are more or less stable. The bank cannot afford to invest its funds in securities, the prices of which are subject to frequent fluctuations.
7. **Return:-** Another important factor that it determines the decision of the bank whether or not to grant loan or to make an Investment will depend upon the answer to the question whether or not it will get a fair return on its investment. A bank always aims at securing maximum profits for its share- holders. The difference between borrowings and lending rate constitutes the gross profit and no bank ordinarily will think of an advance without a satisfaction margin of profit.
8. **Marketability:-** The investments of the bank should be such as can be easily sold and realized in cash readily. Loans given against commercial paper representing goods in transit or against stocks and shares of well-known companies are easily

realizable while loans given against immovable property cannot be easily realized. The bank must make sure that the securities, in which he invests his funds, are easily saleable without appreciable loss.

9. **Principles of Tax-Exemption of Investments:** Finally, the investment policy of a bank should be based on the principle of tax exemption of investments. The bank should invest in those government securities which are exempted from income and other taxes. This will help the bank to increase its profits.

2.1.3 Investment Uncertainty (Risk)

Every investment involves uncertainties that make future investment returns risky. Some of the sources of uncertainty that contribute to investment risk are as follows.

1. **Interest Rate Risk:-** It is defined as the potential variability of return caused by changes in the market interest rates. In more general terms, if market interest rates rise, then investment values and market prices will fall, and vice versa. The variability of return is the result of change in interest rate. This interest rate risk affects the prices of bonds, stocks, real estate, gold, puts, calls, future contracts and other investment as well.
2. **Purchasing power Risk:-** It is the variability of return an investor suffers because of inflation. The rate of inflation is measured by using a consumer price index (CPI). The percentage change in the CPI is a widely followed measure of the rate of inflation.
3. **Bull-Bear Market Risk:-** Bull-Bear market risk arises from the variability in market return resulting from alternating bull and bear market forces. When a security index rises fairly consistently from a low point called a trough, for a period of time, this upward trend is called a bull market. The bull market ends

when the market index reaches a peak and starts a downward trend. The period during which the market declines to the next trough is called bear market.

4. **Default Risk:-** It is the portion of an investment's total risk that results from changes in the financial integrity of the investment. Default risk is the variability of return that investors experience as a result of changes in the creditworthiness of a firm in which they invest. Investor losses from default risk usually result from security prices falling as the financial integrity of a firm weakens. By the time an actual bankruptcy occurs, the market prices of the troubled firm's securities will already have declined to near zero.
5. **Liquidity Risk:-** It is that portion of an asset's total variability which results from price discounts given or sales commissions paid in order to sell the asset without delay. Perfectly liquid are highly marketable and suffer no liquidation costs. Liquid assets are not readily marketable – either price discounts must be given or sales commissions must be paid, or both of these costs must be incurred by the seller. Hence, the more liquid an asset is, the larger the price discounts and/or commissions which must be given up by the seller in order to affect a quick sale.
6. **Callability Risk:-** Some bonds and preferred stocks are issued with a provision that allows the issuer to call them in for repurchase. The portion of a security's total variability of return that derives from the possibility that the issue may be called is the callability risk. Callability risk commands a risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue will be called increases.
7. **Convertibility Risk:-** Convertibility risk is that portion of the total variability of return from a convertible bond or a convertible preferred stock that reflects the possibility that the investment may be converted into the issuer's common stock.
8. **Political Risk:-** The portion of an asset's total variability of return caused by changes in the political environment that affect the asset's market value. Whether the changes that cause political risk are sought by political or by economic interests, the resulting variability of return is called political risk.
9. **Industry Risk:-** An industry may be viewed as a group of companies that compete with each other in a market of homogenous product. Industry risk is that portion of an investment's total variability of return caused by events that affect

the products and firms that make up an industry. The stage of the industry's life cycle, international tariffs and/or quotas on the products produced by an industry, product or industry related taxes; industry wide labour union problems, environmental restrictions, raw material availability, and similar factors interact and affect all the firms in an industry simultaneously. As a result of these commonalities, the process of the securities issued by competing firms tends to rise and fall together.

2.1.4 Investment Alternatives

There are various alternatives for investors:

1. Equity Securities	<ul style="list-style-type: none"> • Common Stock • Preferred Stock 	
2. Short term debt securities	<ul style="list-style-type: none"> • Negotiable certificates of deposit • Commercial paper • Banker's acceptances • Treasury Bills 	
3. Intermediate and Long Term Debt Securities	<ul style="list-style-type: none"> • Government securities 	<ul style="list-style-type: none"> ➤ Treasury Notes ➤ Treasury Bonds ➤ Saving Bonds
	<ul style="list-style-type: none"> • Agency securities 	
	<ul style="list-style-type: none"> • Municipal Securities 	<ul style="list-style-type: none"> ➤ Revenue bonds ➤ General obligation bonds
	<ul style="list-style-type: none"> • Corporate bonds 	
4. Hybrid Securities	<ul style="list-style-type: none"> • Convertible preferred stock • Convertible bonds 	
5. Derivative securities	<ul style="list-style-type: none"> • Options • Community futures • Financial futures • Options in futures • Rights 	

	<ul style="list-style-type: none"> • Warrants
6. Real Assets	<ul style="list-style-type: none"> • Precious Metal • Real State • Collectibles
7. International Investment	<ul style="list-style-type: none"> • Multinationals Corporations • Foreign stocks traded on all local exchange • American Depository Receipts (ADRs
8. Other Investment Alternatives	<ul style="list-style-type: none"> • Pension Funds • Mutual funds • Closed –end Companies

Source: Western & Brigham, 1982, P: 132

2.1.5 Portfolio Analysis

“A portfolio simply represents the practice among the investment of having their funds in more than one asset. The combination of investment asset is called a portfolio.”(Western & Brigham; 1982:245).If the investor holds a well diversified portfolio, then his concern should be the expected return and risk of the portfolio rather than individual assets or securities. The portfolio theory provides a normative approach to the investors’ decision to investment in assets or securities.

Most financial assets are not held in isolation, rather they are held as parts of portfolios. Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. Portfolio Risk Analysis is the process of measuring and assessing the portfolio exposure to market risk. Financial Portfolio offers three views on risk allowing us to compare our portfolio to market portfolio in terms of Risk-adjusted Return, Value at Risk and Market Risk Exposure. The portfolio of asset usually offers advantages of risk reduction through diversification. A stock or securities held, as a part of a portfolio is less risky than the same stock held in isolation. Thus Portfolio analysis helps develop a portfolio that had the maximum return at whatever level of risk the investor deems appropriate ”(Western & Brigham; 1982:246)

2.1.6 Objective of Portfolio Analysis

The objectives of the portfolio analysis are to analyze different individual assets and delineate efficient portfolio. Hence the portfolio manager's task is to select the investment weights resulting in the dominant investments, analyze the risk, return data describing each investment candidate and determine what the assets to buy what to neglect and what to sell short.

The primary objectives of the portfolio management are;

- Minimization of Risk
- Maximization of Profit

The secondary objectives are;

- Regular return
- Stable income
- Appreciation capital
- Liquidity
- Easy marketability
- Safety of investment
- Tax planning:-capital gain tax, income tax, and wealth tax

2.1.7 Investment Portfolio

A portfolio is usually defined as a combination of assets. It is a collection of securities. Portfolio means the lists of holding in securities owned by an investor or institution. A portfolio is a collection of investment securities. Example, if you hold some stocks of Nepal Investment Bank Ltd., some of Bottlers Nepal Co., some of Radisson Hotel and some of Standard Chartered Bank Ltd. Your investment portfolio consists of the stocks of these four different companies. Portfolios analysis considers the determination of future risk; and return is a weighted average of the expected return of the individual securities.

Portfolio theory deals with the selection of optimal portfolio i.e. the portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return. Portfolio theory has been developed for the financial

assets. Thus making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

“A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment assets is called a portfolio (Weston and Brigham: 1982)

An investor who has been paying someone or actively manages his or her portfolio has every right to insist on knowing what sort of performance was obtained. Such information can be used to alter either the constraint placed on the manager, the investment objective given to the manager, to the amount of money allocated to manager. Perhaps more importantly, by evaluating performance in specified ways a client can forcefully communicate his\ her interest to the investment manager and in all likelihood, affect the way in which his or her portfolio is managed in the future. Moreover, an investment manager, by evaluating his or her own performance, can identify sources of strengths or weakness.

2.1.8 Portfolio Risk and Return

Each asset’s expected return and risk along with the expected return and risk for other asset’s and their interrelationships are important inputs in portfolio selection. In order to construct efficient portfolios, the investor must be able to quantify the portfolios expected return and risk (Cheney & Eward: 1992).

From an investor’s standpoint the fact that a particular stock goes up or down is not very important. What is important is the return on his /her portfolio, and the portfolio’s risk. Logically, then the risk and return characteristics of an investment should not be evaluated in isolation: rather, the risk and return of an individual security should be analyzed in terms of how the security affects the risk and return of the portfolio in which it is held.

2.1.8.1 Portfolio Return

The expected return of a portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportions of the investor's wealth invested in each asset and the sum of the weight must equal to one (Cheney & Mosses:1992).

The expected return on portfolio depends upon the amount of funds invested in each security, given expected return on the individual securities. The portfolio expected return is defined in equation as follows.

$$\text{Portfolio return } (R_P) = W_A \bar{R}_A + W_B \bar{R}_B + \dots + W_N \bar{R}_N$$

Where,

R_P = Return on Portfolio

W_A = Weight or Proportion of Assets 'A'

W_B = Weight or Proportion of Assets 'B'

\bar{R}_A = Expected Return of Assets 'A'

\bar{R}_B = Expected Return of Assets 'B'

2.1.8.2 Portfolio Risk

The calculation of a portfolio risk is not as straight forward as the calculation of a portfolio's expected return. In order to calculate the risk of a portfolio, consideration must be given not only to the risk of the individual assets in the portfolio and their relative weights but also to the extent to which the assets returns move together. We measure the risk of an individual asset by the variance of returns or its square root, the standard deviation. The degree to which the asset's return move together is measured by the covariance or correlation coefficient. By combining the measures of individual asset risk (variance or standard deviation), relative asset weights, and the co-movement asset's return (covariance or correlation), the risk of the portfolio can be estimated (Cheney & Mosses:1992) Total risk is measured by either the variance or its square root, the standard deviation of returns.

2.1.8.3 Total Risk

The total variation of the rate of return for an individual security is measured by the standard deviation or variance of the rate of return. There are two kinds of risk which are as follows.

- Market risk or Undiversifiable risk or Systematic risk measured by its beta and
- Company risk or Diversifiable risk of Unsystematic risk

According to CAPM total risk divided into two parts. They are unsystematic and systematic risk.

Total Risk = Systematic Risk + Unsystematic Risk

2.1.9 Diversification of Risk

Diversification is the one prominent means to control portfolio risk. Investments are made in a wide variety of assets so that exposure to the risk of any particular securities is limited. Diversification of portfolio helps minimize risk. If investors invest their fund in more securities, they can reduce risk and maximize the return. However, even with large number of stocks, investors fail to avoid risk altogether, since virtually all securities are affected by the common micro economic factors. Followings are diversification techniques for reducing a portfolio risk.

2.1.9.1 Simple Diversification

Simple diversification can be defined as “not putting all the eggs in one basket” or “spreading the risks” (Francis, 2003:228). It is the random selection of securities that are added to a portfolio. Simple diversification reduces a portfolio’s total diversifiable risk to zero and only the non- diversifiable risk remains.

2.1.9.2 Superfluous Diversification

Under simple diversification, maximum risk reduction is achieved through inclusion of 10-15 assets in the portfolio. If we add further more assets in the portfolio, such diversification is called superfluous diversification and should be avoided. The investor

finds it impossible to manage the asset on his portfolio, because the management of a large number of assets calls for knowledge of liquidity of each investment return, tax liability and thus becomes impossible without specialized knowledge. Superfluous diversification usually results in the following portfolio management problems.

- Impossibility of good portfolio management
- Purchase of lackluster performers
- High search cost
- High transaction costs

Although more money is spent to manage a superfluously diversified portfolio, there will most likely be no concurrent improvement in the portfolio performance. Thus, superfluous diversification may lower the return the net return to the portfolio owners after the portfolio management expenses are deducted.

2.1.9.3 Diversification Across Industries

Diversification can also be experienced by combining securities from different industries. It is certainly better to follow this advice than select all the securities in a portfolio from one industry. Nevertheless empirical research has demonstrated that diversifying across industries is worst than simply selecting securities randomly.

2.1.9.4 Simple Diversification Across Quality Rating Categories

Diversification of portfolio is also possible across quality rating assets or securities. Different rating agencies rate different companies and their assets based on possibility of default risk. In this technique, assets are selected randomly from the homogeneous quality rating. The standard deviation of portfolio of different homogeneous quality rating attained different level of risk. The highest quality portfolio randomly diversified stocks are able to achieve lower level risk than simply diversified portfolio of lower quality stocks. It indicates default risk is a part of total risk. The higher quality portfolios contain assets with less default risk.

Thus portfolio managers can reduce portfolio risk to levels lower than those attainable with simple diversification by not diversifying across lower quality assets.

2.1.9.5 Markowitz Diversification

“Markowitz Diversification may be defined as combining assets which are less than perfectly positively correlated in order to reduce portfolio risk without sacrificing portfolio return.” (Weston & Brigham; 1982:194) It can sometime reduce below the un-diversifiable level. There is a nature trade- off between risk return in the market but at any given level of expected return. Markowitz diversification can reduce risk more than simple diversification. Applying diversification to a collection of potential investment assets with a computer is Markowitz portfolio analysis. It is a scientific way to manage a portfolio and its results are quite interesting. Since, Markowitz portfolio analysis considers both the risk and return of dozen and hundreds of different securities simultaneously; it is a more powerful method of analyzing a portfolio than using intuition. It is more analytical than simple diversification and considers assets correlation or covariance in portfolio formation. It shows that lower the correlation between assets, the more that diversification will be able to reduce the portfolio risk.

2.1.10 Covariance, Correlation Coefficient and Portfolio Risk

“Portfolio Risk can be measured by using covariance of return securities in portfolio. Covariance is a statistical measure of the relationship between two random variables. A positive value for covariance indicates that the securities returns tend to move in the same direction and the negative value indicates that returns of two securities move in opposite side. If the value of covariance is zero, The square root of the coefficient of determination is called Correlation Coefficient (ρ). It is defined as the covariance between dependent there is little or no relationship between the returns for two securities” (Sharp, Alexander & Bailey; 2001:180).

$$r_{AB} = \frac{COV_{AB}}{\delta_A \delta_B}$$

Where,

r_{AB} = Correlation Coefficient between securities A and B

COV_{AB} = Covariance of return between securities A and B

δ_A = Standard deviation of return for security A

δ_B = Standard deviation of return for security B

Correlation Coefficient always lies between -1 and +1. A value of -1 represents perfect negative correlation and a value of +1 represents positive correlation. (Sharp, Alexander & Bailey;2001:180). If the correlation is perfectly positive (+1), the portfolio cannot reduce any level of risk. On the contrary, if the correlation is perfectly negative (-1), the proper combination of the two securities can reduce unsystematic risk upto zero. Hence, the positive correlation between securities return is not so beneficial and vice-versa. A zero coefficient means two variables are unrelated to each other. Hence changes in one variable are independent of changes in the other. On the other hand, when securities in a portfolio are perfectly negatively correlated, all risks can be diversified away. When securities are perfectly positively correlated, diversification does not do good whatsoever. In the typical case, correlation among individual stocks is positive but less than +1, some, but not all risk can be eliminated (Weston & Brigham; 1992:127).

2.1.11 Market Portfolio

The market portfolio contains every asset in proportion to their market value; it is by definition, a perfectly diversified portfolio. The market portfolio is, therefore, subject only to systematic or non- diversifiable risk. The volatility of the market portfolio is due to macroeconomic factors that affect all risky assets and not to company or industry specific factors. Volatility in returns created by unsystematic risk, this can be diversified away by adding risky assets to a portfolio. A portfolio's total risk is equal to the sum of its systematic risk and unsystematic risk. In the case of the market portfolio, there is no unsystematic or diversifiable risk, and total risk is equals systematic risk. Since it is possible to eliminate all unsystematic risk through perfect diversification, the capital markets do not reward investors for facing unsystematic risk (Cheney & Mosses:1992).

The market portfolio is the unanimously desirable portfolio containing all securities in exactly the proportions in which they are supplied. The return on the market portfolio is the weighted average return on all capital on assets. In reality, it is possible to obtain only estimates of the market portfolio. However, the market portfolio is a useful theoretical construct since the return of market portfolio is the return estimated by the Dow Jones Averages, Standard & Poor's indexes, The NYSE Index and similar indexes (Francis: 2003).

2.2 Review of Legal Provision

2.2.1 Provisions Relating to Classification of Loans/advances and Loan Losses

Having exercised the powers conferred by Section 79 of the Nepal Rastra Bank Act, 2002, the following Directives have been issued with regard to classification of credit/advances and provisions to be made for its possible loss by the institutions obtaining licenses from this Bank to carry out financial transactions.

1. Classification of loans/advances

Entire loans and advances extended by a licensed institution have to be classified as follows based on expiry of the deadline of repayment of the principal and interest of such loans/advances.

- a. **Pass:-** Loans/advances which have not overdue and which are overdue by a period up to three months.
- b. **Sub-standard:-** Loans/advances which are overdue by a period from three months to a maximum period of six months.
- c. **Doubtful:-** Loans/advances which are overdue by a period from six-months to a maximum period of one year.
- d. **Loss:-** Loans/advances which are overdue by a period of more than one year. The loans which are in pass class and which have been rescheduled/restructured are called as the performing loan, and the sub-standard, doubtful and loss categories are called non-performing loans (NRB, Directive No. 2/068).

(Note: Loans/advances also include bills purchased and discounted.)

2. Provision to be maintained for loan loss

For the loans and bills purchase classified according to these Directives, the following loan loss provision shall be maintained based on the remaining amount of principal.

Table: 2.1

Loan Loss Provision

S.N	Loan classification	Minimum Provision for loan loss
1	Pass	1%
2	Sub-Standard	25%

3	Doubtful	50%
4	Loss/ the loan extended to blacklisted	100%

Source: NRB, Directive No. 2/068

2.2.2 Provisions Relating to Investments

The following Directives have been issued with regard to investment of financial resources of a licensed institution having exercised the powers conferred by Section 79 of the Nepal Rastra Bank Act, 2002.

1. Implementation of Investment Policy and Procedures upon Approval

The licensed institutions shall implement the policies and procedures regarding the investment in Government of Nepal securities, Nepal Rastra Bank bonds, and other corporate bodies' share and debentures only upon the approval of investment policy and procedures by the Board of Directors.

2. Provision for Investment in Government of Nepal Securities and Nepal Rastra Bank Bonds

There shall be no restriction as to investment by the licensed institutions in the securities of Government of Nepal and Nepal Rastra Bank bonds.

3. Provisions for Investment in Shares and Debenture of Corporate Bodies

- a. Licensed Institutions shall invest only in the shares and debentures of corporate bodies listed in the Nepal Stock Exchange after the public issues of shares. Provided that, where the investment has been made in the shares and debentures of corporate bodies which are not listed in the stock exchange, and if such listing is not completed within one year from the date of investment, a provision of equivalent to the whole amount of such investment be provided and credited to Investment Adjustment Reserve by creating such reserve fund. The outstanding amount in such Reserve shall not be utilized for any other purpose till the said shares and securities of the corporate body are listed. With respect to investment in newly opened corporate body that where such company is not listed in stock exchange within two years from the date of operation or investment being made, a

provision of equivalent to the whole amount of such investment be provided and credited to Investment Adjustment Reserve (NRB, Directive No. 8/068).

- b. While carrying out projects such as land development, land purchase and housing construction for residential purpose and sale and management of such houses and land pursuant to clause (ad) of sub-Section (2) of Section 47 of the Banks and Financial Institutions Act, 2006 by the class "B" licensed institutions and pursuant to clause (u) of sub-Section (3) of the same Section of the same Act, licensed institution shall not invest more than twenty-five percent of the core capital of immediately preceding month. (NRB, Directive No. 8/068).
- c. While investing in housing construction and land development by a licensed institution, it may invest an amount not exceeding ten percent of the core capital maintained immediately preceding month. If found to have been invested more than the limit, the core capital shall be maintained having deducted the amount equal to the exceeded investment from the core capital. While making such investment, investment shall be made only in the building construction and land development companies that have been incorporated as public companies (NRB, Directive No. 8/068).
- d. Licensed institutions may invest in shares and securities of any one corporate body up to 10 percent of its core capital maintained at immediately preceding trimester and not exceeding the cumulative amount of such investment in all the companies by more than 30 percent of its core capital. Similarly, while investing in shares and debentures of corporate bodies by a licensed institution, investment shall be made not exceeding 10 percent of the paid up capital of the institution in which the investment is being made and not exceeding 25 percent of the same in case of investment made in class "D" institutions. Any amount in excess of this limit, for the purpose of calculation of the capital fund, shall be deducted from the Core capital fund (NRB, Directive No. 8/068).

4. Provision for Review of Investment Portfolios

Licensed institutions shall review its investment portfolios on half-yearly basis. With respect to such review, a statement from the Internal Auditor of the licensed institution certifying that the investments are made according to the existing

investment policy and according to this Directives be obtained and shall also be approved by the management of the institution within 1 (one) month from the close of the half yearly period.

5. Additional Arrangement Regarding Investment

- a. Licensed institutions shall not invest in any shares, securities and hybrid capital instruments issued by any other institution of "A", "B" and "C" class licensed by this Bank. Provided that, this clause is not applicable in case of share investment in class "D" institution and income of share investment with approval from this Bank.
- b. The core capital maintained in the Directives relating to investment means, the core capital maintained at the immediately preceding trimester except specifically stated otherwise. (NRB, Directive No. 8/068).

2.2.3 Risk Measurement and Risk Weights

2.2.3.1 Claims on government & central bank

1. All claims on Government of Nepal and Nepal Rastra Bank shall be risk weighed at 0 %.
2. Claims on foreign government and their central banks shall be risk-weighted on the basis of the consensus country risk scores as follows:

ECA risk Sector	0-1	2	3	4-6	7
Risk Weights	0%	20%	50%	100%	150%

Source: NRB, Directive No. 1/068, Annex, 1.1

2.2.3.2 Claims on other official entities

1. Claims on the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community will receive a 0% risk weight.
2. Following Multilateral Development Banks (MDBs) will be eligible for a 0% risk weight.
 - World Bank Group, comprised of the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC),
 - Asian Development Bank (ADB),
 - African Development Bank (AfDB),
 - European Bank for Reconstruction and Development (EBRD),
 - Inter-American Development Bank (IADB),
 - European Investment Bank (EIB),
 - European Investment Fund (EIF),
 - Nordic Investment Bank (NIB),
 - Caribbean Development Bank (CDB),
 - Islamic Development Bank (IDB), and
 - Council of Europe Development Bank (CEDB).
3. The standard risk weight for claims on other Multilateral Development Banks will be 100%.
4. Claims on public sector entities (PSEs) will be risk-weighted as per the ECA country risk scores.

ECA Risk Sector	0-1	2	3-6	7
Risk Weights	20%	50%	100%	150%

Source: NRB, Directive No. 1/068, Annex, 1.1

2.2.3.3 Claims on banks

1. All claims, irrespective of currency, excluding investment in equity shares and other instruments eligible for capital funds, on domestic banks/financial institutions that fulfill Capital Adequacy Requirements will be risk weighed at

20% while for the rest, it will be 100%. Banks should make use of the publicly available information of the immediately preceding quarter of the respective banks to gauge their status on capital adequacy.

2. Claims on a foreign bank excluding investment in equity shares and other instruments eligible for capital funds shall be risk weighed as per the ECA Country risk score subject to the floor of 20%. The primary basis for applying the ECA Country Risk score shall be the country of incorporation of the bank. Where the bank is a branch office, the ECA score of the country where the corporate office is located shall be used while in the case of a subsidiary the basis shall be the country where the subsidiary is incorporated.

ECA Risk Sector	0-1	2	3-6	7
Risk Weights	20%	50%	100%	150%

Source: NRB, Directive No. 1/068, Annex, 1.1

However, the claims on foreign banks incorporated in the SAARC region and which operate with a buffer of 1% above their respective regulatory minimum capital requirements may be risk weighed at 20%. The banks shall be responsible to submit the latest capital adequacy position of such banks and demonstrate that they fulfill the eligibility requirements. Such capital adequacy position submitted by the banks should not be prior to more than one financial year. Moreover, such claims shall be subject to a supervisory review and supervisors may require the bank to risk weigh the claims on ECA country risk scores where the review process deems necessary. (NRB, Directive No. 1/068, Annex, 1.1)

2.2.3.4 Claims on corporate & securities firms

1. The risk weight for claims on domestic corporates, including claims on insurance companies and securities firm will be 100%. The domestic corporates includes all firms and companies incorporated in Nepal as per prevailing Acts and regulations.
2. The claims on foreign corporate shall be risk weighed as per the ECA Country risk score subject to the floor of 20% as follows:

ECA Risk Sector	0-1	2	3	4-6	7
Risk Weights	20%	50%	100%	100%	150%

Source: NRB, Directive No. 1/068, Annex, 1.1

2.2.3.5 Claims on regulatory retail portfolio

1. Claims that qualify all criteria listed below may be considered as regulatory retail portfolio and risk weighed at 75%, except for past due loans. Such claims however, have to be in strict compliance with the Product paper developed by the bank and approved by their respective board of directors.

Criteria

- **Orientation criteria** :- exposure is to an individual person or persons or to a small business. Bank should obtain written declaration from the borrower to the effect that their indebtedness is within the threshold across all banks and FIs..
 - **Product criteria** :- The exposure takes the form of any of the following:
 - Revolving credits and lines of credit, (including overdraft, hypothecation etc.)
 - Term loans and leases (e.g. hire purchase, auto loans and leases, student and educational loans) and,
 - Small business facilities and commitments,
 - Deprived sector loans upto a threshold of Rs.10 million (Ten Million only)
 - **Granularity criteria**:- NRB must be satisfied that the regulatory retail portfolio is sufficiently diversified to a degree that reduces the risks in the portfolio, warranting the 75% risk weight. No aggregate exposure to one counterpart can exceed 0.5 % of the overall regulatory retail portfolio.
 - **Low value individual criteria** :- The total aggregated exposure to one counterpart cannot exceed an absolute threshold of Rs.10 million (Nepalese Rupees Ten Million only)
2. Banks which have claims that fulfill all criterion except for granularity may risk weigh those claims at 100% (NRB, Directive No. 1/068, Annex, 1.1).

3. Claims secured by residential properties

Lending to individuals meant for acquiring or developing residential property which are fully secured by mortgages on residential property, that is or will be occupied by the borrower or that is rented, will be risk-weighted at 60%. However, banks should ensure the existence of adequate margin of security over the amount of loan based on strict valuation rules. Banks have to develop product paper and get it approved from the board of directors to regulate this kind of lending. The claims in order to be eligible for this category have to be in strict compliance with this product paper

- Where the loan is not fully secured, such claims have to risk weighed at 150%
- When claims secured by residential properties are or have been past due at any point of time during the last two years, they shall be risk-weighted at 100%, net of specific provisions (NRB, Directive No. 1/068, Annex, 1.1).

4. Claims secured by commercial real estate

Claims secured by mortgages on commercial real estate, except past due, shall be risk-weighted at 100%. Commercial real estate hereby refers to mortgage of Office buildings, retail space, multi-purpose commercial premises, multi-family residential buildings, multi-tenanted commercial premises, industrial or warehouse space, hotels, land acquisition, development and construction etc.

5. Past due claims

Any loan, except for claim secured by residential property, which is or has been past due at any point of time during the last two years, will be risk-weighted at 150% net of specific provision.

6. High risk claims

- a. 150% risk weight shall be applied for venture capital and private equity investments.
- b. Exposures on Personal loan in excess of the threshold of regulatory retail portfolio and lending against securities (bonds and shares) shall attract a risk

weight of 150%. Similarly, exposures on credit card shall also warrant a risk weight of 150%.

- c. Investments in the equity and other capital instruments of institutions, which are not listed in the stock exchange and have not been deducted from Tier 1 capital, shall be risk weighed at 150% net of provisions.
- d. Investments in the equity and other capital instruments of institutions, which are listed in the stock exchange and have not been deducted from Tier 1 capital, shall be risk weighed at 100% net of provisions.
- e. The claims which are not fully secured or are only backed up by personal guarantee shall attract 150% risk weight.
- f. Where loan cannot be segregated/or identified as regulatory retail portfolio or qualifying residential mortgage loan or under other categories, it shall be risk weighed at 150% (NRB, Directive No. 1/068, Annex, 1.1).

7. Other assets

With regard to other assets, following provisions have been made;

- Interest receivable/claim on government securities will be risk-weighted at 0%.
- Investments in equity or regulatory capital instruments issued by securities firms will be.
- risk-weighted at 100%.
- Cash in transit and other cash items in the process of collection will be risk-weighted at 20%. For this purpose, cash items shall include Cheque, Draft, and Travellers Cheques.
- Fictitious assets that have not been deducted from Tier 1 capital shall be risk weighed at 100%.
- All Other assets will be risk-weighted at 100% net of specific provision (NRB, Directive No. 1/068, Annex, 1.1).

2.3 Review of Journal and Articles

Shrestha (1995) A study on “*Portfolio Behavior of commercial Banks in Nepal*” has made remarkable efforts to examine various portfolio behavior of commercial bank in Nepal such as investment portfolio, liability portfolio, assets portfolio etc. In the study,

investment of commercial banks when analyzed individually, were observed in Nepalese domestic banks invest in government securities, national saving bond, debentures and company's shares. On the basis of this study the author found that the supply of bank credit was expected to depend on total deposit, lending rate, bank rate, lagged variables and the dummy variables, similarly demand of bank credit was assured to be affected by national income, lending rate, treasury bill rate and other variables. The resources of commercial banks were expected to be related with variables like total deposits, cash reserve requirement, bank rate and lending rate. The following were the findings of the study.

- The relationship of banks portfolio variables as found to be best explained by log linear equations.
- Demand of deposit for commercial banks in Nepal is positively affected by the GDP from non agriculture and the deposit rate and lending rate of interest.
- The investment of commercial banks on govt. securities has been observed to be affected by total deposit, cash reserve requirement, and treasury bills rates and lending rates.
- The investment of commercial banks in shares and securities is normal and not found to have strategic decisions towards investment in shares and securities.
- The loan loss ratio has been found to increase with low recovery of loan.

Sharma (1998) the article *“Joint Venture Banks in Nepal: Co-existing or Growing Out”* it would be definitely unwise for Nepal not to let the CBs operate in the country and not to take advantage of them as additional means of resources mobilization. So far one should admit frankly no different treatment has been extended to the domestic and CBs, at least from the government side, which is commendable. If Nepal Government keeps on the stance of treating the domestic and CBs equally and if the CBs also show their alacrity to come forward to share the trials and tribulations of this poor country, both types of banks will coalesce and co-exist complementing each other and contributing to the nation's accelerated development. On the contrary, if the CBs use their strength against trading into the number, some path of development along with domestic banks and the government, they will eventually grow out the domestic banks from the more profitable

urban areas and lucrative urban sectors unless remedying by the determination of the government.

Shrestha (2002) an article entitled “*Portfolio Management in Commercial Bank, Theory and Practice*” mentioned that the portfolio management becomes very important for both individuals as well as institutional investors; investors would like to select a best mix of investment assets subject to the following aspects.

- Higher return which is comparable with alternative opportunities available according to the risk class of investors.
- Good liquidity with adequate safety of investment.
- Certain capital gains.
- Maximum tax concession
- Flexible investment
- Economic, efficient and effective investment mix

In the view of above aspects, following strategies are adopted.

- Do not hold any single security i.e. try to have a portfolio of different securities.
- Do not put all the eggs in one basket i.e. to have diversified investment. (Making investment in different sectors)
- Choose such portfolio of securities, which ensures maximum return with minimum risk or lower of return but with added objective of wealth maximization.

However, Author has also attempted the following approaches to be adopted for designing a good portfolio and its management.

- To find out the invisible assets (generally securities) having scope for better returns depending upon individual characteristics like age, health, need, disposition, liquidity, tax liability etc.
- To find out the risk of securities depending upon the attitude of investor towards risk.

- To develop alternative investment strategies for selecting a better portfolio that will ensure a trade-off between risk and return to attach the primary objective of wealth maximization at lowest risk.
- To identify securities for investment to reduce volatility of return and risk.

Regarding the commercial banks, they are very eager to provide such services but because of above mentioned problems, very limited opportunity are available to the banks for exercising the portfolio management. Even considering the attraction of deposits commercial banks are facing problems since investors have not developed full confidence of putting money in fixed time deposit certificated of various maturing and sizes.

The author has drawn following conclusion for smooth running and operation of banks and financial institutions.

- The survival of the banks depends upon its own financial health and various activities
- In order to develop and expand the portfolios management activated successfully the investment management methodology of a portfolio manager should reflect high standards and give their clients the benefits of global strengths, local insights and products philosophy.
- With the discipline and systematic approval with the selection of appropriate countries, financial assets and the management of various risks, the portfolio manager could enhance the opportunity for each investor (client) to earn superior returns overtimes.
- The Nepalese banks having greater network and access to national and international capital markets have to go for portfolio management activities for the increment of their fee based income as well as to enrich the client base and to contribute in national economy.

In this context, the author has presented two types of investment analysis techniques and fundamental analysis and technical analysis to consider any securities such as equity, debentures or bond and other money and capital market instruments. The author has also pointed out the required skilled manpower research and analysis and proper manage

Information system (MIS) in any type of commercial banks to get success in portfolio management and customer's confidence.

Thapa (2003) published an article "*Managing a Banking Risk*" stating the subsequent issues. Banking and financial service are among the fastest growing industries in the developing world and are also emerging as cornerstone for the other developing and underdeveloped nations as well. According to him, the primary function of a bank is trade risk. Risk cannot be avoided by the bank but can only be managed. There are different types of risk. Among them interest rate risk is one of the common risk the banks facing owing to the volatility of the interest rate in the market.

Another risk banks commonly face is the trading risk or market risk. Banks have to productively manage their excess liquidity by investing in various securities in foreign currencies and in other assets like swaps, options etc.

Credit risk is another significant risk which the banks particularly in the under developed country like Nepal because our financial system is mostly dependent on banks. Hence, it is crucial that the bankers should manage such risks prudently since it not only hampers the particular banks in concern but also badly affects the growth prospects of the entire economy. Credit risks are of two types: diversifiable risk and un-diversifiable risk.

Off- bank risk, owing to the creation of contingent liabilities should be managed by a prudent analysis of bank officials materializing such contingent contacts. Similarly, technological changes are frequently faced by banks. Therefore, for the smooth operation banks should adopt technological up-gradation from time to time.

Maintaining proper liquidity is the most difficult problem as the demand of cash is uncertain. To avoid such risk, the central bank has initiated the regulation, whereby the banks need to maintain reserve in their vault and a certain specified percentage of the total deposit with the central bank.

He concludes that risk management of the banks is not only crucial for optimum trade-off between risk and probability but is also one of the deciding factors for overall business investment leading to growth of economy. Managing risk not only needs sheer professionalism at the organizational level but appropriate environments also need to

develop. Some of the major environmental problems of Nepalese banking sector are under government intervention, relatively weak regulatory frame, if we consider the international standard, meager corporate governance and the biggest of all is the lack of professionalism, the only solution to mitigate the banking risk is to develop the badly needed commitment eradication of corrupt environment particularly in the disbursement of lending, and formulate prudent and conducive regulatory framework.

2.4 Review of Previous Thesis

Sharma (2006) conduct a study on “*Portfolio Management of listed Commercial Banks and Insurance Companies in Nepal*” the objectives of his study were as follows.

- To analyze the risk and return of the common stock of the commercial banks and insurance companies.
- To analyze the diversifiable and un-diversifiable risk of common stock as well as portfolio return and risk.

The major findings of his study were;

- Based on risk and return, he observed that the shares of all commercial banks are attractive for investment compared to those of insurance companies.
- The conflicting political and economic scenario has the adverse impact on economic activities of the commercial banks.
- Insurance companies are unable to manage their portfolio effectively.
- The risk per unit of return of market is considerably high. Hence, the overall market return can be regarded as attractive in relation to its risk.
- The unsystematic risk of all the companies was high in comparison to total risk.

Poudel (2007) in his research, “*A Comparative Study on Investment Behavior Adopted by NABIL Bank Limited and Himalayan Bank Limited*” had the primary objective to comparatively analyze, examine, interpret and evaluate the total investment behavior of NABIL and HBL. His secondary objectives were;

- To comparatively present the investment behavior of sample banks.

- To examine and interpret SWOT of both banks and to suggest for the best performance in future.

The major findings of his study were;

- The investment on share and debenture by both banks are considerably lower as compared to the other alternatives.
- Both the banks have retained unnecessary cash and balance in comparison with the total investment, which they could invest in the other productive alternatives.
- Based on current ratio analysis, HBL falls in the safe position since NABIL has maintained more liquidity.
- Comparatively, NABIL needs to augment deposit. Nevertheless, average total deposit position of NABIL is lower than HBL.

Shrestha (2008) conducted her thesis on “ *Portfolio Analysis of Common stock of Commercial Banks in Nepal*” with the general objective to find out the level of portfolio risk and return on stock of commercial bank investment. The specific objectives were;

- To find out the trend of NEPSE index,
- To analyze the risk and return of common stock of reviewed banks, and
- To find out the best portfolio from NEPSE.

The study was focused on portfolio analysis of commercial banks. She found out that;

- The expected return of HBL stock was the highest (53.68%) and that of NABIL the lowest (32.72%) among the banks under the study.
- The risk of NBBL was the highest (93%) and SCBL had the lowest risk (55.42%).
- The correlation of stock, return and market that all of the banks stocks were highly positive correlated with the market.
- The correlation values of common stock of all banks with the markets were nearly equal to +1.
- The stock price of all four listed commercial banks were higher than NEPSE average price of stock. Likewise, the stock prices of these banks were in fluctuating trend than NEPSE index.

She concluded that the investment on common stocks is risky job. It does not guarantee both return and principal, so the investors should be well acquainted with the associated risk and work out their attitude towards the riskiness of various investment strategies.

Shrestha (2009) performed a research work “*A Study on Investment Portfolio of Commercial Banks in Nepal*” with the general objective of identifying the current situation of investment portfolio of commercial banks in Nepal. The main objectives were:

- To analyze the investment portfolio of commercial banks;
- To analyze the risk and return of the selected five commercial banks on investment using portfolio concept and
- To forecast/examine the trend of investment for providing complementary measures.

His major findings from the analysis of risk and return were;

- SCBL has more return from investment on government securities. Hence, it effectively mobilized its total deposits on them.
- EBL and SBIN mostly mobilized their depositor’s fund in loan and advances.
- The return on share and debenture displayed a wide fluctuation particularly due to the volatility of share prices in the market as well as changes in dividends.
- The portfolio risk on investment in government securities is lower than that in loan and advance or share and debenture.

He concluded that the investment on government securities is quite safe. Hence, commercial banks should also mobilize depositor’s fund on them.

Pandey (2010) has conducted a research work on “*Risk and Return Analysis of Common Stock Investment*” the primary objective of her study was to analyze the risk and return and other relevant variables that help in making decisions about the stock and investment in Insurance Companies. The secondary objectives of her study were;

- To understand and identify the problems encountered by individual investors and Insurance Companies

- To calculate risk and return of common stocks and their portfolio and
- To analyze the volatility of different stocks and their companies and other relevant variables that should be considered during deciding investments in stocks.

On the market capitalization based analysis she observed that the size of Nepal Insurance Company (NIC) is the highest one. Expected return on the common stock of National Life and General Insurance Company Ltd (NLGI) is maximum(65.39%) and that of Himalayan General Insurance Company (HGI) is the lowest with the negative value. In overall industry sector, the expected return of Finance and Insurance is the highest. The overall market expected return is over 50%. National Life and General Insurance Company Ltd's expected return is the highest which is ultimate the standard deviation (risk) to be the highest and Everest Insurance Company's risk and return is the lowest one. The stock of National Life and General Insurance Company is highly sensitive with the market owing to its degree of beta coefficient .Furthermore, the stock of United Insurance Company (UIC) moves opposite with the market due to its negative coefficient. She also observed lack of significant difference between the portfolio return of Insurance companies' stock and overall market portfolio.

Hence she concluded that poor education and inadequate information source are the major constraints for developing stock market in Nepal. On comparison of the risk and return of different industries the Finance Companies and Insurance companies are the best owing to their highest expected return with higher degree of risk. However, most of trading industries have minimum return and maximum level of risk. Market sensitivity is calculated by beta coefficient, which cannot be reduced by diversification. Due to lack of specific knowledge of stock market general public invest their funds in different securities on the basis of expectation and assumption rather than proper analysis. Thus, the proper selection of portfolio approach is the suitable way to achieve success in the stock market.

Joshi (2011) conduct a study on "*Portfolio Analysis on Investment with special reference to Nepalese Commercial Bank*" the general objective of the study is to identify the current situation of investment portfolio of commercial banks in Nepal. The specific objectives were;

- To analyze the current situation of the portfolio management of commercial banks.
- To evaluate the financial performance of commercial bank investment strategies.
- To see the trend of investment in different portfolios.
- To analyze the way commercial bank management of risk and return on investment through portfolio concept.

Her major findings were;

- Return on the government securities is low but it has lower risk .In the similar manner, the loan and advances give more return than the government securities, but it has also higher risk than government securities.
- The total investment to total deposit ratio of SCBL is found to be the highest in comparison to the other four sample commercial banks. It absorbed a major portion of its investment on government securities.
- The analysis indicates that commercial banks invested very nominal percentage of total outside investment on share and debenture of the other companies.
- Investment on various assets, like government securities, loan and advances and share and debenture are in increasing trend.

2.5 Research Gap

Portfolio investment refers to an investment that combines several assets. Commercial Banks can not utilize entire fund raised through deposit and borrowing into loan and advances to fulfill the gap between borrowing and lending banks rather prefer investment. On the basis of the review of the previous thesis, it is observed that the previous researchers had focus in other aspects of investment rather than analysis the financial performance of commercial banks in terms of investment strategies.

Few research works exists in this topic. In-depth specific researches have yet to continue .All previous researches on portfolio management have focused on the risk and return analysis of investment by commercial banks particularly in common stock. However, there is void (insufficiency/gap) in research program concentrating on investment in the government securities, loan and advances, share and debentures etc. Over the time period,

several new options for investment have been introduced. Furthermore, the previous research has been outdated. Hence, the research has endeavored to analyze the present portfolio management situation, risk and return status on investment portfolio of HBL, within the frame work of available recent data.

CHAPTER - THREE

RESEARCH METHODOLOGY

Research methodology is the way in which the data are collected for a research project. It refers to various sequential steps to be adopted by a researcher in studying a problem with a certain objective on view. It describes the method and process of getting to the solution process applied in the entire subject of the study. It is a way to systematically solve a research problem (Kothari; 1990:39). It embraces different dependent and independent variables, types of research design, research questions and hypothesis, sample, data collection activities, technique of analysis etc. Thus, research methodology is the process of arriving at the solution of the problem through planned and systematic dealing with the collection, analysis and interpretation of facts and figures.

3.1 Research Design

Research design is a plan, structure and strategy of investigations conceived so as to obtain answer to research questions and to control variance (Wolff; 1975:51). It is the arrangement of conditions for collection and analysis of data in a manner aiming at combining relevance to the research purpose with economy in procedure. Considering this study objectives, the analysis is based on certain research design. In order to achieve the objectives, descriptive and analytical research design has been adopted. Descriptive research design describes the general pattern of investors, business environment, problem of portfolio management etc. The analytical research design carries out the analysis of information and data. Most of the data and information of the study were related with the past phenomenon. On this background it can be considered as a historical research.

The study covers the data from the FY 2063/064 to FY2067/068. It deals with the study of portfolio analysis of HBL. As the title of the study itself indicates that it is more analytical and empirical and less descriptive.

3.2 Sources of Data

The study is mainly based on secondary data. Data are collected from concern bank Nepal Rastra Bank, NEPSE, SEBO and various libraries. Likewise, the micro-level data have been derived the different libraries, such as Shanker Dev campus, Nepal commerce campus, TU central library etc. Furthermore, several data and information were gathered from periodicals, economic journals and the other published and unpublished reports. Informal interview with the authorities of related institutions are also the other sources of data.

3.3 Method of Data Collection

It indicates the sources of data and how they collected. In this study data are collected through published sources. They were collected from the correspondent offices and their respective websites.

The annual report of HBL for the period of five years are obtained from the website of selected banks. The data regarding the profile of HBL and other related documents were collected from internet websites. Unpublished master's thesis, books, research papers, articles, journals have been collected mainly form Centre Library of Tribhuvan University, library of Shankar Dev Campus and NRB Magazines and newspapers are from concerned authorities.

After collecting data, as necessarily required, they are separated and analyzed presentation and analysis of the collected data is the main theme of the research work. Collected raw data were first presented in systematic manner in tabular forms and then analyzed by applying different financial and statistical tools to achieve the research objectives. Besides these, some graph, charts and tables have been presented to analyze and interpret the finding of the study.

3.4 Population & Sample

The term population of data denotes for the data of each organization which is within the boundary of specific organization whereas sample data are the data of those organization which has been selected from that whole population for study. Random selected method

is to be used while selecting sample organizations for this study. The population data for this study comprises all commercial banks, which are currently operating in Nepal. The sample consists of one selected bank. The selected sample bank for the analysis is HBL.

3.5 Data Analysis Tools

A host of analytical tools can be applied to perform investment analysis of a firm. Following the nature of the study, a set of appropriate tools, particularly financial and statistical may be used for effective and significant analysis to meet the research objectively.

3.5.1 Financial Tools

On the study of portfolio investment analysis financial tools are more applicable. Financial tools are particularly are used for the analysis as well as the interpretation of financial data. These tools can be engaged to procure the precise knowledge of a business, which are fruitful for analyzing the strength and weakness of the investment policies and strategies. Thus, following financial tools are used to achieve the study goal.

3.5.1.1 Risk and Return on Individual Investment Assets and Investment Portfolio

1. **Return on Government Securities:-** The return on Government Securities is obtained by dividing interest income from government by total investment on government securities expressed as;

Return on Government Securities

$$(R_g) = \frac{\text{Interest Income From Government Securities}}{\text{Total Investment on Government Securities}}$$

2. **Return on Share and Debentures:-** The return on share and debenture considers dividend yield and capital gain yield (change in market price). The dividend yield is merely a partial indication of the return. Hence, the return on share and debenture depends on the change in the share price (Pandey;1997:332). It is calculated as;

$$\text{Return on Share and Debenture (Rs)} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

Where,

P_1 = Ending Value of Share

P_0 = Beginning Value of Share

D_1 = Dividend per Share

3. **Return on Loan and Advances:-** This ratio displays the bank efficiency of employing its resources in various sectors like agriculture, industry and commercial sectors to earn a good return from loan and advances. The return on loan and advances is computed by dividing total interest earned from loan and advances to total amount of loan and advances. Thus,

Return on Loan and Advances

$$(R) = \frac{\text{Interest Income From Loan \& Advances}}{\text{Total Loan \& Advances}}$$

4. **Return on Portfolio:-** The return on portfolio is simply the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportions of the investor's wealth in each asset.

$$\text{Portfolio return (R}_P\text{)} = W_A \bar{R}_A + W_B \bar{R}_B + \dots + W_N \bar{R}_N$$

Where,

R_P = Return on Portfolio

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

\bar{R}_A = Expected Return of Asset 'A'

\bar{R}_B = Expected Return of Asset 'B'

5. **Risk on Individual Assets:-** The riskiness of assets is dependent on the variability of rates of return. This variability of rate of return is defined as the extent of the

deviation of individual rates of return from the average rate of return. Risk on individual assets is calculated as;

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum (R_A - \bar{R}_A)^2}{n-1}}$$

Where,

R_A = Rate of return of individual asset

\bar{R}_A = Expected Return of Assets 'A'

σ = Standard deviation or risk

n = no. of years

6. **Portfolio Risk:-** The portfolio risk is a function of the proportions invested in the components, the riskiness of the components and the correlation of returns on the component securities. It is measured by either variance or standard deviation. Lower the standard deviation and variance lower the riskiness and vice versa. It can be computed by using the following formula.

For two assets case;

$$\delta_P = \sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + 2COV_{AB} W_A W_B}$$

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

COV_{AB} = Covariance between Asset 'A' and Asset 'B'

$$COV_{AB} = \frac{\sum [(R_A - \bar{R}_A) (R_B - \bar{R}_B)]}{n-1}$$

For three assets case;

$$\delta_P = \sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + W_C^2 \delta_C^2 + 2COV_{AB} W_A W_B + 2COV_{BC} W_B W_C + 2COV_{AC} W_A W_C}$$

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Assets 'A'

W_B = Weight or Proportion of Assets 'B'

W_C = Weight or Proportion of Assets 'C'

δ_A = Risk on Assets 'A'

δ_B = Risk on Assets 'B'

δ_C = Risk on Assets 'C'

COV_{AB} = Covariance between Assets 'A' and Assets 'B'

COV_{AC} = Covariance between Assets 'A' and Assets 'C'

COV_{BC} = Covariance between Assets 'B' and Assets 'C'

7. **Correlation Coefficient:** - Correlation coefficient defines the degree of relationship between two assets whether they are going in same direction or opposite direction. It always ranges from +1 to -1. It can be calculated by using following formula.

$$\text{Correlation between Assets A \& B } (r_{AB}) = \frac{COV_{AB}}{\delta_A \delta_B}$$

Where,

δ_A = Risk on Assets 'A'

δ_B = Risk on Assets 'B'

COV_{AB} = Covariance between Assets 'A' and Assets 'B'

- If $r_{AB} = +1$, Correlation between two assets is perfectly positive in this condition a single unit of risk cannot be minimized.

- If $r_{AB} = -1$, Correlation between two assets is perfectly Negative in this condition all the risk can be minimized.
- If $r_{AB} = 0$, There is no correlation between two assets in this condition a little bit of risk can be minimized.

8. **Covariance:** - It defines the combined risk or accumulated risk between two assets. Covariance and correlation are closely related, covariance between two assets can be calculated by using following formula.

$$\text{Covariance between Assets 'A' and Assets 'B' (COV}_{AB}) = \frac{\sum[(R_A - \bar{R}_A)(R_B - \bar{R}_B)]}{n-1}$$

R_A = Rate of return of individual assets 'A'

\bar{R}_A = Expected Return of Assets 'A'

R_B = Rate of return of individual assets 'B'

\bar{R}_B = Expected Return of Assets 'B'

3.5.1.2 Financial Ratios:- A numerical or quantitative relationship between two items or variables of the financial statement is known as ratio analysis. In other words, two accounting figures expressed mathematically is termed as financial ratio. Ratio analysis is used to compare a firm's financial and status of that of other firms or to itself on time (Gitman;1988 :275). Since this study is particularly focused on portfolio analysis of commercial banks, only few ratios related to the investment of commercial banks are adapted in the study.

1. **Total Investment to Total Deposit Ratio:-** Investment is one of the major credits generated to earn income. It implies the utilization of firm's deposit on investment in government securities. This ratio is obtained by dividing total investment by total deposit as expressed below.

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

2. **Investment on Government Securities to Total outside Investment Ratio:-** This ratio indicates the banks investment on government securities among the

total outside investment. It is computed by dividing investment on government securities by total outside investment.

Investment on Government Securities to Total outside Investment Ratio

$$= \frac{\text{Investment on Government securities}}{\text{Total outside Investment}}$$

3. **Investment on Share and Debenture to Total outside Investment Ratio:-** This ratio portrays the bank investment on share and debentures of the other companies. It is computed by dividing investment on share and debentures by total outside investment.

Investment on Share and Debenture to Total Outside Investment Ratio

$$= \frac{\text{Investment on Share \& Debenture}}{\text{Total outside Investment}}$$

4. **Return (Net Profit) on Total Assets Ratio:-** This ratio measures the profitability of funds invested in the bank's assets. It is calculated by dividing net profit after tax (NPAT) by total assets, as stated below.

$$\text{Return on Total Assets} = \frac{\text{Net Profit After tax}}{\text{Total Assets}}$$

3.5.2 Statistical Tools

Statistical tools are used to analyzed the relationship between two or more variables and to find how these variables are related. In this study, following statistical tools are used.

1. **Arithmetic Mean or Average:-** The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of the data, it is also called a measure of central value. It is calculated by;

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

Where,

$$\bar{X} = \text{Arithmetic Mean}$$

ΣX = Sum of values of all items, and,

N = Number of items

2. **Standard Deviation:-** The standard deviation is the measure that is most often used to describe variability in data distributions. It can be thought of as a rough measure of the average amount by which observations deviate on either side of the mean. Denoted by Greek letter's (read as sigma), standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is calculated as;

$$\text{Standard deviation}(\sigma) = \sqrt{\frac{\Sigma(X-\bar{x})^2}{N-1}}$$

Where,

σ = Standard deviation

$\Sigma(X - \bar{x})^2$ = Sum of squares of the deviations
measured from arithmetic average.

N = Number of items

3. **Least Square Linear Trend Analysis:-** Trend analysis has been a very useful and commonly applied statistical tool to forecast the future events in quantitative terms. On the basis of tendencies in the dependent variables in the past periods, the future trend is predicted. This analysis takes the historical data as the basis of forecasting. This method of forecasting the future trend is based on the assumptions that the past tendencies of the variable are repeated in the future or the past events affect the future events significantly. The future trend is forecasted by using the following formula.

$$Y = a + bx$$

where,

Y = the dependent variable

a = Y intercept

b = the slope or the rate of change of Y per unit change in x

x = the independent variable

Under this topic the trend value of Total Deposit, Total Credit and Non Performing Assets are computed for next five years and presented in the graph.

CHAPTER - FOUR

PRESENTATION AND ANALYSIS OF DATA

In this chapter, the data have been analyzed and interpreted using financial and statistical tools following the research methodology dealt in the third chapter. In the course of analysis, data gathered from the various sources have been inserted in the tabular form according to their homogeneous nature. The various tables prepared for the analysis purpose have been shown in annexure. The result of the analysis has been compared with conventional standard with respect to ratio analysis, directives of NRB and other factors while using the tools. Furthermore, many suitable graphs, lines, diagrams have also been used to clarify the actual position of the bank. In this section, the investment portfolio of HBL is analyzed with the help of following tools.

- Risk & return on individual investment assets and investment portfolio
- Analysis of ratios
- Linear Trend Analysis
- Correlation analysis

4.1 Analysis of Investment Portfolio of HBL

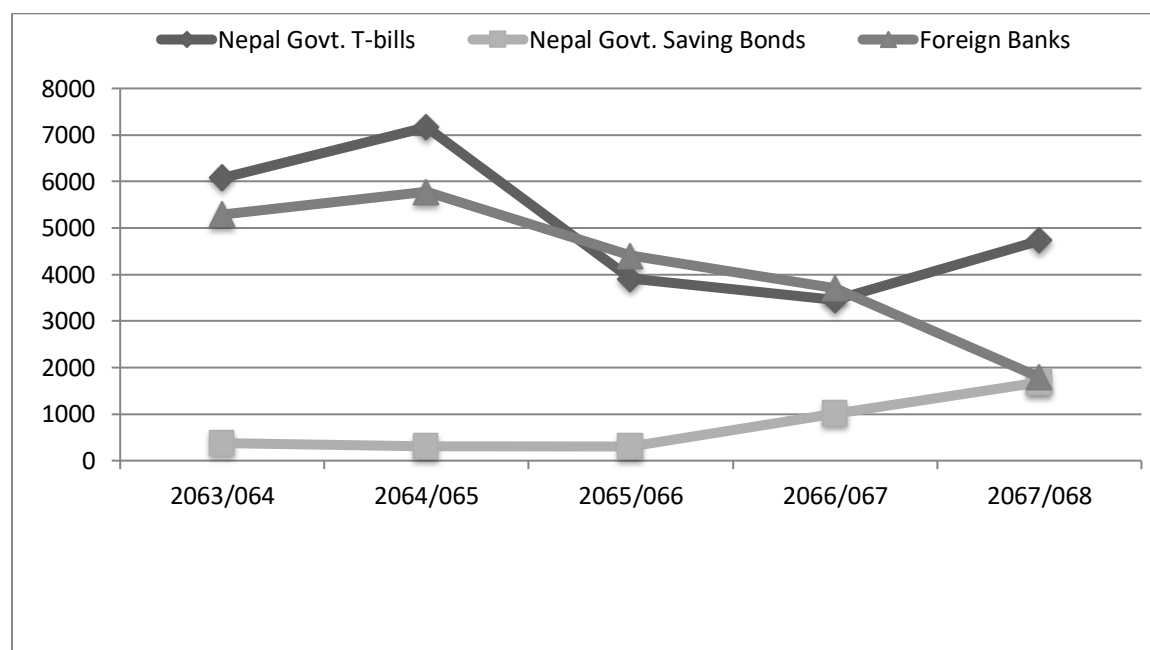
Investment usually means the sacrifice of the current money for future money. The sacrifice takes place in the present and the reward comes later and the magnitude is generally uncertain. Portfolio theory deals with the selection of optimal portfolio i.e. the portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return. Portfolio theory has been developed for the financial assets. Thus making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

“Investment is the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing unit for the time funds are committed, for the expected rate of inflation and also for uncertainty involved in the future flow of the funds”(Frank & Reilly; 1972:299)

Table: 4.1**Investment Portfolio of HBL (Rs. In Millions)**

Sector	2063/064	2064/065	2065/066	2066/067	2067/068
Nepal Govt. T-bills	6079.39	7166.53	3907.34	3455.03	4725.58
Nepal Govt. Saving Bonds	375.49	305.13	304.96	1010.34	1681.78
Nepal Govt. Other Securities	-	-	-	-	-
Local licensed Institutions	-	-	-	197.31	479.42
Foreign Banks	5294.69	5778.95	4404.51	3703.35	1794.37
Corporate Share	73.42	89.56	93.88	78.89	88.79
Corporate Debentures & Bonds	-	-	-	-	-
Total Investment	11822.98	13340.18	8710.69	8444.91	8769.94
Less: Provisions	-	-	-	-	-
Net Investments	11822.98	13340.18	8710.69	8444.91	8769.94

Source: Annual Reports of HBL from 2063/064 to 2067/068

Figure: 4.1**Major Investment Sector of HBL**

Above table 4.1 and figure 4.1, shows the investment portfolio of HBL, the major sectors of investment are Nepal Govt. T-bills, Nepal government saving bonds, Nepal Govt. Other Securities, Local licensed Institutions, Foreign Banks and Corporate Share. The HBL invest the high amount in the Nepal govt. treasury bills in each year except the year 2065/066 and 2066/067, it is risk free assets for investment. The investment trend in treasure bills is in fluctuating trend over the study period, the amount of investment in T-bills each year is Rs. 6079.39, 7166.53, 3907.34, 3455.03 and 4725.58 million respectively in each year.

The second highest investment sector of HBL is foreign banks, the amount invested by HBL in foreign banks are Rs. 5294.69, 5778.95, 4404.51, 3703.35, 1794.37 million respectively in each year. The trend of investment in foreign bank is in decreasing trend each year except the year 2064/065.

The third investment sector is Nepal government saving bonds which holds Rs. 375.49, 305.13, 304.96, 1010.34 and 1681.78 million each year respectively. The trend of investment in Nepal government saving bonds is fluctuating over the study period.

4.2 Analysis of Risk and Return on Individual Investment Assets and Investment portfolio

Risk is an important element since investment with greater risk requires a higher return than investment with lower risk. The relationship between risk and return is described by individual perception about risk and their demand for compensation. In this section, standard deviation and coefficient of variation are taken as the measuring tools of risk and mean return is taken as to measure expected return.

4.2.1 Return on Government Securities

Government securities are the fixed income securities issued by the government. These securities are the ones among the safest of all investments, as government is quite unlikely to default on interest or principal repayments. The return on government securities, such as Treasury Bills, Development Bonds and National Saving Bonds etc is obtained by dividing interest income from government by total investment on government securities.

Table: 4.2

Return on Government Securities of HBL

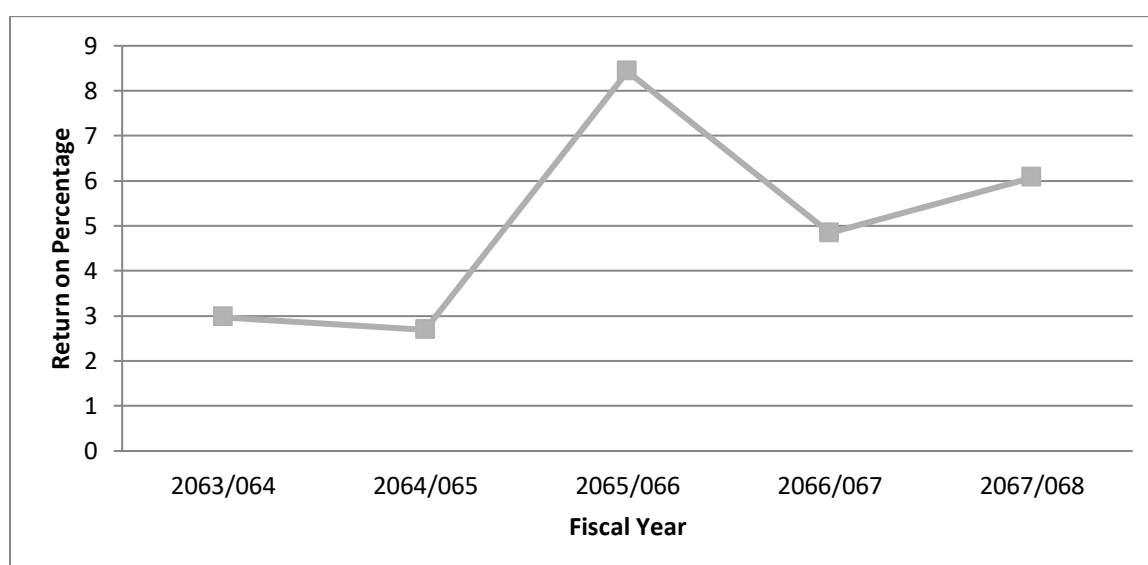
Year	Interest on Govt. Securities (Rs. In millions)	Investment on Govt. Securities (Rs. In Millions)	Return on Govt. Securities (R_g In %)
2063/064	191.56	6454.88	2.97
2064/065	201.32	7471.66	2.69
2065/066	354.95	4212.3	8.43
2066/067	216.04	4465.37	4.84
2067/068	389.10	6407.36	6.07
Total	1352.97	29011.57	25.00
Average			5.00

Source: Annual Report of HBL from 2063/064 to 2067/068 & Appendix I

The table no 4.2 shows that in an average HBL generate 5% return on the investment made in government securities. However, it demonstrates inconsistent trend of HBL in the return on government securities. During the study period the greatest return is 8.43% in FY 2065/066 and the lowest is 2.69% in FY 2064/065. The trend of interest and investment are increasing every year but in the FY 2066/067 the investment amount is decrease than the previous year. It is show in the following figure.

Figure: 4.2

Trend of Return on Government Securities of HBL



4.2.2 Return on Loan and Advances

The major portion of short term investment of commercial banks is the loan and advances provided to various sector of the market. It is the main sources of income for commercial banks. Commercial banks provide loans and advances from the money i.e. the money it reserves by the way of the persons against the personal security of the borrowers or against the security of the movable and immovable properties. Mainly the commercial banks are providing their funds to the various sectors like agriculture, industry, commercial sectors etc.

Table: 4.3
Return on Loan & Advances of HBL

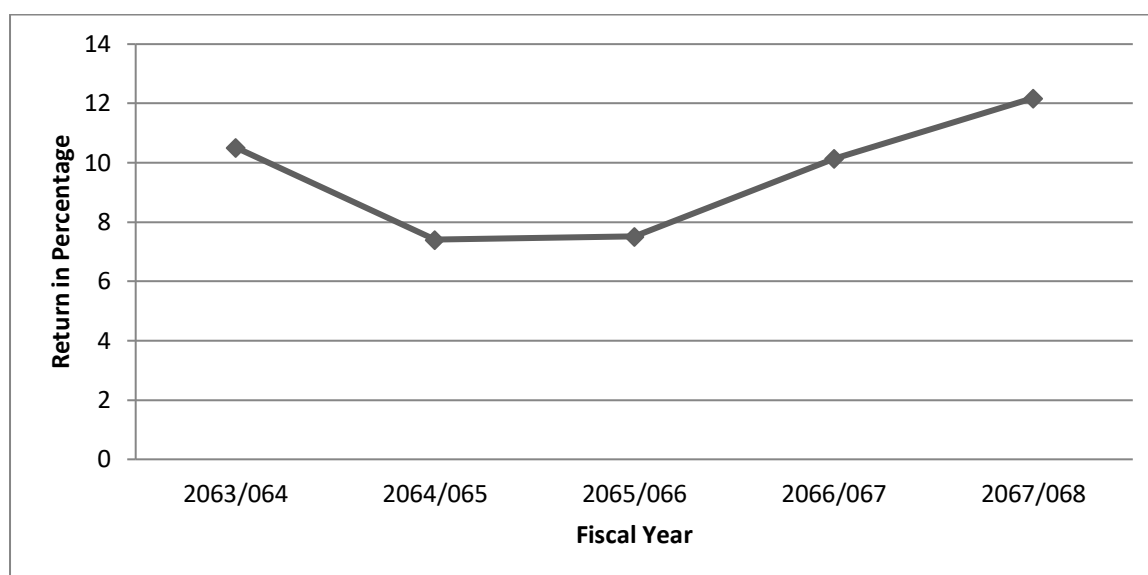
Year	Interest on Loan & Advances (Rs. In millions)	Investment on Loan & Advances (Rs. In millions)	Return on Loan & Advances (R_l In %)
2063/064	1242.85	11822.98	10.51
2064/065	1444.24	19497.22	7.41
2065/066	1861.04	24793.15	7.51
2066/067	2836.25	27980.62	10.14
2067/068	3843.31	31566.00	12.18
Total	11227.69	115659.97	47.75
Average			9.55

Source: Annual Report of HBL from 2063/064 to 2067/068 & Appendix II

The table no 4.3 shows that in an average HBL generate 9.55% return on the investment made in loan & advances. However, it demonstrates fluctuating trend of HBL in the return on loan & advances. During the study period the greatest return is 12.18% in FY 2067/068 and the lowest is 7.41% in FY 2064/065. The investment and interest on loan and advance are increasing every year.

Figure: 4.3

Trend of Return on Loan & Advances of HBL



4.2.3 Return on Share

The return on share comprise dividend yield and capital gain yield (change in market price). In other words, return is the combination of capital gain yield and dividend yield.

Table: 4.4

Return on Share of HBL

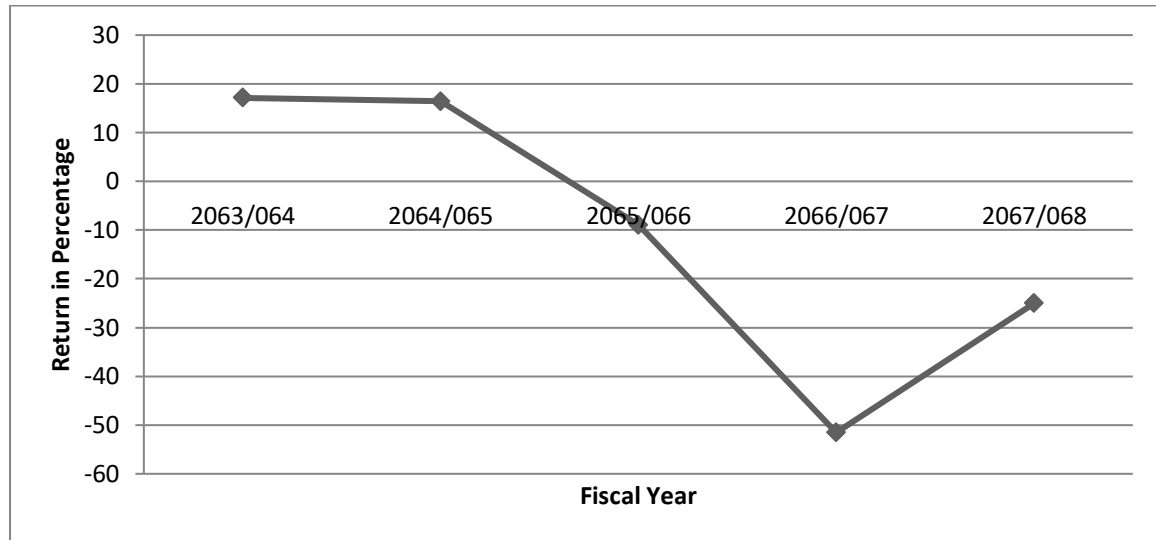
Year	Market Value Per Share (Rs. In Millions)	Dividend Per Share (Rs. In Millions)	Return on Share (Rs. In %)
2062/063	1520	35	-
2063/064	1740	40	17.11
2064/065	1980	45	16.38
2065/066	1760	43.56	-8.91
2066/067	816	36.84	-51.54
2067/068	575	36.84	-25.02
Total	8391	237.24	-51.98
Average			-17.33

Source: Annual Report of HBL from 2063/064 to 2067/068 & Appendix III

The above table shows that in an average HBL generate -14.33% return on the investment made in share over the study period. However, it demonstrates decreasing trend of HBL

in the return on share & debenture. During the study period the greatest return is 17.11% in FY 2063/064 and the lowest is -51.54% in FY 2066/067. The return on share is negative since last three years due to the high decrease in the market value of share.

Figure: 4.4
Trend of Return on Share of HBL



4.3 Risk on Individual Investment

Risk is the variability of return. It is the deviation between actual and expected return. If there is certainty of return there is no risk at all. Risk is measured by its variation and standard deviation.

4.3.1 Risk on Government Securities

In this study government security includes the investment in treasure bills and Nepal government saving bonds. Risk in government securities is less than the other securities. The risk on government security is computed as follows.

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum(R_g - \bar{R}_g)^2}{n-1}}$$

Table: 4.5
Calculation of Risk on Government Securities of HBL
(Figure In %)

Year	Return on Govt. Securities(R_g)	$(R_g - \bar{R}_g)$	$(R_g - \bar{R}_g)^2$
2063/064	2.97	-2.03	4.12
2064/065	2.69	-2.31	5.34
2065/066	8.43	3.43	11.76
2066/067	4.84	-0.16	0.03
2067/068	6.07	1.07	1.14
Total	25	-	22.39
Average	5	SD	2.37

Source: Annual Report of HBL from 2063/064 to 2067/068 & Appendix IV

The table 4.5 shows that the average return on government securities of HBL is 5% and the standard deviation which represents risk is 2.37. It reveals that the risk on investment on government securities of HBL is 2.37 which indicates the riskiness on government securities. The standard deviation clearly indicates that there is some minimal risk associated with government securities despite general assumption of no-risk on such type of securities.

4.3.2 Risk on Loan and Advances

Loan and advance is the amount which is lending to the different persons or institutions for different purpose. It is the high risk assets for banking business. The risk on loan & advance is computed as follows.

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum(R_1 - \bar{R}_1)^2}{n-1}}$$

Table: 4.6
Calculation of Risk on Loan & Advances of HBL

(Figure In %)

Year	Return on Loan & advance(R_l)	$(R_l - \bar{R}_l)$	$(R_l - \bar{R}_l)^2$
2063/064	10.51	0.96	0.92
2064/065	7.41	-2.14	4.58
2065/066	7.51	-2.04	4.16
2066/067	10.14	0.59	0.35
2067/068	12.18	2.63	6.92
Total	47.75	-	16.93
Average	9.55	SD	2.06

Source: Annual Report of HBL from 2063/064 to 2067/068 & Appendix V

The above table 4.5 shows that the average return on loan and advances of HBL is 2.06% and the standard deviation which represents risk is 2.06. It reveals that the risk on investment on loan and advances of HBL is 2.236 which indicates the riskiness on loan and advances.

4.3.3 Risk on Share & Debenture

Risk on share and debenture is calculated as follows.

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum(R_s - \bar{R}_s)^2}{n-1}}$$

Table: 4.7
Calculation of Risk on Share of HBL

(Figure In %)

Year	Return on Share & Debenture(R_s)	$(R_s - \bar{R}_s)$	$(R_s - \bar{R}_s)^2$
2063/064	17.11	27.5	756.25
2064/065	16.38	26.77	716.63
2065/066	-8.91	1.48	2.19
2066/067	-51.54	-41.15	1693.32
2067/068	-25.02	-14.63	214.04
Total	-51.98	-	3382.43
Average	-10.39	SD	29.08

Source: Annual Report of HBL from 2063/064 to 2067/068

The table 4.6 listed above reveals the risk (Standard Deviation) of return on Share of HBL. The Standard deviation of return on Share of HBL is 29.08. The Standard deviation portrays more risk in share and debenture than investment on loan and advances and government securities. Thus it is clear that investment on share and debenture is more risky. It is shown in the following table and figure.

Table: 4.8
Average Risk and Return Position of HBL

Assets	Risk	Average Return
Govt. Securities	2.37	5
Loan & Advance	2.06	9.55
Share	29.08	-10.39

Source: Appendix

Above table shows that the high return in loan & advance and government securities than the risk and low return in the share & debenture than risk so investment in loan & advance and government securities is better than the investment in share & debenture.

4.4 Return on Investment Portfolio

The return on portfolio is the weighted average of the expected returns of the individual stock in the portfolio, with the weights being the proportion of the investment on each security in the portfolio equation. Commercial banks invest their funds in government securities, share and debenture and loan and advances. The weight of investment on various assets and their portfolio of returns can be calculated as below.

$$\text{Portfolio return } (R_p) = W_g \bar{R}_g + W_l \bar{R}_l + W_s \bar{R}_s$$

Table: 4.9
Portfolio Return on Investment of HBL

S.N	Assets	Average Rate of Return(\bar{R})	Weight/Proportion (W)
1	Return on Govt. Securities (R_g)	5.00	0.07
2	Return on Lon & Advance (R_l)	9.55	0.91
3	Return on Share & Debenture (R_s)	-10.39	0.02
4	Portfolio Return (R_p)		8.83

Source: Appendix

From the above table 4.9 the expected return on portfolio of HBL is 8.83 which is more than that of mean rate of return on investment on government securities i.e $5 < 8.83$, return on share and debenture i.e $-10.39 < 8.83$ and less than the return on loan & advance i.e. $9.55 > 8.83$.

4.5 Risk on Investment Portfolio

Expected risk on a portfolio is the function of the proportions invested in the components, the riskiness of the components and correlation of returns on the component securities. It is measured by standard deviation. However the standard deviation of portfolio is not simply the weighted average of standard deviation of individual securities. The portfolio risk is affected by the association of movement of returns of two securities. The degree to which the assets return move together is measured by the covariance. Hence, by combining the measures of individual assets risk, relative asset weights and the co-movement of asset returns (covariance) the risk of the portfolio can be estimated. Thus prior to the calculation of portfolio risk on investment, covariance between two assets return should be calculated.

4.5.1 Covariance

It defines the combined risk or accumulated risk between two assets. Covariance and correlation are closely related. Covariance between two assets can be calculated by using following formula.

Covariance between Government Securities & Loan and Advance (COV_{gl})

$$\begin{aligned}
 &= \frac{\sum[(R_g - \bar{R}_g)(R_l - \bar{R}_l)]}{n-1} \\
 &= \frac{-1.28}{5-1} \\
 &= -0.32
 \end{aligned}$$

Covariance between Government Securities & Share & Debenture (COV_{gs})

$$= \frac{\sum[(R_g - \bar{R}_g)(R_s - \bar{R}_s)]}{n-1}$$

$$\begin{aligned}
&= \frac{-121.66}{5-1} \\
&= -30.42
\end{aligned}$$

Covariance between Loan & Advance & Share & Debenture (COV_{ls})

$$\begin{aligned}
&= \frac{\sum[(R_l - \bar{R}_l)(R_s - \bar{R}_s)]}{n-1} \\
&= \frac{-96.66}{5-1} \\
&= -24.16
\end{aligned}$$

Above calculation shows that the risk between combined investment between different sets of two assets i. e government securities and loan and advance, government securities and share and debenture and loan and advance and share and debenture. The lowest risk is in the combination of government securities and loan and advance and highest is in the combination of government securities and share and debenture so the investment in the combination of government securities and loan and advance will be more profitable

4.5.2 Portfolio Risk

Portfolio risk means combined risk between different investments. Portfolio risk is measured by its standard deviation and lower the standard deviation lowers the risk and vice versa. It can be computed by using the following formula.

Portfolio Standard Deviation between government securities, loan & Advance and share & debenture (δ_p)

$$\begin{aligned}
\delta_p &= \sqrt{W_g^2 \delta_g^2 + W_l^2 \delta_l^2 + W_s^2 \delta_s^2 + 2COV_{gl}W_gW_l + 2COV_{gs}W_gW_s + 2COV_{ls}W_lW_s} \\
&= \sqrt{2.8745} = 1.69
\end{aligned}$$

The above result shows that the bank's portfolio investment risk is 1.69, which is less than the single investment of different assets.

4.5.3 Correlation Analysis

Correlation coefficient defines the degree of relationship between two assets whether they are going in same direction or opposite direction. It always range from +1 to -1, it can be calculated by using the following formula.

$$\begin{aligned} \text{Correlation between Government Securities and Loan \& Advance } (r_{gl}) &= \frac{COV_{gl}}{\delta_g \delta_l} \\ &= \frac{-0.32}{2.37 \times 2.06} = -0.065 \end{aligned}$$

$$\begin{aligned} \text{Correlation between Government Securities and Share \& Debenture } (r_{gs}) &= \frac{COV_{gs}}{\delta_g \delta_s} \\ &= \frac{-30.42}{2.37 \times 29.08} = -0.441 \end{aligned}$$

$$\begin{aligned} \text{Correlation between Loan \& Advance and Share \& Debenture } (r_{ls}) &= \frac{COV_{ls}}{\delta_l \delta_s} \\ &= \frac{-24.16}{2.06 \times 29.08} = -0.403 \end{aligned}$$

All of the above calculation are shown in the following table and described.

Table: 4.10

Portfolio Risk, Covariance & Correlation between Different Variables

Particular	Covariance	Correlation
$COV_{gl} \& r_{gl}$	-0.32	-0.065
$COV_{gs} \& r_{gs}$	-30.42	-0.441
$COV_{ls} \& r_{ls}$	-24.16	-0.403
δ_p	1.69	

Source: Appendix

From the above table 4.10, the expected risk of portfolio (standard deviation) of HBL is- 1.69% which is considerably less than the expected portfolio return of HBL. It means investment in combined three assets is less risky. The correlation between government securities and loan and advance is -0.065 it means there is low degree of negative

relationship between government securities and loan and advance in this condition a little bit of risk can be minimized by changing the proportion of investment made between two assets.

The covariance and correlation between government securities and share and debenture are -30.42 & -0.0441 it means there is moderate degree of negative correlation between government securities and share and debenture in this condition maximum unit of risk can be minimized. Similarly, the covariance between loan and advance and share and debenture is -24.16 & -0.403 respectively it means there is high degree of negative correlation in this condition maximum unit of risk can be minimized.

4.6 Ratio Analysis

Ratio analysis is the process of establishing the significant relationship between the variables of financial statement to provide a meaningful understanding of the performance and the financial position of a firm. As a tool of financial analysis, ratio can be expressed in percentage. With the help of ratio analysis, the quantitative judgment can be obtained very easily and timely with respect to financial performance of the firm. In this section, major ratios related to the investment mechanism of commercial banks are calculated and analyzed.

4.6.1 Total Investment to Total Deposit Ratio

The ratio is used to measure the ability of banks to successfully mobilize the total deposits of investment. This ratio is obtained by dividing total investment by total deposit. In general, the high ratio is the indicator of high success to mobilize the banking funds as investment and vice-versa.(Total investment not include the amount of loan & advance)

Table: 4.11

Computation of Total Investment to Total Deposit Ratio

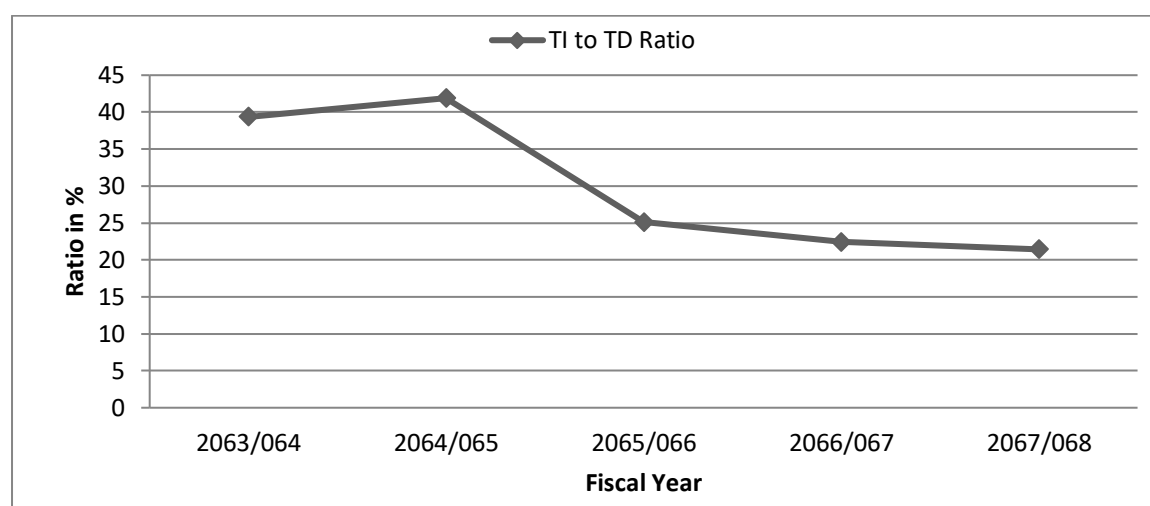
Year	Total Investment (TI) (Rs. In Millions)	Total Deposit (TD) (Rs. In Millions)	TI to TD Ratio (In %)
2063/064	11822.98	30048.41	39.35
2064/065	13340.17	31842.79	41.89
2065/066	8710.69	34681.34	25.12
2066/067	8444.91	37611.20	22.45
2067/068	8769.94	40920.62	21.43
Mean			30.05
SD			9.79

Source: Appendix

The above table 4.11 and figure 4.6 shows that the average investment to deposit ratio is 30.05% and the highest ratio is 41.89% in the FY 2064/065 and the lowest ratio is 21.43% in 2067/068. the overall trend of TI to TD ratio is fluctuating over the study period. The variation or standard deviation in the ratio is 9.79%

Figure: 4.5

Trend of Total Investment to Total Deposit Ratio



4.6.2 Investment on Government Securities to Total Investment Ratio

This ratio is very useful for understanding to what extent the bank is successful to mobilize their total outside investment on different types of government securities to

maximize the income. The ratio is computed by dividing investment on government securities by total outside investment. A high ratio indicates the efficiency of firms in overall investment on government securities and vice –versa.

Table: 4.12

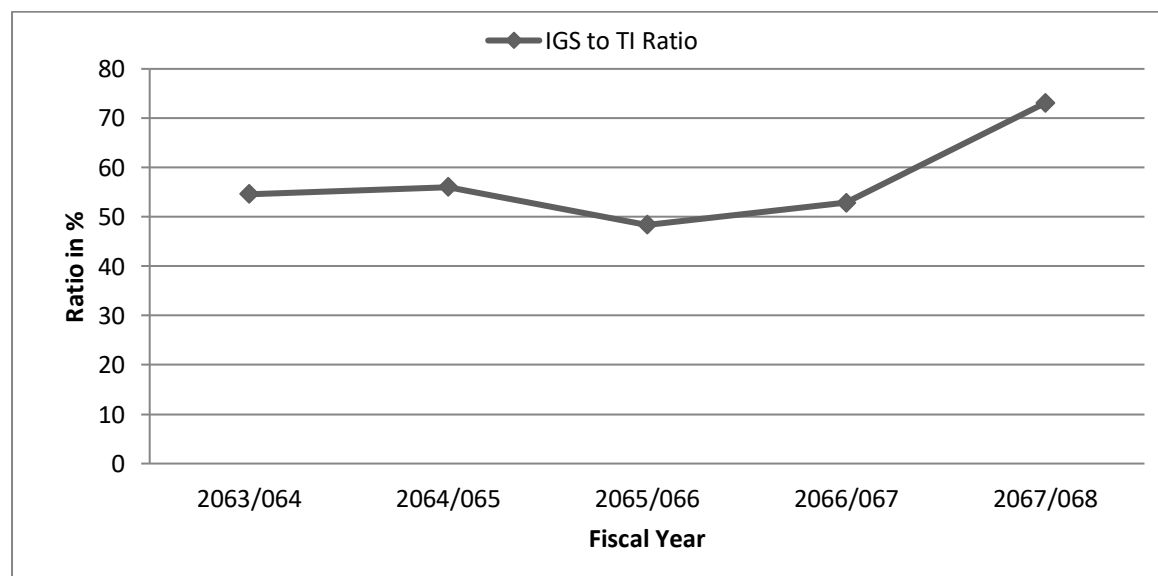
Computation of Investment in Govt. Securities to Total Investment Ratio

Year	Total Investment (TI) (Rs. In Millions)	Investment in Govt. Securities (IGS) (Rs. In Millions)	IGS to TI Ratio (In %)
2063/064	11822.98	6454.88	54.60
2064/065	13340.17	7471.66	56.01
2065/066	8710.69	4212.3	48.36
2066/067	8444.91	4465.37	52.88
2067/068	8769.94	6407.36	73.06
Mean			56.98
SD			9.44

Source: Appendix

Figure: 4.6

Trend of Investment in Govt. Securities to Total Investment Ratio



The above table 4.12 and figure 4.7 shows the percentage of investment made to government securities out of total investment the average IGS to TI ratio is 56.98% it

means the high amount investment made in government securities out of total investment. The highest ratio is 73.06 in FY 2067/068 and the lowest ratio is 48.36% in the FY 2065/066. The overall trend of IGS to TI ratio is fluctuating over the study period.

4.6.3 Investment on Share and Debenture to Total outside Investment Ratio

This ratio reflects the extent to which banks are successful to mobilize their total outside investment on purchase of share and debentures. It is computed by dividing investment on share and debentures by total outside investment. A higher ratio indicates more portions of share and debenture out of total outside investment and vice –versa.

Table: 4.13

Computation of Investment on Share & Debenture to Total Investment Ratio

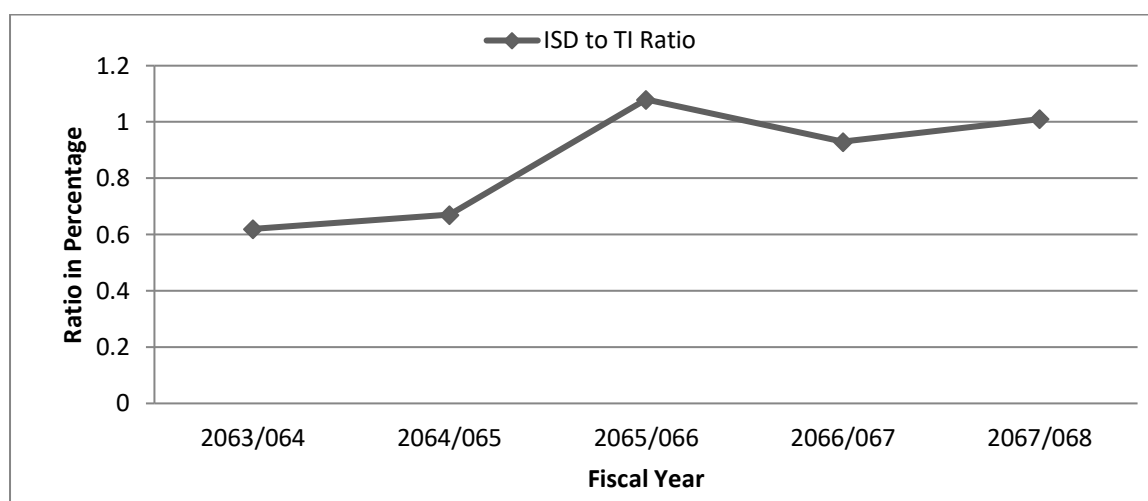
Year	Total Investment (TI) (Rs. In Millions)	Investment in Share & Deb. (ISD) (Rs. In Millions)	ISD to TI Ratio (In %)
2063/064	11822.98	73.42	0.62
2064/065	13340.17	89.56	0.67
2065/066	8710.69	93.88	1.08
2066/067	8444.91	78.89	0.93
2067/068	8769.94	88.79	1.01
Mean			0.86
SD			0.21

Source: Appendix XIII

The above table 4.13 shows the percentage of investment made to securities out of total investment the average ISD to TI ratio is 0.86% it means the very low amount of investment made in securities out of total investment. The highest ratio is 1.08% in FY 2065/066 and the lowest ratio is 0.62% in the FY 2063/064. The overall trend of ISD to TI ratio is fluctuating over the study period. It is shows in the following figure.

Figure: 4.7

Trend of Investment on Share & Debenture to Total Investment Ratio



4.6.4 Return to Total Assets Ratio

This ratio measures the profitability of banks in terms of total assets. The ratio is vital for measuring financial performance of the firms or the effective utilization of resources in different sectors and yields a higher return for banks. This ratio is calculated by dividing net profit after tax (NPAT) by total assets.

Table: 4.14

Computation of Return to Total Assets Ratio

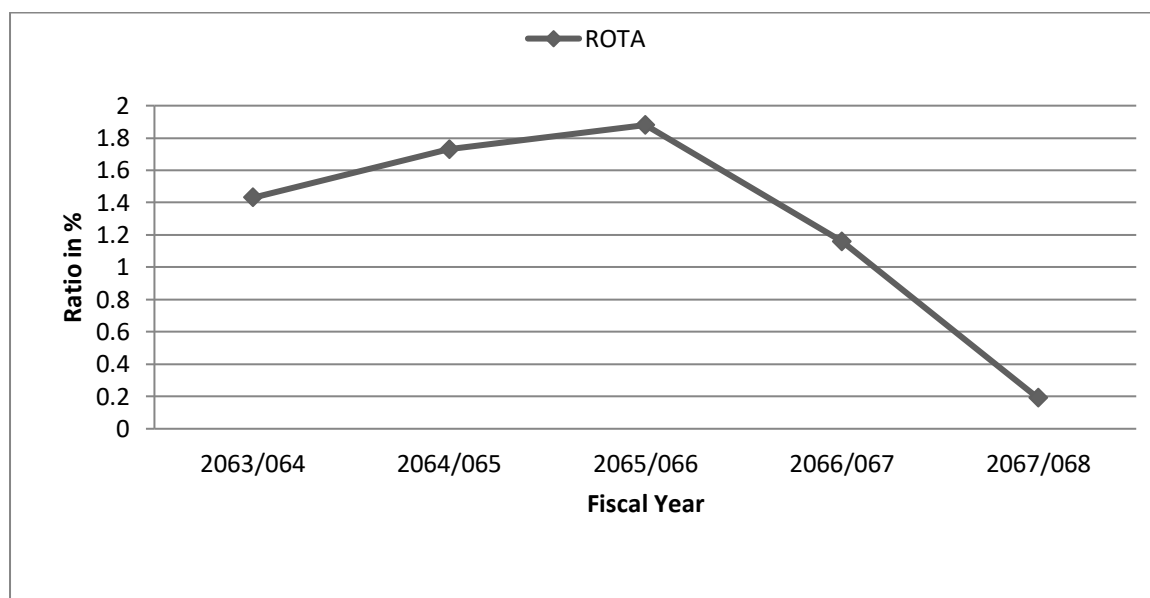
Year	Net Profit After Tax (NPAT In Millions)	Total Assets (TA In Millions)	ROTA (NPAT/TA In %)
2063/064	34314.86	491.82	1.43
2064/065	36857.62	635.87	1.73
2065/066	40046.68	752.83	1.88
2066/067	43860.25	508.8	1.16
2067/068	481379.5	893.11	0.19
Mean			1.28
SD			0.67

Source: Appendix

Table 4.14 and figure 4.9 shows the percentage of profit made in term of total assets. This ratio measure the how effectively utilized the total assets by the bank. The average ROTA

ratio is 1.28 the highest ratio is 1.88% in FY 2065/066 and the lowest ratio is 0.19% in the FY 2067/068. The overall trend of ROTA ratio is fluctuating over the study period. It shows the normal position of bank in term of resource utilization.

Figure: 4.8
Trend of Return to Total Assets Ratio



4.7 Trend Analysis

Trend Analysis shows the relationship between two variables on a single period. It helps in future forecasting and planning with the help of past and present data and the factors affecting them will make possible to forecast the future magnitude. Trend Analysis is an analysis of bank's financial figure over a period of time in order to determine the improvement, deterioration or stability of its financial situation.

Under this topic, trend analysis of deposit collection and its utilization or investment of HBL are studied during the period of time. The objective of this topic is to forecast the total deposit and investment for the next five years. The projections are based on the following assumptions.

- The bank will run in the present style.
- Nepal Rastra Bank and the Government of Nepal will not make any amendments in the guidelines for the operation of commercial banks.
- Other all the things also remain constant.

Simple linear trend line of the form 'y = a + bx' is used where 'x' and 'y' are considering variables. Here, 'x' denotes time, 'b' measures the increase and decrease in the value of 'y' due to unit change in 'x' and 'y' denotes the total deposit and the total credit. Here, the method of least square has been used for the analysis of total deposit and total credit of HBL.

4.7.1 Trend Analysis of Total Deposit and Total Investment

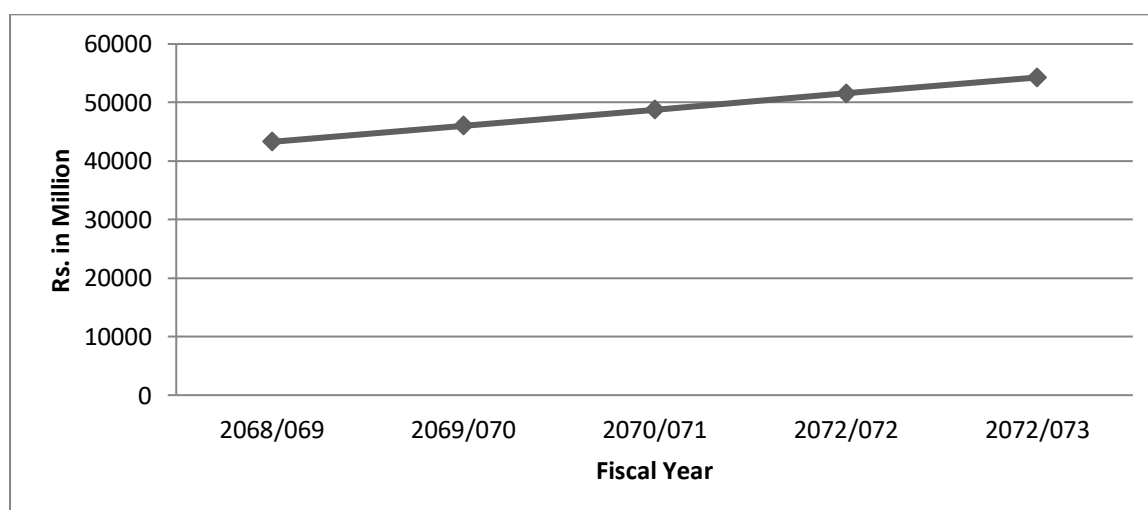
Under this topic, trend values of the total deposit and total Investment of HBL, for the period of study has been calculated and forecasted for the next 5 years, from 2068/69 and 2072/73. The following table presents the trend value of deposit and Investment.

Table: 4.15
Forecasted Trend Value of Deposit & Credit

Year	X	Trend Line & Trend Value	
		Deposit (Y) = 35020.8 + 2751.28 X	Investment (Y) = 10217.74 – 1100.13 X
2068/069	3	35020.8 + 2751.28 × 3= 43274.64	10217.74 – 1100.13 × 3= 6913.35
2069/070	4	35020.8 + 2751.28 × 4= 46025.92	10217.74 – 1100.13 × 4= 5817.22
2070/071	5	35020.8 + 2751.28 × 5= 48777.20	10217.74 – 1100.13 × 5= 4717.09
2072/072	6	35020.8 + 2751.28 × 6= 51528.48	10217.74 – 1100.13 × 6= 3616.96
2072/073	7	35020.8 + 2751.28 × 7= 54279.76	10217.74 – 1100.13 × 7= 2516.83

Source: Appendix

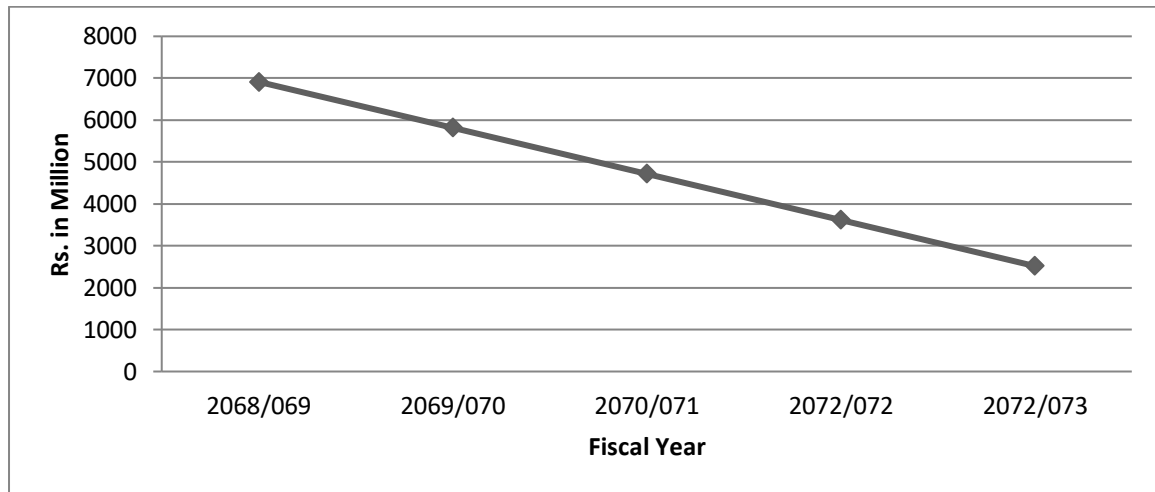
Figure: 4.9
Forecasted Trend Line of Deposit



Above table shows the increasing trend of total deposit and decreasing trend of investment of HBL. 'Y' has shown the trend value of total deposit. Since, the calculated

value of 'b' is positive, it is found that the bank's deposit is increasing with time. It shows that the deposit increasing by Rs. 2751.28 million every year. On the basis of this calculation, it can be forecasted that the bank's total deposit will become Rs. 43274.64 million in the year 2068/69 and it will become Rs. 54279.76 million in the year 2072/073.

Figure: 4.10
Forecasted Trend Line of Total Credit



Since, the calculated value of 'b' is negative; it is found that the banks investment is decreasing with time. It shows that the investment decrease by Rs. 1100.13 million every year. On the basis of this calculation, it can be forecasted that the banks total investment will become Rs. 6913.35 million in the year 2068/69 and it will become Rs. 2516.83 million in the year 2072/073.

4.7.2 Trend Analysis of Non Performing Assets (NPA)

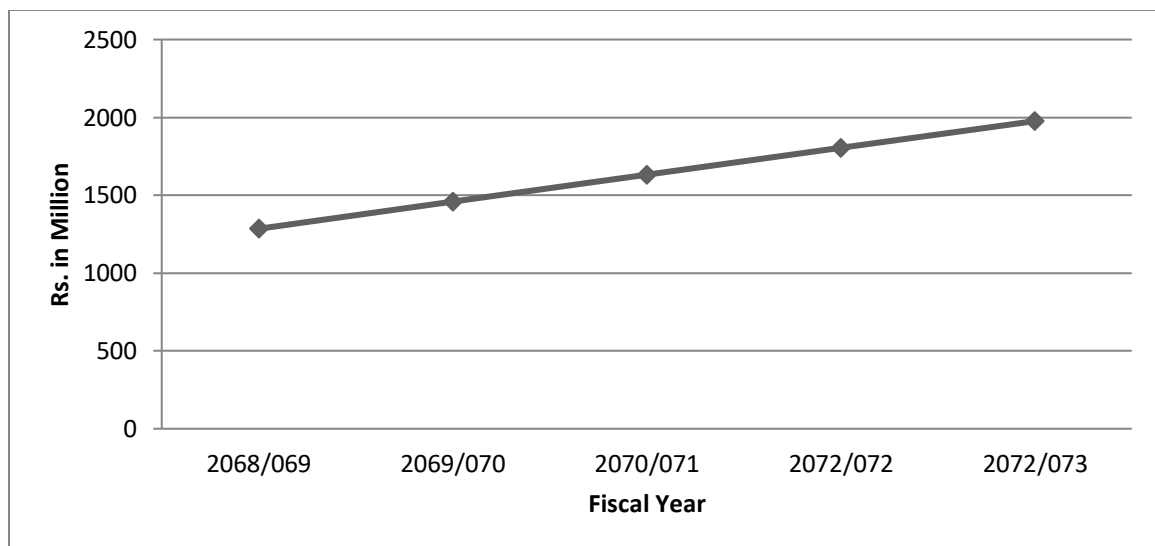
Under this topic, trend values of nonperforming assets of HBL, for the period of study has been calculated and forecasted for the next 5 years, from 2068/69 and 2072/73. The following table presents the trend value of NPA.

Table: 4.16
Forecasted Trend Value of NPA

Year	X	NPA (Y) = 765.89 + 172.86 X
2068/069	3	$765.89 + 172.86 \times 3 = 1284.47$
2069/070	4	$765.89 + 172.86 \times 4 = 1457.33$
2070/071	5	$765.89 + 172.86 \times 5 = 1630.19$
2072/072	6	$765.89 + 172.86 \times 6 = 1803.05$
2072/073	7	$765.89 + 172.86 \times 7 = 1975.91$

Source: Appendix

Figure: 4.11
Forecasted Trend Line of Total Credit



Above table 4.16 and figure 4.11 show the increasing trend of NPA of HBL. ‘Y’ has shown the trend value of NPA. Since, the calculated value of ‘b’ is positive, it is found that the bank’s NPA is increasing with time. It shows that the NPA increasing by Rs. 172.86 million every year. On the basis of this calculation, it can be forecasted that the bank’s NPA will become Rs. 1248.47 million in the year 2068/69 and it will become Rs. 1975.91 million in the year 2072/073.

4.8 Major Findings

- The major sectors of investment are Nepal Govt. T-bills, Nepal government saving bonds, Nepal Govt. Other Securities, Local licensed Institutions, Foreign Banks and Corporate Share.
- The investment trend in treasure bills is in fluctuating trend over the study period, the amount of investment in T- bills each year is Rs. 6079.39, 7166.53, 3907.34, 3455.03 and 4725.58 million respectively in each year.
- The amount invested by HBL in foreign banks are Rs. 5294.69, 5778.95, 4404.51, 3703.35, 1794.37 million respectively in each year. The trend of investment in foreign bank is in decreasing trend each year except the year 2064/065.
- The third investment sector is Nepal government saving bonds which holds Rs. 375.49, 305.13, 304.96, 1010.34 and 1681.78 million each year respectively.
- In an average HBL generate 5% return on the investment made in government securities. The greatest return is 8.43% in FY 2065/066 and the lowest is 2.69% in FY 2064/065. The risk on investment on government securities of HBL is 2.37 which indicate the riskiness on government securities.
- In an average HBL generate 9.55% return on the investment made in loan & advances. During the study period the greatest return is 12.18% in FY 2067/068 and the lowest is 7.41% in FY 2064/065. The investment and interest on loan and advance are increasing every year. The standard deviation which represents risk is 2.06.
- During the study period the greatest return on share is 17.11% in FY 2063/064 and the lowest is -51.54% in FY 2066/067. The return on share is negative since last three years due to the high decrease in the market value of share. The Standard deviation of return on Share of HBL is 29.08.
- The expected return on portfolio of HBL is 8.83 which is more than that of mean rate of return on investment on government securities i.e $5 < 8.83$, return on share

and debenture i.e $-10.39 < 8.83$ and less than the return on loan & advance i.e. $9.55 > 8.83$.

- The lowest risk is in the combination of government securities and loan and advance and highest is in the combination of government securities and share and debenture so the investment in the combination of government securities and loan and advance will be more profitable.
- The bank's portfolio investment risk is 1.69, which is less than the risk of single investment of different assets.
- The correlation between government securities and loan and advance is -0.065 it means there is low degree of negative relationship between government securities and loan and advance in this condition a little bit of risk can be minimized by changing the proportion of investment made between two assets.
- The covariance and correlation between government securities and share and debenture are -30.42 & -0.0441 it means there is moderate degree of negative correlation between government securities and share and debenture in this condition maximum unit of risk can be minimized.
- The covariance between loan and advance and share and debenture is -24.16 & -0.403 respectively it means there is high degree of negative correlation in this condition maximum unit of risk can be minimized.
- The average investment to deposit ratio is 30.05% and the highest ratio is 41.89% in the FY 2064/065 and the lowest ratio is 21.43% in 2067/068.the overall trend of TI to TD ratio is fluctuating over the study period.
- The average IGS to TI ratio is 56.98% it means the high amount investment made in government securities out of total investment.
- The average ISD to TI ratio is 0.86% it means the very low amount of investment made in securities out of total investment.
- The average ROTA ratio is 1.28 the highest ratio is 1.88% in FY 2065/066 and the lowest ratio is 0.19% in the FY 2067/068.

CHAPTER - FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is the last part of this study which is the most important chapter for the research because this chapter extracts of all the previously discussed chapters. When a study is completed, we should summarize and conclude in specific form, as it is an important issue in research. In this chapter, summary and conclusion made after analyzing

and interpreting the necessary data regarding investment portfolio of selected commercial bank. Summary incorporates a brief description of the whole study. Conclusions are drawn on the analysis of relevant data using various financial and statistical tools that presents strength, weakness, opportunities and threats of the sample bank. Recommendations are presented in terms of suggestions prepared based on findings and conclusion.

5.1 Summary

Commercial banks are the major financial institutions which occupy very important place in the framework of every economy. They play a vital role in the capital formation, proper utilization of the collected resources and provide a host of banking services. Commercial banks collect money from the public providing sound interest and subsequently gain profit through lending it in business organization, industry, agriculture sectors etc. Hence it can be stated the main task of commercial banks is to mobilize idle resources in productive areas by collecting it from scattered sources for generation of the profit. Bank plays the intermediary role between saving and investment caters the credit needs of the customers and the investment requirements of the savers. Thus it is evident that the efficient and stable banking systems are essential for an orderly economic growth. Successful formulation and effective implementation of the investment policy is the prime requisite for refined performance of the commercial banks. In the similar manner, a good investment policy has a positive impact on the economic development of the country and vice-versa. Bank should attract its customers through implementing the best or competitive investment policy. It helps increase the quality of the banking service as well as quality deposit and investment in various sectors. Investment management of a bank is guided by the investment policy adopted by the bank. The bank investment policy fosters the investment operation of the bank to be efficient and profitable by minimizing the interest risk. Thus the commercial bank should mobilize its deposits and the other funds to profitable, secured, stable and marketable sectors to earn a good profit.

Investment portfolio is the collection of securities. It simply represents the practice among investors having their funds on more than one asset. Portfolio theory deals with the selection of optimal portfolio. In other words, portfolio provides the highest possible return for any specified return. The income or profit of the bank entirely depends upon the

investment decision. Considering the fact, the bank should never invest its funds in individual security alone, which is subject to massive depreciation and fluctuations. Banks should accept those types of securities which are commercial, marketable, stable, liquid and profitable. A bank should not lay all its eggs in one basket, which means, to minimize risk a bank must diversify its investment on different sectors and different securities, for this purpose the main objective of the study is to identify the current situation of investment portfolio of HBL. Other specific objectives are;

- To analyze the risk and return of HBL on investment using portfolio concept.
- To analyze the investment portfolio of HBL.
- To examine the trend of investment and to provide complimentary measures based on analysis.

To achieve the objectives of the study, various analysis, such as risk and return analysis of individual assets as well as investment portfolio, ratio analysis and trend analysis have been launched. During the research work, a brief review of literature has been conducted. In this connection various textbooks and published journals have been reviewed. The required data for the study are collected from the concerned banks, NRB, NEPSE and SEBO. To meet the need and the objectives, the secondary data were complied, processed, and tabulated for the better presentation. With respect to risk and return analysis, return on the government securities is low but it has lower risk. In the similar manner, the loan and advances give more return than the government securities, but it has also higher risk than government securities. Likewise, share and debentures are also high risky securities which provide higher return. Regarding ratio analysis, different ratios related with investment portfolio have been used.

5.2 Conclusion

The investment plan is the challenging subject on the commercial banks. The success of the commercial banks heavily depends on planning of investment. The successful formulation and effective implementation of investment policy should be developed by adopting portfolio concept. Commercial banks should mobilize their resources on secured, stable, profitable, liquid, and marketable securities for achieving their goal. However, it is not feasible to achieve such goal in absence of the portfolio concept.

Investment portfolio is the risk mitigating mechanism, which helps minimize risk and maximize return through diversification.

The general assumption is that there is little risk on government securities. It is proved from the above conducted analysis. The standard deviation of the government securities is the lower than standard deviation of other securities. The risk and return and the standard deviation both are higher than other assets. Hence it is clear from the analysis that the investment on share and debenture is highly risky than the other assets. Portfolio return is slightly lower than the average return from loan and advances, and share and debenture, but higher than that of government securities. Likewise, the risk on investment portfolio is less than that of risk on share and debenture and loan and advances, but is higher than that of risk on government securities. HBL accorded first priority for investing the resources on loan and advances. Likewise, the bank offered second priority to government securities and the least priority to share and debenture. The bank is hesitant to mobilize the resources on share and debenture of the other companies. The bank invest quite a nominal percentage of totals outside investment on share and debenture.

Based on the analysis and findings of the Study, commercial banks are weak to invest their resources in more liquid assets and less risky sectors. Furthermore, the commercial banks are unable to capitalize the opportunities by making suitable combination of investment portfolio. From risk and return analysis and individual investment assets, it can be inferred that investment on loan and advances is better than investment on share and debenture or investment on government securities, because loan and advances provides fixed interest income. Hence commercial banks are interested to invest their greater chunk of resources on loan and advances in various economic sectors, since return from loan and advances are less volatile than other assets. On the other hand, the return from share and debenture displays wide fluctuation. Owing to the high fluctuation of return from share and debenture, commercial banks invested a very nominal percentage of the total investments into share and debenture. This shows that commercial banks are more interested to invest their funds in the less risky sectors. From the resource utilization point of view, commercial banks mostly mobilize their resources on loan and advances. They provide low priority to mobilize their funds on government securities.

5.3 Recommendation

Based on the analysis, findings and conclusions of the study following recommendations are made for the Bank.

5.3.1 To the HBL

- HBL has ineffectively utilized portfolio management concept. The investment of the bank is strongly dominated by loan and advances. They generate inadequate return for the bank. Hence they should have a compendium of optimum portfolios of different securities.
- During the study period, HBL invested a very low proportion of the total outside investment on share and debenture of the other companies. Therefore, HBL is suggested to accord more priority to investment on share and debenture.
- HBL is inefficiently utilizing resources particularly in the productive sectors. Hence, it should identify new investment sectors through efficient investment programs in retail banking such as education loan, housing loan, automobile loan, small-medium enterprise loan, youth self-employment loan, green energy sector oriented consortium loan etc.
- The profitability position of HBL is near to satisfaction. However, its investment on various assets is less stable. Hence the bank should upgrade its stability status and decrease the variability of investment.
- The total investment fund with respect to total deposit of HBL is pretty low. Hence, it calls for identifying the new investment sectors, and efficient as well as effective investment in those sectors.
- The profitability position of HBL is the weakest in relation to return on total assets. Hence, the bank should effectively utilize its overall resources to achieve the highest profit margins.

5.3.2 To the Other Researcher

Since the study was conducted around limitations mentioned earlier which might have made the study incomplete or the study might have felt to arrive at more precise conclusions. Therefore, for those who seek to pursue similar studies in the future, the following suggestions are forwarded:

- Try to include large range of data as possible to come at more reliable conclusion.

- Also use primary sources of data as they are more reliable than the secondary sources.
- Include more number of observations or study period as possible.
- Include more number of variables or commercial banks so that the sample result reflects near to the population.
- Try to use varied types of analytical tools like Multiple correlation and Multiple regression analysis which helps to find out the relationship between multiple variables at a time rather than concentrating only on two variables for the study.

BIBLIOGRAPHY

Books

Cheney, J. M. and Mosses, E. A. (1992). *Fundamentals of Investment*. New York: West Publishing House.

Francis, J. C. (2003). *Investment Analysis and Management*. New York: McGraw Hill, Eleventh Enlarged Edition.

Frank, K and Reilly, J. (1972). *Investment*. Japan: The Dryden Press, CBS Publishing Ltd.

- Gitman, L. J and Joehnk, H. (1990). *Fundamentals of Investment*. Fourth Edition. New York: West Publishing House.
- Khadka, S. and Singh, H. (2001), *Banking and Insurance: Principle Legislation and Practice*, Kathmandu: Nabin Prakashan.
- Khan, M. Y. & Jain, P. K. (1996). *Financial Management*. New Delhi. India: Tata Mc Grawhill Publishing Company.
- Pandey, I. M. (1997). *Financial Management* (7th ed.). New Delhi. India: Vikash Publishing House Pvt. Ltd.
- Sharma, P. K. & Chaudhary, A. K. (2001). *Statistical Methods for MBS, MBA and MPA*. Kathmandu: Nepal Khanal Books Prakashan.
- Sharpe, W. Alexander, J and Bailey, V. (2001). *Investments*. New Delhi. Prentice Hall of India Pvt Ltd.
- Shrestha, S. (1995). *Portfolio Behaviour of Commercial Banks in Nepal*. Kathmandu. Nepal: Mandala Book Point.
- Shrestha, S. R. (2006). *Portfolio Management in Commercial Banks*. Theory and Practice. Kathmandu: Nepal Bank Patrika
- Singh, P. (1996). *Investment Management*. Bombay. India: Himalayan Publishing House.
- Weston, J. and Brigham, F. (1982). *Essentials of Managerial Finance*. Chicago (9th ed.): The Dryden Press.

Journal and Articles

HBL, (2063-2067). *Annual Reports of Himaliyan Bank Limited*.

Banking & Financial Act (2063). *Banking and financial institutions act 2063. Section, 79.*

NRB, (2058). *Nepal Rastra Bank act 2058*

NRB, (2058). *Nepal Rastra Bank Directives 2058, Directive No. 8/068*

NRB, (2058). *Nepal Rastra Bank Directives 2058, Directive No. 2/068*

NRB, (2058). *Nepal Rastra Bank Directives 2058, Directive No. 1/068.*

NRB, (2067). *Annual Reports of Nepal Rastrra Bank, 2067*

Sharma, R. (1998). *Joint Venture Banks in Nepal: Co-existing or Growing Out.*

Shrestha, K. (1995). *Portfolio Behavior of commercial Banks in Nepal.*

Shrestha, S. (2055). *Portfolio Management in Commercial Bank.*

Thapa, K. (2003). *Managing of Banking Risk.*

Previous Thesis

Joshi, P. (2011). *Portfolio Analysis on Investment With Special Reference to Nepalese Commercial Banks.* Kathmandu. An Unpublished Master Degree thesis. Faculty of Management. T.U

Pandey, P. (2010). *Risk and Return Analysis of Common Stock Investment.* Kathmandu. An Unpublished Master Degree thesis. Faculty of Management. T.U

Shrestha, K. R. (2009). *A Study on Investment Portfolio of Commercial Banks in Nepal.* Kathmandu. An Unpublished Master Degree thesis. Faculty of Management. T.U

Shrestha, N. (2008). *Portfolio Analysis of Common stock of Commercial Banks in Nepal.* Kathmandu. An Unpublished Master Degree thesis. Faculty of Management. T.U

Sharma, R. (2006). *Portfolio Management of listed Commercial Banks and Insurance Companies in Nepal*. Kathmandu. An Unpublished Master Degree thesis. Faculty of Management. T.U

Poudel, S. (2007). *A Comparative Study on Investment Behavior Adopted by NABIL Bank Limited and Himalayan Bank Limited*. Kathmandu. An Unpublished Master Degree thesis. Faculty of Management. T.U

Websites

www.hbl.com

www.investopedia.com

www.nrb.org.np

Appendix-I

Return on Government Securities

Year	Interest on Govt. Securities (Rs. In millions)	Investment on Govt. Securities (Rs. In Millions)	Return on Govt. Securities (R_g In %)
2063/064	191.56	6454.88	2.97
2064/065	201.32	7471.66	2.69
2065/066	354.95	4212.3	8.43

2066/067	216.04	4465.37	4.84
2067/068	389.10	6407.36	6.07
Total	1352.97	29011.57	25.00
Average			5.00

$$\text{Return on Government Securities} = \frac{\text{Interest on Govt. Securities}}{\text{Investment on Govt. Securities}} \times 100$$

$$\text{Average} = \frac{25}{5} = 5$$

Appendix-II

Return on Loan & Advances

Year	Interest on Loan & Advances (Rs. In millions)	Investment on Loan & Advances (Rs. In millions)	Return on Loan & Advances (R_l In %)
2063/064	1242.85	11822.98	10.51
2064/065	1444.24	19497.22	7.41
2065/066	1861.04	24793.15	7.51
2066/067	2836.25	27980.62	10.14
2067/068	3843.31	31566.00	12.18
Total	11227.69	115659.97	47.75
Average			9.55

$$\text{Return on Loan & Advances} = \frac{\text{Interest on Loan & Advances}}{\text{Investment on Loan & Advances}} \times 100$$

$$\text{Average} = \frac{47.75}{5} = 9.55$$

Appendix-III

Return on Share of EBL

Year	Market Value Per Share (Rs. In Millions)	Dividend Per Share (Rs. In Millions)	Return on Share (R_s In %)
2062/063	1520	35	-
2063/064	1740	40	17.11

2064/065	1980	45	16.38
2065/066	1760	43.56	-8.91
2066/067	816	36.84	-51.54
2067/068	575	36.84	-25.02
Total	8391	237.24	-51.98
Average			-17.33

$$\text{Return on Share and Debenture (R}_s) = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

$$\text{Average} = \frac{-51.98}{5} = -17.33$$

Appendix-IV

Calculation of Risk on Government Securities

(Figure In %)

Year	Return on Govt. Securities(R_g)	$(R_g - \bar{R}_g)$	$(R_g - \bar{R}_g)^2$
2063/064	2.97	-2.03	4.12
2064/065	2.69	-2.31	5.34
2065/066	8.43	3.43	11.76
2066/067	4.84	-0.16	0.03
2067/068	6.07	1.07	1.14
Total	25	-	22.39
Average	5	SD	2.37

$$\text{Average} = \frac{25}{5} = 5$$

$$\text{Standard deviation } (\delta_g) = \sqrt{\frac{22.39}{5-1}} = 2.37$$

Appendix-V

Calculation of Risk on Loan & Advances

(Figure In %)

Year	Return on Loan & advance(R_l)	$(R_l - \bar{R}_l)$	$(R_l - \bar{R}_l)^2$
2063/064	10.51	0.96	0.92

2064/065	7.41	-2.14	4.58
2065/066	7.51	-2.04	4.16
2066/067	10.14	0.59	0.35
2067/068	12.18	2.63	6.92
Total	47.75	-	16.93
Average	9.55	SD	2.06

$$\text{Average} = \frac{47.75}{5} = 9.55$$

$$\text{Standard deviation } (\delta_l) = \sqrt{\frac{16.93}{5-1}} = 2.06$$

Appendix-VI

Calculation of Risk on Share & Debenture

(Figure In %)

Year	Return on Share & Debenture(R_s)	$(R_s - \bar{R}_s)$	$(R_s - \bar{R}_s)^2$
2063/064	17.11	27.5	756.25
2064/065	16.38	26.77	716.63
2065/066	-8.91	1.48	2.19
2066/067	-51.54	-41.15	1693.32
2067/068	-25.02	-14.63	214.04
Total	-51.98	-	3382.43
Average	-10.39	SD	29.08

$$\text{Average} = \frac{-51.98}{5} = -10.39$$

$$\text{Standard deviation } (\delta_s) = \sqrt{\frac{3382.43}{5-1}} = 29.08$$

Appendix-VII

Calculation of Covariance between Government Securities &

Loan and Advance (COV_{gl})

Year	R_g	$(R_g - \bar{R}_g)$	R_l	$(R_l - \bar{R}_l)$	$(R_g - \bar{R}_g)(R_l - \bar{R}_l)$
------	-------	---------------------	-------	---------------------	--------------------------------------

2063/064	2.97	-2.03	10.51	0.96	-1.9488
2064/065	2.69	-2.31	7.41	-2.14	4.9434
2065/066	8.43	3.43	7.51	-2.04	-6.9972
2066/067	4.84	-0.16	10.14	0.59	-0.0944
2067/068	6.07	1.07	12.18	2.63	2.8141
Average	5	Average	9.55	Total	-1.2829

$$(COV_{gl}) = \frac{-1.2829}{5-1} = -0.321$$

Appendix-VIII

Calculation of Covariance between Government Securities & Share and Debenture (COV_{gs})

Year	R_g	$(R_g - \bar{R}_g)$	R_s	$(R_s - \bar{R}_s)$	$(R_g - \bar{R}_g)(R_s - \bar{R}_s)$
2063/064	2.97	-2.03	17.11	27.5	-55.825
2064/065	2.69	-2.31	16.38	26.77	-61.8387
2065/066	8.43	3.43	-8.91	1.48	5.0764
2066/067	4.84	-0.16	-51.54	-41.15	6.584
2067/068	6.07	1.07	-25.02	-14.63	-15.6541
Average	5	Average	-10.39	Total	-121.657

$$(COV_{gs}) = \frac{-121.657}{5-1} = -30.41$$

Appendix-IX

Calculation of Covariance between Loan & Advance & Share & Debenture (COV_{ls})

Year	R_l	$(R_l - \bar{R}_l)$	R_s	$(R_s - \bar{R}_s)$	$(R_l - \bar{R}_l)(R_s - \bar{R}_s)$
2063/064	10.51	0.96	17.11	27.5	26.4
2064/065	7.41	-2.14	16.38	26.77	-57.2878
2065/066	7.51	-2.04	-8.91	1.48	-3.0192
2066/067	10.14	0.59	-51.54	-41.15	-24.2785
2067/068	12.18	2.63	-25.02	-14.63	-38.4769
Average	9.55	Average	-10.39	Total	-96.6624

$$(COV_{ls}) = \frac{-96.662}{5-1} = -24.16$$

Appendix-XI

Computation of Total Investment to Total Deposit Ratio

Year	Total Investment (TI) (Rs. In Millions)	Total Deposit (TD) (Rs. In Millions)	TI to TD Ratio (In %)
2063/064	11822.98	30048.41	39.35
2064/065	13340.17	31842.79	41.89
2065/066	8710.69	34681.34	25.12
2066/067	8444.91	37611.20	22.45
2067/068	8769.94	40920.62	21.43
Mean			30.05
SD			9.79

$$\text{TI to TD Ratio} = \frac{\text{Total Investment}}{\text{Total Deposit}} \times 100$$

Appendix-XII

Computation of Investment in Govt. Securities to Total Investment Ratio

Year	Total Investment (TI) (Rs. In Millions)	Investment in Govt. Securities (IGS) (Rs. In Millions)	IGS to TI Ratio (In %)
2063/064	11822.98	6454.88	54.60
2064/065	13340.17	7471.66	56.01
2065/066	8710.69	4212.3	48.36
2066/067	8444.91	4465.37	52.88
2067/068	8769.94	6407.36	73.06
Mean			56.98
SD			9.44

$$\text{IGS to TI Ratio} = \frac{\text{Investment in Govt. Securities (IGS)}}{\text{Total Investment (TI)}} \times 100$$

Appendix-XIII

Computation of Investment on Share & Debenture to Total Investment Ratio

Year	Total Investment (TI) (Rs. In Millions)	Investment in Share & Deb. (ISD) (Rs. In Millions)	ISD to TI Ratio (In %)
2063/064	11822.98	73.42	0.62
2064/065	13340.17	89.56	0.67
2065/066	8710.69	93.88	1.08
2066/067	8444.91	78.89	0.93
2067/068	8769.94	88.79	1.01
Mean			0.86
SD			0.21

$$\text{IGS to TI Ratio} = \frac{\text{Investment in Share \& Deb. (ISD)}}{\text{Total Investment (TI)}} \times 100$$

Appendix-XIV

Computation of Return to Total Assets Ratio

Year	Net Profit After Tax (NPAT In Millions)	Total Assets (TA In Millions)	ROTA (NPAT/TA In %)
2063/064	34314.86	491.82	1.43
2064/065	36857.62	635.87	1.73
2065/066	40046.68	752.83	1.88
2066/067	43860.25	508.8	1.16
2067/068	481379.5	893.11	0.19
Mean			1.28
SD			0.67

$$\text{ROTA} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100$$

Appendix XV

Trend Analysis of Total Deposit

The trend line $Y = a + bX$ ----- (A)

Let's assume that middle year be 3, then $X = t - 3$

Year	t	Total Deposit (Y)	X= t-3	XY	X ²
2063/064	1	30048.41	-2	-60096.82	4
2064/065	2	31842.79	-1	-31842.79	1
2065/066	3	34681.34	0	0	0
2066/067	4	37611.2	1	37611.2	1
2067/068	5	40920.62	2	81841.24	4
		$\sum y = 175104.4$	$\sum X = 0$	$\sum xy = 27512.83$	$\sum x^2 = 10$

Since, $\sum X = 0$

The two normal equations obtained from the above equations will be

$$\sum Y = na \text{ ----- (i)}$$

$$\sum XY = b\sum X^2 \text{ ----- (ii)}$$

Since, n = number of years under study = 5, the value of 'a' and 'b' can be calculated by solving equation (i) and (ii).

From equation (i)

$$\sum Y = na$$

$$\text{Or, } 175104 = 5 \times a$$

$$\text{Or, } a = 35020.8$$

Again, from equation (ii)

$$\sum XY = b \sum X^2$$

$$\text{Or, } 27512.83 = b \times 10$$

$$\text{Or, } b = 2751.28$$

Now, putting the value of 'a' and 'b' in the equation of trend line (A),

$$Y = a + bX$$

$$\text{Or, } Y = 35020.8 + 2751.28X$$

Appendix XVI

Trend Analysis of Total Investment

The trend line $Y = a + bX$ ----- (A)

Let's assume that middle year be 3, then $X = t - 3$

Year	t	Total Deposit (Y)	X= t-3	XY	X ²
2063/064	1	11822.98	-2	-23645.96	4
2064/065	2	13340.17	-1	-13340.17	1
2065/066	3	8710.69	0	0	0
2066/067	4	8444.91	1	8444.91	1
2067/068	5	8769.94	2	17539.88	4
		$\sum y = 51088.69$	$\sum X = 0$	$\sum xy = -11001.34$	$\sum x^2 = 10$

Since, $\sum X = 0$

The two normal equations obtained from the above equations will be

$$\sum Y = na \quad \text{----- (i)}$$

$$\sum XY = b \sum X^2 \quad \text{----- (ii)}$$

Since, n = number of years under study = 5, the value of 'a' and 'b' can be calculated by solving equation (i) and (ii).

From equation (i)

$$\sum Y = na$$

$$\text{Or, } 51088.69 = 5 \times a$$

$$\text{Or, } a = 10217.74$$

Again, from equation (ii)

$$\sum XY = b \sum X^2$$

$$\text{Or, } -11001.34 = b \times 10$$

$$\text{Or, } b = -1100.13$$

Now, putting the value of 'a' and 'b' in the equation of trend line (A),

$$Y = a + bX$$

$$\text{Or, } Y = 10217.74 - 1100.13X$$

Appendix XVII

Trend Analysis of NPA

The trend line $Y = a + bX$ ----- (A)

Let's assume that middle year be 3, then $X = t - 3$

Year	t	Total Deposit (Y)	X= t-3	XY	X ²
2063/064	1	612.78	-2	-1225.56	4
2064/065	2	477.23	-1	-477.23	1
2065/066	3	511.31	0	0	0
2066/067	4	1024.83	1	1024.83	1
2067/068	5	1203.28	2	2406.56	4
Total		$\sum y = 3829.43$	$\sum X = 0$	$\sum xy = 1728.6$	$\sum x^2 = 10$

Since, $\sum X = 0$

The two normal equations obtained from the above equations will be

$$\sum Y = na \quad \text{----- (i)}$$

$$\sum XY = b \sum X^2 \quad \text{----- (ii)}$$

Since, n = number of years under study = 5, the value of 'a' and 'b' can be calculated by solving equation (i) and (ii).

From equation (i)

$$\sum Y = na$$

$$\text{Or, } 3829.43 = 5 \times a$$

$$\text{Or, } a = 765.886$$

Again, from equation (ii)

$$\sum XY = b \sum X^2$$

$$\text{Or, } 1728.6 = b \times 10$$

$$\text{Or, } b = 172.86$$

Now, putting the value of 'a' and 'b' in the equation of trend line (A),

$$Y = a + bX$$

$$\text{Or, } Y = 765.89 + 172.86X$$