CHAPTER – I
INTRODUCTION

1.1 Background of the Study

Investment in capital markets collect necessary funds and divert the collected funds towards the productive sectors. Due to this, industrialization is possible. Capital market is a significant mechanism for the development of national economy. It reinvigorates and boosts up the economic activities by mobilizing especially domestic financial resources. It provides best investment opportunities by transferring the funds from surplus saving to need based sectors through the transaction of financial instruments.

Financial instruments are traded in securities market. Stock market is the largest financial market all over the world where stocks of various business organizations are traded. It has the greatest role in the development of financial system. Capital market consists of (i) Primary Market and (ii) Secondary Market. The primary market is that financial market in which new securities are traded and they are usually issued by corporations and government bodies. The secondary market is that financial market in which pre-owned securities are traded. Once the securities are issued into primary market, then they are traded in secondary market.

Development requires economic growth. Economic growth occurs when people and their government respond to economic incentives. Sustainable development also takes hold when good governance is found with a dynamic private sector. A vibrant private sector gives free reign to human creativity, fostering innovation and improving the living standard of every people. Increased economic growth and individual prosperity through economic freedom must be the core goals of development. Open market and economic liberalization provide the fastest and most reliable path to increased growth and

prosperity. With the worldwide move towards open and market oriented economic system, is has led to growth and expansion of banking and financial systems too.

The term 'Portfolio' simply means collection of investments. For an investor, through the stock exchange will be a collected of shareholding in different companies. For a property investor, portfolio will be a collection of buildings. To a financial manager with in an industrial company, portfolio will be a collection of real capital projects. It will be apparent that the actual nature of the components of a portfolio demands on the population of opportunities from which the selection has been made.

"Portfolio management is the art of handling a pool of funds so that it not only preserves its original worth but also overtime appreciates in value and yields an adequate return consistent with the level of risk assumed." *(Feorge; 1996: 18)*

"The portfolio manager seeking efficient investments works with two kinds of statistics expected return statistics and risk statistics. The expected return and risk statistics for individual assets are the exogenously determined input data analyzed by the portfolio analyst. The objective of portfolio analysis is to develop a portfolio that has the maximum return at whatever level of risk the investor deems appropriate." *(Van Horne and Wachowicz; 1998: 45)*

Here, we are going to analyze the investment portfolio of sample commercial banks of Nepal. For achieving the objective of the study, three sampled banks, viz, Nepal Arab Bank Limited, Standard Chartered Bank Nepal Limited and Himalayan Bank Limited are taken.

1.1.1 Profile of Banks
a) NABIL Bank Limited
The arrival of NABIL Bank in Nepal on the 12th of July 1984 through a joint

venture with Dubai Bank Ltd. under a Technical Service Agreement (TSA), marks a new dawn in the Nepalese banking industry. What is more admirable is with the opening of then Nepal Arab Bank Ltd, Customer Service or marketing took a U-turn. That in substance accelerated the evolution in banking products and services thereafter in Nepal. The bank commenced with a team of about 50 staff members and Rs. 28 million as capital. From the very inception in 1984 as the first joint venture bank to commence operations in Nepal, NABIL has been a leader in terms of bringing the very best international standard banking practices, products and services to the nation.

Today the bank's mission is to be the Bank of 1st Choice to all stakeholders. For the customers, the bank craves to be the first choice in meeting all financial requirements, for shareholders the bank wants to be the investment of choice, for Regulators to be an example of a model bank, and wants to be an outstanding corporate citizen in all the Communities and finally to be the first choice as an employer with whom to build a career.

Today NABIL Bank is a leader in the financial sector in Nepal with a network that has 26 points of representation spread across the nation; complimented by a network of ATMs and now NABIL Net and NABIL Tele the ease of access of accounts and information for our customers has never been more convenient. NABIL is a full service bank providing an entire range of products and services, starting with deposit accounts in local and foreign currency, Visa and MasterCard denominated in rupees and dollars, Visa Electron debit cards, Personal Lending products for Auto, Home and Personal loans, Trade Finance products, Treasury services and Corporate Financing. NABIL aims to be able to meet entire gamut of financial requirements that is why the banks prides itself in being 'Your Bank at Your Service'.

b) Standard Chartered Bank Nepal Limited

Standard Chartered Bank Nepal Limited, formally known as Nepal Grindlays Bank Limited has been in operation since 1987. It is one of the topmost joint venture banks of Nepal. Capital structure of this bank is; 50 percent by Chartered Grindlays Bank, 33 percent by Nepal Bank Limited, the country's oldest and largest financial institutions and 17 percent by the Nepalese public. On July 31, 2000, Standard Chartered Bank Nepal Limited conducted the acquisition with ANZ Grindlays Bank Limited of the Australia and New Zealand Banking Group. With this acquisition, 50 percent shares of Nepal Grindlays Bank Limited (NGBL), previously owned by ANZ Grindlays Bank Limited, change the name of bank to Standard Chartered Bank Nepal Limited with effect from 16 July 2001.

Standard Chartered has a history of over 150 years in banking and operates in many of the world's fastest-growing markets in over 70 countries. Standard Chartered employs almost 75,000 people, representing over 115 nationalities, worldwide. This diversity lies at the heart of the Bank's values and supports the Bank's growth as the world increasingly becomes one market.

With 16 points of representation, 17 ATMs and more than 350 local staff, Standard chartered Bank Nepal Ltd. is in a position to serve its customers through an extensive domestic network. In addition, the global network of Standard Chartered Group gives the Bank a unique opportunity to provide truly international banking services in Nepal.

c) Himalayan Bank Limited

The bank was incorporated in 1992 by a few distinguished business personalities of Nepal in partnership with Employees Provident Fund and Habib Bank Limited, one of the largest commercial Banks of Pakistan. Banking operation was commenced from January 1993. Himalayan Bank is the first commercial bank of Nepal whose maximum shares are held by the

Nepalese private sector. Besides commercial banking services, the Bank also offers industrial and merchant banking services.

Himalayan Bank has a total network of 17 branches across the Country and a counter in the premises of the Royal Palace. There are six branches in Kathmandu Valley at the following locations: Thamel, New Road, Maharajgunj, Pulchowk (Patan), Suryavinayak (moved from Nagarkot) and Card Center in Pulchowk. In addition, the bank also has ten branches outside Kathmandu Valley in Banepa, Tandi, Bharatpur, Birgunj, Hetauda, Bhairahawa, Biratnagar, Pokhara, Dharan and Butwal. The Bank is aggressively opening new branches at different parts of the Kingdom to serve its customers better.

Himalayan Bank is always committed to providing a quality service, with a personal touch, to its valued customers. All customers are regarded as valued clients and treated with utmost courtesy. The Bank, wherever possible, offers tailored facilities to its clients, to meet unique needs and requirements of different clients. To further extend the reliable and efficient services to its valued customers, Himalayan Bank has adopted the latest banking technology and runs the world class banking software Globus on IBM platform. The Bank can now boast of its state-of-the-art IT infrastructure with an identical Disaster Recovery System, offsite. This has not only helped the Bank to constantly improve its service level but has also prepared the Bank for future adaptation to new technology. The Bank already offers unique services such as Himal Remit, SMS Banking, Pre-paid Credit Cards and Internet Banking to customers and will be introducing more services like these in the near future.

1.2 Statement of the Problem

Commercial banks and financial institutions are the backbone of the Nepalese economy at present. The establishment of the joint venture banks in this sector has added more bricks in the construction of Nepalese economy. The

establishment of the joint venture banks became possible only after the introduction of the "Financial Sector Reforms" by the then government in 1980.

Most of the Commercial Banks invest their funds in limited area to achieve highest amount of profit. With the prevailing economic condition in the country, there has been lower investment in agriculture, manufacturing, industrial and other productive sectors, which is not satisfactory to meet the economic growth of the present period. They hesitate to invest in long-term projects. They are much more safety minded. Therefore, they follow conservative loan policy.

Further Portfolio Management activities of Nepalese Commercial Banks are in developing stage. The reason behind not using such activities by commercial banks may be due to unawareness about portfolio management and its usefulness, hesitation of taking risk and lack of proper techniques to run such activities in the best and successful manner.

In such situation, thus, this study mainly concerns with the portfolio investment practices by Nepalese commercial banks. This study seeks to find out to the following questions:

  i. How far have commercial banks been able to transfer monetary resources from saver to user?
 ii. What is the trend of investment in different assets by commercial banks?
iii. What is the relationship of investment with total deposits, loan and advances etc.?
 iv. Does the investment decision affect the total earnings of the banks?
  v. How far have been commercial banks able to mobilize and utilize domestic resources?

vi. Is there any other relationship between investment decision and financial position?

1.3 Objectives of the Study

The general objective of the present study is to analyze the current situation on investment portfolio of joint venture banks in Nepal. The specific objectives are as follows:

a. To analyze the risk and return ratios of sampled banks on individual assets and portfolio assets.
b. To evaluate the financial performance of joint venture banks.
c. To study investment portfolio structure of joint venture banks.
d. To examine the relationship of investment and total deposits.
e. To examine the preference given by JVBs while taking investment decision.

1.4 Significance of the Study

The portfolio analysis of banks attempts to address upon the selection of the assets for the construction of portfolio. While allocating the assets for a portfolio, an investor should compare the relationship between the assets. Their realized return and expected return should be taken into account and correlation between the securities provides the possibilities of eliminating some risk without reducing potential returns.

The success and prosperity of any bank heavily relies upon the successful investment of its available resources into the profitable sector. So successful formulation and effective implementation of investment policy is the prime prerequisite for successful performance of Joint Venture Banks. Hence, the main significance of this study of investment portfolio analysis of Nepalese Commercial Banks is to help how to minimize risk on investment and maximize the return through portfolio analysis.

This study is also significant for the number of reasons. Firstly, it examines the existing situation of Portfolio Management of Nepalese Joint Venture Banks. Second, it examines the investment and loan and advance portfolio of Commercial Banks. Last but not the least, it provides the literature to the researcher who wants to carry on future research in this field.

1.5 Limitations of the Study

This study is conducted for partial fulfillment of the requirements for the degree of Masters in Business Studies. It is fully dependent on the data provided by different sources. Because of limited secondary data, simple techniques are used to analyze the data. Therefore, it possesses some limitations, which are as follows:

a. This study is basically concerned with portfolio analysis of commercial banks. It does not consider other financial analysis of the banks.

b. Among eight joint venture banks existing in the nation, only three JVBs, NABIL, SCBNL & HBL, are taken to study. These banks may not be the representative of the total banking sector.

c. This study covers only 5 years period i.e. from the fiscal year 2003/04 to 2007/08.

d. The study is based on secondary data. Consequently, the result depends on the reliability of secondary data.

1.6 Organization of the Study

This study has been divided into five main chapters:

Chapter – I: Introduction

This chapter deals with the subject matter of the study consisting background of the study, statement of the problems, objective of the study, significance of the study, limitation of the study and organization of the study.

Chapter – II: Review of the Literature

The second chapter incorporates review of theoretical and related literature regarding the subject matter.

Chapter – III: Research Methodology

The third chapter deals with the research methodology which consist of research design, sources of data, population and sample along with different statistical and financial tools used in this research.

Chapter – IV: Data Presentation and Analysis

This chapter deals with the main part of the research. In this chapter effort have been made to present and analyze the data in required form.

Chapter – V: Summary, Conclusion and Recommendations

This chapter deals with summary and conclusion of the research and recommendation given to the concerned organization.

Besides these chapters, Bibliography and Appendix are also presented at the end of the research.

CHAPTER – II
REVIEW OF LITERATURE

2.1 Conceptual Framework

2.1.1 Concept of Investment

"Investment, in its broadest sense, means the sacrifice of current dollars for future dollars. Two different attributes are generally involved: time and risk. The sacrifice takes place in the present and is certain. The reward comes later, if at all, and the magnitude is generally uncertain." *(Sharpe, Alexander, and Bailey; 2001:1)*

Investment is a commitment of money and other resources that are expected to generate additional money or resources. Return is the primary motive of investment, but it always entails some degree of risk.

"Investment generally involves real investment or financial investment. Investment in tangible assets like buildings, automobiles, machinery and factories is real investment. Investment in financial assets liker common stocks, bonds and debentures is financial investment. Real assets are generally less liquid than financial assets." *(Basnet; 2002: 28)*

Investment involves long-term commitment and waiting fro reward. "An investment may be defined as the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing unit for the time funds are committed, for the expected rate of inflation and also for the uncertainty involved in the future flow of funds." *(Frank and Reilly; 1972: 13)*

"The word investment brings fourth vision of profit, risk, speculation and wealth." *(Cheney & Mosses; 1992: 6)* The above definition is broader, because Cheney and Mosses have concluded all behaviors consisted of profit, risk,

speculation and wealth as investment. According to this, certain profit is gained after some risk bearing with view to maximize wealth and managing speculation of wealth.

Therefore, these definitions quoted above, suggest that an investment regards with the allocation and mobilization of funds for certain coming time-intervals, so as to generate some extra benefit or extra attachment with mobilized funds.

2.1.2 Investment Alternatives

To maximize earning investment can be done in various sectors. Some of the major areas in which investment are made are discussed below;

2.1.2.1 Equity Securities

a) <u>Common Stock</u>

"Commons Stocks of a company are papers which represents ownership. Shareholders enjoy right to dividend, right to vote and right to right share. Shareholders enjoy each corporate success in the form of higher dividend and capital again but they bear risk also. For investors having long term horizon, common stock is suitable investment." *(Adhikari & Shakya; 2005: 4)*

b) <u>Preferred Stock</u>

"Preferred stock gives a fixed income so it is a fixed income security. These stocks are highly liquidable, since preference stockholders gets first priority for dividend and liquidation right. Although preferred stockholders get priority after bond and debentures paid off. This is a source of long term investment, a suitable for those investors who want a fixed return because rate of return in preferred stock is already fixed before issue." *(Adhikari & Shakya; 2005: 4)*

2.1.2.2 Debt Security

According to the length of maturity, debt securities are classified into two classes, i.e. short tern debt securities and long term debt securities.

A) Short term debt securities

The maturity period of debt securities is less than one year. Short term securities are easily marketable and less risky but have low rate of return. Some short term debt securities are discussed below:

a) Commercial papers

"Commercial papers are short term promissory notes selling at discount basis. They are unsecured notes specially issued by popular and larger financial organizations. They paid par value at maturation. Simply the maturation period of commercial papers is 270 days." *(Adhikari & Shakya; 2005: 5)*

b) Certificates of deposit

"Certificates of deposit are issued be commercial banks or financial institutions. They are highly liquid and almost risk free which yield higher return in comparison of T-bill. So they are popular among company or individual investor who prefers highest return with maintaining liquidity. Face value of certificates of deposit is Rs. 100000." *(Adhikari & Shakya; 2005: 5)*

c) Bankers' acceptance

"Importers issue a promissory note to secure trade credit from exporters which is unknown as Bankers acceptance. Accepting such note, the bank promises to pay the holders stated amount at maturity." *(Adhikari & Shakya; 2005: 5)*

d) Treasury Bill

"Government issues 91 days maturity period Treasury Bill. But sometimes they are issued for 182 days or 364 days. They are normally issued by Nepal Rastra Bank on behalf of government, in determination of Rs. 1000 and sold at discount basis. They are repaid at par since they don't have coupon interest rate. Treasury bills are highly liquid and traded in the money market." *(Adhikari & Shakya; 2005: 5)*

B) Long term debt securities

Debt securities having the maturity periods over one year, normally give fixed return on investment. So, they are more popular among those investors who prefer fixed income from investment. Detail discussion is made over long term debt securities below:

a) Government Securities

"Government issues some long term securities to cover its expenses. Government securities are less risky and low return securities. Treasury bonds and Treasury notes are form of government securities. Treasury bonds have maturity over ten years, while Treasury notes are of maturity with ten years or less years. Notes as well as bond, both have fixed coupon rate and interest respectively paid semiannually." *(Adhikari & Shakya; 2005: 5)*

b) Municipal Securities

"Municipal securities are securities issued by local government like district development committees, municipalities. They issue some securities to meet their financial needs." *(Adhikari & Shakya; 2005: 6)*

c) Corporate Bonds

"Bonds that are issued by corporation are called corporate bonds. They are risky than government securities and municipal bond and thus produces higher return. Corporate bonds are first priority to return at maturity over common stocks and preferred stock." *(Adhikari & Shakya; 2005: 6)*

2.1.2.3 Derivative Securities

Derivative is the instrument whose value is derived from the value of underlying assets. In Nepal, derivative securities are not available but they are very important investment alternative in developed countries. Following are some important derivative securities.

a) Option

"Option is a financial asset in which an investor can fix a price well in time and has right to buy or sell at the same price (exercise price) in future. This is a contract between two investors, call writer and option buyer. Option buyer contracts to buy or sell option in predetermined (exercise) price with call writer. If the price of asset goes above the exercise price, buyer buys options in predetermined price." *(Gitman; 1988: 37)*

b) Warrants

"Warrants are financial contract attached with bond or preferred stock which gives the holder right of purchasing specified numbers of share at pre-determined (exercise) price within or on certain future date. They are more beneficial if the price of stock rises at the market. They are attached to attract the investors. When warrants are exercised, number of common stocks is increased because new stocks are issued." *(Gitman; 1988: 37)*

c) Futures

"Futures is a contract between two parties to buy or sell a fixed number of a particular security for delivery at a fixed date in a fixed price." *(Gitman; 1988: 38)*

2.1.2.4 Real assets

"Real assets are the non-financial assets. Precious metals like gold, silver, platinum etc. Real estate like residence, underdeveloped land, farmland, commercial property etc. is real assets. Generally, among those investors who have lack of risk return characteristics of financial assets, investment in real assets is attractive." *(Hampton; 1980: 96)*

2.1.2.5 Hybrid Securities

Hybrid securities have he characteristics of both equity and debt. Convertible bonds and convertible preferred stock are hybrid securities.

2.1.2.6 International Investments

"Investors sometimes invest in securities issued by outside organizations from their own country. International investment is traded in organized exchanges and over the counter market (OTC)." *(Hampton; 1980: 97)*

2.1.2.7 Other Investment Alternatives

Besides above, pension funds, mutual funds, citizen investment fund, unit trust fund, dual fund etc. are other alternatives for investment.

2.1.3 Factors to be considered while choosing Investment Alternatives

"Investing in all alternatives available in the market will not be a wise decision. So, before making investment, investor should seriously consider following factors:" *(Brealy & Mayers; 1991: 64)*

a) Investment Objectives

"Investment objectives of all investors cannot be same. Some investors want regular return for their retire age, some for near future, some for their children's education etc. If an investor wants regular return in their retire age, they have to choose long term securities like common stock having high potential growth. But if an investor wants return in short period he/she should choose short term securities like T-bill, which are highly liquid, so according to the investment objectives, investor should choose alternatives available." *(Brealy & Mayers; 1991: 64)*

b) Rate of return

"Different securities have different rate of return. Future of nay asset is not sure. So on the basis of past records of return, investor should estimate future expected return however expected future return may not be exact. So expected rate of return from the security is another important factor for choosing security." *(Brealy & Mayers; 1991: 64)*

c) Risk Analysis

"The variability in return is known as risk and each investor should analyze it seriously. Risk is the chances of incurring losses. Standard deviation, co-efficient of variation are tools to analyze risk of any asset. Government securities, municipal bonds are risk less securities. Each investor has different degree of risk bearing. Some investors prefer less risk while some more. So investors always determined the risk of security and match with his risk preference." *(Brealy & Mayers; 1991: 65)*

d) Taxes

"Except government securities and municipal bond, government taxes income received from most investment alternatives. And amount of taxes to be paid also depends on the tax status of the investor. So investors who are in high tax bracket should invest in tax free assets. Taxes are important factors on which investors should think seriously." *(Agrawal; 1987: 52)*

e) Investment Horizon

"Length or duration of investment is another important factor to be considered. If the objective of investment is long horizon, long term securities should be selected but if the horizon is short, short term securities should be selected." *(Agrawal; 1987: 52)*

f) Investment Strategies

"Combination of selection, timing and diversification is investment strategies. Investor should select best investment alternatives. Selection strategy may be influenced by efficient market securities. Only in perfect market, investors are selective in their investment decision." *(Klise; 1972: 28)*

g) Timing

"Investors should first study the suitable timing of investment to increase wealth. He should identify different situations so that return may be increased

even in less investment. If investment is made during improper time, it may both produce an attractive return. Selling or holding the securities depends upon analysis of scenario. So, timing is also an important factor." *(Klise; 1972: 28)*

h) Diversification

"Among various investment alternatives available in market, investor can form different set of securities to reduce investment risk. This process of investing in more than one asset for reducing investment risk is diversification. Portfolio of assets with negative correlation coefficient is considered most efficient." *(Klise; 1972: 29)*

2.1.4 Investment Process

"Investment is a risky task because investors invest at present for future return. So every investor should follow certain process and procedure seriously. The set of procedures, which an investor follows while making investment is known as investment process. Investment process includes formulation of investment objectives, construction of portfolio, and revision of portfolio and evaluation of portfolio performance. Some important steps in investment process are discussed below." *(Roy; 1974: 35)*

a) Set investment objective

Of course major objective of each investor is to maximize his wealth. But such objective may both be useful in decision-making. Whether the return is required in short period or long it should be clear first. For what purpose, is the investment made for what expected return should be clearly defined. In market, various alternatives with variety of characteristics can be found. Investment policy helps to select suitable investment alternatives. So setting investment policy is the important step in investment.

b) Perform Security Analysis

Each possible financial asset should be examined individually in terms of risk and return. Technical analysis and fundamental analysis can be performed for this. Prediction of variability in price of stocks based on historical data and number of securities traded in past should be analyzed. Yield to maturity, coupon rate, liquidity, tax etc. should be analyzed seriously. Securities, which are less risky and gives higher rate of return should be selected.

c) Construction of portfolio

Construction of portfolio is a wise investment decision. Investor should select number of securities for investment. It involves selecting specific assets in which to invest and how much to invest in each security. It consists some technical analysis, so investor should have knowledge of statistical tools also. Investor can choose active or passive portfolio strategy.

d) Portfolio revision

Portfolio constructed once cannot always be efficient. Over time, objectives of investor may change. So some of existing securities can be dropped out and some new entries can be made. Securities investment horizon can be changed. According to changed scenario, bonds and stocks can be replaces to each other. So time-to-time, portfolio should be revised for handsome return.

e) Portfolio performance evaluation

Return and risk of portfolio may change according to the time period. Portfolio is evaluated in terms of risk and return. Evaluation and control mechanism makes this process more effective.

2.1.5 Investment Portfolio

"Portfolio is a collection of different types of securities in different sectors." *(Weston & Brigham; 1982: 245)* Portfolio Management is related to the efficient portfolio investment in financial assets. Portfolio Analysis considers

the determination of future risk and return in holding various blends of individual securities.

"Portfolio theory deals with the selection of optimal portfolios; that is portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specifies rate of return." *(Weston & Copeland; 1992: 47)* It has been developed for the financial assets, including equity shares, preference shares and debentures of companies. Thus making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

"Portfolio investment refers to an investment that combines several assets. The modern portfolio theory explains the relationship between assets risk and return. The theory is founded on the mechanics of measuring the effect of an asset on risk and return of portfolio. Portfolio investment assumes that the mean and variance of returns are the only two factors that the investor cares. Based on this assumption, it can be said that rational investor always prefers the highest possible mean return for a given level of risk or the lowest possible level of risk for a given amount of return. The efficient portfolio is a function of not only risk and return of individual assets included, but also the effect of relationship among the asset on the sum of portfolio risk and return. The portfolio return is straight weighted average of the individual asset. However, the portfolio risk is not the weighted average of the variances of return as well as the covariance between the return of individual assets included in the portfolio and their respective weights." *(Pradhan; 1992: 295)*

Investment portfolio of commercial banks is the holding of securities and investment in financial assets i.e. bond, stock, loan etc. Therefore, commercial banks must invest its deposits and other funds to profitable, secured, stable and marketable sectors. Investment policy helps the bank in efficient investment

operation ensuring maximum return with minimum risk. Thus, investment is the most important function of commercial banks. It is the long-term commitment of bank in the uncertain and risky environment. Therefore to maximize the profit, banks should invest in that type of securities, which are commercial, durable, market stable, transferable and high market price.

Similarly to minimize risk, a bank must diversify its investment in different sectors. If bank invest its fund in different securities, it will be able to reduce risk and maximize the return.

2.1.5.1 Portfolio Analysis

"A portfolio simply represents the practice among the investment of having their funds in more than one asset. The combination of investment assets is called portfolio." *(Weston & Brigham; 1982: 245)* 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 investors' decision to investment in assets or securities.

"Most financial assets are not held in isolation, rather they are held as parts of portfolios. Portfolio theory deals with the selection of optimal portfolios, i.e. portfolios that provide the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return." *(Weston & Copeland; 1992: 366)*

Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities.

Portfolio risk analysis is the process of measuring and assessing portfolio's exposure to market risk. Financial portfolio offers there views on risk, allowing

to compare portfolio to the market portfolio in terms of risk-adjusted return, value-at-risk, and market risk exposure.

The portfolio of assets usually offers advantage of reducing risk through diversification. A sock or securities held, as part of a portfolio is less risky than the same stock held in isolation. Thus, portfolio analysis helps to develop a portfolio that has the maximum return at whatever level of risk the investor considers appropriate.

2.1.5.2 Objective of Portfolio Analysis

The objectives of portfolio analysis are to analyze different individual assets and delineate efficient portfolio. Hence, the portfolio manager's task is to select investment weights that will result in dominant investments, analyze the risk, return data describing each investment candidate, and determine what assets to buy, what to sell. The main objectives of portfolio management are as follows:

A) Primary Objectives:
- Maximization of Profit
- Minimization of Risk

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

2.1.5.3 Portfolio Risk and Return

Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. "Each asset's expected return and risk, along with the expected return and risk for other assets and their interrelationships, are important inputs in portfolio selection. In order to construct efficient portfolios, the investor must be able to qualify the portfolios' expected return and risk." *(Cheney & Mosses; 1992: 651)*

2.1.5.3.1 Portfolio Return

"The expected return of a portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportion of the investor's wealth invested in each asset and the sum of the weights must equal to one." *(Cheney & Mosses; 1992: 652)*

The portfolio expected return is defined in equation as follows;

$$R_p = W_A R_A + W_B R_B + \ldots\ldots\ldots\ldots + W_N R_N$$

Where,

R_p =   Portfolio expected returns

W_A =   Weight of investment invested in stock "A"

W_B =   Weight of investment invested in stock "B"

R_A =   Expected return for stock "A"

R_B =   Expected return for stock "B"

2.1.5.3.2 Portfolio Risk

The portfolio risk is measure by either variance or the standard deviation of returns. "The portfolio risk is affected by the variance of return as well as the covariance between the return of individual assets included in the portfolio and respective weights." *(Pradhan; 1992: 295)*

The variance of returns from portfolio made up an asset is defined by following equation;

$$\text{Variance } (\sigma^2_p) = w^2_A \sigma^2_A + w^2_B \sigma^2_B + 2\, w_A\, w_B\, r_{AB}\, \sigma_A\, \sigma_A$$

$$\sigma_p = \sqrt{w^2_A \sigma^2_A + w^2_B \sigma^2_B + 2\, w_A\, w_B\, r_{AB}\, \sigma_A\, \sigma_A}$$

where,

σ_p = standard deviation of portfolio rate of return

σ_A = standard deviation on return on assets A

σ_B = standard deviation on return on assets B

W_A = weight of assets A

W_B = weight of assets B

r_{AB} = correlation coefficient between rate of return of assets A and assets B

2.1.5.4 Diversification of Risk

"Diversification is the one important means that control portfolio risk. Investments are made in a wide variety of assets so that exposure to the risk of any particular security is limited. By placing one's eggs in many baskets, overall portfolio risk actually may be less than the risk of any component security considered in isolation." *(Bodie & Marcus; 2004: 162)*

Diversification of portfolio helps to minimize risk. If investors invest their fund in more securities, they can reduce risk and maximize the return. However, even with large number of stocks, investors cannot avoid altogether risk, since virtually all securities are affected by the common macro economic factors.

Some different diversification techniques for reducing portfolio's risk are as follows:

2.1.5.4.1 Simple Diversification

Simple diversification can be defined as "not putting all the eggs in one basket" or "spreading the risk." *(Francis; 2003: 228)* It is the random selection of securities that are to be added to a portfolio. Simple diversification reduces a

portfolio's total diversifiable risk to zero and only un-diversifiable risk remains.

2.1.5.4.2 Diversification across Industries

Diversification can also be experienced by combining securities from different industries. It is certainly better to follow this advice than to select all the securities in a portfolio form one industry. Nevertheless, empirical research has shown that diversifying across industries is not much better than simply selecting securities randomly.

2.1.5.4.3 Superfluous Diversification

Under simple diversification, maximum risk reduction is attained through inclusion of 10 to 15 assets in the portfolio. If we add, further more assets in the portfolio, such diversification is called superfluous diversification and should be avoided. The investor finds it impossible to manage the assets in his portfolio because the management of a large number of assts requires knowledge of the liquidity of each investment return, tax liability and thus becomes impossible without specialized knowledge. Superfluous diversification will usually result in the following portfolio management problems:

    i)   Impossibility of good portfolio management

    ii)   Purchase of lackluster performers

    iii)   High search costs

    iv)   High transaction costs.

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

2.1.5.4.4 Simple Diversification across Quality Rating Categories

Diversification of portfolio is also possible across the quality rating assets or securities. Different rating agencies rate different companies and their assets based on possibility of default risk. In this technique, assets are selected randomly from the homogeneous quality rating. The standard deviations of portfolios of different homogeneous quality rating attained different level of risk. The highest quality portfolio randomly diversified stocks was able to achieve lower levels of risk than the simply diversified portfolios of lower quality stocks. This result reflects the fact that default risk is part of total risk. The higher-quality portfolios contain assets with less default risk. Thus, portfolio managers can reduce portfolio risk to levels lower than those attainable with simple diversification by not diversifying across lower-quality assets.

2.1.5.4.5 Markowitz Diversification

"Markowitz diversification may be defined as combining assets that are less than perfectly positively correlated in order to reducing portfolio risk without sacrificing portfolio return." *(Weston & Brigham; 1987: 194)* It is more analytical than simple diversification and considers assets correlation or covariance in portfolio formation. It shows that lower the correlation between assets, the more that the diversification will be able to reduce the portfolio risk.

2.1.5.5 Measure of Portfolio Risk

"Portfolio risk can be measured by using covariance of return of securities in portfolio. Covariance is a statistical measure of the relationship between two random variables. A positive value for covariance indicates that the securities returns tend to move in the same direction and negative value indicates that returns of two securities move in opposite side. If the value of covariance is zero, there is little or no relationship between the returns for two securities. The square root of the coefficient of determination is called the correlation coefficient 'r'. Correlation coefficient always lies between -1 and +1. A value

of -1 represent perfect negative correlation and a value of +1 represent perfect positive correlation." *(Sharpe, Alexander & Bailey; 2001: 180)*

$$r_{ij} = \frac{Cov\ (r_i\ r_j)}{\sigma_i\ \sigma_j}$$

Where,

r_{ij}	=	correlation coefficient between securities 'i' and 'j'
σ_i	=	standard deviation of return for security 'i'
σ_j	=	standard deviation of return for security 'j'
$Cov\ (r_i\ r_j)$	=	covariance of return between securities 'i' and 'j'

2.2 Review of Legal Provisions

The legal provisions have significant impact on the establishment of Commercial Banks, their mobilization and utilization of resources. In Nepal, Nepal Rastra Bank, as a central bank, directs the banks and other financial institutions. Plans, policies, directions, rules and regulations from NRB are major subject to operate the commercial banks. To allocate and mobilize the deposits collected by commercial banks in different sectors and different areas of the country, NRB formulates fundamental rules, regulations, directives, policies etc. For that purpose, NRB has formulated Commercial Bank Act 2031. All the Commercial Banks have to confirm to the legal provisions specified in the Commercial Bank Act 2031 and other rules and regulations formulated to facilitate the smooth running of commercial banks. These directives have direct or indirect impact while making decision to mobilize bank's deposits in different sectors of the nation. Here, the directions, rules and regulations formulated by NRB in terms of investment by Commercial Banks are briefly mentioned below:

a) Provisions for Investment in Priority Sector

NRB directs Commercial Banks to extend loan and advances amounting

at least 12 percent of their total outstanding credit to the priority sector including deprived sector. NRB has included agricultural sector, cottage and small industry sector, service oriented sector and co-operative sectors as a priority sector for investment. This provision is totally based on the objective for uplifting living standard of people in remote and village area.

b) Provision for Investment in Deprived Sector

Commercial banks also compulsorily need to extend their credit and investment in the deprived sectors such as co-operative institution and rural development banks that are licensed by NRB. According to the provision, the commercial banks must require to extend a ratio ranging from 0.25% to 3% of their total outstanding loan to deprived sector depending upon the nature of the bank. Until having the deprived sector lending obligation below the ratio of 3 percent, commercial banks require to increase such ratio by additional 0.5 percent basis point every year until the ratio becomes 3 percent. However, the commercial banks that had already met the lending ratio at 3 percent could continue the same every year.

c) Provision of Capital Fund

Commercial Banks are required to maintain primary capital and capital fund in terms of a percentage of their risk-weighted assets (RWA) as follows:

Table 2.1

Capital Fund to be Maintained

Time period	Capital fund in % on the basis of Total risk weighted assets	
	Core capital	**Total capital fund**
2058/059	4.50	9.00
2059/060	5.00	10.00
2060/061 to till date	5.50	11.00

(Source: Unified directives 2061/062)

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Core Capital

- Paid of Capital
- Share Premium
- Non-redeemable Preference Share
- General Reserves
- Retained Earning

Supplementary Capital

- General Loan Loss Provision for pass loan only
- Exchange Equalization Reserve
- Asset Revaluation Reserve (not exceeding 2% of core capital)
- Hybrid Capital Instruments (that possess character of both debt and equity simultaneously)
- Subordinated Term Debt

d) Loan Classification and Loan Loss Provision

Credits and purchases of bills by the commercial banks have been classified as pass, sub-standard, doubtful and loss for the purpose of adequate provisioning. Accordingly, commercial banks are required to make provisions for possible losses as follows:

Table 2.2

Loan Classification and Loan Loss Provision

Categories	Loan Loss Provision
Pass	1%
Sub-standard	25%%
Doubtful	50%%
Loss	100%%

(Source: Unified directives 2061/062)

e) Directives for Lending and other Facilities

NRB has issued following directives to the Commercial Banks for lending and other facilities:

NRB has barred an individual, firm or mutually trusted borrowers' credit limit at 25% of the primary capital in the case of fund-based credit and 50% of primary capital in the case of non-fund-based credit, like Letter of Credit, Guarantee, Acceptance Letter, Commitments etc. For loans made prior to issuance of the directives, banks are required to adjust the ratios by the following dates:

Table 2.3

Limits set for Lending and other Facilities

Cut off date	Fund-based loans	Non-fund-based loans
15 July 2002	Not exceeding 40%	Not exceeding 75%
15 July 2003	Not exceeding 25%	Not exceeding 50%

(Source: Unified directives 2061/062)

f) Guidelines for Investment in Stocks and Securities

Commercial Banks are also required to minimize exposures to risks involved in investing the deposits of the savers and other financial resources at their disposal in earning assets.

g) Statistical Information and Reporting:

Commercial Banks are required to compile and submit their financial reports keeping in view.

- Nepal Rastra Bank Act.
- Commercial Bank Act.
- International Accounting System
- Nature and types of their respective transaction
- Directives of the Nepal Rastra Bank
- Monetary and Financial Statistics Manual 2000 of the IMF

h) Investment Management Regulation

A commercial bank formulating a written policy may decide to invest in shares and securities of an organized institution. However, such investment

is restricted to 10% of paid up capital of the organization. However, the cumulative amount of such investment in all the companies in which the bank has financial interest shall be limited to 20% of the paid up capital of the bank. Nevertheless, the total amount of investment in share and securities of organized institution is restricted to 30% of the paid up capital of the bank. (Directives to Commercial Bank: 81)

Likewise, Commercial Banks are not allowed to invest in any shares, securities, and hybrid capital investment issued by any banks and financial institutions licensed by NRB. Where such investment exists prior to issuance of this directive, such investment should be brought within the restrictive limitation by the fiscal year 2060/61. However, investment on Rural micro finance development Bank's shares are not comes under such restriction.

i) Provision for Minimizing Liquidity Risk

Commercial Banks are required to monitor their liquidity risk. This is to minimize risk inherent in the activities and portfolio of the banks. According to the regulation, a gap found between maturing assets and maturing liabilities is the liquidity risk. They are monitoring their assets and liabilities based on maturity period. Maturity period such as 0-90, 91-180, 81-270, 271-365 days and above 1 year are classified for the purpose of checking.

2.3 Review of Journals and Articles

Kane and Buser (1979), in their study entitled *"Portfolio Diversification at Commercial Bank"* deal how a firm performs a useful function by holding a portfolio of efficiently price securities.

According to them, it is rational for a firm to engage in prior round of asset diversification on behalf of its shareholder's even when all assets are priced efficiently and available for direct purchase by shareholders. As a

way of testing their perspective empirically, they estimated regression model designed to explain the number of distinct of U.S. treasury and federal agency debt held in a time series of cross sections of large U.S. commercial Banks. They interpret the systematic pattern of diversification observed for large U.S. Commercial Banks as evidence that bank stockholders for a relatively uniform diversification clientele. For firm, marginal benefits from diversification takes 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.

Kane and Buser drew following concluding remarks;

    a. Even wealthy investors should be sensitive to administrative costs associated with selection, evaluation, managing and continually keeping track of a large number of securities.

    b. Either homemade of firm produced diversification, reduces the variance of shareholder's portfolio return. If homemade diversification bears in coordinately high levels of information risk, some benefits of form- produced diversification might not be reproducible by individual investors acting on their own.

    c. Investors with even modest resources, the stock of financial institutions should be relatively less attractive than the stock of that avoid extensive diversification costs by engaging in specialized activities.

Berger and Bodie (1979), has presented and proved three propositions regarding '*Portfolio Selection in a Winner-Take-All Environment*." The three propositions discussed by them are as follows. *(Berger & Bodie; 1979:233)*

Proposition 1:

Any investor seeking to maximize the expected utility of his wealth will select a portfolio, which maximize the expected utility of his wealth. He will select a portfolio, which maximizes the probability of his winning the contest i.e. of yielding the highest return. This shows regardless of the investor's attribute toward risk.

Proposition 2:

If no short or buying on margin is allowed, then the probability of a portfolio of two or more securities beating every single security in the portfolio is zero.

Proposition 3:

If there are more than two securities to choose, one cannot select the optimal security. Therefore, comparison will be the best among the respective series of pair.

According to them, the single most important behavioral implication of the propositions above is, that an individual engaged in a winner-take-all investment contests would tend not to diversify his portfolio, even if he is risk adverse. It is a conjecture that is very highly positively correlated, so as the approximate a single stock as closely as possible.

Shrestha (1995), in her study *"Portfolio Behavior of Commercial Banks in Nepal"* has made remarkable efforts to examine various portfolio behavior of Commercial Bank in Nepal such as investment portfolio, liability portfolio, assets portfolio etc. According to her, investment of Commercial Banks when analyzed individually, were observed that Nepalese domestic banks invest in government securities, national saving bond, debentures and company's shares. Based on this study she found that the supply of bank credit was expected to depend on total deposit, lending rate, bank rate, lagged variables and dummy variables. Similarly,

demand of bank credit was assumed to be affected by national income, lending rate, Treasury bill rate and other variables. The resources of commercial banks were expected to be relating with variables like total deposit, cash reserve requirement, bank rate and lending rate. Following are conclusions based on her finding:

a. The relationship of banks portfolio variables as found to be best explained by log-linear equations.

b. Demand of deposit for commercial banks in Nepal is positively affected by the GDP from non-agriculture and the deposit rate and lending rate of interest.

c. The investment of commercial banks on government securities has been observed to be affected by total deposit; cash reserve requirements, Treasury bill rates and lending rates.

d. The investment of commercial banks in shares and securities are normal and not found to have strategic decisions towards investment in shares and securities.

e. The loan loss ration has been found to increase with low recovery of loan.

Pradhan (1996), has presented a short glimpse on investment in different sectors and its problems and prospects through his article *"Deposit Mobilization: Its Problem and Prospects".*

He quoted that deposit is the life-blood of any financial institution, commercial bank, finance company, co-operative or non-government organization. He further adds in consideration of most of banks and finance companies, the latest figure do produce a strong feeling that a serious review must be made of problems and prospects of deposit sectors. Leaving few joint venture banks, other organizations rely heavily on the business deposit and credit disbursement.

Pradhan has pointed out some problems for the prosperity of deposit mobilization in Nepalese context, they are:-

a. Most of the Nepalese people do not save in institutional manner due to the lack of good knowledge. However, they are very much used of saving; be it in the form of cash or ornaments. Their reluctance to deal with institutional system is governed by the lower level of understanding about financial organization process, withdrawal system and availability of deposit facilities and so on.

b. Unavailability of the institutional services in rural areas.

c. Due to lesser office hours of banking system people prefer holding the cash in the personal possession.

d. No more mobilization and improvement of the employment of deposits and the loan sectors.

Pradhan has also recommended for the prosperity of deposit mobilization, which are as follows:

a. By providing sufficient institutional services in the rural areas.

b. By adding service hours system to bank.

c. NRB could also organize program to develop skilled manpower.

d. By spreading co-operatives to the rural areas to develop mini branch services.

Shrestha (1998), has given a short glimpse on the *"Portfolio Management in Commercial Bank, Theory and Practice"*. He emphasized on importance of portfolio management for both individual as well as institutional investors. According to him, investors would like to select a best mix of investment assets subject to following aspects:

a. Higher return which is comparable with alternative opportunity available according to the risk class of investor.

b. Good liquidity with adequate safety of investment.

c. Certain capital gains.

d. Maximum tax concession.

e. Flexible investment.

f. Economic, efficient and effective investment mix.

According to Shrestha, the above considerations are very useful for an effective investment decision. Similarly, for successful investments, he has concluded some strategies as follows:

a. Do not hold single security. Do not rely on single investment alternative i.e. try to have a portfolio of different securities.

b. Have a diversified investment i.e. make investment in different sectors.

c. Always select such a portfolio of securities, which ensures maximum return with minimum risk with added objective of wealth maximization.

Timilsina (2002), has published an article on *"Managing Investment Portfolio"*. He is however, confronted with the problems of managing investment portfolio particularly in times of economic slowdown like our. A rational investor would like to diversify his investment in different classes of assets to minimize risks and earn a reasonable rate of return. The major findings drew by Timilsina are listed below;

a. Commercial banks have continuously been reducing interest rates on deposits. Many depositors are exposed to the increasing risk of non-refund of their deposits because of the mismanagement in some of the banks and financial institutions and accumulation of huge non-performing assets with them.

b. Few depositors of cooperative societies lost their deposits because some of these cooperatives were closed down because of their inability to refund public deposits. An investor in days of crisis has to make an effort to minimize the risk and at least earn a reasonable rate of return on his aggregate investment.

c. An investment in equity share can earn dividend income as well

as capital gain in the form of bonus share and right share until an investor holds it and capital profit when he sells it in the stock market.

d. Making investment in fixed deposits with commercial banks is a normal practice among the common people. Normally fixed deposits with banks are considered risk-less, but they also are not hundred percent free of risk.

e. An investor may have option of making investment in Government bonds or debentures. In history, we have examples that a government can nationalize the private property of its citizens, cancel out old currency notes, and can convert the new investment into some conditional instrument. However, in democracy there is no probability that the government would default to repay money back. This is comparatively risk free investment, but yields low return.

Thapa (2003), in his article entitled *"Managing Banking Risks"* presented different types of risks generally faced by commercial banks and accomplished the subsequent issues. Banking and financial services are among the fastest growing industries in the developed world and are also emerging as corner stones for other developing and underdeveloped nations as well.

According to Thapa, the primary function of a bank is to trade risk. Risk cannot be avoided by the bank but can only be managed. There exist different types of risks. Among them interest rate risk is one of the most common risk the banks face owing to the volatility of the interest rate in the market.

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

option etc.

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

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

2.4 Review of Thesis

Various students have conducted studies regarding the various aspects of commercial banks such as financial performance, lending policy, investment policy, interest rate structure, resources mobilization etc. Some of them which seem relevant to the present study are briefly described below.

Gautam (2004), conducted the study on *"Investment Policy of Commercial Banks with Special Reference to Nepal SBI Bank ltd."* The main objectives of his thesis are as follows:

    a. To evaluate the liquidity, assets management efficiency, portfolio management and profitability position of the banks.

    b. To analyze deposit utilization and its relationship with total investment and net profit of the bank.

    c. To determine the growth rate of the bank in terms of deposits, loans and advances, investment and profitability of the bank.

d. To determine the proportion of loan loss provision to total loans and advances and to evaluate the non – performing assets of the bank.

e. To determine the proportion of the investment made by bank in risky and risk free assets and evaluate off balance sheet operation of the bank.

With the help of the secondary data the study was conducted and the followings are the recommendations that are suggested by him.

a. Liquidity position of bank is found to be high, thus the bank is recommended to look upon new areas of lending and investment.

b. To compromise between the liquidity and credit needs of rural economy, the bank is highly recommended to expand its credit in this area.

c. As the amount of investments made by the bank is found very little and also inconsistent during the period, the bank is recommended to increase the investment, which help to utilize the idle funds into income generation as well as minimizes risk and also helps to maintain optimal level of liquidity.

d. Increasing amount of investment in government securities also helps the bank to maintain an equilibrium level of risk free an risky assets.

e. The portion of OBS transactions is found decreasing in comparison to loans and advances. Nowadays most of the commercial banks are getting more benefits and increasing their earning through the enactment of fee based OBS transaction. Thus recommended to give more priority to increase fee based OBS transactions to generate more income.

f. The bank is advised to examine carefully from time to time the portfolio management strategies to maintain equilibrium in the portfolio of loans and investment and make continuous efforts to explore new, competitive and high yielding investment opportunities to optimizes the return.

g. The bank is recommended not to expand the business in the

industrial and commercial sectors heavily instead it is advised to give more focus to increase its volume of credit to other sectors.

Thapa (2005), conducted a study on *"A comparative Study on Investment Policy of Nepal Bangladesh Bank Limited and other Joint Venture bank."* On his study the major objectives were:

a. To evaluate the liquidity, assets management, efficiency profitability and risk position of NB banks in comparison to NABIL and NGBL.

b. To analyze the ratio relationship between loan and advances and total investment with other financial variables of Sample Banks.

c. To examine the fund mobilization and investment policy of NB bank through off balance sheet and on- balance sheet activities in comparison to the other two banks.

d. To study the various risk in investment

e. To analyze the deposit utilization trend and its projection for next five years of sample banks.

The major findings of his study on the basis of primary and secondary data are as follows.

a. The liquidity position of NB bank is comparatively better that that of NABIL and NGBL It has the highest cash and bank balance to total deposits, cash and bank balance to current assets ratio. It has good deposits collection and has made enough loan and advances, however made the negligible amount of investment in government securities.

b. The NB bank is not in better position regarding its on balance as well-as off balance activities in comparing to NABIL and NGBL. It does no follow any definite policy regarding the management of asset.

c. The profitability position of NB bank is comparatively worse than that of NABIL and NGBL. Must maintain the high profit margin for the well being in future.

d. NB bank has maintained high growth rate in comparison to other banks

though it is not successful to make enough investment.

e. The position of NB bank in regard to utilization of the fund to earn profit is not better in compare to NABIL and NGBL.

f. NB bank has not provided ATM facility, credit facility, any branch bank facilities and web site etc. Though these facilities are being offered by NABIL and NGBL.

Joshi (2006), conducted a study on *"Lending Practices: A Study on NABIL, SCB Nepal Ltd and Himalayan bank Ltd"* with the following objectives.

a. Determine the liquidity position, the impact of deposits in liquidity and its effect in lending practices.

b. To measure the banks lending strength.

c. To analyze the portfolio behavior of lending and measuring the ratio and volume of loans and advances made in agriculture, priority and productive sectors.

d. To measure the lending performances in quality, efficiency its contribution in total income.

The research findings of the study conducted with the secondary data are as follows.

a. The liquidity position has revealed the mean current ratio of all the three banks is not widely varied.

b. The measurement of liquidity strength has revealed that the total liability to total assets of SCBNL has the highest ratio. The high ratio is the result of high volume of shareholder equity in the liability mix.

c. Himalayan Bank Ltd. has high volume of saving and fixed deposits in comparing to current deposits resulting to low ratio of non- interest bearing deposits to total deposits ratio as compared to the mean ratio.

d. The loans and advances and investment to deposits ratio has shown that NABIL Bank ltd has deployed the highest proportion of its total deposits in earning activities, which indicate that in fund

mobilizing activities NABIL bank is significantly better.

e. The mean volume of net assets and deposits is highest in SCBNL with moderate variation. The volume of net assets of Himalayan bank is the least due to the low share capital, reserve and surplus in its capital mix. Whereas volume contributed by Himalayan Bank is highly appreciable as compared to its net assets.

f. The portfolio analysis has revealed that the flow of loans and advances in agriculture sector is the lowest priority sectors among these commercial banks. The contribution of all the banks in industrial sector is appreciable. The contribution by Himalayan Bank in industrial sector is the greatest than that of SCBNL.

Acharya (2007), conducted the study on *"Investment Policy and Analysis of Commercial Banks in Nepal: A Comparative Study of Standard Chartered Bank Ltd. with Nepal Investment Bank and Nepal Bangladesh Bank ltd."* The main objectives of his thesis are as follows:

a. To discuss fund mobilization and investment policy in respect to its fee based off balance sheet transaction and fund based on balance sheet transaction.

b. Evaluation of the liquidity, efficiency, profitability and risk position.

c. To evaluate the growth ratios of loans and advances, total investment with financial variables

d. To analyze the trends of deposits utilization towards total investment.

e. For this study the financial, accounting and statistical tools have been used. Here, simple analytical tools such as percentage graph, Karl Pearson's coefficient of correlation, regression, and the method of least square and test of hypothesis are used.

The above analysis has the following findings in his research.

a. SCBL is comparatively better than NIBL and NIBL has the lowest cash and bank balance deposits.

b. SCBL has good deposits collection. Has made enough investment on government securities but maintained low investment policy.

c. The on balance sheet operation is average successful but the off balance sheet transaction has been strongly maintained by the SCBL.

d. SCBL has successfully maintained and managed its assets towards income generating activities.

e. The profitability ratio of SCBNL is comparatively higher position than the other banks.

f. Thus in conclusion, SCBNL are recommended not to give much importance to the government securities and diversify the investment policy on more yield-based funds.

g. SCBL is recommended to collect a large variety of deposits through schemes

Pathak (2008), conducted a study on *"Investment Analysis of Commercial Banks, A comparative study on HBL and Nepal SBI."* The main objectives of the thesis are as follows:

a. To evaluate the liquidity, assets management, efficiency, profitability and risk position of Himalayan Bank in comparison to that of Nepal SBI.

b. To study the relationship between investment and deposits of the banks.

c. To analyze investment trend, deposits trend and total income and their projection for next five years.

Major findings of the study and recommendation are as follows.

a. Both the banks should maintain required current ratio, as the current ratio of both banks is not sufficient.

b. They have to consider more on the liquidity of the deposits as they are for the sake of the bank's reputation.

c. Recommended to increase SBI investment and to increase their profitability in future to compete with other banks.

d. As banks have invested less on shares of other companies so recommended to mobilize its fund for business and industries for industrial support.

e. As ratio of interest income to total income is too high in both banks thus its income should not be limited to interest earned from loan.

f. Also recommended to diversify business to more income generating areas like foreign exchange business, remittance and other commission based business.

2.5 Research Gap

Very few research work has been conducted in this topic. No specific research has yet been able to go in-depth of the topic and successfully accomplished the specific objectives of the research work. All of the previous research on portfolio management have been based on only showing the risk and return analysis of the stocks of Commercial Banks. Previous research studies focused mainly on common stock investment of Commercial Banks but none of the researches has concentrated on Government Securities, Loan and Advances, and Shares and Debentures. By the lapse of time, many new alternatives for investment have been introduced and the previous research has become obsolete. Hence, this research has analyzed the existing situation of portfolio management.

CHAPTER – III
RESEARCH METHODOLOGY

3.1 Research Design

"Research design is a plan, structure and strategy of investigations conceived so as to obtain answers to research questions and to control variances." *(Wolf; 1975: 51)* It is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Considering the objectives of the study, the analysis is based on certain research design. In order to achieve objectives, descriptive and analytical research design has been adopted. Descriptive research design describes the general pattern of the investors, business environment, problem of portfolio management etc. The analytical research design makes analysis of the information and data. Most of the data and information of the study were concerned with past phenomenon. So it can be regarded as historical research.

It covers the data from the fiscal year 2003/04 to 2007/08. It deals with the study of portfolio analysis of commercial banks in Nepal. As the title of the study suggests it is more analytical and empirical and less descriptive.

3.2 Population and Sample

The population of the study is all the commercial banks listed in NEPSE. Until now total numbers of commercial banks listed in NEPSE are 21. Hence, these 21 commercial banks are the population of the study. For this study, three commercial banks are taken as sample. The samples are selected randomly.

The selected sample banks for the analysis are as follows:
   a. Nepal Arab Bank Limited (NABIL)
   b. Standard Chartered Bank Nepal Limited (SCBNL)

c. Himalayan Bank Limited (HBL)

3.3 Sources of Data

This study is mainly based on secondary data. The various required data for the study are collected from concerned banks, Nepal Rastra Bank, NEPSE, SEBO/N and different libraries. Similarly, the required micro-level data are derived from annual reports of selected banks and websites of banks as well as NEPSE. In addition to above, supplementary data and information was collected form different library such as library of Shanker Dev Campus, Nepal Commerce Campus, T.U. Central Library, Library of NRB, NEPSE, SEBO etc. Likewise, various data and information were collected form the periodical economic journals and from other published and unpublished reports.

The major sources of data and information are as follows:

- Economic survey, Ministry of Finance
- Quarterly Economic Bulletin, NRB
- Macro Economic Indicators of Nepal, NRB
- Annual reports SEBO Nepal
- Journal of Finance
- Journal of Business
- Website of NEPSE
- Website of different Commercial Banks

3.4 Data Analysis Tools

In order to ascertain investment analysis of any firm, various analytical tools can be used. According to the nature of statement of data, suitable or appropriate tools make the analysis more effective and significant for achieving objective. Two tools; financial and statistical can be used in this study.

3.4.1 Financial Tools

As this study is related to investment portfolio analysis, financial tools are more applicable. Financial tools are those, which are used for the analysis and interpretation of financial data. These tools can be used to get the precise knowledge of a business which in turn, are fruitful in exploring the strengths and weaknesses of the investment policies and strategies. For the sake of analysis, following financial tools have been used in order to meet the purpose of the study.

a) Risk and Return on Individual Investment Assets and Investment Portfolio

i) Return on Government Securities

The return on government securities is computed by dividing interest income on government securities by total investment on government securities, which can be presented as:

$$\text{Return on Gov. Securities } (R_G) = \frac{\text{Interest Income on Gov. Securities}}{\text{Total Investment on Gov. Securities}}$$

ii) Return on Share and Debentures

The return on Shares and Debentures considers dividend yield and capital gain yield i.e. change in market price. "The dividend yield is only a partial indication of the return; hence, the return on Share and Debenture significantly depends on the change in its Share Price." *(Pandey; 1997: 332)* The formula for calculating the return on Shares and Debentures is as follow:

$$\text{Return on Shr. \& } Deb. \ (R_s) = \frac{P_{t+1} - P_t + D_{t+1}}{P_t}$$

Where,

P_{t+1} = Closing Price per share at Period t+1

P_t = Closing Price per share at Period t

D_{t+1} = Dividend per share at Period t+1

iii) Return on Loans and Advances

The commercial banks provides loan and advances in various sectors like agriculture, industry, commercial sectors and other important sector. The return on loan and advances can be calculated by dividing total interest earned from loan and advances to total amount of loan and advances. This can be stated as:

$$\text{Return on Loans \& } Adv. (R_L) = \frac{\text{Interest Income on Loans \& } Adv.}{\text{Total Investment on Loans \& } Adv.}$$

iv) Return on Portfolio

The return on portfolio is simply the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportion of investor's wealth invested in each asset.

The portfolio expected return is defined in equation as follows;

R_p = $W_A R_A + W_B R_B + \ldots\ldots\ldots\ldots + W_N R_N$

Where,

R_p =   Portfolio expected returns

W_A =   Weight of investment invested in stock "A"

W_B =   Weight of investment invested in stock "B"

R_A =   Expected return for stock "A"

R_B =   Expected return for stock "B"

v) Risk on Individual Assets

The risk of securities depends on the variability of rates of return. The variability of rates of return defined as the extent of the deviation of individual rates of return from the average rate of return. Risk is measured with the help of standard deviation.

Risk on individual assets can be calculated using historical returns with this equation.

$$\sigma = \sqrt{\frac{\sum(R - \bar{R})^2}{n - 1}}$$

where,

R = Rate of return on Individual Assets

n = Number of years of observations

vi) Risk on Portfolio

The expected risk on portfolio is a function of the proportions invested in the components, the risk of the components and correlation of returns on the component securities. It is measured in terms of variance or standard deviation as follows;

$$\sigma_p = \sqrt{w^2_A \sigma^2_A + w^2_B \sigma^2_B + 2\, w_A\, w_B\, r_{AB}\, \sigma_A\, \sigma_A}$$

where,

σ_p	= standard deviation of portfolio rate of return
σ_A	= standard deviation on return on assets A
σ_B	= standard deviation on return on assets B
W_A	= weight of assets A
W_B	= weight of assets B
r_{AB}	= correlation coefficient between rate of return of assets A and assets B

b) Ratio Analysis

Ratio analysis is used to compare a firm's financial performance and status to that of other firms or to itself on time. Since this study is mainly focused on investment portfolio analysis of commercial banks, only few ratios related to investment of commercial banks are taken to the purpose of the study.

i) Total Investment to Total Deposit Ratio

This ratio is used to measure the ability of banks to successfully mobilize the total deposits of investment. This ratio can be calculated by dividing total investment by total deposits. It can be stated as:

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

ii) Investment on Government Securities to Total Investment

This ratio shows that the banks' investment on government securities in comparison to the total investment. It can be calculated by dividing investment on government securities by total investment.

$$\text{Investment on Gov. Sec. to Total Inv. Ratio} = \frac{\text{Inv. on Gov. Sec.}}{\text{Total Investment}}$$

iii) Investment on Loans & Advances to Total Deposit

This ratio shows that the banks' investment on loan and advances out of total deposit collection. It can be calculated by dividing loan and advances by total deposit.

$$\text{Loans \& Adv. to Total Deposit Ratio} = \frac{\text{Inv. on Loans \& Advances}}{\text{Total Deposit}}$$

iv) Investment on Shares & Debentures to Total Investment

This ratio shows that the banks' investment on shares and debentures of other companies. It can be calculated by dividing investment on share and debenture by total investment.

$$\text{Investment on Shr. \& Deb. to Total Inv.} = \frac{\text{Investment on Shr. \& Deb.}}{\text{Total Investment}}$$

3.4.2 Statistical Tools

Various statistical tools can be used to analyze the data available to the researcher. To support this study, statistical tools such as mean,

standard deviation, co-efficient of variation and trend analysis have been used for analyzing and evaluating various data, which are as follows:

i) Mean

Arithmetic mean or simply a mean of set observations is the sum of all the observations divided by the number of observations. Arithmetic mean is also known as the arithmetic average.

Let x_1, x_2, x_3, …………………., x_n be the n values of the variable then their arithmetic mean be denoted by x is defined by,

$$\bar{x} = \frac{x_1 + x_2 + x_3 + \ldots\ldots\ldots\ldots\ldots\ldots. + x_n}{n}$$

Where, n is the number of observations.

ii) Standard Deviation

The standard deviation is the absolute measure of dispersion in which the drawbacks present in other measures of dispersion are removed. It is said to be the best measure of dispersion as it satisfies most of the requisites of a good measure of dispersion.

$$\text{s.d.} = \sqrt{\frac{\sum (x-\bar{x})^2}{N}}$$

iii) Coefficient of Variation

The coefficient of dispersion based on standard deviation multiplied by 100 is known as the coefficient of variation (C.V.). Less the C.V., more will be the uniformity and more the C.V., less will be uniformity. If x be the arithmetic mean and s.d the standard deviation of the distribution, then the C.V. is defined by,

$$\text{C.V.} = \frac{\text{S.D.} \times 100}{\text{Mean}}$$

iv) Correlation Coefficient

When the relationship is of quantities nature, the appropriate statistical tool for discovering and measuring the relationship and expressing it in a brief formula is known as correlation. If the values of the variables are directly proportional then the correlation is said to be positive. On the other hand, if the values of the variables are inversely proportional, the correlation is said to be negative, but the correlation said to be negative, but the correlation coefficient always remains within the limit of +1 to -1. By Karl Pearson, the simple correlation coefficient (R) is;

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{X\sum X - (\sum X)^2}\sqrt{N\sum Y - (\sum Y)^2}}$$

v) Regression Lines

The regression line is the line, which gives the best estimate of one variable for any given value of the other variable. In case of two variables X and Y, we will have two regression lines i.e. lines is called the regression equation and also estimating equations. Since there are two regression lines, there are two regression equations.

Regression equation of Y on X

The regression equation is expressed as;

  y = a + bx

We shall get the normal equation for estimating "a" and "b" as.

  $\sum X = Na + b \sum Y$

  $\sum XY = a\sum Y + b \sum Y^2$

Where,

   X = the value of independent variable

   Y = the value of dependent variable

   a = Y-intercept

   b = slope of the trend line/coefficient of regression

   N = number of pairs of observations.

$$a = Y - b \, X$$

vi) T-Statistics

T-test, commonly known as Student's T-Distribution, is used when sample size is equal to or less than 30, the parent population from which the sample is drawn is normal, the population standard deviation is unknown. In order to test the significance of an observed sample correlation coefficient, the following procedure has been applied:

The following formula is used to test an observed sample correlation coefficient:

$$t = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{(n-2)}$$

Where, r = simple correlation coefficient

N = number of observation

CHAPTER – IV

DATA PRESENTATION AND ANALYSIS

4.1 Return on Individual Investment

4.1.1 Return of 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 principal repayments. The return on government securities such as Treasury Bills, Development Bonds, and National Saving Bonds etc. of NABIL, SCBNL and HBL is presented in the Table 4.1, Table 4.2 and Table 4.3 respectively.

Table 4.1

Return on Government Securities of NABIL

FY	Interest Income on Govt. Securities	Investment in Govt. Securities	Return on Govt. Securities (R_g)
2003/04	192.76	3672.63	5.25
2004/05	151.06	2413.94	6.26
2005/06	130.20	2301.46	5.66
2006/07	132.23	4808.35	2.75
2007/08	198.44	4646.88	4.27
Average	**160.94**	**3568.65**	**4.84**

(Source: Annual Reports of NABIL)

The table 4.1 revealed the interest income made by the NABIL bank on the government securities it had invested. The table showed that both the interest income and investment on government securities of NABIL fluctuated during the entire period taken for research. Also, the return on government securities had fluctuated during the periods. The return on government securities of NABIL was 5.25% in the fiscal year 2003/04, which increased to 6.26% in the fiscal year 2004/05, decreased to 5.66% in the fiscal year 2005/06, again decreased to 2.75% in the fiscal year 2006/07 and finally increased to 4.27% in the fiscal year 2007/08. In average, NABIL bank generated 4.84% of the average investment in the five consecutive fiscal years period.

Figure 4.1

Return on Government Securities of NABIL
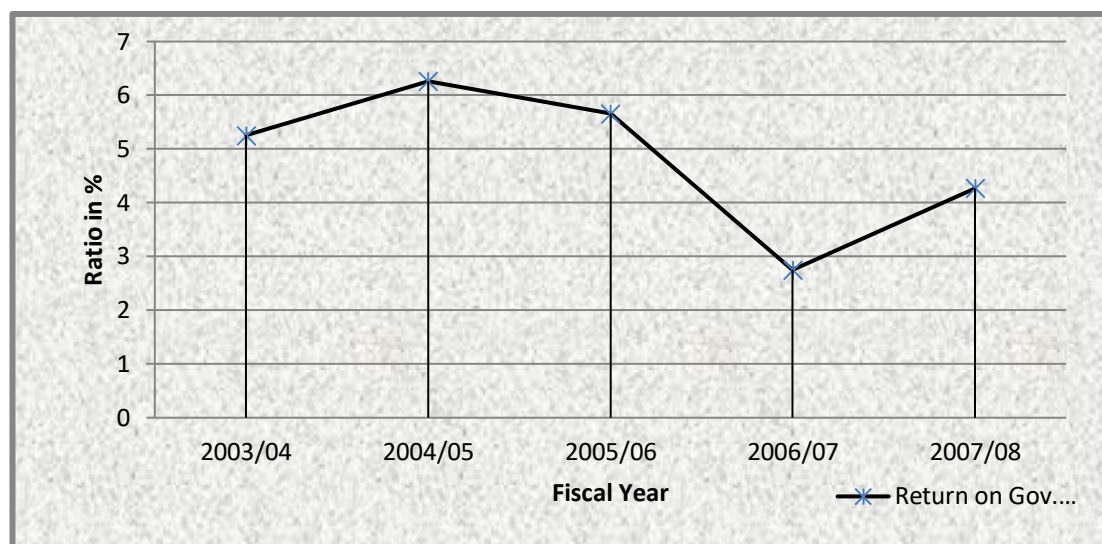
Similarly, the return on government securities of SCBNL is presented in the table 4.2.

Table 4.2
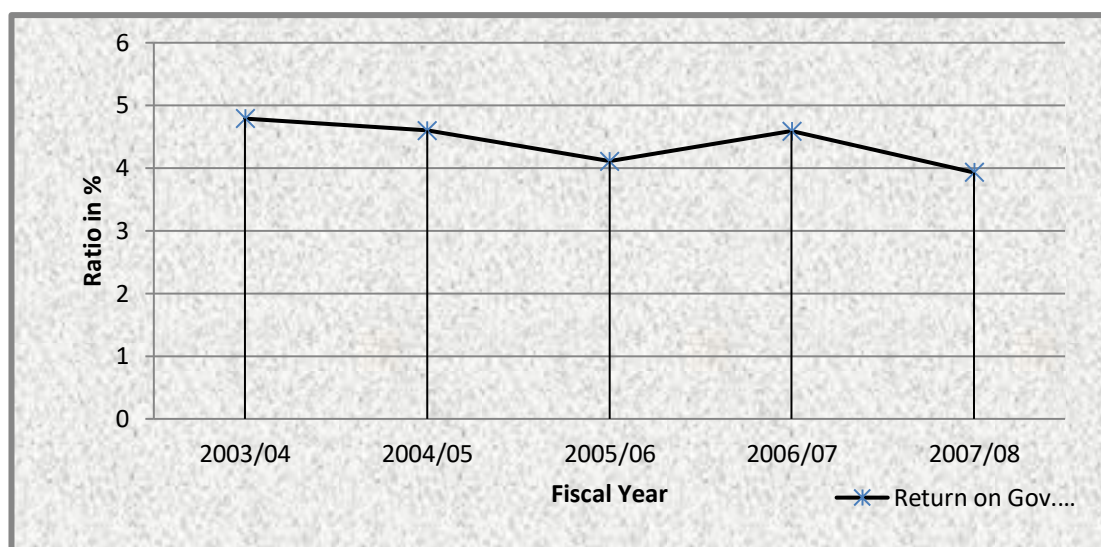**Return on Government Securities of SCBNL**

FY	Interest Income on Govt. Securities	Investment in Govt. Securities	Return on Govt. Securities (R_g)
2003/04	380.44	7948.22	4.79
2004/05	331.63	7203.07	4.60
2005/06	355.29	8644.86	4.11
2006/07	326.55	7107.94	4.59
2007/08	319.61	8137.62	3.93
Average	**342.70**	**7808.34**	**4.40**

(Source: Annual Reports of SCBNL)

The table 4.2 showed that the return on government securities of SCBNL decreased for the first three years period, i.e. 4.79% in the fiscal year 2003/04 to 4.11% in the fiscal year 2005/06, and then increased to 4.59% in the fiscal year 2006/07 and eventually decreased to 3.93% in the fiscal year 2007/08. The table showed that SCBNL generated 4.40% of the total investment it had made on government securities as average return.

Figure 4.2

Return on Government Securities of SCBNL

Also, the return on government securities of HBL is depicted in the Table 4.3.

Table 4.3

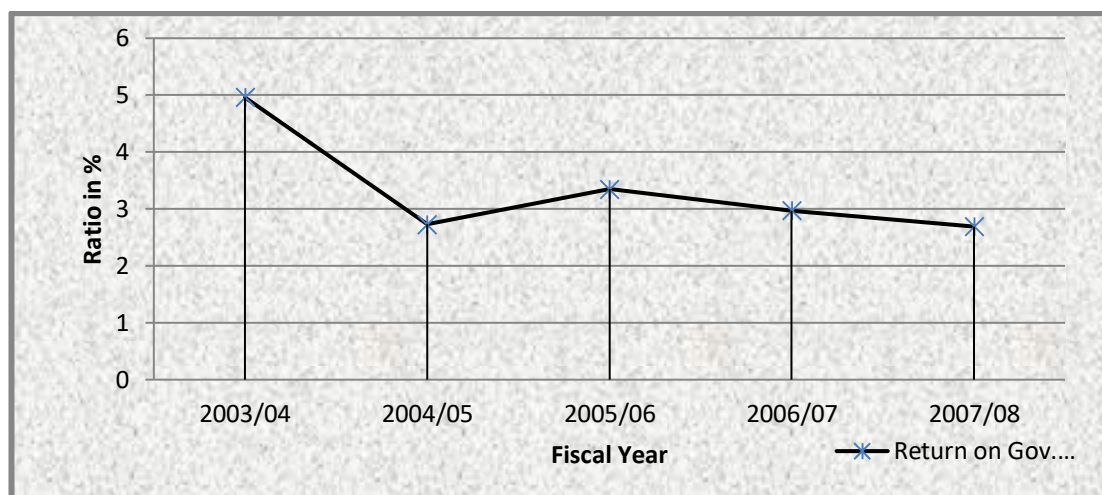**Return on Government Securities of HBL**

FY	Interest Income on Govt. Securities	Investment in Govt. Securities	Return on Govt. Securities (R_g)
2003/04	170.33	3431.73	4.96
2004/05	149.13	5469.73	2.73
2005/06	172.24	5144.31	3.35
2006/07	191.56	6454.87	2.97
2007/08	201.31	7471.67	2.69
Average	**176.91**	**5594.46**	**3.34**

(Source: Annual Reports of HBL)

The table 4.3 showed that all the interest income, investment in government securities and return on government securities of HBL followed fluctuating trend in the five years period taken for research. The table showed that HBL made highest return, 4.96%, in the fiscal year 2003/04 and lowest return, 2.69% in the fiscal year 2007/08 on the investment in government securities. The table also demonstrated that HBL was able to generate only 3.34% of the total investment in government securities as interest income in average.

Figure 4.3

Return on Government Securities of HBL

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As the study is concerned with the comparative study of investment portfolio, the comparison on the return on government securities has been done in the Table 4.4.

Table 4.4

Comparison on Return on Government Securities

Average	NABIL	SCBNL	HBL
Interest	Rs. 160.84	Rs. 342.70	Rs. 176.91
Gov. Securities	Rs. 3568.65	Rs. 7808.34	Rs. 5594.46
Return (R_g)	4.84%	4.40%	3.34%

(Source: Table 4.1, Table 4.2 & Table 4.3)

Comparing three banks on the basis of return on government securities, it can be concluded that NABIL was more efficient in generating interest income in government securities, as NABIL achieved the highest average return (4.84%) than SCBNL (4.40%) and HBL (3.34%).

4.1.2 Return on Loans and Advances

Loans and advance are the main source of income for commercial banks. The facility of granting loan and advances is one of the main services, which customers of the commercial banks can enjoy. Hence, in order to realize their

objectives, the commercial banks invest in various sectors like agriculture, industry, commercial sectors, service sectors and other important sectors.
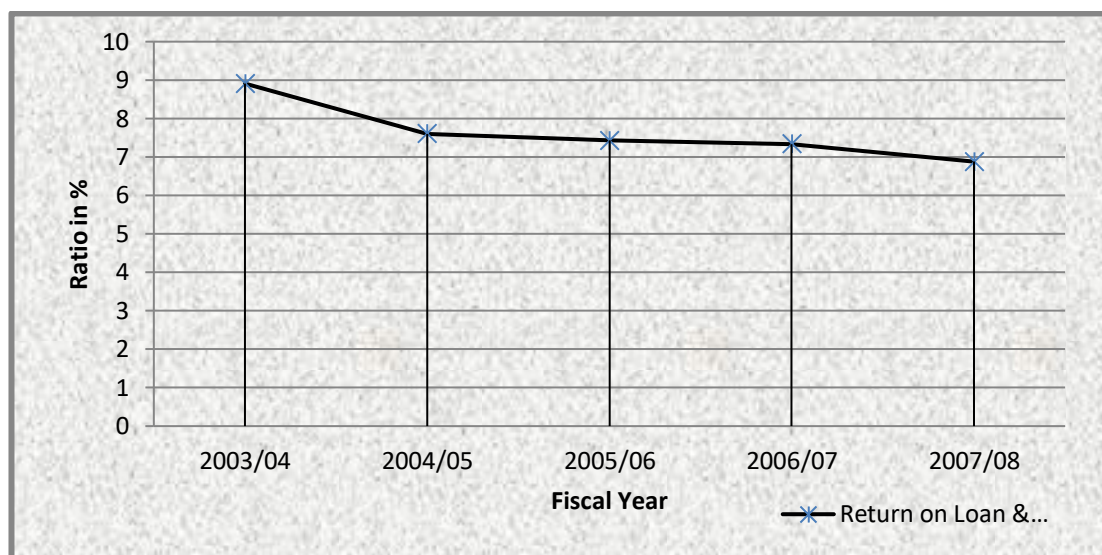
Table 4.5

Return on Loan and Advances of NABIL

FY	Interest Income on Loan and Advances	Investment in Loan & Advances	Return on Loan & Advances (R_l)
2003/04	761.62	8548.66	8.91
2004/05	831.83	10946.74	7.60
2005/06	986.23	13278.78	7.43
2006/07	1167.25	15903.02	7.34
2007/08	1496.24	21759.46	6.88
Average	**1048.63**	**14087.33**	**7.63**

(Source: Annual Reports of NABIL)

The table 4.5 delineated the return on loan and investment of NABIL bank limited. The table depicted that both the interest income and loan amount of NABIL bank were in increasing trend. In average, NABIL disbursed Rs. 14087.33 millions loan and earned Rs. 1048.63 millions interest. However, the return on loan and advances was decreasing trend. The return on loan and advances was 8.91% in the fiscal year 2003/04, which gradually decreased to 6.88% in the fiscal year 2007/08. This verified that the interest income did not increase in the same proportion as the loan and advances increased, which is quite dissatisfactory. However, in average NABIL earned 7.63% interest income on the average loan and investment disbursed.

Figure 4.4

Return on Loan & Advances of NABIL

The return on loans and advances of SCBNL is presented in the Table 4.6.

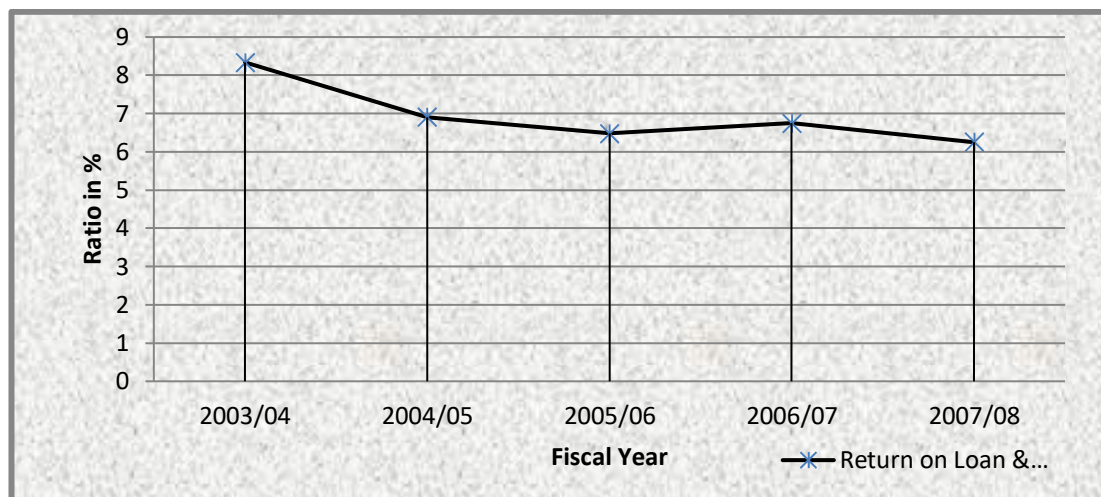**Table 4.6**

Return on Loan and Advances of SCBNL

FY	Interest Income on Loan and Advances	Investment in Loan & Advances	Return on Loan & Advances (R_l)
2003/04	558.01	6693.86	8.34
2004/05	581.66	8420.87	6.91
2005/06	596.62	9206.28	6.48
2006/07	728.59	10790.15	6.75
2007/08	872.69	13963.98	6.25
Average	**667.51**	**9815.03**	**6.95**

(Source: Annual Reports of SCBNL)

The table 4.6 depicted that the both the interest income and investment in loan and advances followed increasing trend in the five consecutive periods taken for research. In average NABIL earned Rs. 667.51 millions interest income and invested Rs. 9815.03 millions loan and advances. In contrast, the return on loan and advances of SCBNL was in fluctuating trend. The return followed decreasing trend for the first three years period, i.e. 8.34% in the fiscal year 2003/04 to 6.48% in the fiscal year 2005/06, then increased to 6.75% in the fiscal year 2006/07 and eventually decreased to 6.25% in the fiscal year 2007/08. In average, SCBNL earned 6.95% of the total loan and advances disbursed as average interest income.

Figure 4.5

Return on Loan and Advances of SCBNL

Similarly, the return on loans and advances of HBL is depicted in the Table 4.7.

Table 4.7

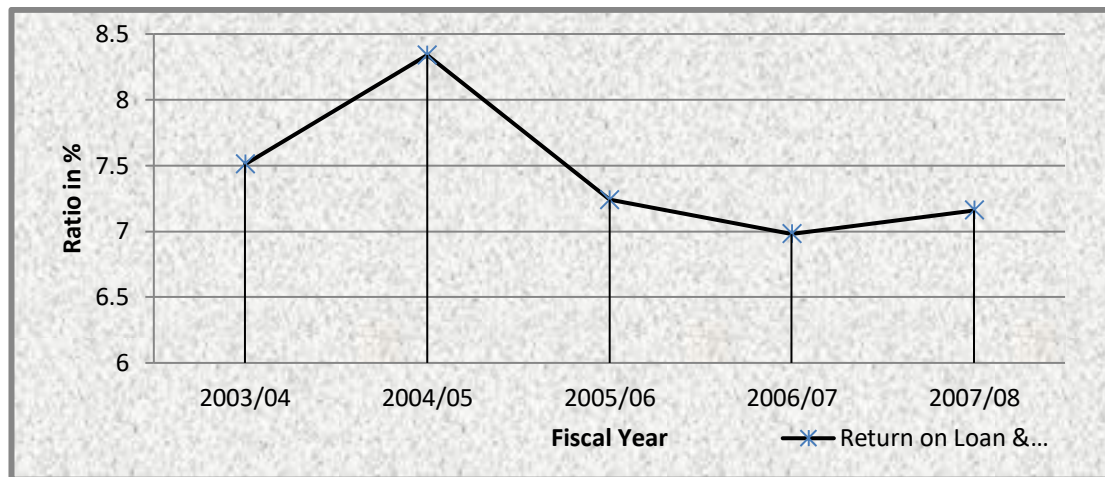**Return on Loan and Advances of HBL**

FY	Interest Income on Loan and Advances	Investment in Loan & Advances	Return on Loan & Advances (R_l)
2003/04	970.17	12919.63	7.51
2004/05	1122.39	13451.17	8.34
2005/06	1140.69	15761.98	7.24
2006/07	1242.85	17793.72	6.98
2007/08	1444.25	20179.61	7.16
Average	**1184.07**	**16021.22**	**7.45**

(Source: Annual Reports of HBL)

The table 4.7 showed that HBL earned Rs. 1184.07 millions as average interest income and invested Rs. 16021.22 millions on loans and advances. Both the interest income and loans & advances were in increasing trend. However, the return on loan & advances was in fluctuating trend. The table explored that HBL made highest return of 8.34% in the fiscal year 2004/05 and lowest of 7.16% in the fiscal year 2007/08. In average, HBL turned 7.45% of the loans and advances as interest income.

Figure 4.6

Return on Loan and Advances of HBL

Finally, the comparison on the return on loans and advances of the three sampled banks has been done in the Table 4.8.

Table 4.8

Comparison on Return on Loans and Advances

Average	NABIL	SCBNL	HBL
Interest	Rs. 1048.63	Rs. 667.51	Rs. 1184.07
Loan & Advances	Rs. 14087.33	Rs. 9815.03	Rs. 16021.22
Return (R_1)	7.63%	6.95%	7.45%

(Source: Table 4.5, Table 4.6 & Table 4.7)

Comparing three sampled banks, it can be concluded that the investment on loans and advances of NABIL is most secured and fruitful than the other two banks, since return on loan and advances of NABIL (7.63%) was highest than that of SCBNL (6.95%) and HBL (7.45%). However, the average interest earning of HBL (Rs. 1184.07 millions) was highest than that of NABIL (Rs. 1048.63 millions) and SCBNL (Rs. 667.51 millions), this was simply because HBL disbursed more loan than NABIL and SCBNL.

4.1.3 Return on Shares and Debentures

Investors receive dividend as return on investment in shares and interest as return on investment in debentures. Hence, the return on shares and debentures is the combination on interest and dividend received. The higher the return on

shares and debentures, the higher will be the retaining capacity of banks on investors. The return on shares and debentures of NABIL, SCBNL and HBL is presented in the Table 4.9, Table 4.10 and Table 4.11 respectively.

Table 4.9
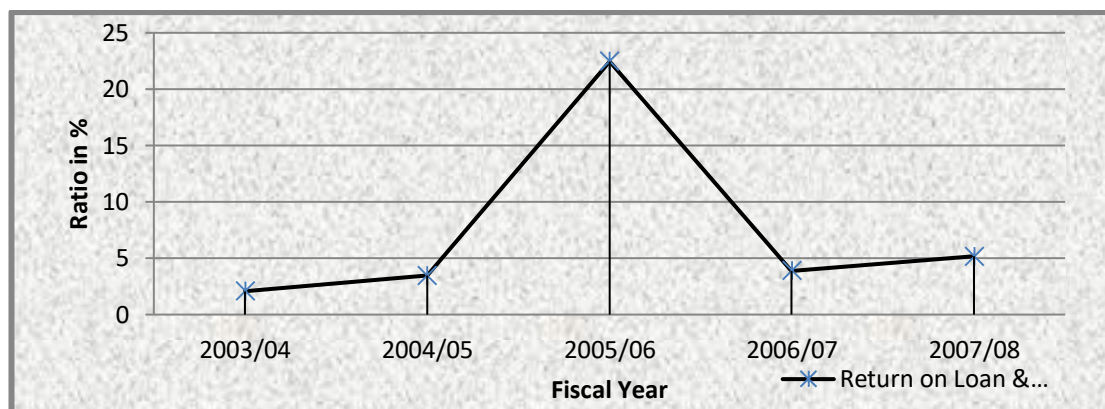
Return on Shares and Debentures of NABIL

FY	Income on SB	Investment in SB	Return on SB (R_s)
2003/04	0.46	22.22	2.07
2004/05	15.39	443.09	3.47
2005/06	23.39	104.19	22.45
2006/07	11.15	286.96	3.89
2007/08	16.65	323.24	5.15
Average	**13.41**	**235.94**	**7.41**

(Source: Annual Reports of NABIL)

The table 4.9 showed the return on investment in shares and debentures of NABIL. The table showed that NABIL earned highest return in the fiscal year 2005/06, when the return was 22.45% of the total investment in shares and debentures. Similarly, the return on shares and debentures was lowest in the fiscal year 2003/04, which was 2.07%. In average, NABIL earned 7.41% as dividend and interest on the share and debenture investment.

Figure 4.7

Return on Shares and Debentures of NABIL

The return on shares and debentures obtained by SCBNL on the investment is presented in the Table 4.10.

Table 4.10
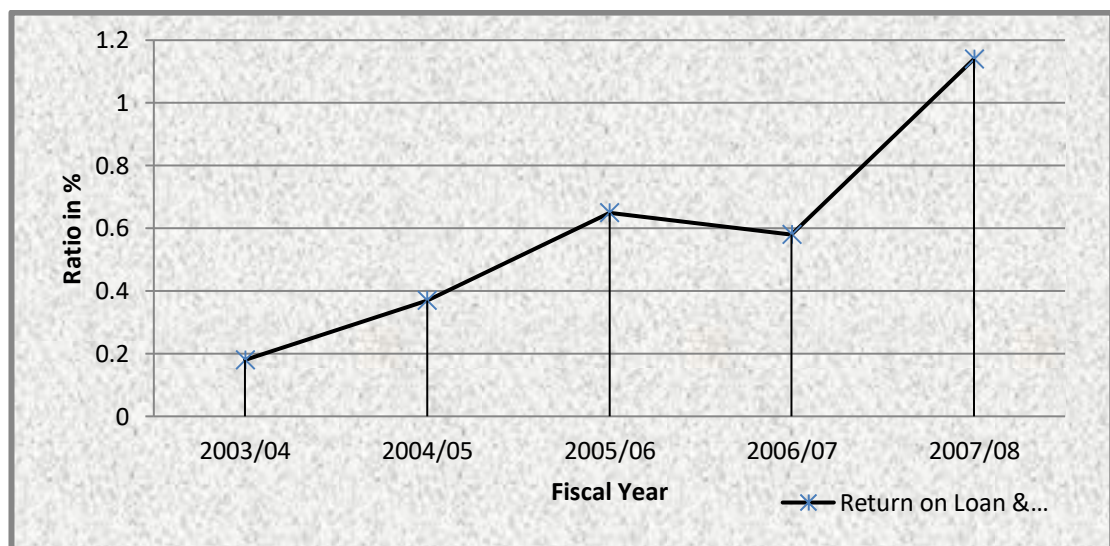
Return on Shares and Debentures of SCBNL

FY	Income on SB	Investment in SB	Return on SB (R_s)
2003/04	0.02	11.20	0.18
2004/05	0.05	13.35	0.37
2005/06	0.10	15.34	0.65
2006/07	0.26	44.94	0.58
2007/08	1.31	114.54	1.14
Average	**0.35**	**39.87**	**0.58**

(Source: Annual Reports of SCBNL)

The table 4.10 showed that the return on share and debenture investment of SCBNL increased for the first three years, i.e. 0.18% in the fiscal year 2003/04 to 0.65% in the fiscal year 2005/06, then decreased to 0.58% in the fiscal year 2006/07 and finally increased to 1.14% in the fiscal year 2007/08. In average, SCBNL earned 0.58% of the investment in shares and debentures as dividend and interest income.

Figure 4.8

Return on Shares and Debentures of SCBNL

Similarly, the return achieved by HBL on the investment in shares and debentures is presented in the Table 4.11.

Table 4.11

Return on Shares and Debentures of HBL

FY	Income on SB	Investment in SB	Return on SB (R_s)
2003/04	0.03	34.27	0.09
2004/05	0.04	39.91	0.10

2005/06	0.61	38.57	1.58
2006/07	3.49	73.42	4.75
2007/08	9.70	89.56	10.83
Average	**2.77**	**55.15**	**3.47**

The table 4.11 showed that the return on shares and debentures of HBL followed increasing trend. The return ranged from 0.09% in the fiscal year 2003/04 to 10.83% in the fiscal year 2007/08. In average, HBL earned 3.47% of the total investment in shares and debentures as interest and dividend.

Figure 4.9

Return on Shares and Debentures of HBL
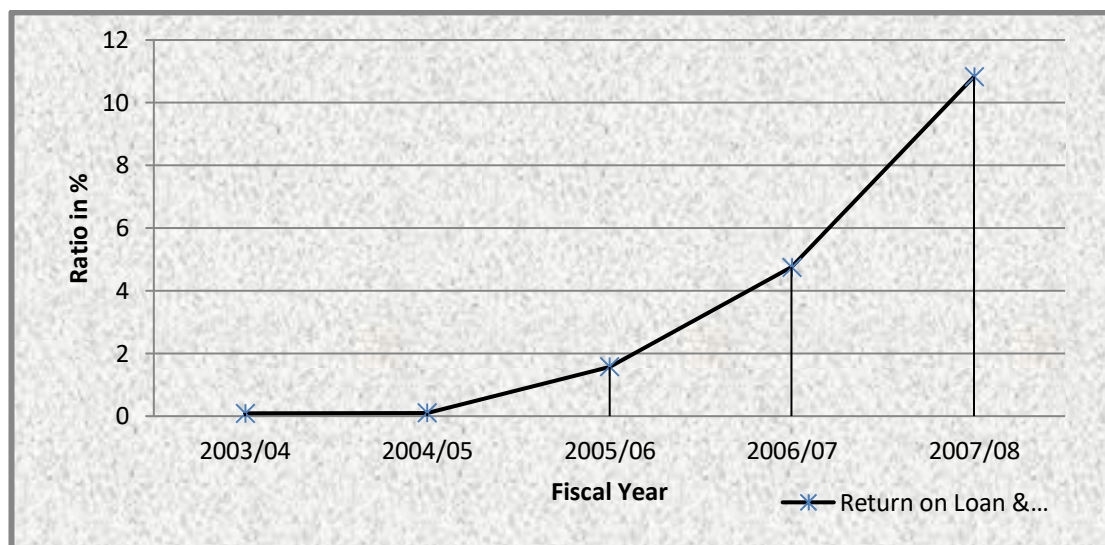
The comparison on the return on shares and debentures of three banks is presented in the Table 4.12.

Table 4.12

Comparison on Return on Shares and Debentures

Average	NABIL	SCBNL	HBL
Income	Rs. 13.41	Rs. 0.35	Rs. 2.77
Shares & Debentures	Rs. 235.94	Rs. 39.87	Rs. 55.15
Return (R_s)	7.41%	0.58%	3.47%

Comparing the sampled banks, it can be concluded that NABIL bank's investment in shares and debentures was more fruitful than other banks, since the amount of interest earned by NABIL (Rs. 13.41 millions) was highest than that of SCBNL (Rs. 0.35 millions) and HBL (Rs. 2.77 millions) and also the return on shares and debentures of NABIL (7.41%) was highest than that of SCBNL (0.58%) and HBL (3.47%).

4.2 Risk on Individual Investment

4.2.1 Risk on Government Securities

The risk on government securities is measured by the standard deviation on return on government securities. Higher the variability on the return creates higher the uncertainty and thus higher risk. The risk on government securities of NABIL, SCBNL and HBL is presented in the Table 4.13, Table 4.14 and Table 4.15 respectively.

Table 4.13

Risk on Government Securities of NABIL

FY	Return on Gov. Securities (R_g)	$R - \overline{R}_g$	$\left(R - \overline{R}_g\right)^2$
2003/04	5.25	0.4120	0.1697
2004/05	6.26	1.4220	2.0221
2005/06	5.66	0.8220	0.6757
2006/07	2.75	-2.0880	4.3597
2007/08	4.27	-0.5680	0.3226
		Total	7.5499
		Risk (σ_g)	**1.37**

(Source: Appendix II)

The table 4.13 measures the risk on the government securities of NABIL bank. As the variance on return on government securities in the fiscal year 2004/05 was highest, i.e. 2.0221, and least in the fiscal year 2003/04, i.e. 0.1697, it can be considered that the investment in government securities was most risky in the fiscal year 2004/05 and least risky in the fiscal year 2003/04. However there was 1.37% (σ_g) risk in the return on government securities of NABIL.

Table 4.14

Risk on Government Securities of SCBNL

FY	Return on Gov. Securities (R_g)	$R - \overline{R}_g$	$\left(R - \overline{R}_g\right)^2$
2003/04	4.79	0.3860	0.1490
2004/05	4.60	0.1960	0.0384
2005/06	4.11	-0.2940	0.0864
2006/07	4.59	0.1860	0.0346
2007/08	3.93	-0.4740	0.2247
		Total	**0.5331**
		Risk (σ_g)	**0.37**

(Source: Appendix II)

The table 4.14 revealed the risk on government securities of SCBNL. The table showed the risk on generating return on government securities was most in the fiscal year 2007/08 (σ^2_g = 0.2247) and least in the fiscal year 2006/07 (σ^2_g = 0.0346). Similarly, in the five consecutive years there was 0.37% (σ_g) risk in the return in government securities of SCBNL.

Table 4.15

Risk on Government Securities of HBL

FY	Return on Gov. Securities (R_g)	$R - \overline{R}_g$	$\left(R - \overline{R}_g\right)^2$
2003/04	4.96	1.6200	2.6244
2004/05	2.73	-0.6100	0.3721
2005/06	3.35	0.0100	0.0001
2006/07	2.97	-0.3700	0.1369
2007/08	2.69	-0.6500	0.4225
		Total	**3.5560**
		Risk (σ_g)	**0.94**

(Source: Appendix II)

The table 4.15 demonstrated that the risk in return on government securities of HBL was most in the fiscal year 2003/04 (σ^2_g = 2.6244) and least in the fiscal year 2005/06 (σ^2_g = 0.0001). Also, there was 0.94% (σ_g) risk in the return on investment in government securities of HBL.

Table 4.16

Comparison on Risk on Government Securities

Risk	NABIL	SCBNL	HBL
R_g	1.37%	0.37%	0.94%

Comparing three sample banks, it can be concluded that the risk in return on investment on government securities of NABIL (1.37%) was highest than that of SCBNL (0.37%) and HBL (0.94%). As the return on government securities of NABIL (4.84%) was also highest, it can be considered that higher the risk yields higher return.

4.2.2 Risk on Loan and Advances

Loans and advances is considered as the most riskier investment than other. The risk on loans and advances of NABIL, SCBNL and HBL is presented in the Table 4.17, Table 4.18 and Table 4.19 respectively.

Table 4.17

Risk on Loan and Advances of NABIL

FY	Return on Loan & Advances (R_l)	$R - \overline{R}_l$	$\left(R - \overline{R}_l\right)^2$
2003/04	8.91	1.2780	1.6333
2004/05	7.60	-0.0320	0.0010
2005/06	7.43	-0.2020	0.0408
2006/07	7.34	-0.2920	0.0853
2007/08	6.88	-0.7520	0.5655
		Total	**2.3259**
		Risk (σ_l)	**0.76**

The table 4.17 measured the risk in return on loan and advances of NABIL. The table delineated that the risk in loan and advances was highest ($\sigma^2_l =$ 1.6333) in the fiscal year 2003/04 and lowest ($\sigma^2_l = 0.0010$) in the fiscal year 2004/05. In five consecutive reviewed years, there was 0.76% (σ^2_l) risk in the return on investment in loans and advances of NABIL.

Table 4.18

Risk on Loan and Advances of SCBNL

FY	Return on Loan & Advances (R_l)	$R - \overline{R}_l$	$\left(R - \overline{R}_l\right)^2$
2003/04	8.34	1.3940	1.9432

2004/05	6.91	-0.0360	0.0013
2005/06	6.48	-0.4660	0.2172
2006/07	6.75	-0.1960	0.0384
2007/08	6.25	-0.6960	0.4844
		Total	**2.6845**
		Risk (σ_l)	**0.82**

The table 4.18 revealed the risk on loan and advances of SCBNL. The table showed the risk on generating return on loan and advances was most in the fiscal year 2003/04 ($\sigma^2_l = 1.9432$) and least in the fiscal year 2004/05 ($\sigma^2_l = 0.0013$). Similarly, in the five consecutive years there was 0.82% (σ_l) risk in the return in loan and advances of SCBNL.

Table 4.19

Risk on Loan and Advances of HBL

FY	Return on Loan & Advances (R_l)	$R - \overline{R}_l$	$(R - \overline{R}_l)^2$
2003/04	7.51	0.0640	0.0041
2004/05	8.34	0.8940	0.7992
2005/06	7.24	-0.2060	0.0424
2006/07	6.98	-0.4660	0.2172
2007/08	7.16	-0.2860	0.0818
		Total	**1.1447**
		Risk (σ_l)	**0.53**

The table 4.19 depicted that the risk on return in loan and advances of HBL bank was in fluctuating trend. The risk was most in the fiscal year 2004/05 ($\sigma^2_l = 0.7992$) and least in the fiscal year 2003/04 ($\sigma^2_l = 0.0041$). In the five fiscal years, the risk in loan and advances of HBL was 0.53% (σ_l).

Table 4.20

Comparison on Risk on Loan and Advances

Risk	NABIL	SCBNL	HBL
R_l	0.76%	0.82%	0.53%

Comparing three sampled banks, it can be concluded that SCBNL was the most risk taker in investment on loan and advances. Since, the standard deviation (risk) on return in loans and advances was highest in SCBNL (0.82%) than that of NABIL (0.76%) and HBL (0.53%). However, unlike highest risk, the return on loan and advances was lowest in SCBNL. This clearly indicated the poor loan management in SCBNL than in NABIL and HBL.

4.2.3 Risk on Shares and Debentures

Besides government, foreign securities and loans & advances, shares and debentures is another medium of earning return. Thus, the risk on shares and debentures of NABIL, SCBNL and HBL is measured with the aid of Table 4.21, Table 4.22 and Table 4.23 respectively.

Table 4.21

Risk on Shares and Debentures of NABIL

FY	Return on Shares & Deb. (R_s)	$R - \overline{R}_s$	$\left(R - \overline{R}_s\right)^2$
2003/04	2.07	-5.34	28.47
2004/05	3.47	-3.94	15.49
2005/06	22.45	15.04	226.32
2006/07	3.89	-3.52	12.36
2007/08	5.15	-2.26	5.09
		Total	**287.74**
		Risk (σ_s)	**8.48**

(Source: Appendix I)

The table 4.21 measured the risk on the NABIL's return on investment in shares and debentures. The table showed that the risk in investment in shares and debentures was in fluctuating trend. The risk was highest in the fiscal year 2005/06 ($\sigma^2_s = 226.32$) and lowest in the fiscal year 2007/08 ($\sigma^2_s = 5.08$). Similarly, in five years period the risk in investment on shares and debentures was 8.48%.

Table 4.22

Risk on Shares and Debentures of SCBNL

FY	Return on Shares & Deb. (R_s)	$R - \overline{R}_s$	$\left(R - \overline{R}_s\right)^2$

2003/04	0.18	-0.40	0.16
2004/05	0.37	-0.21	0.05
2005/06	0.65	0.07	0.004
2006/07	0.58	0.00	0.00
2007/08	1.14	0.56	0.31
		Total	**0.52**
		Risk (σ_s)	**0.36**

(Source: Appendix I)

The table 4.22 depicted that the risk in investment in shares and debentures of SCBNL was highest in the fiscal year 2007/08 ($\sigma^2_s = 0.31$) and nil in the fiscal year 2006/07 ($\sigma^2_s = 0.00$). However, there was 0.36% risk in the return in investment in shares and debentures in the five years period.

Table 4.23

Risk on Shares and Debentures of HBL

FY	Return on Shares & Deb. (R_s)	$R - \overline{R}_s$	$\left(R - \overline{R}_s\right)^2$
2003/04	0.09	-3.38	11.42
2004/05	0.10	-3.37	11.36
2005/06	1.58	-1.89	3.57
2006/07	4.75	1.28	1.64
2007/08	10.83	7.36	54.17
		Total	**82.16**
		Risk (σ_s)	**4.53**

(Source: Appendix I)

The table 4.23 revealed that the risk in return in investment on shares and debentures of HBL was highest in the fiscal year 2007/08 ($\sigma^2_s = 54.17$) and lowest in the fiscal year 2006/07 ($\sigma^2_s = 1.64$). In average, there was 4.53% risk (σ_s) in the return in investment in shares and debentures on HBL in the five years period.

Table 4.24

Comparison of Risk on Shares and Debentures

Risk	NABIL	SCBNL	HBL
R_s	8.48%	0.36%	4.53%

(Source: Table 4.21, Table 4.22 & Table 4.23)

Comparing three sampled banks, it can be concluded that the risk in return on investment on shares and debentures of NABIL (8.48%) was highest than that of SCBNL (0.36%) and HBL (4.53%). As the return on shares and debentures of NABIL (7.41%) was also highest, it can further be considered that higher the risk yields higher return.

4.3 Ratio Analysis

Ratio analysis is the process of establishing the significant relationship between the variables of financial statement to provide a meaningful understanding of the performance and financial position of the firm. Thus, in this section, the major ratios that are related to the investment mechanism of commercial banks are calculated and analyzed.

4.3.1 Total Investment to Total Deposit Ratio

This ratio is used to measure the ability of banks to successfully mobilize the total deposits of investment. This ratio can be calculated by dividing total investment by total deposits.

Table 4.25

Total Investment to Total Deposit Ratio

Fiscal Year	NABIL	SCBNL	HBL
2003/04	41.33	53.68	42.22
2004/05	29.31	50.11	47.12
2005/06	31.93	55.71	41.10
2006/07	38.32	54.99	39.35
2007/08	31.14	46.74	41.89

	Mean	S.D.	C.V.%
Mean	**34.41**	**52.25**	**42.34**
S.D.	**5.15**	**3.76**	**2.90**
C.V.%	**14.96**	**7.19**	**6.84**

(Source: Appendix II)

The table 4.25 represented the proportion of the mobilization of total deposit in total investment. The table showed that the trend of mobilizing total deposit in total investment of NABIL fluctuated during the period. NABIL utilized 41.33%, 29.31%, 31.93%, 38.32% and 31.14% of the total deposits in investment activities like government securities, shares and debentures, foreign securities and other in the fiscal year 2003/04, 2004/05, 2005/06, 2006/07 and 2007/08 respectively. The table showed that in average 34.41% of the total deposit of NABIL had been utilized for investment purpose. Also, the coefficient of variation in total investment to total deposit was 14.96%.

Similarly, the total investment to total deposit of SCBNL also fluctuated during the period. The table showed that SCBNL mobilized 53.68%, 50.11%, 55.71%, 54.99%, 46.74% of the total deposit for investment purpose in the fiscal year 2003/04, 2004/05, 2005/06, 2006/07 and 2007/08 respectively. In average, 52.25% of the total deposit had been utilized for investment. And the coefficient of variation in such ratio was 7.19%.

Likewise, the total investment to total deposit of HBL fluctuated during the five consecutive years taken for research. The ratio was highest in the fiscal year 2004/05 (47.12%) and lowest in the fiscal year 2006/07 (39.35%). The coefficient of variation was 6.84% and the average ratio was 42.34%.

Comparing three sampled banks, it can be concluded that SCBNL mobilized highest portion of the total deposit in investment (i.e. 52.25%) than NABIL (i.e. 34.41%) and HBL (i.e. 42.34%). However on the basis of coefficient of variation on the ratio, it can be considered that HBL had more stable investment policy than NABIL and SCBNL, since the coefficient of variation

of HBL (6.84%) was lowest than that of NABIL (14.96%) and SCBNL (7.19%).

Figure 4.10

Total Investment to Total Deposit Ratio
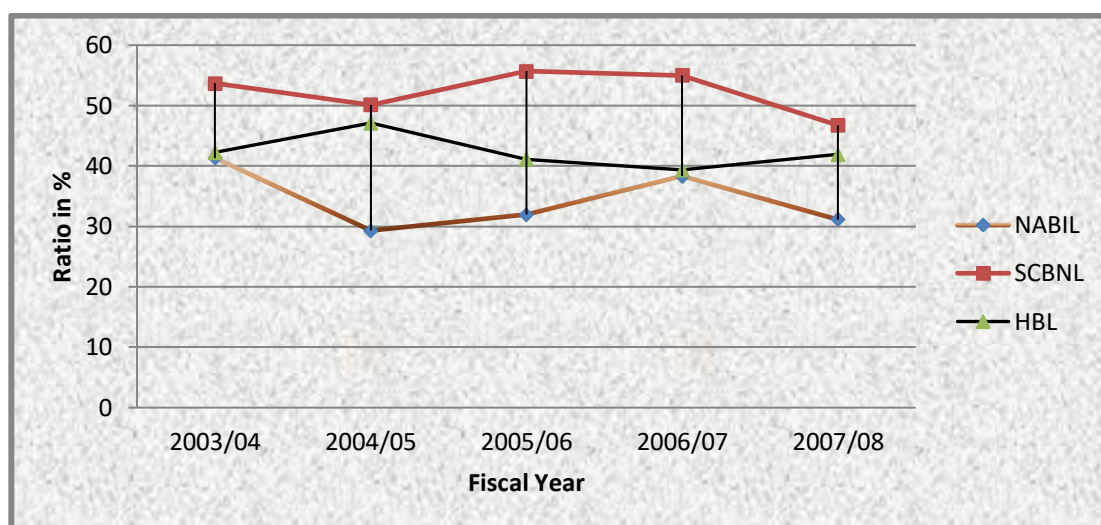
4.3.2 Investment in Government Securities to Total Investment

This ratio is very useful to know in which extent the commercial banks are successful in mobilizing their total investment in different types of government securities to maximize the income. This ratio is calculated by dividing investment on government securities by investment. A high ratio indicates the high efficiency of the firm in utilizing collected deposits to government securities and vice-versa.

Table 4.26

Investment in Gov. Securities to Total Investment

Fiscal Year	NABIL	SCBNL	HBL
2003/04	62.93	69.96	36.93
2004/05	56.46	74.24	46.78
2005/06	37.25	67.29	47.24
2006/07	53.75	52.44	54.60
2007/08	46.75	58.53	56.01
Mean	**51.43**	**64.49**	**48.31**
S.D.	**9.82**	**8.85**	**7.61**

C.V.%	19.10	13.73	15.75

The table 4.26 measured the proportion of total investment mobilized in the government securities. The table showed that the ratio of NABIL decreased for the first three years, i.e. from 62.93% in the fiscal year 2003/04 to 37.25% in the fiscal year 2005/06, then increased in the fiscal year 2006/07 (53.75%) and finally decreased in the fiscal year 2007/08 (46.75%). In average, the investment in government securities covered approximately half (51.43%) of the total investment. The coefficient of variation on such ratio was 19.10%.

Similarly, the ratio in SCBNL increased from 69.96% in the fiscal year 2003/04 to 74.24% in the fiscal year 2004/05, then decreased to 67.29% in the fiscal year 2005/06 and 52.44% in the fiscal year 2006/07 and then finally increased to 58.53% in the fiscal year 2007/08. In average, SCBNL invested 64.49% of the total investment amount in government securities.

However, the investment in government securities to total investment of HBL followed increasing trend in the five years period. Initially the ratio was 36.93% in the fiscal year 2003/04, which followed increasing trend and finally reached to 56.01% in the fiscal year 2007/08. It seemed that HBL followed aggressive policy to invest in government securities, which is risk free investment. In average, HBL invested 48.31% of the total investment in government securities.

Comparing the sampled banks, it can be concluded that SCBNL had the practice of investing highest proportion of total investment in government securities than other two banks. Also, the lowest coefficient variation of SCBNL (13.73%) than that of NABIL (19.10%) and HBL (15.75%) indicated that SCBNL had more stable policy in investing government securities than other two sampled banks.

Figure 4.11

Investment in Gov. Securities to Total Investment
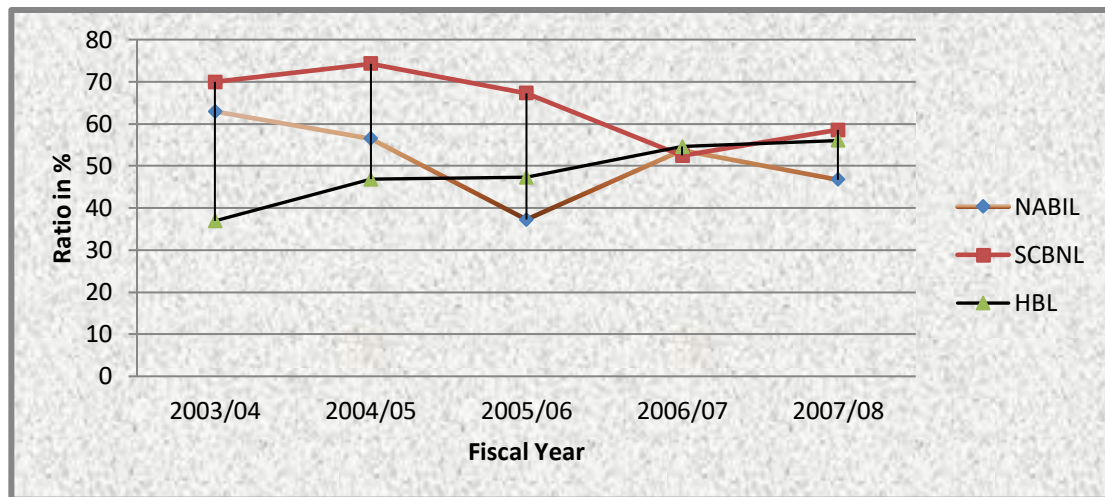
4.3.3 Investment in Shares & Debentures to Total Investment

The ratio between investment in shares and debentures to total investment reflects the extent on which the banks are successful to mobilize their total investment on purchase of shares and debentures of other companies.

Table 4.27

Investment in Shares & Debentures to Total Investment

| Fiscal Year	NABIL	SCBNL	HBL
2003/04	0.38	0.10	0.37
2004/05	10.36	0.14	0.34
2005/06	1.69	0.12	0.35
2006/07	3.21	0.33	0.62
2007/08	3.25	0.82	0.67
Mean	**3.78**	**0.30**	**0.47**
S.D.	**3.87**	**0.31**	**0.16**
C.V.%	**102.41**	**101.31**	**34.13**

(Source: Appendix II)

The table 4.27 indicated that the investment in shares and debentures to total investment of NABIL fluctuated during the entire period. The ratio ranged from 0.38% in the fiscal year 2003/04 to 10.36% in the fiscal year 2004/05. However, the average ratio was 3.78% only. Also, the coefficient of variation of 102.41% implied that NABIL had no stable policy in investing in shares and debentures.

In contrast, the ratio in SCBNL found to follow increasing trend except in the fiscal year 2005/06 when the ratio decreased to 0.12% from 0.14% in the fiscal year 2004/05. The ratio was 0.10% in the fiscal year 2003/04 and finally reached to 0.82% in the fiscal year 2007/08. The coefficient of variation of 101.31% indicated high inconsistency in the ratio.

Similarly, the ratio in HBL was 0.37% in the fiscal year 2003/04, which decreased to 0.34% in the fiscal year 2004/05 and then followed increasing trend and finally reached to 0.67% in the fiscal year 2007/08. In average, 0.47% of the total investment was invested in shares and debentures and the coefficient of variation in such ratio was 34.13%.

Comparing three banks, it can be concluded that NABIL has the policy of investing highest portion of total investment in shares and debentures than SCBNL and HBL.

Figure 4.12

Investment in Shares & Debentures to Total Investment
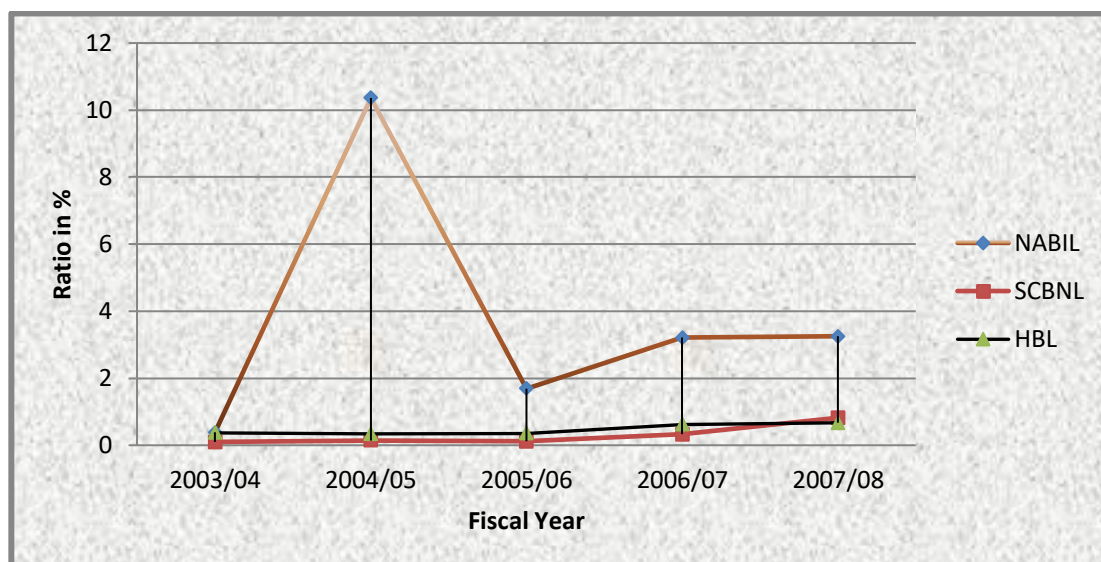
4.3.4 Investment in Loans and Advances to Total Deposit

This ratio measures the bank's ability in disbursing the collected amount of deposit as loans and advances. Higher the ration indicates higher the chances of earning income in the form of dividend.

Table 4.28

Investment in Loans and Advances to Total Deposit

Fiscal Year	NABIL	SCBNL	HBL
2003/04	60.55	30.29	54.30
2004/05	75.05	42.05	50.07
2005/06	68.63	38.75	55.27
2006/07	68.13	42.61	56.57
2007/08	68.18	46.12	61.23
Mean	**68.11**	**39.97**	**55.49**
S.D.	**5.14**	**6.01**	**4.03**
C.V.%	**7.54**	**15.03**	**7.26**

(Source: Appendix II)

The table 4.28 highlighted on the mobilization of total deposits in loans and advances. The table showed that ratio of investment in loans and advances to total deposit of NABIL bank was highest (i.e. 75.05%) in the fiscal year 2004/05 and lowest (60.55%) in the fiscal year 2003/04. In average, 68.11% of the total deposit had been utilized in disbursing loans and advances.

Similarly, the ratio in SCBNL ranged from 30.29% in the fiscal year 2003/04 to 46.12% in the fiscal year 2007/08. In average, SCBNL mobilized 39.97% of the total deposit in loans and advances. The coefficient of variation on such ratio was 15.03% which indicated inconsistency in the ratio.

Likewise, the total investment in loans and advances to total deposit of HBL decreased to 50.07% in the fiscal year 2004/05 from 54.30% in the fiscal year 2003/04. Since, fiscal year 2005/06 the ratio was found to be in increasing trend and thus was 61.23% in the fiscal year 2007/08. In average, HBL used 55.49% of the total deposit in loans and advances.

Comparing three banks, it can be considered that NABIL followed more aggressive policy in disbursing loans and advances from total deposits than SCBNL and HBL.

Figure 4.13

Investment in Loans and Advances to Total Deposit
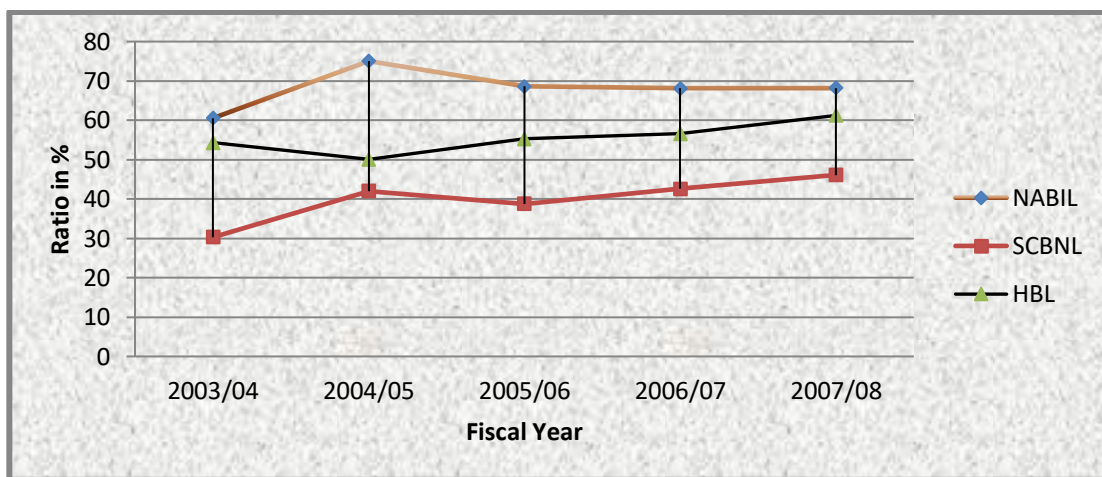
4.4 Portfolio Return on Investment

The expected return on a portfolio (R_P) is simply the weighted average of the expected return on the individual assets in the portfolio with the weights being equal to the proportion of investment in each asset. Commercial Banks invests their funds in government securities, loan and advances and shares and debentures.

Table 4.29

Portfolio Return on Investment of NABIL

Assets	Return (R)	Amount	Weight (W)	W x R
Govt. Sec.	4.84	3568.65	0.20	0.97
Loans & Adv.	7.63	14087.33	0.79	6.03
Shares & Deb.	7.41	235.94	0.01	0.07
			Portfolio Return (R_p)	**7.07**

(Source: Appendix I)

The above table showed that the expected rate of return on portfolio of NABIL was 7.07%, which was greater than the average rate of return on government securities, 7.07% > 4.84%, and lower than the average rate of return on loans & advances, 7.07% < 7.63%, and shares & debentures, 7.07% < 7.41%.

Table 4.30

Portfolio Return on Investment of SCBNL

Assets	Return (R)	Amount	Weight (W)	W x R
Govt. Sec.	4.40	7808.34	0.442	1.945
Loans & Adv.	6.95	9815.03	0.556	3.862
Shares & Deb.	0.58	39.87	0.002	0.001
			Portfolio Return (R_p)	**5.81**

(Source: Appendix I)

The above table revealed that the expected rate of return on portfolio of SCBNL was 5.81%, which was more than the mean rate of return on government securities, 5.81% > 4.40%, and shares and debentures, 5.81% > 0.58%. However, the portfolio return was lower than the mean rate of return on loans and advances, 5.81% < 6.95%.

Table 4.31

Portfolio Return on Investment of HBL

Assets	Return (R)	Amount	Weight (W)	W x R
Govt. Sec.	3.34	5594.16	0.258	0.862
Loans & Adv.	7.45	16021.22	0.739	5.508
Shares & Deb.	3.47	55.15	0.003	0.009
			Portfolio Return (R_p)	**6.38**

(Source: Appendix I)

The above table depicted that the portfolio return on investment of HBL was 6.38%, which was greater than the average return on government securities, 6.38% > 3.34%, and shares and debentures, 6.38% > 3.47%. However, the portfolio return was lower than the mean rate of return on loans and advances, i.e. 6.38% < 7.45%.

Table 4.32

Comparison on Portfolio Return

Portfolio Return	NABIL	SCBNL	HBL
R_p	7.07%	5.81%	6.38%

(Source: Table 4.29, Table 4.30 & Table 4.31)

Comparing the sampled banks on the basis of portfolio return, it can be concluded that NABIL was more efficient in managing its investment portfolio, as the portfolio return of NABIL (7.07%) was highest than that of SCBNL (5.81%) and HBL (6.38%).

4.5 Portfolio Risk on Investment

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

Table 4.33

Portfolio Risk on Investment

Banks	$w^2_g \sigma^2_g$ c_1	$w^2_l \sigma^2_l$ c_2	$w^2_s \sigma^2_s$ c_3	$2\ w_g\ w_l\ r_{gl}\ \sigma_g\ \sigma_l$ c_4	$2\ w_l\ w_s\ r_{ls}\ \sigma_l\ \sigma_s$ c_5	$2\ w_g w_s\ r_{gs}\ \sigma_g\ \sigma_s$ c_6	σ^2_p $c_1+c_2+c_3+c_4+c_5+c_6$
NABIL	0.075	0.36	0.013	0.1061	-0.0364	0.0174	0.5352
					Portfolio risk (σ_p)		**0.73**
SCBNL	0.026	0.207	.000001	0.1181	0.0003	0.0002	0.3518
					Portfolio risk (σ_p)		**0.59**

HBL	0.059	0.156	0.0001	-0.0081	-0.0052	-0.0029	0.1996
					Portfolio risk (бр)		**0.45**

The table 4.33 measured the portfolio risk of the three sampled banks. The table verified the fact that highest return yields highest risk, since NABIL had highest portfolio return (7.07%) than other two banks, it carried highest portfolio risk (0.73%). Although the portfolio return of HBL (6.38%) was greater than that of SCBNL (5.81%), the portfolio risk of HBL (0.45%) was lower than that of SCBNL (0.59%). This implied that the HBL was more efficient than NABIL and SCBNL in reducing risk and managing the portfolio investment. Hence, HBL and NABIL can be considered as the risk averter and risk taker respectively.

4.6 Regression Analysis

The regression lines helps to predict by how much the dependent variable, Y changes with per unit change in the independent variable, X. In this study the regression lines of investment on deposit has been analyzed.

4.6.1 Regression Line of Investment on Total Deposit

Let the investment, dependent variable (Y), be the function of the total deposit, independent variable (X). Then the regression equation of total investment on total deposit is given by;

Investment $=$ f (Total Deposit)

$Inv._{NABIL} = 935.78 + 0.30\ TD$

$Inv._{SCBNL} = 3229.06 + 0.38\ TD$

$Inv._{HBL} = 2422.86 + 0.33\ TD$

Table 4.34

Regression Analysis of Total Investment on Total Deposit

Banks	no. of	Constant (a)	regression	T value

	observation (n)		coefficient (b)	
NABIL	5	935.78	0.30	4.25
SCBNL	5	3229.06	0.38	3.15
HBL	5	2422.86	0.33	3.38

(Source: Appendix III)

The table 4.34 showed that the beta coefficient of all of the sampled banks, NABIL, SCBNL & HBL, of the regression line of total investment on total deposit is positive. The beta coefficient of NABIL, SCBNL, and HBL of the regression line of investment on total deposit is 0.30, 0.38 and 0.33 respectively, which indicates that Rs. 1 increment in deposit collection leads to Rs. 0.30 increment in total investment of NABIL, Rs. 0.38 increment in total investment of SCBNL, and Rs. 0.33 increment in total investment of HBL.

Similarly, the t-statistics shows that the calculated t-value of NABIL (4.25), SCBNL (3.15) and HBL (3.38) is greater than the tabulated t-value (2.78) at 5% level of significance and 4 degree of freedom, which implies that the relationship between deposit and investment of all the sampled banks is statistically significant and hence investment increases with the increase in total deposit and vice versa.

Comparing three banks, it can be concluded that the total deposit has greater impact in total investment of SCBNL than that in other sampled banks, because the per rupee increment in deposit leads to greatest rupee increase in investment in SCBNL (Rs. 0.38) than in NABIL (Rs. 0.30) and in HBL (Rs. 0.33).

4.6.2 Regression Line of Return on Investment on Total Investment

Let return on total investment, ROI, be the function of total investment, then the regression line of return on investment to total investment is given by;

$$\text{ROI} = f\,(\text{Total Investment})$$

$$\text{ROI}_{NABIL} = -2058.83 + 0.12\ \text{Inv.}$$

$$\text{ROI}_{\text{SCBNL}} \quad = \quad -1659.34 + 0.05 \text{ Inv.}$$

$$\text{ROI}_{\text{HBL}} \quad = \quad 1659.34 - 0.24 \text{ Inv.}$$

Table 4.35

Regression Analysis of Return on Investment on Total Investment

Banks	no. of observation (n)	Constant (a)	regression coefficient (b)	T value
NABIL	5	-2058.83	0.12	3.73
SCBNL	5	-1659.34	0.05	2.26
HBL	5	1659.34	-0.24	1.35

(Source: Appendix III)

The table 4.35 revealed that the return on investment of NABIL and SCBNL has positive relationship with the total investment amount, while the return on investment of HBL has negative relationship with the investment amount. The table shows that with per rupee increment in total investment, the return on total investment of NABIL increases by Rs. 0.12, SCBNL increases by Rs. 0.05 and HBL decreases by Rs. 0.24. Hence, investment of HBL is most risky and thus leads to decrease the return, while investment of NABIL is most fruitful and leads to Rs. 0.12 increase in return with the same per rupee investment on the basis of regression line of return on investment on total investment.

However, the t-statistics shows that only the relationship between return on investment and total investment of NABIL is statistically significant, as the calculated t-value of only NABIL (3.73) is greater than the tabulated t-value (2.78) at 5% level of significance and 4 degree of freedom, whereas the relationship between return on investment and total investment of SCBNL and HBL is statistically insignificant as the calculated T-value of each is lower than the tabulated T-value.

4.7 Major Findings of the Study

From the analysis of the secondary data, the following major findings have been derived:

- In average, NABIL bank received 4.84% of the total investment in government securities as return, while the return for that on SCBNL was 4.40% and that on HBL was 3.34%. Hence, NABIL remained more success in generating income from government securities.

- However, the investment amount in government securities of SCBNL (Rs. 7808.34 millions) was highest than that of NABIL (Rs. 3568.65 millions) and HBL (Rs. 5594.46 millions). Also, the interest amount on government securities of SCBNL (Rs. 342.70 millions) was highest than that of NABIL (Rs. 160.84 millions) and HBL (Rs. 176.91 millions).

- HBL disbursed highest amount of loans & advances, i.e. Rs. 16021.22 millions, than NABIL (Rs. 14087.33 millions) and SCBNL (Rs. 9815.03 millions), and thus earned highest amount of interest, i.e. Rs. 1184.07 millions, than NABIL (Rs. 1048.63 millions) and SCBNL (Rs. 667.51 millions). However, the return rate of NABIL (7.63%) was highest than that of SCBNL (6.95%) and HBL (7.45%).

- Likewise, the investment on shares and debentures of NABIL was highest, i.e. Rs. 235.94 millions, than that of SCBNL (Rs. 39.87 millions) and HBL (Rs. 55.15 millions), as a result the income in the form of dividend and interest of NABIL (Rs. 13.41 millions) was highest than that of SCBNL (Rs. 0.35 millions) and HBL (Rs. 2.77 millions). Also, the return percentage of NABIL (7.41%) was highest compared to that of SCBNL (0.58%) and HBL (3.47%).

- The risk on government securities of NABIL (1.37%) was highest than that of SCBNL (0.37%) and HBL (0.94%). However, the investment in loans and advances was much risky in SCBNL (0.82%) compared to that of NABIL (0.76%) and HBL (0.53%). Further, the investment in shares and debentures of NABIL is considered much risky, i.e. 8.48%, than that of SCBNL (0.36%) and HBL (4.53%).

- On the basis of return on investment portfolio, it can be considered that NABIL's investment portfolio is much fruitful than others, as the return on investment portfolio of NABIL (7.07%) was highest than that of SCBNL (5.81%) and HBL (6.38%).

- Along with highest return on investment portfolio, NABIL carries highest investment portfolio risk (0.73%) than SCBNL (0.59%) and HBL (0.45%).

- In addition, SCBNL has highly diverted its deposit in investment like government securities, shares and debentures than other two banks, since the investment to total deposit of NABIL (52.25%) was highest than that of SCBNL (34.41%) and HBL (42.34%).

- The investment in government securities covered 51.43%, 64.49% and 48.31% of the total investment of NABIL, SCBNL and HBL respectively. The ratio is much more inconsistent in NABIL (C.V. = 19.10%) than in SCBNL (C.V. = 13.73%) and in HBL (C.V. = 15.75%).

- Also, the investment in shares and debentures covered 3.78%, 0.30% and 0.47% of the total investment in NABIL, SCBNL and HBL respectively. The ratio is much more consistent in HBL (C.V. = 34.13%) than in NABIL (C.V. = 102.41%) and in SCBNL (C.V. = 101.31%).

- NABIL, SCBNL and HBL mobilized 68.11%, 39.97% and 55.49% of the total deposit collected in loans and advances respectively. However, the policy of disbursing loans and advances to total deposit of HBL (7.26%) is much more stable than that of NABIL (7.54%) and SCBNL (15.03%).

- The regression analysis showed that total investment of NABIL, SCBNL and HBL increases with the increase in deposit. The total investment of NABIL increases by Rs. 0.30, of SCBNL increases by Rs. 0.38 and of HBL increases by Rs. 0.33 with per rupee increase in deposit collection.

- Similarly, the regression analysis showed that return on total investment of NABIL and SCBNL increases by Rs. 0.12 and Rs. 0.05 with per

rupee increase in total investment and that of HBL decreases by Rs. 0.24 with per rupee increase in total investment.

CHAPTER – IV
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Commercial banks are major financial institutions, which occupy very important place in the framework of every economy. It plays vital role in capital formulation, proper utilization of collected funds and providing various types of banking services. Commercial banks collect money from public by providing sound interest and can earn profit by lending it in business organization, industry, agricultural sectors etc. Therefore, the main task of commercial bank is to mobilize idle resources in productive areas by collecting it from scattered sources and generating profit. Banks plays the role of intermediary between saving and investment and fulfills the credit needs of customers as well as investment requirements of savers. Thus, it is clear that efficient and stable banking systems are crucial for an orderly economic growth.

Successful formulation and effective implementation of investment policy is the prime requisite for the better performance of commercial banks. Similarly, good investment policy has a positive impact on economic development of the country and vice-versa. Bank should attract to its customers by implementing best or competitive investment policy. It helps to increase the quality of banking services as well as volume of quality deposits and its investment in various sectors. Investment management of a bank is guided by the investment policy adopted by the bank. The investment policy of the bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk. Therefore, the commercial bank must mobilize its deposits and other funds to profitable, secured, stable and marketable sectors so that it can earn a good profit.

The investment portfolio is a collection of securities. It simply represents

the practice among the investors having their funds in more than one asset. Portfolio theory deals with the selection of optimal portfolio that is portfolio provides the highest possible return for any specified degree of risk or lowest possible risk for any specified return.

The income or profit of the bank entirely depends upon its investment decision. Considering this fact, the bank should never invest its funds in individual security alone, which is subject to too much depreciation and fluctuations. Banks should accept that types of securities, which are commercial, marketable, stable, liquid and profitable. A bank should not lay all its eggs on the same basket i.e. to minimize risk a bank must diversify its investment on different sectors and in different securities.

To attain the objectives of the study, various analysis such as risk and return analysis of individual assets as well as investment portfolio, ratio analysis and trend analysis have been done. Four commercial banks are taken as reference for the analysis. During the research work, a brief review of literature has been conducted. For this, various textbooks and published journals have been reviewed. The required data for the study are collected from the concerned banks, NRB, NEPSE and SEBO. According to the need and objectives, the secondary data are compiled, processed, tabulated and graphed for the better presentation.

As per risk and return analysis, government securities, return on loans and advances & return on return on shares and debentures have been analyzed. In addition, the portfolio investment return and risk of each bank has been analyzed and compared. With respect to ratio analysis, different ratios related to investment portfolio have been used. The total investment to total deposit ratio, government securities to total investment, shares and debentures to total investment and loans and advances to total deposits have been examined. Further, trend analysis of total investment, government

securities, shares & debentures and loans and advances amount have been meticulously scrutinized.

For the convenience of study, the whole research has been categorized in five main chapters, viz, (i) Introduction, (ii) Review of Literature, (iii) Research Methodology, (iv) Data Presentation & Analysis and (v) Summary, Conclusion & Recommendations.

5.2 Conclusion

On the basis of data analysis and major findings drawn, it can be concluded that in case of NABIL, investment in shares and debentures is much more risky than investment in loans & advances and investment in government securities, as the standard deviation on return on investment in shares and debentures is much more higher than that of investment in loans & advances and government securities. However, the return on loans and advances is much higher than the return in other individual assets.

Similarly, it case of SCBNL, it can be considered that investment in loans and advances is much more risky than investment in other researched assets, as the standard deviation on return on investment in loans and advances is highest than that of other two assets. Along with much more risky, the investment in loans and advances yielded higher percentage of return than other assets, which verified the fact 'higher the risk, higher the return.'

Likewise, in case of HBL, it can be concluded that the investment in shares and debentures is much more risky than the investment in government securities and loans & advances. However, the investment in loans and advances yielded higher return than other assets. Hence, overlooking the risk and return pattern of each bank individually, it can be concluded that the investment in government securities is much more secured than the investment in loans & advances and shares & debentures.

Also the portfolio return aid to conclude that the investment practices of NABIL bank is much fruitful than that of other two banks, however the investment portfolio of the bank is much more risky than that of other two banks.

Similarly, the ratio analysis concluded that NABIL bank is aggressive in mobilizing its total deposit in disbursing loans and advances, while SCBNL is aggressive in mobilizing the deposit in other investments. The data analysis helped to conclude that SCBNL have highly used its fund in government securities than HBL and NABIL, while besides loans and advances, NABIL has highly used the amount in investing in shares and debentures.

Eventually, on the basis of regression lines of investment on total deposit, it can be concluded that per rupee increment in total deposits lead to greatest rupee increase in investment of SCBNL than in NABIL and HBL. However, the efficiency of turning investment amount on return is highest in NABIL than in SCBNL and HBL.

5.3 Recommendations

Based on the analysis, findings and conclusion of the study, the following recommendations are suggested to overcome weakness, inefficiency and to improve the present fund mobilization and investment of commercial banks.

- From the study, all selected sample banks invested very low portion of its total outside investment on share and debenture of other companies. So, it is suggested to all selected sample banks to give some excess priority to investment on shares and debentures.

- From the analysis, it is clear that given sampled banks have not effectively utilized portfolio management concept. The compositions of investment of these banks are highly dominated by

loan and advances. It does not generate adequate return for the banks. Therefore, in order to increase the return on investment they should compile an optimum portfolio of different securities. The study shows that the sample banks are not successful to invest their funds on various assets.

- Now a days there are various problems in resource mobilization of commercial banks. The performances of sample commercial banks do not seem to be satisfactory in terms of utilizing its resources efficiently in productive sectors. Therefore, all sample commercial banks need to identify the new investment sectors and make efficient investment in various sectors. In this condition different retail banking such as education loan, housing loan, automobile loan etc. would be profitable sector for investment of commercial banks.

- The total investment fund, comparing it to total deposit of NABIL is low. Therefore, it needs to identify the new investment sectors and make efficient investment in various sectors.

- Each bank should identify the much risky assets of portfolio and thus try to reduce the investment amount on that sector and increase the investment amount in other secured assets.

- The investment in shares and debentures of SCBNL is very low and thus yield lower return, hence to compete with other banks, it seems necessary that SCBNL increase the investment amount in buying shares and debentures of profitable corporate.

- NABIL has invested lowest amount in government securities than SCBNL and HBL but received highest return than other two banks. So, it would be worthwhile if NABIL increases its investment amount in government securities and thus enjoy much more return.

- NABIL enjoyed higher return even investing lower amount in loans and advances than HBL. So, it would be worthwhile if SCBNL detects the default loan and ensures greater return.

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