INVESTMENT PORTFOLIO ANALYSIS OF COMMERCIAL BANKS IN NEPAL

A Thesis

Submitted

By

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CERTIFICATION OF AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the reference section of the thesis.

……..

Sagun Sijapati

September, 2021

REPORT OF RESEARCH COMMITTEE

Ms. Sagun Sijapati has defended research proposal entitle "**Investment Portfolio Analysis of Commercial Banks in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Ass. Prof. Nabaraj Adhikari and submit the thesis for evaluation and viva voce examination.

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APPROVALSHEET

We, the undersigned, have examined the thesis entitled**Investment Portfolio Analysis of Commercial Banks in Nepal**presented by Sagun Sijapati, a candidate for the degree of **Master of Business Studies** (MBS) and conducted the viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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LIST OF ABBREVIATIONS

&	-	And
A.D.	-	After Death
B.S.	-	Bikram Sambat
BOD	-	Board of Directors
C.V.	-	Coefficient of variation
CAPM	-	Capital Assets pricing Model
CB's	-	Commercial Banks
EPS	-	Earning per share
FY	-	Fiscal Year
Govt.	-	Government
i.e.	-	That is
Ltd.	-	Limited
MBS	-	Master in Business Studies
MPS	-	Market price per share
NABIL	-	Nabil Bank Limited
NBL	-	Nepal Bank Limited
NIBL	-	Nepal Investment Bank Ltd.
NPAT	-	Net Profit After Tax
NRB	-	Nepal Rastra Bank
P.E.	-	Probable Error
Pg.no.	-	Page Number
R.	-	Return
ROA	-	Return on Assets
S.D.	-	Standard deviation
SEBON	-	Security Board of Nepal
T.U	-	Tribhuvan University

ABSTRACT

The general objective of this study was to analysis of investment portfolio of commercial banks in Nepal. Specifically, the study sought to analyze the investment portfolio of commercial banks, to assess the risk of Nepalese commercial banks and to assess the return of Nepalese commercial banks.

Secondary data were used for the study. Secondary data were collected from Annual report of selected commercial banks available in the websites of commercial banks. The target population of the study was commercial banks in Nepal. At present there are 27 commercial banks in Nepal. Out of them only 3commercial bank are to be taken by using convenience sampling for the research work. These samples are related up to 6years transaction period from 2014A.D to 2019 A.D. Descriptive and analytical research design has been used in this study. Pearsonian coefficient of correlation analysis is made to determine the relationship of investment with other variables. For the organization of data Microsoft Excel was used for data analysis.

The findings revealed that the positive correlation ship between the returns of the two securities is not risk diversifiable and the portfolio risk and return is more than average risk and return on government securities but it is less than average risk and return on loan and advance of commercial banks.

CHAPTER1

INTRODUCTION

1.1 Background of the Study

Portfolio management is concerned with efficient management of portfolio investment in financial assets, including shares, debenture, and bonds of companies/industries. Every investment entails some degree of risk, it requires at present certain sacrifice for a future uncertain benefits.(Francis,1998). A portfolio simply represents the practice among the investor of having their funds in more than one asset. An investment can be defined as the commitment of funds to one or more assets that will be held over some future period. It often refers to investing money in financial assets, such as certificates of deposit, bonds, common stocks, or mutual funds (Jones et al., 2009**)**. Portfolio management of financial institutions assets mean allocation of fund to different components of financial institution having different degree of risk and varying rate of return in such way the main goal of financial institution is maximize the return and minimize the risk by selecting a portfolio of securities. Portfolio means the lists of holdings in securities owned by an investor or institution. (Oxford Dictionary, 1997). The art of selecting the right investment policy for the individuals in terms of minimum risk and maximum return is the portfolio management. A portfolio is a combination of investment assets. It simply means holding of securities and investment in financial asset i.e. bond, stock. Diversification of financial asset is done while in financial asset while building appropriate portfolio. The combination of investment assets is portfolio.(Weston and Brigham, 1992**).** The investment portfolios generation the income and capital preservation, considering the risks stemming from other asset and liabilities and those associated with institutional activities (Rose, 2003). portfolio investments track the jeopardy of abrupt snag if the economic environment or the perspicacity of depositors alter, providing upsurge to fiscal and pecuniary catastrophes (Kargi, 2014) and (Busse & Hefeker, 2005). The securities on the long end provide relatively high interest income, as well as potential for capital gains in the event of falling interest rates, while the securities on the short end provide liquid assets to meet various demands for cash from the portfolio for bank needs(Bradley et al.,,1975). Stability of the monetary market and situation impact

financiers' portfolio investment verdicts and eventually portfolio investment drifts(Masoud & AbuSabha, 2014).

Various approaches can be followed while managing the portfolio. Simple diversification is the random selection of securities that are to be added to a portfolio. It reduces a portfolio's total diversifiable risk to zero and other undiversifiable risk remains. This approach assumes that an investor can expect a reasonable return for a given level of risk. Diversification across industries means, securities are selected from different industries means, securities are selected from different industries rather than from a single industry to firm a portfolio. Superfluous diversification is the extended form of simple diversification. In the simple diversification, 10-15 securities are selected for a portfolio while superfluous diversification include more than that of simple diversification. Simple diversification across quality rating categories involves rating of securities available in the market on the basis of default risk by rating agencies. Markowitz diversification is the combining of assets, which are less than perfectly positively correlated in order to reduce portfolio risk.

1.1.1 Concept of Commercial Banks

As financial intermediaries, banks play an important role in the operation of an economy. Banks are the sole providers of funds, and their stability is of paramount importance to the financial system. As such, an understanding of determinants of their profitability is essential and crucial to the stability of the economy (Babalola, 2012). The banking sector in any economy serves as a catalyst for growth and development. Banks are able to perform this role through their crucial functions of financial intermediation, provision of an efficient payment system and facilitating the implementation of monetary policies (Abreu, 2002). Commercial bank is a corporation which accepts demand deposits subject to check and makes short term loans to business enterprises, regardless of the scope of its other service **(**Ronald, 2000). Commercial Banks play very important role in the economic life of the nation. The health of the economy is closely related to the soundness of its banking system. Although banks create no new wealth but their borrowing, lending and related activities facilitate process of production, distribution, exchange and consumption of wealth. In this way they become very effective partners in the process of economic development. Today modern banks are very useful for the utilization of the resources

of the country. The banks are mobilizing the savings of the people for the investment purposes. If there would be no banks then a great portion of a capital of the country would remain idle. Importance of commercial banks has emerged through their primary role in the acceptance of demand deposits that can be withdrawn by checks by distributors at any time after the time of deposit. Banks are now the major buyers of debt and other securities. Commercial banks play a dominant role in the money and capital markets. Thus the importance of commercial banks has emerged as a prime component of the financial system and has a large impact on the economy.

In Nepal context, commercial banks are the backbone of the Nepalese economy at present .Nepal being listed among least developed countries, the establishment of the commercial bank in this sector has added more bricks in the construction of Nepalese economy .As per the latest data from Nepal Rastra Bank (January,2020) .At present, there are a total of 27 commercial banks. Nepal Bank Ltd. Was The First Commercial Bank In Nepal, Which Was Established on 1937. Nabil bank is the first private sector bank of Nepal. It started its operation in 1984. Previously knows Nepal Arab Bank , Nabil Bank is the first foreign joint venture bank of Nepal. There Are 3 Public And 25 Private Banks In Operation. Privately Owned Banks In Nepal Can Be Furthur Re-Grouped Into Domestically Owned Banks And Foreign Joint-Venture Banks. There Are Currently Five Foreign Joint Ventures Out Of 25 Privately Owned Banks. Also, There Is Provision Of Minimum 40% Share Ownership By The General Public In The Banks Commercial banks are those banks which are established under this act to perform commercial functions except those which are established for specific purpose like development banks and co-operative banks etc.

Commercial banks is a heart of financial system they hold the deposits of many person, Government establishment, business unit, they make fund available through their lending and investing activities to borrower, individuals , business firms and service from the producers to customers and the financial activities of the government. They provide a large portion is affected. These fact shows that the commercial banking system of nation is import to the functioning of the economy. Commercial banks are the general banks whose primary operations are related to accepting public deposit and providing loans to the needy people or organizations against securities for the purpose of earning interest of a certain percent. The primary

function of commercial banks is receiving deposits and lending to others. Functions of the commercial banks are; accepting deposits; advancing loan, letter of credit, guarantee, remittance, e-banking, bills etc. These banks provide banking facility to the customer through bank branches, branchless banking service, mobile banking, internet banking, ATMs, debit cards, credit cards, etc. In conclusion, A bank established with the objectives to promote and help in the operation of trade, commerce and industries in the country is known as commercial bank. It is established with a motive to earn profit. In this way commercial banks are those banks, which are engaged in commercial banking transaction and exclude from description. From the above definition of commercial bank, it can be defined as a bank is a financial institution, which performs widest range of economic and financial functions of any business firm in the economy.

1.2 Problem ofStatement

The major problem in almost all the under developed countries is the formulation of capital and its proper utilization, this directly affects the economic development of the country. To avoid this problem and contribute to welfare of national economy, various commercial banks have established. The main role of these commercial banks is to act as the bridge between the savers and users. They collect scattered deposits and give various types of loans to maximize their wealth. Banks are established to develop the economic development of the country.

Portfolio management is relatively new concept in Nepalese context. Many institutions still have less awareness while investing in productive sector. They have no consideration towards portfolio optimization. They just rely upon the instruction and guidelines of Nepal Rastra Bank. They still have less clear vision towards investment portfolio. They do not try to pay due attention towards proper matching of deposited and investment portfolio, which creates financial problem enforcing commercial banks to take wrong decisions. Commercial banks are report to be criticized by customer due to implementation of wrong investment policies. They are said to be investing in less risky and liquid sector, they keep high liquid position and flow less funds in productive sectors, so these types of function prove less investment opportunity of the funds,

Now day's commercial banks don't seem to be capable to invest their funds in more profitable sector. There are found to more interest in investment in less risk and highly liquid sector i.e., treasury bills, development bonds and other securities. They keep high liquid position and to flow lower funds to the productive sectors, this result into lower profitability to commercial banks and ignorance to the national economic growth process. This is main reason for crisis in the commercial banks and in the whole national economy as well. Investment policy may differ in different commercial banks but there is no optimum utilization of shareholders fund to have greater return in any financial institution. Under such situation, the present study will try to analyze investment, portfolio management of CBs, return on various types of investment, portfolio risk and return and performance towards investment. Therefore, the various problems which are discussed in the research are given below:-

1. What is the investment portfolio of commercial banks?
2. What is the risk of various commercial banks?
3. What is the return of various commercial banks ?

1.3 Objectives of the Study

For any kind of research work or study, first of all the purposes should be determined. It shows the way to achieve desired goals. Various studies have been done regarding the portfolio management of commercial banks. In the context of analysis of Investment portfolio management, the investor tries to seek the maximum return and least risk selecting the best sector to invest their fund. So, the major objectives of the study have been given below:-

1. To analyze the investment portfolio of commercial banks.
2. To assess the risk of Nepalese commercial banks.
3. To assess the return of Nepalese commercial banks.

1.4 Rational of the Study

In the present context of Nepal, the investment opportunity is somehow growing up. But due to the unstable political situation it is creating pressure to the investors while investing their fund in various sectors. Because of the lack of sufficient knowledge

regarding investment the investors are mismanaging their portfolio. Significance of the portfolio management can be written as the following manner:

i. The study helps in determining the proportion and the selection of asset held in portfolio.
ii. The study of fund portfolio management would provide guide line to the management of the bank that would be helpful to take corrective action in the bank activities.
iii. This study helps to gain maximum return in long run at low level of risk.
iv. This study will also be helpful to researcher, professors, studentsas who are directly or indirectly engaged in the investment sector of the commercial banks.

1.5 Limitation of the Study

For the completion of the study, some facts are to be considered as limitation of this research work:

1. This research will be based on the secondary data i.e. the annual report provided on the social website. Hence, the reliability of the study will depend on the secondary source of data.
2. This study is based on the financial data of namely Nepal Bank limited, Nabil Bank limited and Nepal Investment Bank limited. So, the result and conclusion have to be analyzed, generalized on that basis.
3. The study covers only the market portfolio while doing the investment decision.
4. 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.

1.6 Chapter Plan

The entire study carried out to different stages and procedures as it needed. The study organized in the following chapters in order to make the study easy to understand.

Chapter - I Introduction

The first chapter deals with the subject matter consisting introduction, identification of problem, objectives, limitations and importance of the study.

Chapter - II Literature Review

The second chapter deals with the conceptual framework, review of empirical studies and concluding remarks.

Chapter - III Research Methodology

This chapter describes the research methodology adopted in carrying out the research. It deals with research design, sources of data, population and sample and procedure and presentation of data.

Chapter – IV Results and Discussion

The fourth chapter is concerned with analytical framework. It includes the presentation and analysis of secondary and primary data using different tools that are described on research methodology. It also includes major findings of the study. There is the evaluation and interpretation of the findings of the research.

Chapter-V Summary, conclusion and recommendation

The fifth chapter shows the summary, conclusion and recommendation of the study and helps in decision making purpose.

CHAPTER 2

LITERATURE REVIEW

This chapter provides conceptual framework of the study and deals with review of empirical studies associated with Investment portfolio analysis. The chapter is divided into three sections. First section presents in depth review of related theories. The second section deals with brief review of empirical studies. And, finally the third section highlights the conceptual framework of this study. Conceptual framework has been developed based on the review of literatures..

2.1 Theoretical Review

The theoretical review provides some theories related to portfolio .Theseare Diversification and portfolio theory, Markowitz's portfolio selection model, Modern Portfolio theory (1952) and Capital Asset Pricing Model (CAPM).

2.1.1 Diversification and Portfolio Theory

This theory was developed by Harry M. Markowitz. Markowitz's approach begins by assuming that an investor has a given sum of money to invest at the present time. This money will be invested for a particular length of time known as the investor's holding period. At the end of the holding period, the investor will sell the securities that were purchased at the beginning of the period and then will either spend the proceeds on consumption or reinvest the proceeds in various securities (or do some of both). Generally, investor estimate the expected holding period returns (or expected returns) on the various securities under consideration and then invest in the one with the highest expected return. According to Markowitz, this decision would be generally unwise because the typical investor, although wanting "returns to be high", also wants "returns to be as certain as possible". Thus, in seeking to both maximize expected return and minimize uncertainty (i.e. risk), the investor has to conflicting objectives that must be balanced against each other when making the purchase decision. The Markowitz approach gives full consideration to both of these objectives. The consequences of having these two conflicting objectives are that investors should diversify by purchasing not just one security but several. This assumption tells that the

investors are risk averse, which means they will choose the portfolio with smaller standard deviation. Investors always have the objectives to make maximum return from his/her fund at the lowest risk. By investing in a single asset, investor cannot achieve his/her objective. But, it is only possible through portfolio. A portfolio is a combination of securities. By the help of portfolio; risk can be diversified. In these contexts, it can be clear through a proverb "do not put all the 15eggs in one basket". It means that one can loose all the eggs if some unlikely event occurs. So, we can say that the risk cannot be diversified by investing in a single asset. Obviously, risk can be diversified by forming portfolio. Thus, the objectives of the portfolio analysis are to develop a portfolio that has the maximum return. In other ways, we can say when securities are combined into a portfolio; the new portfolio will have a lower level of risk than the simple average of the risk of the securities because when some securities are doing poorly, others are doing well. This pattern tends to reduce the extremes in the portfolio's returns, so there is less fluctuation in the portfolio's value.

The various forms of diversification have been given below:-

i. Simple Diversification

Simple diversification is the random selection of securities that are to be added to a portfolio. It is alike "not putting all the eggs in one basket or spreading the risk they made the portfolio from randomly selected securities and allocate equal weights". Spreading the portfolio's assets randomly over two or three times as many stocks can not be expected to reduce risk any further. Simple diversification reduces a portfolio's total diversifiable risk to zero and only the undiversifiable risk remains.

ii. Diversification Across Industries

Diversification across industries means, securities are selected from different industries rather than from a single industry to form a portfolio. Under this, securities are taken from many different industries to form portfolio. It is better selecting the securities from different industries to achieve better diversification. But, empirical research has shown that diversifying across industries is not much better than simply selecting securities randomly.

iii. Superfluous diversification

Superfluous diversification is the extended form of simple diversification. 10-15 securities are selected for a portfolio in the simple diversification while superfluous diversification include more than that. But from this diversification no further risks are reduces. It becomes impossible for the investor to manage the assets in his portfolio because the management of a large number of assets requires knowledge of the liquidity of each investment, return; the tax liability and this will become impossible without specialized knowledge. For the investor, it is both difficult and expensive to look after a large number of investments. Switching over investments by often selling and buying assets expecting a high rate of return, involves high transaction cost and more money will be spent in managing diversification. Superfluous diversification may result in inadequate return.

iv.Simple Diversification Across Quality Rating Categories

On the basis of the default risk, the securities which are available in the market are rated by the rating agencies. Under this technique, the portfolio is formed from same quality rating assets. From the various analyses, it is found that the highest quality portfolio of randomly diversified stock was able to achieve lower level of risk than the simply diversified portfolios of lower quality stocks.

v. Markowitz Diversification

It is the combination of assets, which are less than perfectly positively correlated in order to reduce portfolio risk. It can sometimes reduce risk below the undiversifiable level. Markowitz diversification is more analytical than simple diversification and considers assets correlation (or covariance). The lower the correlation between assets, the more that Markowitz diversification will be able to reduce the portfolio's risk.

2.1.2 Portfolio Analysis

In Nepalese context many Nepalese private investors placed their entire wealth in a single investment. It is because of proper awareness about portfolio. A portfolio is a bundle of or combination of individual assets or securities**.** (Pandey, 1997)

If investor holds a well-diversified portfolio, then his concern should be the expected return and risk of portfolio rather than individual assets or securities. The portfolio theory provides a normative approach to the investor decision to investment in assets or securities under risk. The main objective of the portfolio analysis is to develop a portfolio that has the maximum return at specified degree of risk. Therefore analyzing risk and return or portfolio context is necessary.

Harry M. Markowitz originally proposed portfolio theory in 1952 (Markowitz, 1952: 77-91). It is concerted with selecting optimal portfolio by risk adverse investors. Risk adverse investors selects efficient portfolio that maximizes return at a given level of risk or maximized risk at a given level of return. While the portfolio expected return is a straight forward weighted average of return on the individual securities, the portfolio standard deviation is not the simple weighted average of individual security standard deviation. To take a weighted average of individual security, standard deviation would be to ignore the relationship or covariance between the return on securities. This covariance however doesn't affect the portfolios expected return (Van Horne et.all., 1995).

2.1.3 Markowitz's Portfolio Selection Model

Harry M. Markowitz originally proposed portfolio theory" portfolio selection" in 1952. Markowitz diversification is the combining of assets, which are less then perfectly correlated in order to reduce portfolio's risk. It can sometimes reduce risk below the un-diversifiable level. Markowitz diversification is more analytical than simple diversification and considers assets correlation. Risk adverse investors selects efficient portfolio that maximizes return at a given level of risk or minimized risk at a given level of return. With the collection of those efficient portfolios the optimal portfolios can be obtained for given investors. A theory, which involved into a foundation of for further research in financial economics Markowitz, showed that under certain given conditions, an investors portfolio choice reduced to balancing two dimensions i.e. the expected return on the portfolio and its variance. Portfolio is the combination of the various securities. To choose the combination of the security, it is really a challenge to the investor to choose the combination. By combining securities of low risk with securities of high risk, success can be achieved by an investor in making a choice of investment outlets. Markowitz diversification may be defined as

combining assets, which are less than perfectly correlated in order to reduce portfolio risk without sacrificing portfolio return. It is more analytical than simple diversification and considers assets correlation or covariance is portfolio formation it shows that lower the correlation between assets. More no. of security will be able to reduce the portfolio risk. Markowitz used the variance of return as the measure of risk. The portfolio model developed by Markowitz is based on the following assumption.

- This theory assumes for the same holding period return for all securities.
- The risk of an individual assets or portfolio is based in the variability of return.
- Investor prefers high return to lower return for a given level of risk. Similarly for a given level of expected return, investor prefers less risk. (Cheney and Moses, 1992)
- Investor makes investment rationally.

2.1.4 Capital Assets Pricing Model

The relevant risk for an individual asset is systematic risk because un diversifiable risk can be eliminated by diversification. The relationship between an assets return and its systematic risk can be expressed by the CAPM, which is also called the security market line (SML). "It is the model that describes the relationship between risk and expected return. The CAPM provided a framework for basis risk and return off in portfolio management. It explains the behavior of security prices and provides a mechanism to asset the impact of a proposed security investment on investors, overall portfolio risk and return. It enables drawing for bearing risk certain implications about risk and the size of risk premium necessary to compensate. (Khan and Jain, 1992)

The equation for the CAPM is

$$(Rj) \text{ X } Rf \ \Gamma [E(Rm) \text{ Z } Rf \ ] \ j$$

(Rj) = the expected return on the j^{th} risky assets

Rf = The rate of return on a risk less assets

(Rm) = the expected return on the market portfolio

Bj = Cov(Rj, Rm)/ Var. Rm

= A measure of the undiversifiable risk of the j^{th} security

The CAPM based on the five assumptions. First, individual are risk reverse. Second, individuals have homogeneous expectations; they have identical subjective estimated of the means, variance and covariance among the return. Third, individual can borrow and lend freely at a risk less rate of interest. Next, the market is perfect there are no taxes: There are no transaction cost securities are completely divisible the market is competitive. Lastly, the quantity of risky securities in the market is given.

2.2 ConceptualReview

Some of the important concepts related to Investment portfolio are reviewed and described here.

2.2.1 Concept of Investment

Investment in any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generated positive return(Gitman,2000).An investment is the allocation of saving into a course of action that is expected to generate positive rate of return. It involves the sacrifice of current rupees for future rupees. The sacrifice takes place in the present and certain while the reward comes later and uncertain. Investment involves long-term commitment and waiting for a reward. It involves the commitment of resources that have been saved or put away from current consumption in the hope that some benefit will occur in future. Investment brings forth vision of profit, risk, speculation and wealth. They have briefly describes the categories and types of investment alternatives. They describes that the basic investment objectives, the expected rate of return, the expected risk, taxes, the investment horizon and investment strategies are the factors to be considered in choosing among investment alternatives**(**Cheney and Moses,1992).The investment process describes how an investor should go about making investment decisions . Investment decisions basically calls for deciding the types of securities to invest in, amount of funds to be invested and appropriate timing for investment . A five-step procedure for making these decisions forms the basis of the investment process.

1. Determining investment policy
2. Perform security analysis
3. Construct a portfolio

4. Revise the portfolio
5. Evaluate the performance

2.2.2 Investment Alternatives

In the market, a wide range of investment alternatives are available to an individual investor.(Cheney and Moses; 1995) Traditionally, there are various investment alternatives like, common stocks, preferred stock and bank as financial assets. But with the increase in financial market concept and principles, a lot of other financial alternatives have mesh roomed. Commercial bankers, investment bankers and brokers provide the financial manager with detailed information on each of the forms of investment listed. The financial manager should keep up to date on these characteristics and follow the principle of making investment selections that maturities yields and risks appropriate to the firm. There are various alternatives for investors as well as financial institutions. They are as follows;

1.Equity Securities

a) Common Stock b) Preferred Stock

2. Debt Securities

a) Short term debt securities

i. Negotiable certificate of deposit ii. Commercial paper

iii. Banker's acceptance iv. Treasury bills

b) Intermediate and long term debt securities

i. Treasury notes ii. Treasury bonds

iii. Saving bonds iv. Agency securities

v. Municipal securities vi. Corporate bonds

3. Derivative Securities

a) Options b) Commodity future c) Financial future

d) Options on future e) Rights f) Warrants

4. Hybrid Securities

a) Convertible preferred b) Convertible bonds

5. Real Assets

a) Precious metals b) Real estate c) Collectibles

6. International Investment

a) Multinational corporations

b) Foreign stocks traded on a local exchange

c) American depository Receipts

7. Other Investment alternatives

a) Pension funds b) Mutual funds c) Closed end companies

2.2.3 Risk and Return

A major purpose of investment is to get a return or income on the funds invested. Each asset expected return and risk, along with the expected return and risk for other assets and their inter relationships are important input in portfolio selection. In order to construct efficient portfolio the investor most be able to quantity the portfolio's expected return and risk.

Risk

Risk and uncertainty are real in life. Everyone encounters uncertainty in every day's life. Risk and uncertainty are an integral part of an investment decision. Risk can be defined as a situation where the possible consequence of the decision that is to be taken is known. "Uncertainty" is generally defined to apply to situation where the probabilities can’t be estimated (Cheney and Mosses, 1992)

Risk is uncertainty of whether the money investors lend will be returned. They have regarded such risk as bankruptcy risk. They said that stockholders of the firm should not only consider bankruptcy risk but also the risk that the firm will yield a rate of return below some targeted rate. They have given range, variance, standard deviation, coefficient of variation and beta as parameters for the measurement of risk. They describes beta as a parameter for the measurement of the systematic risk. Systematic risk has been defined undiversifiable risk, which is beyond the control of the organization. Apart from this they describe unsystematic risk, as diversifiable risk, which can be reduced through the portfolio effect. Further beta values for assets generally range between +0.5 and 2.0.

Segregation of Risk

1) Systematic Risk

Systematic risk is that parts of total risk, which cannot eliminate. Systematic risk or undiversifiable risk is a function of its covariance with market portfolio of all assets divided by the variance of the market portfolio.The portions of the total risk of an individual security caused by market factors that simultaneously affect the price of all securities. It can't be diversified away. Systematic risk is the market risk. Which could not be avoidable it is also called market risk or unavoidable risk or non-diversifiable risk or beta risk. The beta of the stocks is the slope of the characteristics line between return for the stock and those for the market. Beta depicts the sensitivity of the securities excess return to that of the market portfolio. This type of stock often called aggressive stock and slope less than 1 called defensive stock.

The un-diversifiable risk is caused by such factors which systematically affect all firms such as:

- War
- Inflation
- Recession
- Interest rated policy
- Corporate tax rate policy

Since all securities will tend to be negatively affected by these factors systematic risk cannot be eliminated by diversification therefore and investor will expect a compensation for bearing this risk.

ii**) Unsystematic risk**

The portion of the total risk that can be diversified away; it is also called non-market risk or avoidable risk or company-specific risk or diversifiable risk. Such unsystematic risk can be totally reduced through costless diversification. This risk is related at a decreasing rate towards zero as more randomly selected securities are added to the portfolio. Various studies suggest that 15-20 stocks selected randomly are sufficient to eliminate most of the unsystematic risk of portfolio. (Van Horne,

2002)**.** It is caused by events particular to the firm. Event such as labor strikes, management errors, inventories, advertising companies, shift in consumer taste and law-suits cause unsystematic variability in the value of market assets. Since unsystematic changes affect one form, or at most few firms, they must be force casted separately for each firm and for each individual incident. Unsystematic security prices movement are statistically dependent from each other.

Some sources of unsystematic risk are:

- Labor strike
- Management errors
- Inventions
- Advertising companies
- Shifts in consumer taste
- Unsuccessful marketing programs.
- The winning and losing of major contracts.
- Other events and are unique to a particular firm.

Since these events are essentially random, their effects on a portfolio can be eliminated by diversification i.e. bad events in one firm will be offset by good events in another.

Measurement of risk

1.Standard Deviation

Standard deviation is a statistical concept and is widely used to measure risk from holding a single assets. A high standard deviation represents a large dispersion of return and is a high risk a low deviation is a small dispersion and represents a low risk. It provides more information about the risk of the assets.

2.Coefficient of variation

Risk is measured by the standard deviation, and then risk per unit of expected return can be measured by the coefficient of variation (C.V). High C.V. represents the highest risk of the investment. The C.V. shows the risk per unit of return and it

provides a more meaningful basis for company when the expected return and risk on two alternatives is not the same**.** (Weston And Brigham, 1993)

2.Beta

The beta is simply the slope of the characteristic line. It depicts the sensitivity of the security's excess return to that of the market portfolio if the slope is one, it means that excess return for the stock vary proportionality with excess return for the market portfolio. In other words, the stock has the same unavoidable or systematic risk as the market as a whole. A slope steeper than one means that the stocks excess return varies more than proportionality with the excess return of the market portfolio**(**Van Horne and Wachowicz, 1997)Beta measures non-diversifiable risk. Beta shows how the price of a security responds to market forces. In effect, the more responsive the price of a security is to changes in the market, the higher will be its beta is calculated by relating the returns on a security with the returns for the market. Beta can be positive or negative. But nearly all betas are positive. (Fisher and Jardan 6th edition: 82)

4. Capital assets pricing model

Capital assets pricing model (CAPM) was developed by William F. Sharpe (1964).This model is sometimes used to estimate the required rate of return for any firm with publicity traded stocks. The CAPM is based on the premise that the only important risk of a firm is systematic risk or the risk that results from exposure to general stock market movements. The CAPM is not concerned with so called unsystematic risk, which is specific to an individual firm, because investors can avoids that type of risk by holding diversified portfolios. The CAPM states that the expected risk premium on each investment is proportional to its beta, this mean that each investment should lie on the sloping security market line connecting treasury bills and market portfolio(Brealey and Myers 2000).

Return

Return is reward for investment a major purpose of investment is to get a return or income on the invested. On a bond an investor expect to receive interest and on a stock dividends may be anticipated. So return from investment has different meaning

to different investors. Some companies seek near term Cash inflow and give loss value to more distant returns. Other investors are concerned primarily with growth. Still others measure return using financial ratios. They might seek to invest in a company that has a high return on investment.All the investor wants to maximize expected returns subject to their tolerance for risk. Return is the motivating force and it is the key method available to investors in comparing alternative investments. Realized return and expected returns are two terms which is often used in the language of investment. Realized return is after the fact return, return that was earned or it is history. Expected return is the return from an assets that investor will earn over some future period. It is a predicted return which may or may not occur.

2.3 Empirical Literature Review

This section is developed to the review of major related literature concerning portfolio in different countries. But in Nepal there are very few studies can be found in the topic of portfolio analysis on investment of commercial banks in Nepal. For this study, various books, journals, articles and past thesis are reviewed. It is reviewed from international context and Nepalese context.

2.3.1 Review of Journal articles

(Kane& Buser, 1979) deals with how a firm performs a useful function by holding a portfolio of efficiently priced securities.According to them, it is rational for a form to engage in prior found of assets diversification of behalf of its shareholder even when all assets are priced efficiently and available for direct purchase by shareholders. As a way of testing their perceptive empirically, they estimated regression model designed to explain the no. of distinct of U.S. treasury and federal agency debt held in a time series of cross section of large US commercial banks. They interpret the systematic pattern of diversification observed for large US commercial banks as evidence that bank stockholder for a relatively uniform diversification clientele. For firm, marginal benefits from diversification take reductions in the cost equity funds offered by its specific clientele of stockholders. To maximize the value of the firm, these benefits must be weighted against the explicit and implicit marginal cost of diversification. Researchers found that the major conclusion of this research is the wealthy investors should be sensitive to administrative costs associated with selection, evaluation,

managing, and continually keeping track of a large number of securities. They also found that either homemade of firm produced diversification, reduces the variance of shareholders portfolio return. If homemade diversification bears in ordinary high levels of information risk, some benefit of form-produced diversification might not be reproduce able by individual investors acting on their own. On the other hand they found the investors with even modest resources, the stock of financial institutions should be relatively less attractive than the stock of that avoided extensive diversification costs by engaging in specialized activities.

Breman and Henry(1997) conducted a research about international portfolio investment flows in Journal of finance. In this research they construct a portfolio between foreign as well as domestic market and find out that information than foreign investors are able to get quick information than foreign investors and take enough benefits by it. According to them they develop a model of international equity portfolio investment flow based on difference in international endowments between foreign and domestic investors. It is shown that when domestic investors process a cumulative information advantage over foreign investor's periods when the return on foreign assests is high and to sell when the return is low. The research assume that the higher turnover rate than on foreign domestic portfolio and to place testable restriction on the relation between international flow of portfolio investment between exchange risk and international flow of portfolio investment between exchange risk and international flow of portfolio investment between exchange risk and international ignored and analysis period is only single consumption period. The major empirical implication of the model is that purchase foreign equities will be positive a linear function of return on the domestic and foreign equity markets, and that the coefficient of return on the foreign market index will be positive, provided that foreign investors are less well informed about the pay off on there are local investors and provide that the information advantage of local the results of a gradual process of supervision information acquisition rather of periodic large information leakages to locals. The sign of the coefficient of the returns of the domestic market is indeterminate.

Edwin J. Elton(1979) in their study about Expected return, realized return and asset pricing tests. One of the fundamental issues in finance is what the factors are that

affect expected return on assets, the sensitivity of expected return to those factors, and the reward for bearing this sensitivity. The data set covers the period from July 1, 1991 through December 31, 1997. The history shows almost all the testing are done taking realized return as a proxy for expected return. Using realized return, as a proxy for expected return is that the unexpected returns are independent, so that as the observation interval increases they tend to a mean of zero.The purpose of this article is to convince the reader there is a distinction and worth to find out alternative ways to estimate expected returns.Preliminary tests are done in the study are a constant risk premium, forward rates and risk premium ,factors analysis and changing risk premiums.According to the researcher "realized returns are a very poor measure of expected return and that information surprises highly influence a number of factors in asset pricing model". The empirical use of judgment and factor dependability can be used to draw implication which will govern to the great extent the pricing decision fix and accurate.

Michael Koehn and Anthony M. Santomero(1980) in their study examined the portfolio allocation that flows from the portfolio decision of the firm and the effects on bank portfolio risk of a regulatory increase in the minimum capital assets ratio that is acceptable to the supervisory agency. The allocation across assets becomes the choice variable deriving the optimal mean rate of return per unit of the capital and the variance of that return. Therefore, the analysis will be developed in terms of risk and return per unit of capital with no loss in generality. According to them, an explicit relationship between the risk of the bank portfolio, the amount of bank capital held and the chance of bankruptcy must, therefore, be obtained to evaluate the result of bank capital regulation.

Mr. Shiva Raj Shrestha (1998) According to him, 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 select mix of investment assets subject on theses aspects like, higher return which is comparable with alternative opportunities available according to the risk class of investors, certain capital gain , flexible investment ,good liquidity with adequate safety of investment, maximum tax concession and economic, efficient & effective investment mixIn these aspects, Shrestha stated that the investors try to hold a well diversified portfolio that helps to

achieve those benefits. Investors want to increase their return by making investment in different sectors with certainty. However, Shrestha presented approaches to find out the risk of securities depending upon the attitude of investors towards risk, to develop alternative investment strategies for selecting a better portfolio, which will ensure a trade off between risk and return so as to attach the primary objectives of wealth maximization at lowest risk and finally to identify securities for investment to refuse volatility of return and risk.Shrestha further stated that the commercial banks need competent manpower for continuous research and analysis and proper management information system to get success in portfolio management and customer's confidence. Regarding the portfolio management in Nepalese joint venture banks, he concludes that the portfolio management activities of Nepalese joint venture banks, the study concludes that the portfolio management activities of Nepalese commercial banks at present are in nascent stage. Due to less developed capital instrument in financial marker. Lack of proper techniques to run portfolio management activities in the best and successful manner etc have constrained the portfolio management of most of the joint venture banks.

Sunity Shrestha(1996) conducted the study in the title "Portfolio behavior of commercial banks in Nepal". In this research five commercial banks are taken under study. They are Nepal bank Ltd., Rastriya Banijjya Bank, Nabil bank ltd., Nepal Indosuez bank and Nepal Grindlays Bank. Data are collected from various sources from 1975 to 1990 A.D. The objective of the research was to evaluate the financial performance of the commercial banks, to analyze the investment pattern of commercial banks on securities and loans, to observe the relationship of bank portfolio variables with national income and other fiscal variables. Among these objectives financial performances of the commercial banks and observe bank portfolio variables is somehow related to this research.From the analysis of commercial banks, the researcher found that the major conclusion of this research is the general trend of commercial banks asset holding is growing and Spread of foreign banks is relatively higher than that of Nepalese banks. She also found that the relationship of banks portfolio variables is found to be best explained by log linear equations. On the other hand she found the borrowing of commercial banks from the central bank has been found to be positively affected by the cash reserve requirement, bank rate and Treasury bill rate.

2.3.2 Review of Previous Thesis

Poudel (2004) submitted a research about Risk and Return Analysis of Common stock of listed companies of Nepal. The study is based on secondary data and necessary data was taken from the Securities Board Nepal and NEPSE covering 3 years period 2055/56 to 2059/60. Poudel has made this research with ten companies.The objective is to measure and analyze the risk and return associated with the common stock of the listed companies, to examine the movement of market price. The objective is to determine the effect of portfolio on risk and return.The study used market price per share, dividend per share as well as statistical tools to analysis the data in this research work. The study has three major finding first,Thecommercial banking industry has the highest value market share while other industry has the lower value of market share. Second, Expected return on common stock of banking and finance sector was higher than other sector. Lastly, The commercial banking industry's expected rate of return on portfolio is maximum and finance insurance companies have higher expected return on portfolio and remaining other manufacturing and processing has positive expected return on the portfolio.

Thapa (2003) entitled Analysis of Risk and Return on Common Stock Investment of Insurance Companies was undertaken by Neelam Thapa. The relevant objective of the study was to analyze the risk and return and other relevant variables that help in making decisions.The study is based on secondary data of five insurance companies covering five years data commencing from 2053/54 to 2057/58. The study has three major findingsfirst, Because of the higher expected return associated with the common stock, Nepalese investors are attracted towards it. Second, The standard deviation which measures the risk of an asset shows that most of the companies are risky. As higher risk must be associated with the higher return, it is so only in the case of Everest Insurance Company and Himalayan General Insurance Company where as United Insurance Company are Premier Insurance Company are providing higher return at lower risk.Lastly, The beta coefficient, which is the measure of systematic risk, reveals that Nepal Insurance Company has the highest beta and Premier Insurance Company has least beta

Kalpana Khania (2003) entitled Investment portfolio analysis of joint venture banks. The study is based on five joint venture banks and they are NABIL, SCBNL, HBL,

NBBL and EBL. The general study of the present study is to identify the current situation of investment portfolio of joint venture banks in Nepal. The objective is to analyze the risk and return ratio of commercial banks, to evaluate the financial performance of joint venture banks in Nepal. The objective is to analyze the risk and return ratio of commercial banks, to evaluate the financial performance of joint venture banks and portfolio structure of Nabil Bank in investment between loan investment, investment in real fixed assets and investment in financial assets. The major finding of the analysis is Nabil is investing the highest amount of funds on NRB bond as compare to other joint venture bank i.e. 3% beta coefficient of HBL is lowest among all the banks so the systematic risk of HBL is low. The coefficient of correlation between loans and advances in private sector and portfolio return of joint venture banks come out to be rxy = -0.6 therefore it indicate that there is negative correlation between loans and advanced in private sector and portfolio return of five joint venture banks in Nepal.

Hari Pati Lal Shrestha (2004) study on optimum portfolio investment in Nepal. The main theme of third study is to analyze rationalizes of portfolio theory in context of Nepalese security market. Always investor tried best to make sure return, return in not cent percent sure or investment will not ruin. The study mainly focused on the specific sector of market i.e. currently listing in NEPSE for last 6 years and this study mainly based on the companies listed in NEPSE and applied the different categories. His analysis is based on secondary data s well as primary data of 6 years collected by small survey of 25 investors main objectives of this study are to find out and analyze the major problem of investors regarding selection of optimal portfolio, by develop understanding for portfolio investment. He tries to analyze the risk and return market sensitivity, composition of risk and pricing status of securities. And to suggest the measure for the improvement of investment rationalities investor should be aware of risk and return. This research helps them to find out the degree of risk associated with the stock, systematic and unsystematic risk estimation of stock.

Mr. Jagdish Basnet's (2002) research entitled "Portfolio management of joint venture banks in Nepal" is try to presented data of eight years from 1994-2001 A.D. The objective of the research was to find out the situation of the portfolio management of joint venture banks in Nepal. To evaluate the investment and advances portfolio of

joint venture banks, to evaluate the financial performance of joint venture bank. To analyze the risk and ratio of commercial banks. Mr. Basnet summarized the findings as NBBL, HBL, SCB, and EBL was investing very high amount of its fund in government securities. It has providing very high amount of its loan and advances to the private sector in increasing trend. It has also given the priority to foreign bills purchase and discount. He analyzed portfolio by only banking industries using secondary data provided by bank. According to him banks are very strong in investment in comparison to individual investors.

Gopal P. Bhatta's (1995) study on "Assessment of the performance of listed companies in Nepal", this research is based on the data of ten listed companies from 1990 to 1995. One of the major objectives of this study is to analyze the performance of listed companies in terms of risk and return and internal rate of return, systematic risk and diversification of risk through portfolio context. The objectives of the research were to analyze the performance of listed companies in the terms of expected return and company specific risk, required rate of return, systematic risk and diversification of risk through portfolio concept. His research methodology was descriptive and analytical. Mr. Bhatta concluded that Nepali investors had not yet practiced to invest in portfolio of securities. An analysis of the two securities portfolio shows that the risk can be totally minimizes if the correlation is perfectly negative. In the situation, the risk can totally be diversified, but when there is perfectly positive correlation ship between the returns of the two securities, the risk is not diversifiable. The analysis shows some has negative correlation and some has positive. Negative correlation between securities returns is preferred for diversification of risk. Nepalese capital market is not efficient one. So the stock price doesn't contain all the information relating to market and company itself. Neither investor analyzes the overall relevant information of the stock nor the member of stock exchange tries to disseminate the information. Today's market trend has changed from bull market to bear market. Investors are being rational.

Roopak Joshi's study on (2003) "Investors problem in choice of optimum portfolio of stock in Nepal stock exchange", Mr. Joshi used data of twelve months, fiscal year 2000/2001 . The study is based on secondary data published in NEPSE trading report and bank. The objectives of the research were to find out and analyze the major

problems of investor facing in the selection of optimum portfolio of security trading in NEPSE. He try to suggest the major for the improvement of the stock market as well as for better meet of investors and try to find out the best portfolio of NEPSE. He found that portfolio is new concept in Nepal. The stock market is only in growth stage. The only one stock exchange located in Katmandu. Limited no of security broker, lack of opportunity to invest, traditional cry system, which is actingas barrier of development of NEPSE. Researcher had taken data of only one fiscal year. He has taken selected and short-listed all companies which are categories in "grade A" by NEPSE as his sample size. Due to a lack of financial tools, only three stock portfolios were constructed and analyzed researcher took only three assets portfolio. Mr. Joshi mentioned that due to the lack of sufficient information proper investment was not possible. Proper investment needed huge information internal as well as external. So investor does not know which stock to invest, how to portfolio constructed. Many stockholders do not give the information to the investors; in the pressure of broker investors are purchasing and selling their stock. Small change in stock investment may change the risk and return in very large scale. So investor should have special knowledge and adequate skills. The researcher conclusion in valid only for risk averter investors rather that risk lover investor.

2.3.3 Summary of Articles and Thesis

Studies	**Major Variables**	**Major Findings**
Edwin J. Elton (1979)	Return on assets and sensitivity of expected return.	Realized returns are a very poor measures of expected return and that information surprises highly influence a number of factors in asset pricing model.
Kane & Buser (1979)	Equity, funds, risk, return, stock and securities.	Diversification reduces the variance of shareholders portfolio return.
Michael Koehn and M. santomero Anthony (1980)	Bank capital, rate of return, risk, bank portfolio and assets.	The relationship between the risk of bank portfolio, the amount of bank capital held and the chance of bankruptcy must, therefore, be obtained

		to evaluate the result of bank capital regulation.
Sunity Shrestha (1996)	Investment, securities, loan and National income.	Commercial banks asset holding is growing and Spread of foreign banks is relatively higher than that of Nepalese banks
Gopal bhatta (1995)	risk, return, stock , securities and diversification.	Negative correlation between securities returns is preferred for diversification of risk.
Breman and Henary's (1997)	Domestic securities, domestic market, international equity and foreign assests.	Domestic investors take enough benefit by portfolio then foreign investors.
Jagdish Basnet's (2002)	Government securities, investment, loan and advance and foreign bill.	Banks are very strong in investment in comparison to individual investors.
Rupak Joshi's (2002)	Stock, assets, investment. risk and return.	Many brokers are barrier of Nepalese investors because they are not willing to provide information to them.
Kalpana khania's (2003)	Investment, loan and advance, real fixed assets and financial assets.	Negative correlation between portfolio return of five joint venture banks in Nepal.
Neelam thapa's (2003)	Risk , return and common stock	Due to higher expected return investor are attracted towards the common stock.
Tejendra Prasad Poudel's (2004)	Risk , return, market price and common stock.	Commercial banking and finance sector has maximum portfolio expected rate of return than other sectors.
Haripati Lal Shrestha's (2004)	Risk, return and market.	Degree of risk associated with the stock, systematic and unsystematic risk estimation of stock.

2.4 Research Gap

Many researchers have been used same statistical tools on this topic so result is same each other, Basnet,J. (2002), Robert S. Hamada(1969), Poudel,T.P. (2004) and Jack Clark Francis , ((1978).They did not show the trend of investment, deposit, loan and advances and net profit. Hence, this research will fulfill the prevailing research gap by showing trend of investment, deposit, loan and advances.Kane,E.J,& Buser,S.A.(1979), Shrestha,S.(1996),Poduel,T.P.(2004),Thapa,N. (2003), Basnet ,J.(2002) and Joshi,R. (2003) have taken data 7 yrs,15 yrs,3yrs,5 yrs 8yrs and 1 yr respectively which data is below and above than my research period i.e. 6 yrs. So, there is a time gap.This research has taken three commercial banks to study but pervious resaercher Poudel,T.P. (2004) and Bhatta,G.P (2000) have taken 10 companies,Thapa ,N.(2003) has taken insurance company,Basnet,J.(2002) and Khaniya,K.(2003) have taken joint venture banks for research there is area gap. This study has been conducted by using latest available data .which it means that Kane,E.J,& Buser,S.A.(1979), Shrestha,S.(1996), Poduel,T.P.(2004),Joshi,R.(2003) and other previous literatures on this issue have been conducted by using old data. That may not be relevant in the present situation. Therefore, this study is confined to fill up the above-mentioned research gap.The previous researchersPoudel ,T.P.(2004), Thapa,N. (2003), Basnet,J. (2002) and Joshi,R.(2003) have done research on portfolio management. But they are mainly concern with the rate of the return but they don’t measure the relationship between investment and other variables. So, this study will also find out the relationship between the investment with deposits, Net profit and loan, and advance, therefore it is needed to analyze. The gap of unavailability of sufficient studies for the investors and managers to make investment decisions can be fulfilled through this study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is formal, systematic and intensive process of carrying on a scientific analysis. It refers to the various sequential steps to be adopted by a researcher so as to obtain answer to the research question. In this chapter, the focus has been made on research design, nature and sources of data, sampling procedure, tools used for analysis of data.

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done systematically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them (Kothari, 1990).

3.2 Research Design

The research is acquainted to examine and find out the problem and possibility of generating the portfolio investment for the commercial banks with special reference of selected banks. To achieve objective of the study, descriptive and analytical research design has been adopted. This research is based on recent historical data of last six years.

3.3 Population, Sample and sampling design

All the items in any field of inquiry (research) constitute a universe or population. Sampling is the process by which inference is made to the whole and examines only one part. The method of selecting a portion of the population with the view to draw conclusion about the population under the study is known as sampling.At present there are 27 commercial banks in Nepal. Out of them only 3 commercial bank are to be taken by using convenience sampling for the research work. These samples are related upto 6years transaction period from 2014A.D to 2019 A.D.

The sample organizations are as follows:-

I. Nepal Bank Limited.
II. Nepal Investment Bank Limited
III. Nabil Bank Limited.

This report consider only 3 commercial banks of Nepal as sample for study purpose out of 27 banks which is 11%. This study consist old bank, joint venture bank and private bank.

3.4 Nature and Sources of Data

The study will be mainly based on the secondary data. So, quantitative data would be taken for the study of the research. Secondary data be gathered merely from the review of documents, published and unpublished data. The sources of data collection will be as follows:-

i. Annual report of selected commercial banks.
ii. Final account of the selected banks.
iii. Other various sources of collecting of data like:- journals, various books, research studies, articles.

3.5 Data Collection Procedure and Instrument

In this study, data used in the research are secondary sources i.e. published /unpublished written document, e.g. books, journals and annual reports of selected banks and other banks are used as a secondary data.

3.6 Data Analysis Method

According to the nature of statement of data, suitable or appropriate tools make the analysis more effective and significant for achieving objective. So financial and statistical tools , use in this study.

3.6.1 Data Processing Procedure

The review of related study was based on text books, various journals, articles , etc.In this study the available data, information, figures and facts were checked, rechecked, edited and tabulated for computation. Similarly, according to the need and objectives, the secondary data were compiled, processed tabulated and graphed if necessary for the better presentation.

3.6.2 Data Analysis Tools and Techniques

In this course of analysis, collected data are analyzed by using different financial and statistical techniques. For the organization of data Microsoft Excel was used for data analysis. As per the topic requirement in this study, the collected data will be analyzed by using the various financial as well as statistical tools which are given below:

3.6.2.1 Financial Tools

Financial tools use for the analysis and interpretation of data .These tools use to get the accurate knowledge of financial analysis that in turn, are fruitful in preparing strengths and weakness of the investment policies and strategies. For the price of analysis , following tools are used to meet the objectives.

1.Risk and return on individual investment assets and investment portfolio
2. financial ratios

3.6.2.1.1 Risk and Return on Individual Investment Assets and Investment Portfolio

1. Return on Government Securities

The return on government securities is calculated by dividing interest earned from government securities by total investment on government securities . This is calculated as**:**

$$\text{Return on government securities} = \frac{\text{Interest earned from government securities}}{\text{Total investment on government securities}}$$

2. Return on Loan and advances

The return on loan and advances is calculated by dividing interest earned from loan and advances by total amount of loan and advances. This is calculated as:

$$\text{Return on Loan and advances} = \frac{\text{Interest earned from loan and advances}}{\text{Total investment on loan and advances}}$$

3. Average Rate of Return

When historical returns are used , following formula is used to calculated an average rate of return:

$$\bar{R} = \frac{R1 + R2 + R3 + \ldots\ldots + Rn}{n}$$

where,

R1, R2,R3 = rate of return in different period

n = number of period

4 Risk on individual Assets

Risk is defined as the variability of the return of a period. The one- period rate of return is the basic random variable used in measuring an investment's risk. One such nature of risk is the standard deviation. Standard deviation is defined as the positive square root to the mean of the square of the deviation taken from arithmetic mean. Risk on individual assets or standard deviation for assets can be calculated using historical returns with this equation:

$$\text{Standard Deviation } (\exists) = \sqrt{\frac{(R - \bar{R})^2}{n}}$$

Where,

R = Rate of return on individual assets

R = Average rate of return on individual assets

n = number of observations

5. Return on Portfolio

The return on portfolio is simply the weighted average of the expected returns on the individual assets in the portfolio with the weights being the fraction of the total portfolio investment in each asset.

$$R_p\ X\overline{R}_1X_1\ \Gamma\overline{R}_2X_2\ \Gamma\overline{R}_3X_3\ \Gamma.....\Gamma\overline{R}_nX_n$$

Where,

R_p = Expected return to portfolio

$\overline{R}_i$ = Expected return to asset i

X_i = the proportion of total portfolio invested in asset i.

$\overline{R}_1$ and $\overline{R}_2$ = expected return for assets 1 and 2.

X_1 and X_2 = weight for assets 1 and 2.

5 Risk on Portfolio

Expected risk on a portfolio is a function of the proportions invested in the components, the riskyness of the components and correlation of returns on the component securities. It is measured by standard deviation and calculated by using following formula:

$$\exists_p\ X\sqrt{X_A^2\exists_A^2\ \Gamma X_B^2\exists_B^2\ \Gamma X_C^2\exists_2^2\ \Gamma 2X_AX_Br_{AB}\exists_A\exists_B\ \Gamma 2X_AX_Cr_{AC}\exists_A\exists_C\ \Gamma 2X_BX_Cr_{BC}\exists_B\exists_C}$$

Where,

X_A, X_B and X_C = Weights of securities A, B and C respectively.

$\exists_A\exists_B$and$\exists_C$, = Standard deviation of A, B and C respectively.

r_{AB} = Correlation between assets A and B.

r_{AC} = Correlation between assets A and C .

r_{BC} = Correlation between assets B and C.

3.6.2.1.2 Ratio Analysis

The relationship between the two accounting figures expressed mathematically is known as ratio. Ratio analysis is used to compare a firm's financial performance and status to that of other firms or to itself on time **(Gitman; 1990:275)**

In this study mainly moves around investment portfolio of CBs. Only such ratios which are related to investment of CBs are taken here. Hence, in this study the following ratios are calculated and analyzed.

1. Total Investment to Total Deposit Ratios

Investment is one of the major credits created to earn income. This implies the utilization of firms deposit on investment in government securities. This ratio can be obtained by dividing total investment by total deposit. This can be mentioned as;

Total investment to Total deposit ratio = $\frac{\text{Total Investment}}{\text{Total Deposit}}$

2. Loan and Advances to Total Deposit Ratio

This ratio assesses to what extent the banks are able to utilize the depositor's funds to earn profit by providing loan and advances. It is computed by dividing the total amounts of loans and advances by total deposited funds. The formula used to computed this ratio is as ;

$$\text{Loan and advance to total deposit ratio} = \frac{\text{Loan and advance}}{\text{Total deposit}}$$

High ratio is the symptom of higher/ proper utilization of funds and low ratio is the single of balance remained unutilized/ idle.

3.Government Securities to Total Deposit Ratio

This ratio can be calculated by dividing investment on government securities by total deposits. This ratio can be calculated as:

$$\text{Government Securities to Total Deposit Ratio} = \frac{\text{Government securities}}{\text{Total deposit}}$$

4.Net Profit to Total Assets Ratio

This ratio is very much crucial for measuring the profitability of funds invested in the banks assets. It measures the return on assets. It is computed by dividing the net profit after tax by total assets. The formula used for computing this ratio is as;

$$\text{Net profit to total assets ratio} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

3.6.2.2 Statistical Tools

Statistical Tools Various statistical tools can be used to analyze the data available to the researcher. These tools are used in research in order to draw the reliable conclusion through the analysis of financial data. Following statistical tools are used in this study.

1. Arithmetic mean
2. Standard Deviation(S.D)
3. Coefficient of variation (C.V)
4. Karl Pearson's Coefficient of correlation
5. Linear Trend Analysis

1. Arithmetic Mean

It can also be denoted by AM or simply a mean of a set of observations is the sum of all the observation divided by the number of observations. AM is also known as the arithmetic average. AM is the most famous one among the different measures of the averages. e.g., the AM of x of N observation $x_1, x_2, x_3, \ldots\ldots\ldots\ldots\ldots x_n$ is given by;

$$\overline{X} = \frac{1}{N}\left(x_1 + x_2 + x_3 + \ldots\ldots\ldots + x_n\right)$$

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

2. Standard Deviation (S.D)

Standard Deviation is a statistical measure and is widely used to measure risk from holding a single asset. The standard deviation represents a large dispersion of return and is a high risk and vice versa.

Symbolically,

$$\pm = \sqrt{\frac{(R \; Z\overline{R}_j)^2}{n}}$$

3. Coefficient of Variation (C.V.)

Coefficient of variation is the ratio of the standard deviation of a distribution to the mean of that distribution. It is a measure of relative risk.

Symbolically,

$$\text{Coefficient of variance (C.V.)} = \frac{\pm}{\overline{R}}$$

4. Karl Pearson's Coefficient of Correlation

Karl person's method, popularly known as Pearsonian coefficient of correlation , is most widely used in practice . the correlation coefficient between two variables X and Y , usually denoted by r(X,Y), r_{xy} is a numerical measure of linear relationship between them and is defined by

$$r_{xy} \; X \frac{N \quad XY \; Z f \quad X \AA f \quad Y \AA}{\sqrt{N \quad X^2 \; Z f \quad x \AA} \sqrt{N \quad Y^2 \; Z f \quad Y \AA}}$$

Where,

rxy = Correlation coefficient between variable X and Y

N = Number of observations ∑X = Sum of observations in series X

∑Y = Sum of observations in series Y

∑XY = Sum of the product of observations in series X and Y

∑X2 = Sum of squared observations in series X

∑Y 2 = Sum of squared observations in series Y

Interpretation of Correlation Coefficient

(i) When r = +1, implies that two variables are positively perfectly correlated.

(ii) When r = -1, implies that two variables are negatively perfectly correlated.

(iii) When r = 0, there is no correlation.

(iv) When r lies between 0.7 to 0.999 (-0.7 to -0.999), there is high degree of positive (negative) correlation.

(v) When r lies between 0.54 to 0.699, there is moderate degree of correlation.

(vi) When r is less than 0.5, there is low degree of correlation.

Personian correlation coefficient lies always between -1 and +1. When r = +1, there is perfect positive correlation. Similarly, if r = -1, there is perfect negative correlation between the variables. And it has a zero value i.e. r = 0, there are no correlation between the variables.

Probable Error

Probable error of correlation is an measure testing the reliably of an observed value of correlation coefficient. It is calculated to find the extend to which correlation coefficient is dependable as it depends upon the condition of random sampling probable error of correlation coefficient denoted by P.E. (r) is obtained as:

$$\text{P.E.(r)} \; X 0.6745 \; | \frac{1 Z r^2}{\sqrt{n}}$$

Where,

r = calculated correlation coefficient

n = number of observations

1. If r < P.E. (r), then the value of r is not at all significant.
2. If r > P.E. (r), then r is definitely significant.
3. In other situations nothing can be calculated with certainty

5.Linear Trend Analysis

The general tendency of the time series data to increase of decrease or stagnate during a long period of time is called trend. This method is the most famous and widely used in practice. It provides basis for obtaining the line of best fit in the series.

As per this method, the trend line between dependent variable Y and the independent variable x be represented by,

$Y = a + bx$

Where,

Y= Dependent variable

x= Independent variable i.e. time

a= Y-intercept

b= Slope of the trend line

The two parameters a and b in the equation is obtained by solving two normal equations as follows:

$\sum y = na + b \sum x$

$\sum xy = a\sum x + b\sum x^2$

Where

n = numbers of period to make calculation easier the mid-point in time is taken as origin from which the negative values (-1,-2,-3……)in the first half of the series balance out the positive values(1,2,3……) in the second half so that $\sum x = 0$. In other words time variable is measured as a deviation from its mean so that $\sum x = 0$.

Since $\sum x = 0$, then the values of a and b can be calculated by,

$$a = \frac{y}{N} \text{ and } b = \frac{xy}{x^2}$$

3.7 Research Framework and Definition of Variables

The theoretical framework is the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists. A theoretical framework consists of concepts and together with their definitions and reference to relevant scholarly literature, existing theory that is used for particular study. The theoretical

framework must demonstrate an understanding of theories and concepts that are relevant to the topic of research paper and that relate to the broader areas of knowledge being considered.

Regression model is involve the following variables:

- The unknown parameters, denoted as β, which may represent a scalar or a vector.
- The independent variable X
- The dependent variable Y

In various field of application , different terminologies are used in place of dependent and independent variable. For the study of investment portfolio also research has formulated a regression model. The model helps to how the relationship between the dependent variable and independent.

Investment = a+ $\beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + e$

Whereas,

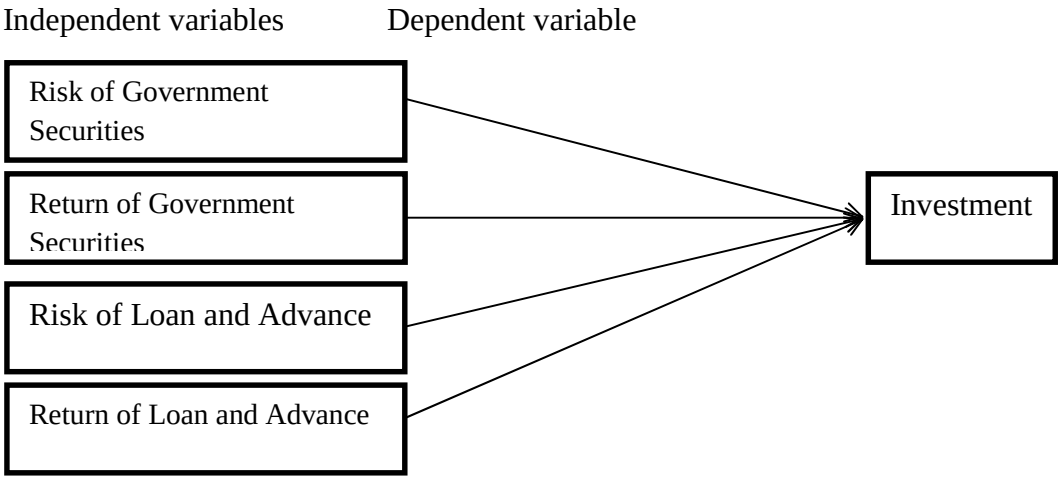
a = Constant variable

Investment = log to investment amount

X1 ,X2 , X3 and X4 = log to Risk of Government securities, log to Return of Government securities, log to Risk of loan and advance and log to Return of loan and advance respectively.

Figure 3.1

Conceptual Framework



Source:Research Journal of Science, Technology and Management.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Results

The Results section of a scientific research paper represents the core findings of a study derived from the methods applied to gather and analyze information. It presents these findings in a logical sequence without bias or interpretation from the author, setting up the reader for later interpretation and evaluation in the Discussion section. A major purpose of the Results section is to break down the data into sentences that show its significance to the research questions.

In this chapter , the data have been analyzed and interpreted suing financial tools following the research methodology deals 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 m, many suitable graphs, lines abs diagrams have also been used to clarify the actual position of the banks . In this section , the investment portfolio of commercial banks is analyzed with the help of following tools:-

(i) Investment of Portfolio
(ii) Risk & return
(iii) Analysis of ratios
(iv) Correlation analysis
(v) Trend analysis

4.1.1 Risk and Return on Individual Investment Assets

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.

4.1.1.1Risk and Return on Government Securities

Government securities are the fixed income securities issued by the government. These securities are among the safest of all investments as the government is unlikely to default on interest or on principle repayments. The risk and return on government securities such as treasury bills, development bond, national saving bond etc.

Table No. 4. 1

Calculation of Risk and Return on Government Securities

(In Percentage)

FY	**NBL**	**NABIL**	**NIBL**
2013/14	0.79	3.06	2.27
2014/15	97.52	1.20	0.74
2015/16	1.50	1.43	0.53
2016/17	2.45	3.42	1.70
2017/18	2.49	4.20	4.58
2018/19	3.37	3.31	4.49
Mean	**18.02**	**2.77**	**2.38**
SD	**38.96**	**1.19**	**1.79**
CV	**2.16**	**0.43**	**0.75**

Source: Annexure 'A'

Table No. 4.2

Calculation of Risk and Return on Govt. Securities of CBs

(In million)

FY	**Interest income on Government Securities**	**Investment on Government Securities**	**Return on Government Securities (in %) (R_g)**	$R_g - \overline{R}_g$	$(R_g - \overline{R}_g)^2$
2013/14	544.26	34027.08	1.60	-0.80	0.64
2014/15	404.19	24191.55	1.67	-0.73	0.53
2015/16	505.94	43178.46	1.17	-1.23	1.51
2016/17	822.94	32766.53	2.51	0.11	0.01
2017/18	1491.90	39619.47	3.77	1.37	1.86
2018/19	1789.50	48784.45	3.67	1.27	1.61
Total			**14.39**		**6.16**

Average return on government securities ($\overline{R}_g$)=2.39

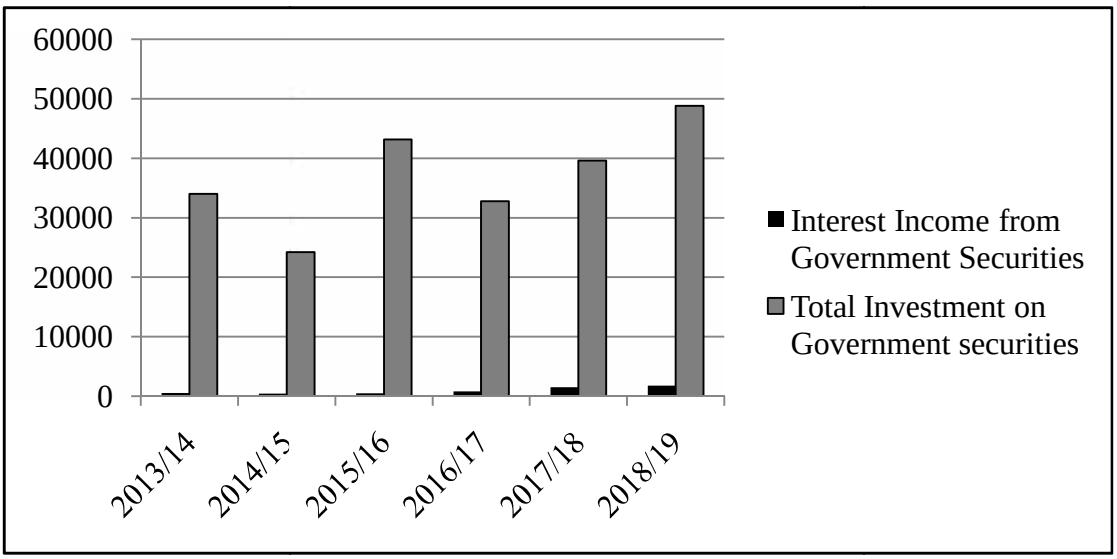
Standard deviation on return government securities ($\exists_g$)=1.01

Coefficient of variation (CV)=0.42

It can also be presented in figure below.

Figure No. 4.1

Government Securities of Commercial Banks in Nepal



The table no.4.1 shows that the return on investment on government securities has increasing trend. Similarly, there is Increasing trend on investment on government securities and interest income from government securities. During the study period, the highest return is 3.77 % in 2017/18 and lowest return is 1.17 % in 2015/16 . The return trend of the study period i.e. from FY 2013/14 to FY 2018/19 is increased. In an average the return is 2.39% which shows that in an average the commercial banks generate 2.39% return on government securities. Similarly, the standard deviation 1.01 and CV is 0.42 shows the riskyness of return of government securities. The lower variability on return on government securities is due to proper investment on various securities i.e. balance allocation of funds on various government securities such as treasury bills, national saving bonds, development bonds etc. and fixed income percentage rate. It can also be shown on above figure no 4.1.

4.1.1.2 Risk and 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 No. 4.3

Calculation of Risk and Return on Loan and Advances

(In Percentage)

FY	**NBL**	**NABIL**	**NIBL**
2013/14	10.90	6.45	7.34
2014/15	9.09	5.78	6.35
2015/16	8.96	5.28	6.01
2016/17	10.01	6.15	6.62
2017/18	11.26	9.12	10.48
2018/19	10.23	10.58	10.96
Mean	**10.08**	**7.23**	**7.96**
SD	**0.93**	**2.12**	**2.19**
CV	**0.09**	**0.29**	**0.27**

Source: Annexure 'B'

Table No. 4.4

Calculation of Risk and Return on Loan and Advances of CBs

(in million)

FY	**Interest income on Loans & Advances**	**Investment on Loan & Advances**	**Return on Loans and Advances (in percentage) (R_g)**	**$R_g - \overline{R}_g$**	**$(R_g - \overline{R}_g)^2$**
2013/14	11842.68	147930.00	8.01	-0.27	0.08
2014/15	12629.34	182692.00	6.91	-1.37	1.87
2015/16	14638.84	222817.00	6.57	-1.71	2.92
2016/17	19632.52	266248.00	7.37	-0.91	0.82
2017/18	31843.39	312747.00	10.18	1.90	3.62
2018/19	37872.13	356425.00	10.63	2.35	5.50
Total			**49.67**		**14.81**

Average return on loan and advances ($\overline{R}_1$) = 8.72%

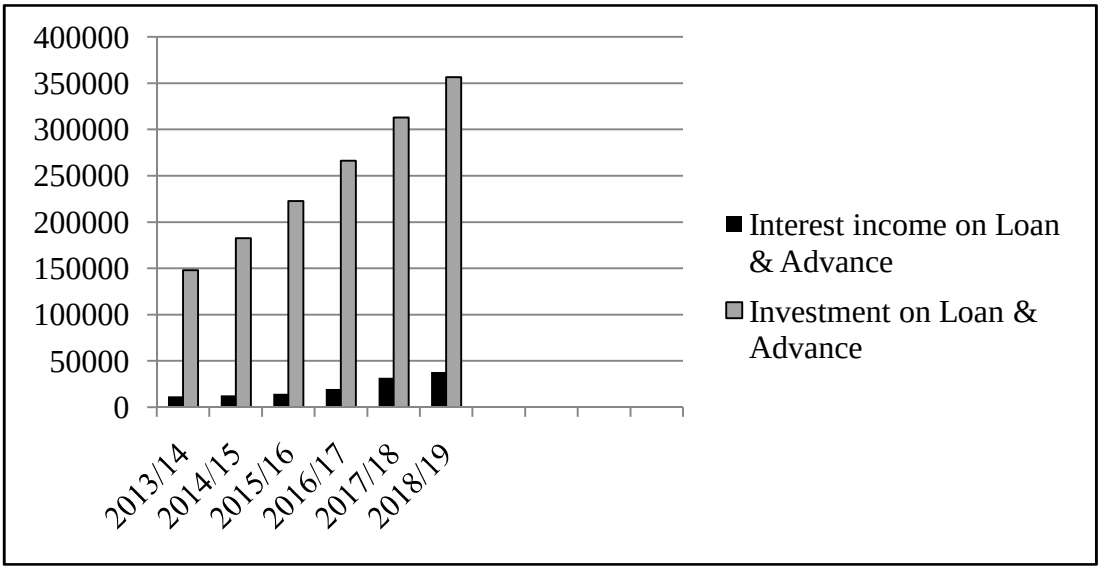
Standard deviation on return on loan and advances (∃ 1) =1.57 %

Coefficient of variation (CV1) = 0.18

It can also be presented in figure below.

Figure No.4.2

Return on Loan and Advances



The table no.4.2 shows that the return on loan and advance has fluctuating trend. Similarly, there is no fixed trend on investment Loan and advance and interest income from loan and advance . During the study period, the highest return is 10.63% in 2018/19 and lowest return is 6.57% in 2015/16 . The return trend of the study period i.e. from FY 2013/14 to FY 2018/19 is ups and down. In an average the return on loan and advances is 8.72%. Similarly, standard deviation is 1.57% and coefficient of variation is 0.18. i.e. 8.72% shows the riskyness of return on loan and advances. It is more cleared in figure no. 4.2.

4.1.2Risk and Return on Investment Portfolio

4.1.2.1Investment Portfolio Return

The expected return on a portfolio (Rp) is simply the weighted average of the expected returns on the individual assets in the portfolio with the weight being the

fraction of the total portfolio in each asset. In this study, investment portfolio is calculated by investment on government securities and loan and advances . The weight of the investment on Various assets is calculated and average rate of return are presented as follows:

Table No.4. 5

Calculation of Weight of the Investment on Various Assets

S.N	Assets	Investment Amount (Rs. in Millions)	Proportion Weight (X)	Average Rate if Return
1	Government Securities	222567.54	0.13	2.40%
2	Loan and advance	1488859	0.87	8.28%

Here,

for Two assets Portfolio return ($\overline{R}_p$) = $X_g \mid \overline{R}_g \Gamma\varepsilon_l \mid \overline{R}_l$

=7.52%

… Portfolio return on Investment of commercial banks ($\overline{R}_p$) = 7.52%

Table No. 4.6

Calculation of Portfolio Return of Commercial Banks

(Investment on various assets is in Rs. in Millions and return is in percentage)

FY	Investment on Government Securities	Proportion Weight (X_g)	Investment on loan and Advances	Proportion Weight (Xl)	Return on Govt. Securities ($\overline{R}_g$)	Return on Loan and Advances($\overline{R}_l$)	Portfolio Return ($\overline{R}_p$)
2013/14	34027.08	0.19	147930	0.81	1.60	8.01	6.7921
2014/15	24191.55	0.12	182692	1.00	1.67	6.91	7.1104
2015/16	43178.46	1.62	222817	0.84	1.17	6.57	7.4142
2016/17	32766.53	0.11	266248	0.89	2.51	7.37	6.8354
2017/18	39619.47	0.11	312747	0.89	3.77	10.18	9.4749
2018/19	48784.45	0.12	356425	0.88	3.67	10.63	9.7948
Total	**222567.54**		**1488859**		**14.39**	**49.67**	**47.4218**

Here,

Portfolio return ($\overline{R}_p$) = $\varepsilon_g \mid \overline{R}_g \Gamma\varepsilon_l \mid \overline{R}_l$

4.1.2.2Investment Portfolio Risk

Expected risk on a portfolio is a function of the proportions invested in the components, the riskyness of the components and correlation of returns on the components securities. It is measured by standard deviation. 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 asset risk, relative asset weights and component of assets returns (covariance) the risk of the portfolio can be estimated. Here, firstly covariance between two assets can be calculated and then portfolio risk can be calculated.

Table No. 4.7

Calculation of Correlation Coefficient between Investment Securities of CBs

(Rs. in Million)

FY	**Return on Govt. Securities (R_g)**	**Return on Loan and Advances(R_l)**	**R_gR_l**	R_g^2	R_l^2
2013/14	1.60	8.01	12.816	2.56	64.1601
2014/15	1.67	6.91	11.5397	2.7889	47.7481
2015/16	1.17	6.57	7.6869	1.3689	43.1649
2016/17	2.51	7.37	18.4987	6.3001	54.3169
2017/18	3.77	10.18	38.3786	14.2129	103.6324
2018/19	3.67	10.63	39.0121	13.4689	112.9969
Total	**14.39**	**49.67**	**127.932**	**40.6997**	**426.0193**

Hence, we get

Portfolio return on investment of commercial banks (R_p) = 7.52%
Standard deviation of portfolio on investment of commercial banks (σ_p) =1.4874
Coefficient of variation (CV) = 0.1977
Correlation between R_g and R_l (r_{gl}) = 0.9192

From the above calculation, portfolio return on investment of CBs is found as7.52% and expected risk of the portfolio i.e. standard deviation is found as 1.4874 which is considerably less than the expected risk of investment on loan and advances i.e.

1.4872% < 1.57% and more than the expected risk of investment on government securities i.e. 1.4874% >1.01 %. There is very high positive correlation between Return of investment on government securities and loan & advances i.e. 0.9192.The expected return on portfolio 7.52% is less than average rate of return on investment on loan & advances i.e. 7.52% < 8.72%. But, it is more than average rate of return on investment on government securities i.e. 7.52 >2.29%. From the calculation, it is clear that investing the total fund in loan & advances is more risky than that of investment on government securities . But average return on investment on loan & advances is more than average return on investment on government securities.

4.1.3 Analysis of Ratios

A ratio is calculated by dividing one item of the relationship with other. As tool of financial analysis, ratio can be expressed in terms of percentage. Ratio analysis is a very important tool of financial analysis. From the help of ratio analysis, the qualitative judgement can be done very easily and timely regarding financial performance of the firm. The purpose of this chapter is to evaluate and analyze the financial position and performance of the different commercial banks. In this section, only those major ratios which are mainly related to the investment mechanism of commercial banks are calculated and analyzed.

4.1.3.1Government Securities to Total Deposit Ratio

Government securities to total deposit ratio explains as to what extent the banks are able to invest their depositor's fund on government securities. This ratio is calculated by dividing total investment on government securities by total deposits. The high ratio represents the efficiency of the firm in utilizing collected deposits to government securities and vice-versa. It is computed as;

Table No. 4.8

Government securities to Total Deposit Ratio

(In Percentage)

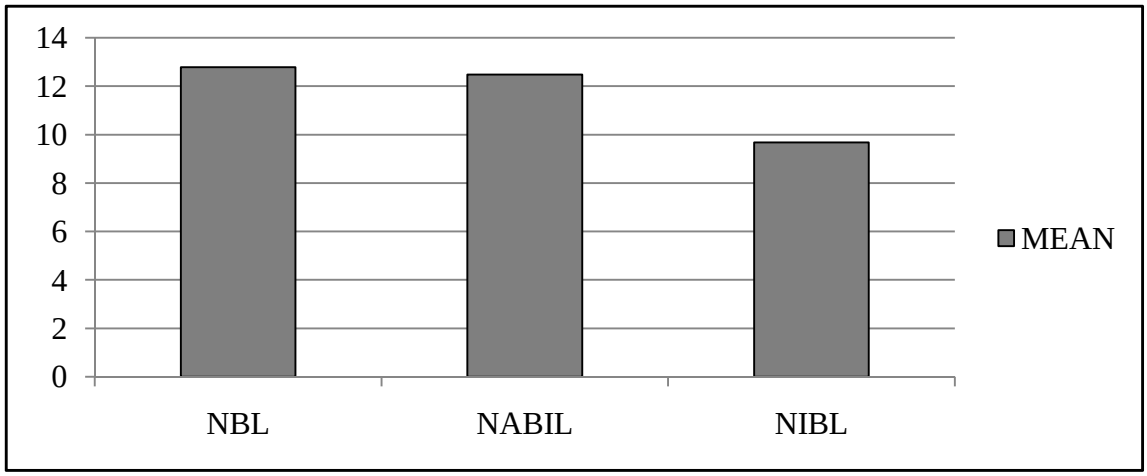
FY	NBL	NABIL	NIBL
2013/14	28.71	11.00	7.89
2014/15	0.21	14.32	10.04
2015/16	14.26	15.64	12.14
2016/17	9.52	9.71	9.78
2017/18	12.79	11.06	8.77
2018/19	11.28	13.13	9.49
Mean	**12.79**	**12.48**	**9.68**
SD	**9.24**	**2.27**	**1.43**
CV	**0.72**	**0.18**	**0.15**

Source: Annexure 'C'

The table no. 4.8 depicts the ratio of government securities to total deposits. Here, it is found that NBL has the highest mean of government securities to total deposit ratio i.e. 12.79% and NIBL has lower investment on the securities i.e. 9.68% among three sample banks. The lowest CV of NIBL i.e. 0.15 shows that the investment on government securities by the bank is more uniform. Similarly, highest CV of NBL i.e. 0.72 indicates that the investment on government securities by NBL is more fluctuating or the ratio of NIBL is less uniform. which show that the NBL has mobilized its total deposit more effectively on government securities than other 2 commercial banks. It is more cleared on figure no. 4.3.

Figure No.4.3

Government Securities to Total Deposit Ratio



4.1.3.2 Loan and Advances to Total Deposit Ratio

Loan and advances to total deposit ratio explains as to what extent the banks are able to mobilize their depositor's fund to earn profit by providing the funds to outsiders in the form of loans and advances. This ratio is calculated by dividing loan and advances by total deposits. The high ratio represents the efficiency of the firm in utilizing collected deposits to loan and advances and vice versa. It is computed as:

Table No.4.9

Loan and Advances to Total Deposit Ratio

(In percentage)

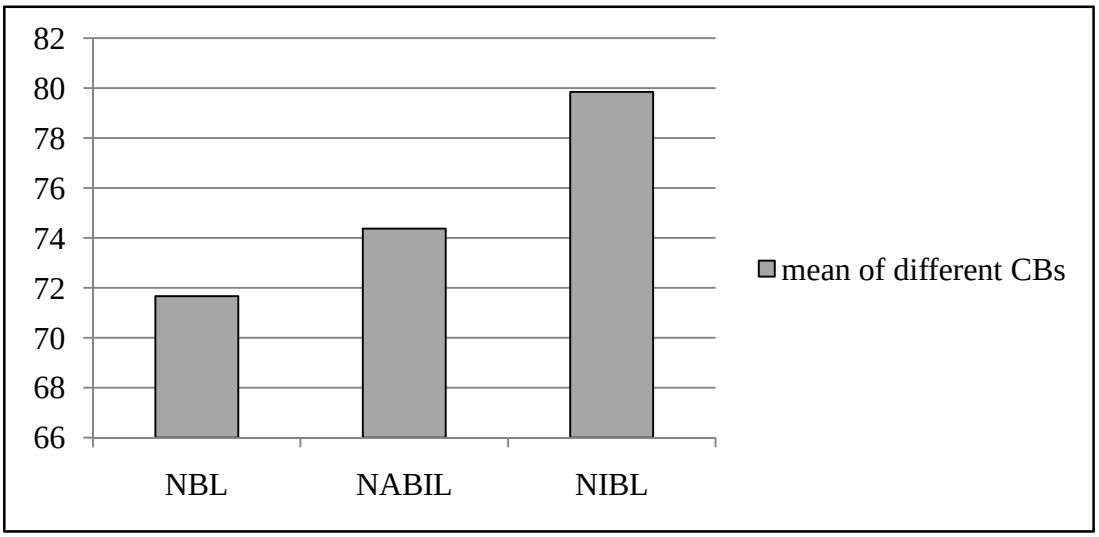
FY	**NBL**	**NABIL**	**NIBL**
2013/14	59.45	72.55	70.46
2014/15	65.35	62.84	73.06
2015/16	68.50	69.02	78.67
2016/17	76.37	75.59	83.25
2017/18	78.66	84.28	88.46
2018/19	81.68	81.96	85.11
Mean	**71.67**	**74.37**	**79.84**
SD	**8.61**	**8.03**	**7.06**
CV	**12.01**	**10.80**	**8.84**

Source: Annexure 'D'

The comparative table no. 4.9. it is found that NIBL has highest mean loan and advances to total deposits ratio i.e.79.84% over the review period. According to CV,NIBL has the lowest CV i.e.8.84. which indicates that the investment on loan and advances has been uniform. Also the highest CV of NBL i.e.12.01 % indicates that investment on loan and advances is more fluctuating. It can also be shown in fig. no.4.4.From the above analysis it can be said that NIBL has mobilized its total deposit more effectively on loan and advances than other 2 commercial banks.

Figure No.4.4

Loan and Advance to Total Deposit Ratio



4.1.3.3Total Investment to Total Deposit Ratio

The calculated result of this ratio measures the magnitude to which the banks are successful in mobilizing the total deposits on investment or not. Total investment to total deposits ratio is calculated by dividing investment by total deposits. In general, high ratio indicates high success to mobilize the funds of banks as investment and vice-versa. It is computed as;

Table No. 4.10

Total Investment to Total Deposit Ratio

FY	**NBL**	**NABIL**	**NIBL**
2013/14	32.69	24.24	20.84
2014/15	21.67	29.71	23.68
2015/16	14.36	33.13	26.91
2016/17	12.97	27.41	20.38
2017/18	16.41	13.73	12.77
2018/19	14.11	15.63	11.68
Mean	**19.62**	**23.98**	**19.38**
SD	**7.52**	**7.79**	**6.02**
CV	**38.31**	**32.47**	**31.08**

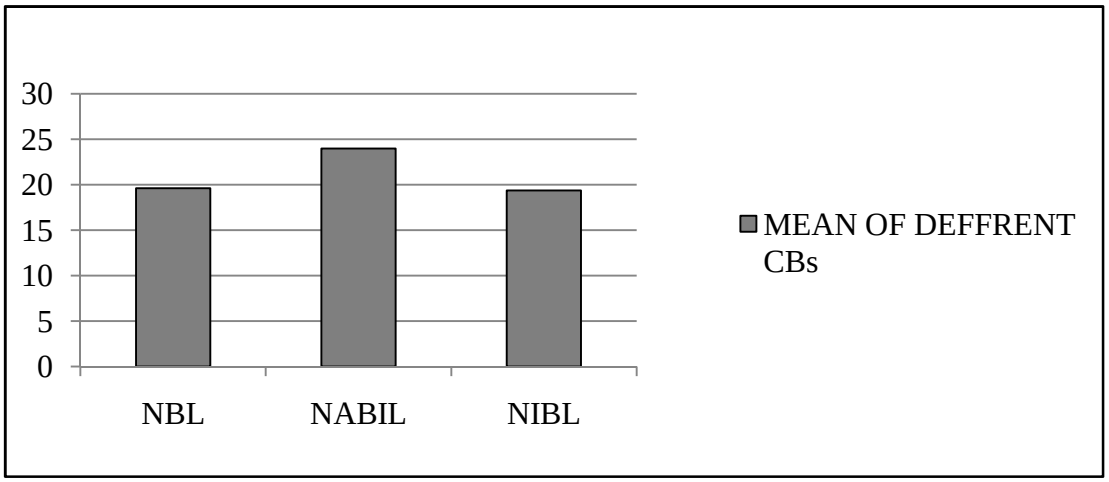
Source: Annexure 'E'

The comparative table No. 4.10 reveals that the ratios of investment to total deposits of commercial banks are in fluctuating trend throughout the study period i.e. from 2013/14 to 2018/19. At the beginning of the study period, the ratio of NBL is higher at 32.69% which is fluctuating over the years and is 14.11% in the FY 2018/19. While in the case of NABIL its 24.24% in 2013/14 and decreases to 15.63% in 2018/19. The ratio of NIBL is lower at 20.84% in FY 2013/14 which is fluctuating over the years and is 11.68% in the FY2018/19. The mean investment to total deposit of NABIL is highest at 23.98% and at 19.62% NBL is second. NABIL is able to utilize its deposit on investment as compared to NBL and NIBL. The CV of NIBL is lower than other sample bank which indicates that it has good position to invest its fund.

It can also be presented in Fig No. 4.5.

Figure No. 4.5

Total Investment To Deposit ratio



4.1.3.4 Return on Total Assets Ratio

This ratio is calculated by dividing net profit after tax by total assets of the firm. Thus, it measures the profitability of the banks with respect to the total assets. It seems to be vital for measuring financial performance of the firm or shows the efficiency of bank using its resources. The higher ratio indicates the effective utilization of resources and yields a higher return for the banks. It is calculated as:

Table No. 4.11

Return on Total Assets Ratio

(In percentage)

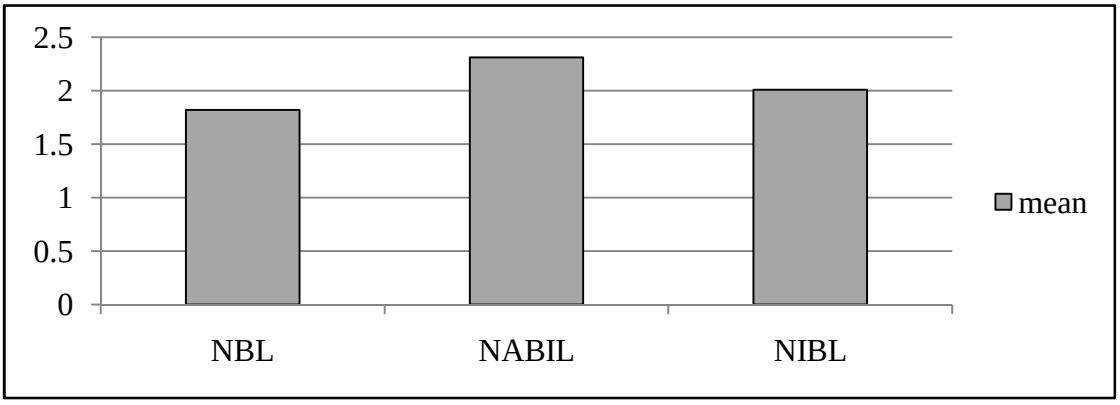
FY	NBL	NABIL	NIBL
2013/14	0.89	2.66	2.25
2014/15	0.55	1.81	1.88
2015/16	2.79	2.21	1.97
2016/17	2.78	2.57	2.06
2017/18	2.41	2.47	2.13
2018/19	1.51	2.11	1.79
MEAN	**1.82**	**2.31**	**2.01**
SD	**0.98**	**0.32**	**0.17**
CV	**53.65**	**14.02**	**8.40**

Source: Annexure 'F'

The table no. 4.11 shows that during the study of beginning period FY2013/14 and ending period FY2018/19 Nabil bank earn highest ratio compared to other commercial banks, while examining the mean ratio Nabil has highest ratio of 2.31% and NBL has the lowest among the other commercial banks. The lowest CV of NIBL is 8.40 shows that the return on total assets of NIBL is the most consistent among the other commercial banks. Similarly, the highest CV 53.65 of NBL shows the return on total assets is low and variable among the commercial banks. Lastly, it can be said that NABIL utilities the overall resources efficiently than other two commercial banks. The profitability position of NBL is the weakest in relation to return on total assets during study period among two CBs.

Figure No.4.6

Return on Total Assets Ratio



4.1.4 Correlation Analysis

Correlation analysis means the relationship between two variables where the changes in known as coordination. The degree of relationship between the variables under consideration is measured through the correlation analysis. It is the technique used in measuring the closeness of the relationship between the variables. To measure the correlation between the total deposits and total investments, co-efficient of determination is calculated in the study. Under the correlation analysis, the intensity of linear relation between the following variable have been measured.

i. Total investment and Total deposit
ii. Total investment and loan and advances
iii. Total investment and Net profit.

4.1.4.1Correlation Analysis between Total Investment and Total deposit

The co-efficient between total deposit and total investment measures the degree of relation between the respective variables. In the correlation analysis, total deposit is independent variable while the total investment is a dependent variable.

Table No.4.12

Correlation Analysis between Total Investment and Total deposit

Banks	**Correlation(r)**	**r^2**	**P.E.**	**6 P.E**	**Relationship**
NBL	-0.46	-0.2116	0.2170	1.302	Insignificant
NABIL	0.03	0.0011	0.2750	1.650	Insignificant
NIBL	0.02	0.00054	0.2752	1.651	Insignificant

Source: Annexure 'G'

In the table no.4.12, we can see that the correlation coefficient between total deposits and total investment of NBL , NABIL and NIBL are -0.46 , 0.03 and 0.02 respectively. So, there is low degree of negative correlation between total deposit and total investment of NBL and positive correlation of NABIL and NIBL. Similarly, probable error (P.E.) is 0.2170, 0.2750 and 0.2752 of NBL ,NABIL and NIBL respectively and 6 P.E. is 1.302, 1.650 and 1.651 of NBL , NABIL and NIBL

respectively. Since r is less than 6 P.E, the relationship between these two variables is insignificant.

4.1.4.2 Correlation between Total Investments and Net Profit

The coefficient of correlation between total investments and net profit measures the degree of relationship between these two variables. In this analysis, total investment is dependent variable and net profit is independent variable.

Table No.4.13

Correlation between Total Investments and Net Profit

Banks	**Correlation(r)**	**r^2**	**P.E**	**6P.E**	**Relationship**
NBL	-0.714	0.5101	0.1349	0.809	Insignificant
NABIL	-0.184	0.0339	0.2660	1.596	Insignificant
NIBL	-0.054	0.0029	0.2745	1.647	Insignificant

Source: Annexure 'H'

The Table 4.13 Shows the correlation, probable error of correlation between total investment and net profit of the sample banks during the studied period the calculation shows the Negative correlation between total investment and Net profit of all sample banks NBL, NABIL and NIBL. The correlation coefficient between Total investment and Net profit of NBL is -0.714, NABIL is -0.184 and NIBL is -0.054.Negative correlation between variables is not good, that relation must be reliable and significant as per probable error method. In this case, as the six times of probable error is more than correlation, the relation between net profit and investment of sample banks is insignificant.

4.1.4.3Correlation between Total Investments and Loan and Advance

The coefficient of correlation between total investments and loan and advance measures the degree of relationship between these two variables. In this analysis, total investment is dependent variable and loan and advance is Independent variable.

Table No. 4.14

Correlation between Total Investments and Loan and Advance

BANKS	Correlation(r)	r^2	P.E	6P.E	Relationship
NBL	-0.4531	0.2025	0.2196	1.3176	Insignificant
NABIL	-0.1663	0.0289	0.2677	1.6062	Insignificant
NIBL	-0.0134	0.00018	0.2753	1.6518	Insignificant

Source: Annexure 'I'

The Table 4.14 Shows the correlation, probable error of correlation between total investment and loan and advance of the sample banks during the studied period the calculation shows the negative correlation between total investment and Loan and advance of all sample banks. The correlation coefficient between loan and investment of NBL is -0.4531, NABIL is -0.1663 and NIBL is -0.0134. Negative correlation between variables is not sufficient, that relation must be reliable and significant as per probable error method. In this case, as the six times of probable error is more than correlation, the relation between loan and advance and investment of sample banks is insignificant.

4.1.5Trend Analysis

In this section, an attempt has been made to analyze and interpret the trend of deposits, Loan and advance, investment and Net profit of NBL, NABIL and NIBL to forecast them for next five years period. The following trend value analysis has been in the study.

4.1.5.1 Trend Analysis of Total Deposits

Under this topic an attempt is made to analyze the trend of deposits of NBL,NABIL and NIBL forecast the trend for next 5 years. The following table shows the trend values of total deposits of NBL , NABIL and NIBL for five years from FY 2013/14 to 2018/19 and forecasted the same till FY 2023/24

Table 4.15

Trend Values of Total Deposits NBI , NABIL and NIBL

(Rs.in million)

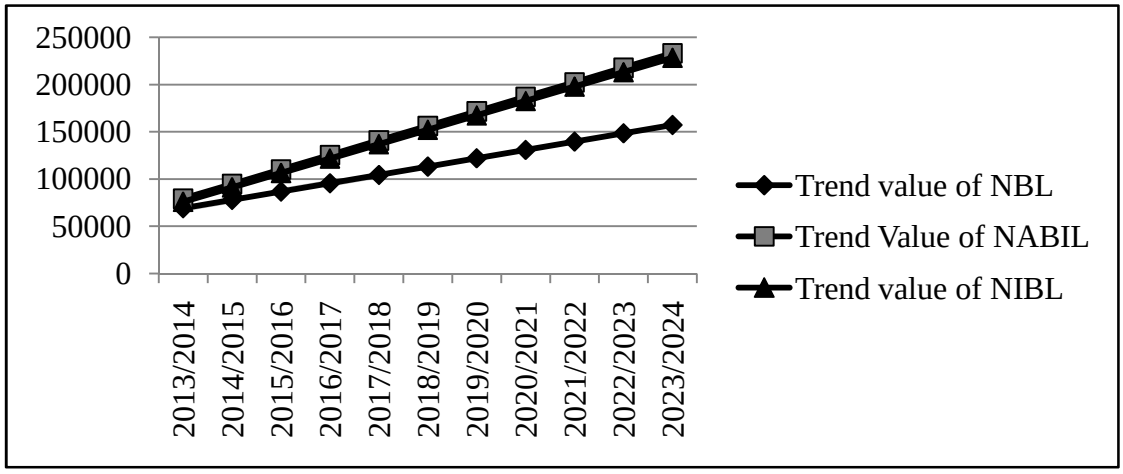
FY	NBL	NABIL	NIBL
2013/2014	69204.90	79318.24	76071.81
2014/2015	78018.48	94694.61	91292.15
2015/2016	86832.05	110070.98	106512.5
2016/2017	95645.62	125447.35	121732.84
2017/2018	104459.19	140823.72	136953.18
2018/2019	113272.76	156200.10	152173.52
2019/2020	122086.33	171576.47	167393.87
2020/2021	130899.90	186952.84	182614.21
2021/2022	139713.48	202329.21	197834.55
2022/2023	148527.05	217705.58	213054.90
2023/2024	157340.62	233081.95	228275.24

Source: Annexure 'J'

When analyzing the above table, it is clear that the total deposits of NBL, NABIL and NIBL are in increasing trend. Other things remaining constant, the total deposits of NBL ,NABIL and NIBL in FY 2024 will be Rs. 157340.62, 233081.95 and 228275.24 respectively. From the above trend analysis, it is found that the deposits collection position of NABIL is better than NBL and NIBL.

Figure No. 4.7

Trend values of Total Deposits of NBL , NABIL and NIBL



4.1.5.2 Trend Analysis of Total Investments

Under this topic an attempt is made to analyze the trend of investments of NBL , NABIL and NIBL and forecast the trend for next 5 years. The following table shows the trend values of total investments of HBL and NSBI for five years from FY 2013/14 to 2018/19 and forecasted the same till FY 2023/24.

Table 4.16

Trend Values of Total Investments of NBL , NABIL and NIBL

(Rs. in million)

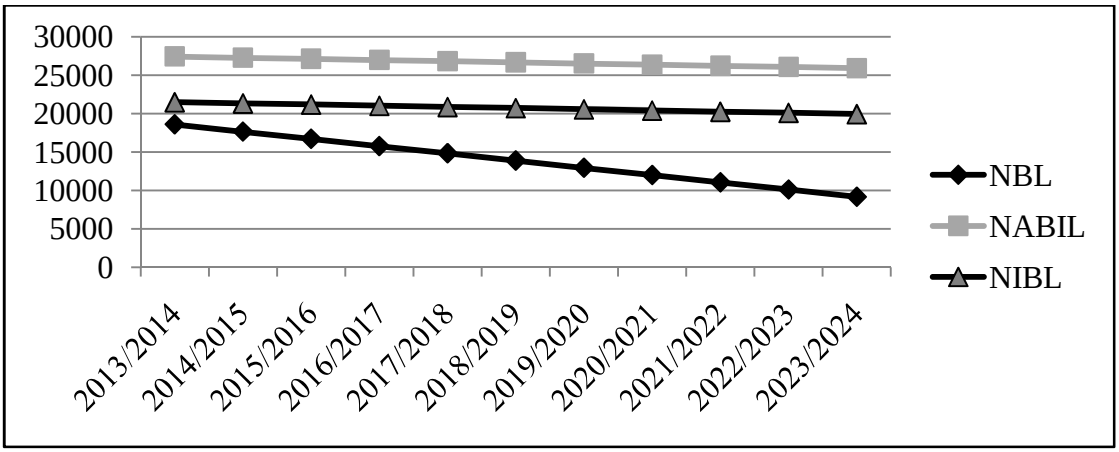
FY	NBL	NABIL	NIBL
2013/2014	18600.29	27441	21480.24
2014/2015	17657.77	27288.2	21326.41
2015/2016	16715.26	27135.4	21172.58
2016/2017	15772.74	26982.6	21018.75
2017/2018	14830.23	26829.8	20864.92
2018/2019	13887.71	26677	20711.10
2019/2020	12945.2	26524.2	20557.27
2020/2021	12002.69	26371.4	20403.44
2021/2022	11060.17	26218.6	20249.61
2022/2023	10117.66	26065.8	20095.78
2023/2024	9175.143	25913	19941.95

Source: Annexure **'K'**

When analyzing the above table, it is clear that the total investments of NBL, NABIL and NIBL are in decreasing trend. Other things remaining constant, the total investments of NBL , NABIL and NIBL in FY 2023/24 will be 9175.143 , 25913 and 19941.95 respectively. From the above trend analysis, it is found that the total investments position of NABIL is better than NBL and NIBL.

Figure No. 4.8

Trend values of Total Investments of NBL , NABIL and NIBL



4.1.5.3Trend Analysis of Loan and Advances

Under this topic an attempt is made to analyze the trend of loan and advances of NBL , NABIL and NIBL and forecast the trend for next 5 years. The following table shows the trend values of loan and advances of NBL , NABIL and NIBL for five years from FY 2013/14 to 2018/19 and forecasted the same till FY 2023/24.

Table 4. 17

Trend Values of Loan and advance of NBL , NABIL and NIBL

(Rs. in million)

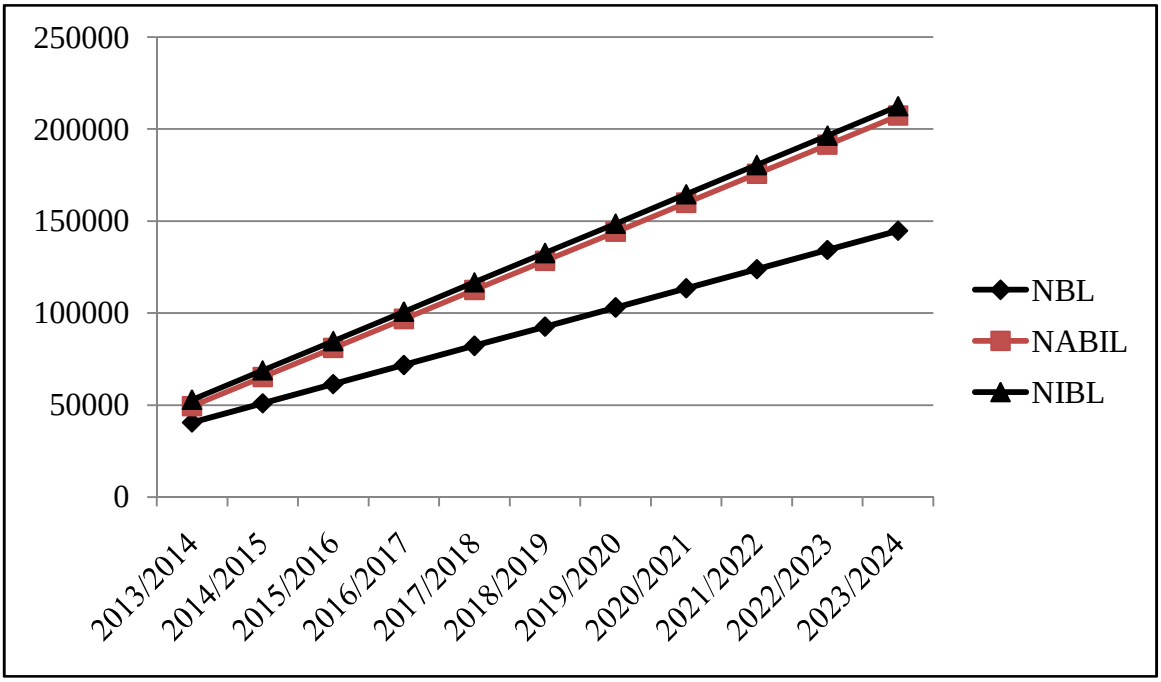
FY	NBL	NABIL	NIBL
2013/2014	40462.48	49431	52816.048
2014/2015	50891.22	65216	68775.762
2015/2016	61319.96	81001	84735.476
2016/2017	71748.70	96786	100695.19
2017/2018	82177.45	112571	116654.9
2018/2019	92606.19	128356	132614.62
2019/2020	103034.93	144141	148574.33
2020/2021	113463.68	159926	164534.05
2021/2022	123892.42	175711	180493.76
2022/2023	134321.16	191496	196453.48
2023/2024	144749.90	207281	212413.19

Source: Annexure 'L'

When analyzing the above table, it is clear that the loan and advances of NBL , NABIL and NIBL are in increasing trend. Other things remaining constant, the loan and advances of NBL , NABIL and NIBL in FY 2023/2024 will be Rs 144749.90 , Rs 207281 and Rs 212413.19 respectively. From the above trend analysis, it is found of NIBL has mobilized loan and advances well than NBL and NABIL.

Figure 4.9

Trend values of Loan and Advances of NBL ,NABIL and NIBL



4.1.5.4 Trend Analysis of Net Profit

Under this topic an attempt is made to analyze the trend of net profit of NBL , NABIL and NIBL and forecast the trend for next 5 years. The following table shows the trend values of net profit of NBL , NABIL and NIBL for five years from FY 2013/14 to 2018/19 and forecasted the same till FY 2023/24.

Table 4.18

Trend Values of Net Profit of NBL, NABIL and NIBL

(RS in Million)

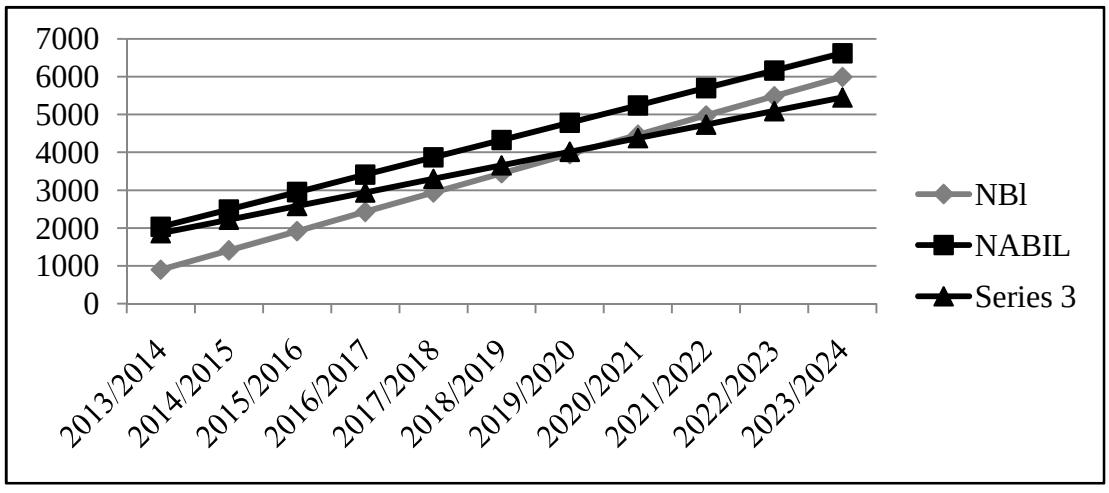
FY	NBL	NABIL	NIBL
2013/2014	895.5238	2031.19	1860.19
2014/2015	1404.981	2489.848	2219.448
2015/2016	1914.438	2948.505	2578.705
2016/2017	2423.90	3407.16	2937.96
2017/2018	2933.35	3865.82	3297.22
2018/2019	3442.81	4324.48	3656.48
2019/2020	3952.27	4783.13	4015.73
2020/2021	4461.72	5241.79	4374.99
2021/2022	4971.18	5700.45	4734.25
2022/2023	5480.64	6159.10	5093.50
2023/2024	5990.10	6617.76	5452.76

Source: Annexure **'**M'

When analyzing the above table, it is clear that the net profits of NBL , NABIL and NIBL are in increasing trend. Other things remaining constant, the net profit of NBL , NABIL and NIBL in FY 2023/24 will be Rs. 5990.10, Rs. 6617.76 and Rs. 5452.76 respectively. From the above trend analysis, it is found of NABIL is in better position in terms of net profit than NBL and NIBL.

Figure 4.10

Trend Values of Net Profit of NBL , NABIL and NIBL



4.1.6Major Findings of the Study

The major findings of the study are as follows:

4.1.6.1Risk and return Analysis and Portfolio

Major findings from the risk and return on various investment assets in which the commercial banks invest their funds and make portfolio from such investments assets are as follows.

The investment portfolio of CBs from F/Y 2013/14 to F/Y 2018/19 has been made regarding loans and advances and government securities. While analyzing the data, it is found that maximum of investment is made on loans and advances i.e. 87%. CBS made the investment regarding on government securities has low investment percentage in comparison to other total investment.i.e.13%.Which indicates that it has managed to efficiently as to maximize the return there from but it has not sufficiently diversified its investment to reduce the portfolio risk and the positive correlation between government securities and loan & advances. which indicates that they would probably be affected similarly by events. There is no reduce portfolio risk diversify

The average return on government securities is 2.39% and its standard deviation and CV is 1.01 & 0.42 respectively. Similarly, the average return, S.D. and CV of loan and advances are 8.72 %, 1.57 and 0.18 respectively.

The portfolio return of Government securities and loan and advance is more than the average return On Government securities i.e. 2.39<7.52. Also Portfolio risk is more than Average risk of government securities i.e.1.01<1.4874. So, there is no diversified of risk.

The portfolio risks of combination of Government securities and loan and advance is less than the average risk of Loan and Advance i.e.1.57>1.48 and portfolio return is less than average return i.e. 7.52<8.72. Its shows diversified of risk.

4.1.6.2Analysis of Ratios

Government securities to total deposit ratio show that NBL has highest mean i.e.12.79% compared to other sample banks, and NIBL has lower CV i.e.0.15. which indicates that the NBL has mobilized its total deposit more effectively on government securities than other 2 commercial banks.

Loan and advance to total deposit ratio shows that NIBL has highest mean loan and advances to total deposits ratio i.e. 79.84% over the review period. According to CV, NIBL has also the lowest CV i.e.8.84. which indicates that the NIBL has mobilized its total deposit more effectively on loan and advances than other 2 commercial banks. NABIL has also mobilized in a effective way. Among three banks, NBL is the least effective to mobilize the deposits on loan and advances.

Investment to total deposits ratio of commercial banks shows that the mean investment to total deposit of NABIL is highest at 23.98% and at 19.62% NBL is second. NABIL is able to utilize its deposit on investment as compared to NBL and NIBL. The CV of NIBL is lower than other sample bank which indicates that it has good position to invest its fund.

Return on assets ratio shows that Nabil bank earn highest ratio compared to other Sample banks, while examining the mean ratio Nabil has highest ratio of 2.31% and NBL has the lowest among the other commercial banks. The lowest CV of NIBL is 8.40 shows that the return on total assets of NIBL is the most consistent among the other commercial banks. Which indicates that NABIL utilities the overall resources efficiently than other two commercial banks. The profitability position of NBL is the weakest in relation to return on total assets during study period among two CBs.

4.1.6.3Correlation Analysis

Correlation coefficient between total deposit and total investment of the sample banks were found Positive correlation of NABIL and NIBL and NBL found low degree of negative correlated .The correlation is insignificant due to the “r” which is less than six times the value of P .E .

Correlation Coefficient between total investment and net profit of the sample banks were found the negative correlated of all sample banks NBL, NABIL and NIBL. The correlated insignificant due to the “r” which is less than six times the value of P .E .

Correlation between total investment and loan and advance of the sample banks were found the negative correlated of all sample banks . The correlated insignificant due to the “r” which is less than six times the value of P .E . Correlation Coefficient between total investment and net profit of the sample banks were found the negative correlated of all sample banks NBL, NABIL and NIBL. The correlated insignificant due to the “r” which is less than six times the value of P .E .

Correlation between total investment and loan and advance of the sample banks were found the negative correlated of all sample banks . The correlated insignificant due to the “r” which is less than six times the value of P .E .

4.1.6.4Trend Analysis

The trend analysis of Total Deposit of sample banks is in increasing trend. While analysis, it found that the deposits collection position of NABIL is better than NBL and NIBL.

The trend analysis of Total Investment of sample banks is in decreasing trend. While analysis , it found that the total investments position of NABIL is better than NBL and NIBL.

The trend analysis of Loan and advance of sample banks in increasing trend. While analysis, it found that of NIBL has mobilized loan and advances well than NBL and NABIL.

The trend analysis of Net profit of sample banks is in increasing trend. while analysis ,it found of NABIL is in better position in terms of net profit than NBL and NIBL.

4.2 Discussions

The objective of the study was to investment portfolio analysis of commercial banks in Nepal. Other specific objectives were to analyze the investment portfolio of commercial banks, to assess the risk of Nepalese commercial banks and to assess the return of Nepalese commercial banks. To meet these objectives of the research, researcher performed various empirical reviews and collected data from the financial statements available in the websites of the related investment portfolio.

To analyze the first objective, the study sought to analyze the investment portfolio of commercial banks as measure by weight of the investment on two assets.Finding revealed that CBs made the investment regarding on loans and advances has highest percentage than investment percentage on government securities.Which indicates that it has managed to efficiently as tomaximize the return there from but it has not sufficiently diversified its investment to reduce the portfolio risk.This finding is consistent with the evidence that rational investor always objectives to make maximum return from his fund at lowest risk.it is only possible through portfolio. portfolio theory(Harry .M. Markowitz. 1952).

To analyze the second objective, the study sought to assess the risk of Nepalese commercial banks. Finding revealed that the portfolio risks of combination of Government securities and loan and advance is less than the average risk of Loan and Advance but more than average risk government securities. It indicates that investment on loan and advances gives more risk than investment on govt. securities.The positive correlation between government securities and loan & advances.which indicates that they would probably be affected similarly by events. There is no reduce portfolio risk diversify.This finding consistent withportfolio theory (Markowitz,H. 1952).which showsrisk can be reduce creates a diversified portfolio of negative correlate assets. There is also evidence showing perfectly positive correlation ship between the returns of the two securities is not risk diversifiable. Bhatta ,G.P.(2000).

As of last objective to assessthereturnof Nepalese commercial banks. Finding revealed that portfolio return is more than average return on government securities but it’s less than average return on loan and advance. It indicates that investment on loan

and advances gives more return than investment on govt. securities. It shows that the CBs are not use proper diversification of investments among various assets.This finding consistent with a high risk must be associated with the high return Thapa,N.(2003).

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter is a summary of the study. It contains summary, conclusion and recommendations. Summary is a brief introductions of whole study. Conclusions are made on the basis of the analysis relevant data by using various tools.

5.1 Summary

The development of country largely depends on the level of economic development. The economy of nation depends on the use of available resources in efficient way. The proper utilization of capital appreciates in wealth position of country. Banks and other financial institutions play important role in successful formulation and effective implementation of capital. Hence, the proper mobilization and utilization of available resources are important factors for economic development.

Investment portfolio refers to an investment that combines several assets. Investment portfolio is one which the income or profit of the banks depend upon directly. Investment portfolio usually offers the advantage of reducing risk through diversification of risk from risky investment to less risky investment. The objective of portfolio is to develop a portfolio that has the maximum return at whatever level of risk. Investment portfolio is one such tool that helps for proper utilization of resources. Portfolio theory deals with the selection of optimal portfolios that is portfolio provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified return. Investment decision is one of the major decision functions of financial management. Banks should accept that type of securities which are commercial, durable, marketable, stable, transferable and high market prices. A bank must diversify its investment on different sectors and in different securities. At present, commercial banks and financial institutions are the backbone of the Nepalese economy. It plays vital role in capital formulation, proper utilization of collected fund, providing various type of banking services. 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.

Three commercial banks are taken as reference to analyze the risk, return and investment portfolio analysis. . During the research work, a brief review of literature has been conducted. As this research is related to the investment portfolio, financial strength and weakness of commercial banks have been measured on the basis of balance sheet and profit and loss account. In that course, different tools have been used. Moreover, the various textbooks and the financial tools like ratio analysis, risk and return analysis and statistical tools like arithmetic mean, coefficient of variance, Karl Pearson's coefficient of correlation and probable error have been extensively used. Tables, graphs and diagrams are used to present the data and results, secondary data are collected from the Annual report of selected commercial banks, Final account of the selected banks and Othervarious sources of collecting of other related data.

As per risk and return analysis, return on government securities is low but it has also lower risk, Similarly, loan and advances give more return than government securities but it has also higher risk than government securities. With respect to ratio analysis, different ratios related to investment portfolio have been used. NBL has highest government securities to total deposit and NIBIL has highest loan and advance to total deposit ratio compared to other sample banks. NABIL has highest total investment to total deposit ratio and return on total assets ratio. NABIL utilized the most of the resources efficiently than other sample banks.

As per correlation analysis ,Correlation coefficient between total deposit and total investment is positive correlated of NIBL but negative correlated of NBL. Similarly, Correlation between total investment and net profit and total investment and loan and advance is negative correlated of all sample banks.

As per trend analysis , total deposit , loan and advance and net profit of sample banks are in increasing trend but total investment is in decreasing trend.

5.2 Conclusions

The major findings of the study are as follows

Proper investment on various securities i.e. balance allocation of funds on various government securities such as Treasure bills, National saving bonds, Development

bonds etc. and fixed income percentage rate that help to reduce the variability of return. In the analysis of risk and return comparatively NBL have more return from investment on government securities. Similarly, NBL has better position on investment on loan & advances.

The portfolio return is lower than average return from loan & advances. The portfolio risk on investment is less than the risk on loan & advances. The risk on Government securities is lower than portfolio risk. It shows there is vital role of government securities to reduce the risk.

The study shows that the portfolio return on Government securities is increasing trend every year. It show the investment portfolio concept is using properly by the selected banks. But the portfolio return on loan and advance is fluctuated trend. It show there is not using portfolio concept properly.

CBs are mainly interested to invest on loan and advances which gives high return. CBs are also interested on government securities more consistently which is less risky.

According to return on total assets ratio of selected CBs, NABIL has utilized its resources efficiently among three CBs. While the profitability portion of NIBL is moderate but NBL is the weakest in profitability position during the study period.

NBL has mobilized its deposits more effectively on government securities. NABIL is also successful in mobilizing its deposits on government securities. NIBL is not so successful in utilizing its depositor's fund on government securities.

NIBL has mobilized its deposits more effectively on loan and advance. NABIL is also successful in mobilizing its deposits on loan and advance. NBL is not so successful in utilizing its depositor's fund on loan and advance.

Loans and advances to total deposit ratio is higher than the ratio of government securities to total deposits of all sample banks . It shows that all sample banks are mobilizing its total deposit more effectively on loan & advances compared to government securities.

NABIL is the most successful in utilizing its deposits on investment. NBL has also utilized its deposits on investment successfully. NIBIL is not so successful in utilizing its deposit on investment.

The correlation coefficient between total deposit and total investment is less than six times the probable error. It indicates the negative correlation of NBL and positive correlation of NABIL and NIBL at insignificant level.

The Correlation Coefficient between total investment and net profit and correlation between total investment and loan and advance is less than six times the probable error.it indicates the negative correlated of all sample banks at insignificant level.

As per trend analysis , total deposit , loan and advance and net profit of sample banks are in increasing trend but total investment is in decreasing trend.

The successful formulation and effective implementation of investment policy is the prime requisite for the good performance of the CBS so appropriate investment policy should be developed by utilizing portfolio concept and security analysis. CBs most mobilize their resources on secured, profitable, marketable and liquid securities which cannot be possible without portfolio concept.

Investment portfolio helps to reduce risk and to increase return. As per findings CBs are not sufficiently succeeding in investing their funds in profitable sectors. Mostly CBs are not interested to take risk they are more interested to invest on less risky assets. Banks should not lay all its eggs on same basket. CBs should diversify their funds in various assets with appropriate weight. But as per findings CBs have failed in balancing investment in various types of assets.

According to risk and return analysis, the investment in loan and advances is better but there is slightly high risk than government securities. Government securities are also better alternate due to low risk. So, it shows that CBs are not most successful to diversify investment on various assets as per portfolio concept. There are better opportunities for the CBs to reduce total risk at minimum level and increase profit at higher level by diversify their funds in various assets.

5.3 Implications

On the basis of the analysis, findings and conclusions, the following recommendations can be forwarded to overcome weakness, inefficiency and to improve the present fund mobilization and investment of Nepalese commercial banks.

Mostly banks are interested to invest their funds in securable, less risky and liquids assets. Generally, high risky assets give more profit and less risky assets give less profit. Even though, there is higher return as well as lower risk, banks should not lay all its eggs on the same basket. CBs should diversify their funds in various assets with suitable weight. Hence, CBs can generate handsome profit with lower risk by portfolio diversification.

From the study, CBs are more interested to invest on loan and advances and then government securities. so it is suggested to all CBs to give some excess priority to investment on government securities and other various assets. Which give high risk as well as return.

From the analysis, it is cleared that CBs are not effectively utilize portfolio management concept. Risk minimization is not possible by holding only one asset or by investing funds in only one area. The research shows that commercials banks are not successful to invest funds on various assets. However The positive correlation between government securities and loan & advances . which indicates that they would probably be affected similarly by events. So, it is recommended that CBs must diversify suitable proportion of their funds in the field of loan & advances, government securities and investing their fund in negative correlated assests.Which reduce portfolio risk.

Total investment to total deposit ratio shows that NBL and NIBL are not utilizing deposit in investment than NABIL. So, it is recommended to these banks by considering portfolio concept. However, NABIL in this case found to have better performance.

Portfolio condition of banks should be regularly revised from time to time or it should be upgrading as per environment. It should always try to maintain the equilibrium in

the portfolio condition of the bank. Basically, portfolio management refers to the allocation of funds into different small components of its assets having different degrees of risk, different rates of return in such a way that the conflicting goal of maximum yield (return) minimum risk can be properly achieve.

NIBL is not succeeding to gain reasonable return because of its total investment to total deposit ratio is not satisfactory and also seems that more variability of investment on various assets than other sample banks . Hence, it is suggested that increase the investment on government securities and also apply the investment portfolio policy to get best return.

The highest return on total assets of NABIL among sample banks should be maintained in future also. From the analysis, NABIL is the best bank among the selected bank. The lowest investment on loan & advances shows that the bank is reducing risk. So, it is recommended to NABIL to increase the investment on loan & advances of other companies.

NBL is weakest on profitability position in relation to return in total assets than other sample banks. So, the bank should utilize its resources efficiently to gain the handsome profit. Moreover, it should mainly increase the investment on loan and advance and try to keep more uniform the investment.

REFERENCES

Abreu, M.& Mendes, V. (2002). *Commercial Bank Interest Margins and Profitability*. Evidence from E.U. Countries: Working Paper Series, Porto.

Babalola ,Y. (2012). The Determinants of Bank's Profitability in Nigeria. *Journal of Money, Investment and Banking Issue* 24

Basnet, J. (2002). *Portfolio Management of Joint Venture banks in Nepal* .Kathmandu : An unpublished master degree thesis, Shankar Dev Campus.

Bawa, V.S.,Elton, E.J.& Gruber, M.J., (1979).*Expected return realized return and assets pricing tes., Journal of Finance*,35(.4),1041-1047.

Bhatta, G. P.(2000).*Assessment of the performance of listed companies in Nepal*. Kathmandu: An unpublished master degree thesis, Central Department of Management , T.U.

Bradley, S.P. & Crane, D.B.(1975). *Management of Bank Portfolios.* New York: John Wiley & Sons.

Brealey, R. A. & Myers, S. C.(2000). *Principle of Corporate Finance.* 6th Edition, New Delhi: Tata McGraw hill publishing Co. Ltd.

Cheney, J. M. & Mosses, E. A. (1992). *Fundamental of Investments*: 10Th edition, New York: West publishing house.

Fisher, D.E. & Ronald, J.J. (2000). *Security Analysis and Portfolio Management*. New Delhi: Prentice Hall of India Pvt.Ltd.

Francis, J.C.(1978).Portfolio Analysis Of Asset And Liability Management In Small- Medium- And Large-Sized Banks. *Journal of Monetary Economics*, 4(3), 459-480.

Francis,J.C.(1998). *Investment Analysis and Mangement*. New York: McGraw Hill.

Gitman, J. L.(2000). *Principle of Managerial Finance.* 9th edition, New Delhi: New Delhi Pearson Education Asia Pvt. Ltd.

Hamada,R.S.(1969).PortfolioAnalysis, Market Equilibrium and Corporation Finance. *The Journal of Finance*, 24(1), 13-31.

Jones, C. P., Sidharta, U., Budi, F., Irwan, A. P. & Budiman ,R.U. (2009). *Investment Analysis and Management* . An Indonesian Adaptation : Tenth Edition. Wiley and Salemba Empat.

Joshi, R. (2003). .*Investors problem in choice of optimum portfolio of stock in Nepal Stock Exchang.* Kathmandu: An unpublished master degree thesis , Shankar Dev Campus.

Kane, E. J, & Buser, S.A.(1979).Portfolio Diversification of Commercial Banks. *Journal of Finance* , New York : Oxford University Press .34(1),19-31

Kargi, B. (2014). Portfolio in Turkish economy, and a long termed relation between foreign direct investments and the growth, and the structural breakage analysis (1980-2012). *Journal of Academic Research in Economics*, 6(1), 70-81.

Khan, M.Y., & Jain, P.K.(1992). *Financial Management.* New Delhi: Tata McGraw Hill Publishing Co. Ltd.

Khaniya, K. (2003). *Investment portfolio Analysis of Joint venture bank in Nepal.* Kathmandu:An unpublished Master Degree Thesis Submitted to Faculty of management, Tribhuvan University.

Koehn, M., & Anthony, M. S. (1980).Regulations of Bank Capital and Portfolio Risk.*Journal of Finance* , 35(5), 1235-1242.

Markets Economics: The Case of Jordanian Financial Crisis. *Global Journal of Management And Business Research*, 14(3), 45-67.

Markowitz, H. (1952). Portfolio Selection. *Journal of Finance.*40(6),77-91

Masoud, N., & Suleiman, A. D. (2014). The CAPM, *Determinants of Portfolio Flows to Emerging.*

Mechael, J. B., & Henry ,H. (1997).Internal Portfolio Flows. *Journal of Finance*,52(5),1851-1880.

Pandey, I.M. (1997). *Financial Management*, 7th edition New Delhi: Vikas Publishing House Pvt.Ltd.

Poudel, T. P. (2004). *Risk and Return Analysis of common stock of listed companies in Nepal.* Butwal : An unpublished MBS thesis, Lumbini Banijya Campus.

Rose, P.(2003). Book, *Money and Capital Market.* International Edition, Mc GRAWHILL.

Shrestha, H. P. (2004*). Optimum Portfolio Investment in Nepal* .Kathmandu: An unpublished master degree thesis, Shankar Dev Campus.

Shrestha, S. R. (1998). *Portfolio management in commercial banks, theory and practice. Nepal Bank Patrika, Baisakh Masanta*.28-67

Shrestha, S. (1996). *Portfolio Behavior of Commercial Banks in Nepal.* Kathamndu: Mandala Book point.

Thapa, N.(2003). *Analysis of Risk and Return on common stock Investment of Insurance companies* Kathmandu: An unpublished MBS thesis, Shankar Dev Campus.

Van, H., James, C., Wachowicz, J., & John, M.(1997). *Fundamental of Financial Management*. 7th edition, New Delhi: Prentice Hall of Inc. Pvt. Ltd.

Van, H., & James, C. (2000). *Financial Management and Policy*. 11th Edition, New Delhi: Prentice hall of Inc. Pvt. Ltd.

Weston, J. F., & Eugene, F.B.(1993).*Essentials of Managerial Finance* : 9th edition, Chicago: The Dryden Press.

William, F. S.(1964). Capital Asset Price, A theory of market equilibrium under condition of risk,*Journal of finance.*

Others

Annual Reports of NABIL Bank Ltd., Nepal Investment Bank Ltd. And Nepal bank ltd.

Websites

https://nibl.com.np/

https://www.nepalbank.com.np/

https://www.nabilbank.com/individual

https://www.nrb.org.np/

https://scholar.google.com/

ANNEXES

Annex 'A'

Calculation of Return on Government Securities (Rs. in thousands)

FY	Interest Income from Government Securities	Total Investment on Government securities	Ratio (%)
	NBL		
2013/14	158277434	19910034180	0.79
2014/15	157535152	161534802	97.52
2015/16	190790798	12747283198	1.50
2016/17	219360897	8939969197	2.45
2017/18	316533547	12727601388	2.49
2018/19	444923537	13218126063	3.37
	NABIL		
2013/14	253,848,422	8290186242	3.06
2014/15	179,454,094	14926929902	1.20
2015/16	245,871,161	17247141029	1.43
2016/17	395,027,614	11540731009	3.42
2017/18	626,022,495	14,909,326,217	4.20
2018/19	707,761,522	21,395,623,652	3.31
	NIBL		
2013/14	132,129,990	5826855480	2.27
2014/15	67,198,010	9103082816	0.74
2015/16	69,276,160	13184035100	0.53
2016/17	208,549,123	12285834700	1.70
2017/18	549,345,339	11,982,539,000	4.58
2018/19	636,814,342	14,170,704,050	4.49
	CBs		
2013/14	544,255,846	34027075902	1.60
2014/15	404,187,256	24191547520	1.67
2015/16	505,938,119	43178459327	1.17
2016/17	822,937,634	32766534906	2.51
2017/18	1,491,901,381	39619466605	3.77
2018/19	1,789,499,401	48784453765	3.67

Annex 'B'

Calculation of Return on Loan and Advances (In Rs. Thousands)

FY	Interest Income from Loan and advance	Total investment on loan and advance	Ratio (%)	FY	Interest Income from Loan and advance	Total investment on loan and advance	Ratio (%)
NBL				**NABIL**			
2013/14	4494598717	41218000000	10.90	**2013/14**	3,528,028,455	54692000000	6.45
2014/15	4635782517	50971000000	9.09	**2014/15**	3,786,360,809	65502000000	5.78
2015/16	5490015911	61250000000	8.96	**2015/16**	4,015,745,940	76106000000	5.28
2016/17	7184008539	71746000000	10.01	**2016/17**	5,525,276,604	89877000000	6.15
2017/18	8817123713	78296000000	11.26	**2017/18**	10363808584	1.13625E+11	9.12
2018/19	9795151982	95725000000	10.23	**2018/19**	14136239319	1.33559E+11	10.58
NIBL				**CBs**			
2013/14	3,820,052,951	52020000000	7.34	**2013/14**	11,842,680,123	1.4793E+11	8.01
2014/15	4,207,197,931	66219000000	6.35	**2014/15**	12,629,341,257	1.82692E+11	6.91
2015/16	5,133,078,294	85461000000	6.01	**2015/16**	14,638,840,145	2.22817E+11	6.57
2016/17	6,923,238,509	1.04625E+11	6.62	**2016/17**	19,632,523,652	2.66248E+11	7.37
2017/18	12662457936	1.20826E+11	10.48	**2017/18**	31,843,390,233	3.12747E+11	10.18
2018/19	13940734696	1.27141E+11	10.96	**2018/19**	37,872,125,997	3.56425E+11	10.63

Annex 'C'

Calculation of Government Securities to Total Deposit Ratio (Rs.in Million)

FY	NBL		Ratio	FY	NABIL		Ratio
	Government securities	**Total Deposit**			**Government securities**	**Total Deposit**	
2013/14	19910.03418	69338	28.71	**2013/14**	8290.186242	75389	11.00
2014/15	161.534802	77999	0.21	**2014/15**	14926.9299	104238	14.32
2015/16	12747.2832	89410	14.26	**2015/16**	17247.14103	110267	15.64
2016/17	8939.969197	93944	9.52	**2016/17**	11540.73101	118896	9.71
2017/18	12727.60139	99541	12.79	**2017/18**	14909.32622	134811	11.06
2018/19	13218.12606	117201	11.28	**2018/19**	21395.62365	162954	13.13
	NIBL						
2013/14	5826.855	73831	7.89				
2014/15	9103.083	90631	10.04				
2015/16	13184.04	108627	12.14				
2016/17	12285.83	125669	9.78				
2017/18	11982.54	136586	8.77				
2018/19	14170.7	149392	9.49				

Annex 'D'

Calculation of loan and advance to Total deposit ratio (in million)

FY	NBL		Ratio	FY	NABIL		Ratio
	Loan and advance	**Total Deposit**			**Loan and advance**	**Total Deposit**	
2013/14	41218	69338	59.45	**2013/14**	54692	75389	72.55
2014/15	50971	77999	65.35	**2014/15**	65502	104238	62.84
2015/16	61250	89410	68.50	**2015/16**	76106	110267	69.02
2016/17	71746	93944	76.37	**2016/17**	89877	118896	75.59
2017/18	78296	99541	78.66	**2017/18**	113625	134811	84.28
2018/19	95725	117201	81.68	**2018/19**	133559	162954	81.96
	NIBL						
2013/14	52020	73831	70.46				
2014/15	66219	90631	73.06				
2015/16	85461	108627	78.67				
2016/17	104625	125669	83.25				
2017/18	120826	136586	88.46				
2018/19	127141	149392	85.11				

Annex 'E'

Calculation of Total investment to Total Deposit Ratio (in million)

FY	NBL		Ratio	FY	NABIL		Ratio
	Total investment	**Total Deposit**			**Total investment**	**Total Deposit**	
2013/14	22664	69338	32.69	**2013/14**	18277	75389	24.24
2014/15	16902	77999	21.67	**2014/15**	30972	104238	29.71
2015/16	12843	89410	14.36	**2015/16**	36528	110267	33.13
2016/17	12181	93944	12.97	**2016/17**	32594	118896	27.41
2017/18	16335	99541	16.41	**2017/18**	18514	134811	13.73
2018/19	16539	117201	14.11	**2018/19**	25469	162954	15.63
	NIBL						
2013/14	15384	73831	20.84				
2014/15	21463	90631	23.68				
2015/16	29227	108627	26.91				
2016/17	25616	125669	20.38				
2017/18	17442	136586	12.77				
2018/19	17442	149392	11.68				

Annex' F'

Calculation of Return on total assets Ratio (in million)

FY	NBL		Ratio	FY	NABIL		Ratio
	Total Assets	**Net profit**			**Total assets**	**Net profit**	
2013/14	80405	717	0.89	**2013/14**	87275	2320	2.66
2014/15	88211	484	0.55	**2014/15**	115986	2094	1.81
2015/16	103480	2883	2.79	**2015/16**	127300	2819	2.21
2016/17	112057	3118	2.78	**2016/17**	140332	3613	2.57
2017/18	133467	3216	2.41	**2017/18**	160978	3982	2.47
2018/19	171516	2597	1.51	**2018/19**	201139	4239	2.11
	NIBL						
2013/14	86174	1940	2.25				
2014/15	104345	1962	1.88				
2015/16	129783	2551	1.97				
2016/17	150818	3114	2.06				
2017/18	171894	3659	2.13				
2018/19	185842	3324	1.79				

Annex 'G'

Calculation of Correlation between total investment and total deposit

FY	NBL		r	r^2	P.E	FY	NABIL		r	r^2	P.E
	Deposit(x)	Investment (y)					Deposit	Investment			
2013/14	69338	22664	-0.46	0.22	0.2170	**2013/14**	75389	18277	0.033	0.0011	0.2750
2014/15	77999	16902				**2014/15**	104238	30972			
2015/16	89410	12843				**2015/16**	110267	36528			
2016/17	93944	12181				**2016/17**	118896	32594			
2017/18	99541	16335				**2017/18**	134811	18514			
2018/19	117201	16539				**2018/19**	162954	25469			
	NIBL										
2013/14	73831	15384	0.023	0.00054 7356	0.2752						
2014/15	90631	21463									
2015/16	108627	29227									
2016/17	125669	25616									
2017/18	136586	17442									
2018/19	149392	17442									

Annex 'H'

Calculation of Correlation between total investment and Net profit

FY	NBL		r	r^2	P.E	FY	NABIL		r	r^2	P.E
	Net profit (x)	Investment (y)					Deposit	Investment			
2013/14	717	22664	-0.714	0.5101	0.1349	**2013/14**	2320	18277	-0.184	0.0339	0.266
2014/15	484	16902				**2014/15**	2094	30972			
2015/16	2883	12843				**2015/16**	2819	36528			
2016/17	3118	12181				**2016/17**	3613	32594			
2017/18	3216	16335				**2017/18**	3982	18514			
2018/19	2597	16539				**2018/19**	4239	25469			
	NIBL										
2013/14	1940	15384	-0.054	0.0029	0.2745						
2014/15	1962	21463									
2015/16	2551	29227									
2016/17	3114	25616									
2017/18	3659	17442									
2018/19	3324	17442									

Annex 'I'

Calculation of Correlation between total investment and Loan and advance

FY	NBL		r	r^2	P.E	FY	NABIL		r	r^2	P.E
	Loan and advance (x)	Investment (y)					Loan and advance	Investment			
2013/14	41218	22664	-0.4531	0.2025	0.2196	**2013/14**	54692	18277	-0.1663	0.02765	0.2677
2014/15	50971	16902				**2014/15**	65502	30972			
2015/16	61250	12843				**2015/16**	76106	36528			
2016/17	71746	12181				**2016/17**	89877	32594			
2017/18	78296	16335				**2017/18**	113625	18514			
2018/19	95725	16539				**2018/19**	133559	25469			
	NIBL										
2013/14	52020	15384	-0.01345	0.000181	0.2753						
2014/15	66219	21463									
2015/16	85461	29227									
2016/17	104625	25616									
2017/18	120826	17442									
2018/19	127141	17442									

Annex 'J'

Calculation of Linear Trend Analysis of Total Deposit **(Rs. in million)**

	NBL				NABIL				NIBL			
FY(x)	**Deposit(y)**	**Intercept(a)**	**Slope(b)**	**Trend Value**	**Deposit(y)**	**Intercept(a)**	**Slope(b)**	**Trend value**	**Deposit(y)**	**Intercept(a)**	**Slope(b)**	**Trend value**
2014	69338	-17681328	8813.5714	69204.90476	75389	-30888694	15376.371	79318.238	73831	-30577699	15220.343	76071.81
2015	77999			78018.47619	104238			94694.61	90631			91292.15
2016	89410			86832.04762	110267			110070.98	108627			106512.5
2017	93944			95645.62	118896			125447.35	125669			121732.84
2018	99541			104459.19	134811			140823.72	136586			136953.18
2019	117201			113272.76	162954			156200.10	149392			152173.52
2020				122086.33				171576.47				167393.87
2021				130899.90				186952.84				182614.21
2022				139713.48				202329.21				197834.55
2023				148527.05				217705.58				213054.90
2024				157340.62				233081.95				228275.24

Annex 'K'

Calculation of Linear Trend Analysis of Total investment **(Rs. in million)**

	NBL				NABIL				NIBL			
FY(x)	Investment(y)	Intercept(a)	Slope(b)	Trend Value	Investment(y)	Intercept(a)	Slope(b)	Trend value	Investment(y)	Intercept(a)	Slope(b)	Trend value
2014	22664	1916824.057	-942.5142857	18600.29	18277	335180.2	-152.8	27441	15384	331290.981	-153.8285714	21480.24
2015	16902			17657.77	30972			27288.2	21463			21326.41
2016	12843			16715.26	36528			27135.4	29227			21172.58
2017	12181			15772.74	32594			26982.6	25616			21018.75
2018	16335			14830.23	18514			26829.8	17442			20864.92
2019	16539			13887.71	25469			26677	17442			20711.10
2020				12945.2				26524.2				20557.27
2021				12002.69				26371.4				20403.44
2022				11060.17				26218.6				20249.61
2023				10117.66				26065.8				20095.78
2024				9175.143				25913				19941.95

Annex 'L'

Calculation of Linear Trend Analysis of Total Loan and advance (Rs. in million)

	NBL				NABIL				NIBL			
FY(x)	Loan and advance(y)	Intercept(a)	Slope(b)	Trend Value	Loan and advance(y)	Intercept(a)	Slope(b)	Trend value	Loan and advance(y)	Intercept(a)	Slope(b)	Trend value
2014	41218	-20963025.64	10428.74286	40462.48	54692	-31741559	15785	49431	52020	-32090048.52	15959.71429	52816.048
2015	50971			50891.22	65502			65216	66219			68775.762
2016	61250			61319.96	76106			81001	85461			84735.476
2017	71746			71748.70	89877			96786	104625			100695.19
2018	78296			82177.45	113625			112571	120826			116654.9
2019	95725			92606.19	133559			128356	127141			132614.62
2020				103034.93				144141				148574.33
2021				113463.68				159926				164534.05
2022				123892.42				175711				180493.76
2023				134321.16				191496				196453.48
2024				144749.90				207281				212413.19

Annex 'M'

Calculation of Linear Trend Analysis of Net profit (Rs. in million)

	NBL				NABIL				NIBL			
FY(x)	Net profit(y)	Intercept(a)	Slope(b)	Trend Value	Net profit(y)	Intercept(a)	Slope(b)	Trend value	Net profit(y)	Intercept(a)	Slope(b)	Trend value
2014	717	-1025151.162	509.4571429	895.5238	2320	-921704.2952	458.6571429	2031.19	1940	-721683.6952	359.2571429	1860.19
2015	484			1404.981	2094			2489.848	1962			2219.448
2016	2883			1914.438	2819			2948.505	2551			2578.705
2017	3118			2423.90	3613			3407.16	3114			2937.96
2018	3216			2933.35	3982			3865.82	3659			3297.22
2019	2597			3442.81	4239			4324.48	3324			3656.48
2020				3952.27				4783.13				4015.73
2021				4461.72				5241.79				4374.99
2022				4971.18				5700.45				4734.25
2023				5480.64				6159.10				5093.50
2024				5990.10				6617.76				5452.76