CHAPTER – I
INTRODUCTION

1.1 Background of the Study

Sustainable and stable economic growth is emphasis of every nation. Until and unless a nation mobilizes its own resources, it cannot achieve economic growth. Transfer of scattered capital funds from various small savers to productive sectors is the major function of financial market. Financial market consists of financial institutions including financial intermediaries using various financial instruments and linking savers and users of funds.

Financial institutions can be considered as the catalyst to the economic growth of a country. The development process of a country involves in the mobilization and deployment of resource and financial institutions can play the role of financial intermediary. The present economic context indicates the financial institutions have become more significant than ever. Their activities like lending towards priority sector, deprived sector and thereby helping in income generating activities for the poor can be considered as the major role played by them for the endeavor toward poverty alleviation.

In Nepal, there are several kinds of financial institutions such as Commercial Banks, Development Banks, Rural Development Banks, Finance Companies, Co-operatives involving in savings and credit activities. They further are required to follow the regulation of Nepal Rastra Bank (NRB), the Central Bank of Nepal.

Financial institutions make their investment in the form of portfolio. 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.

Portfolio is simply a combination of two or more securities or assets. 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. Thus the sound investment policy requires developing a portfolio that has the maximum return at whatever level of risk the investor deems appropriate. This study concentrates on Investment Performance of Financial Institution in Nepal.

1.2 Statement of the Problem

Most investors use linear logic to formulate their investment strategies and make investment decisions. Linear logic is based in the assumption that the future will resemble the past in a highly predictable fashion. Assets having a greater probability of loss are felt as more risky than those with lesser change of loss. Investment decisions based on research and study are always better than any investments based on gambling.

The competition is the burning issue in the country due to emergence of many financial institutions within a short span of time. It has also warned the financial institutions to improve their productivity and manage portfolio. Moreover, with the prevailing economic recession and disorder, financial institutions are facing the difficulties to furnish their funds in profitable sectors. In this kind of situation to be in safer side, the individual investors

might be investing their available funds in the government backed investments such as Treasury Bills, which yield lower rate of return in comparison to others. Government's securities are assumed to be risk free assets. The main research problems are as bellows:

a. What portion of the total deposit collected has been mobilized in investment?

b. While making investment, in which sector does the financial institution prefer to mobilize the deposit collected?

c. Do the financial institutions consider return and risk, while making investment policy?

d. What are the portfolio return and risk on investment of sample firms?

1.3 Objectives of the Study

The main objective of the study is to analyze, examine and interpret the investment policy followed by the financial institutions. The specific objectives of the study are as follows;

a. To evaluate the mobilization of total deposit in investment.

b. To examine the coverage of government securities, corporate shares and debentures, and other form of investment in total net investment.

c. To evaluate the risk and return on each individual investment and in portfolio.

1.4 Significance of the Study

The focus of the study is to highlight the investment performance analysis of financial institutions of Nepal expecting that the study can bridge the gap between the expected net profit and actual achievement by creating an optimum investment analysis. Thus the study will be beneficial to the management of the financial institutions to have their investment policy review, to recognize the most risky investment and most fruitful investment and to have sound investment portfolio.

Besides management of the concerned financial institutions, the study will also be equally important to the current as well as the potential investors. Further, the study will give clear insight to the depositors of the banks to know in which sector their deposits have been mostly mobilized. Eventually, the study will serve as the review for the later researcher.

1.5 Limitations of the Study

There are many limitations, which may weaken the generalizations e.g. inadequate coverage financial sector, time periods taken, and other variables. Besides these, there are also following limitations in the study;

    a. The study covers only the investment performance analysis which may not cover the other financial aspects.

    b. The study concentrates only on the four financial institutions, which may not truly reflect the whole financial institutions.

    c. The study covers only five years data, i.e. from the fiscal year 2003/04 to 2007/08.

    d. The study is based on secondary data only and the data relies on the annual reports of the financial institutions.

1.6 Organization of the Study

The study has been organized mainly in five main chapters. They are;

Chapter-I: Introduction

The introduction chapter deals with the background of the study, statement of the problems, objectives of the study, significance of the study and limitations of the study.

Chapter-II: Review of Literature

This chapter deals with the conceptual review, review of journals and articles and review of previous thesis which are related to this study.

Chapter- III: Research Methodology

This chapter deals with the research design, population and sample, sources of data, and data analysis tool that have been followed.

Chapter-IV: Data Presentation and Analysis

In this chapter, the collected data from the secondary sources have been presented and analyzed using various financial and statistical tools. At the end of this chapter, major findings have been drawn.

Chapter-V: Summary, Conclusion and Recommendations

This chapter presents the summary of the whole study, the conclusions of the study and the recommendations that have been provided for the enhancement of the financial performance of the concerned institutions.

CHAPTER – II
REVIEW OF LITERATURE

This part of the study deals with the review of major related literature concerning the investment performance analysis. So, this part of the study includes theoretical framework, review of journals and articles, and review of thesis work, which would be helpful to manage and analyze the portfolio.

2.1 Theoretical Framework

The theoretical framework includes the theories of relevant books that are related to the investment and enlighten the concept of investment.

2.1.1 Investment

Investment involves long-term commitment and waiting for 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" *(Reilly; 1982: 13).*

Cheney and Mosses (1992) stated that the word investment brings fourth vision of profit, risk, speculation and wealth. 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.

2.1.1.1 Investment Process

Sharpe (1996) describes the investment process, how an investor should go about making decisions with regard to what marketable securities to invest in, how extensive the investment should be, and when the investment should be made. The formal investment process includes:

a. **Set Investment Policy:** It involves determining the investor's objectives and the amount of his or her invest-able wealth. Investment objective should be stated in terms of both risk and return.

b. **Perform Security Analysis:** It involves examining several individual securities or groups of securities within the broad categories of financial assets previously identified.

c. **Construct a Portfolio:** The third step in the investment process, portfolio construction, involves identifying those specific assets in which to invest, as well as determining the proportions of the investor's wealth to put into each one. Here, the issues of selectivity, timing and diversification need to be addressed by the investors.

d. **Revise the Portfolio:** Portfolio revision concerns the periodic repetition of the previous three steps. That is, overtime the investor may change his or her investment objectives, which in turn may cause the currently held portfolio to be less than optimal.

e. **Evaluate the Performance of the Portfolio:** It involves determining periodically how the portfolio performed, in terms not only the return earned but also the risk experienced by the investors.

2.1.2 Sources of Investment Risk

"Every investment involves uncertainties that make future investment returns risky. The sources of uncertainty that contribute to investment risk are;" *(Francis, 1998: 3-10).*

a. **Interest Rate Risk:** It is defined as the potential variability of returns caused by changes in the market interest rates. If market interest rates rise or fall, then the investments' present value will fall or rise. Present value moves inversely with changes in the market rate of

interest. The interest rate risk affects the prices of bonds, stocks, real estate, gold, puts, calls, future contrasts, and other investments as well.

b. **Purchasing Power Risk:** It is the variability of return an investor suffers because of inflation. Economists measure the rate of inflation by using a price index. The percentage change in the consumer price index is a widely followed measure of the rate of inflation.

c. **Bull-Bear Market Risk:** It arises from the variability in market returns resulting from alternating bull and bear market forces. When a security index rises fairly and consistently from a low point, called a trough, for a period of time, this upward trend is called a bull market. The bull market ends when the market index reaches a peak and starts a downward trend. The period during which the market declines to the next trough is called a bear market. Bull markets that usually rise more than enough to compensate for the bear market losses follow bear markets. But the alternating bull and bear market forces create a potential source of investment risk.

d. **Management Risk:** Errors made by business managers can harm those who invested in their firms. Forecasting management errors is difficult work that may not be worth the effort and, as a result, imports a needlessly skeptical outlook. Agency theory provides investor with an opportunity to replace skepticism with informed insight as they endeavor to analyze subjective management risks.

e. **Default Risk:** Default risk is that portion of an investments' total risk that results from changes in the financial integrity of the investment. The variability of returns that investors experience as a result of changes in the creditworthiness of a firm in which they invested is their default risk.

f. **Liquidity Risk:** Liquidity risk is that portion of an assets' total variability of return which results from price discounts given or sales commissions paid in order to sell the asset without delay.

g. **Call ability Risk:** Some bonds and preferred stocks are issued with a call provision. Issuers like the call provision because it allows them to buy back outstanding preferred stocks and/or bonds with the funds from a new issue if market interest rates drop below the level being paid on the outstanding securities. But, whatever the issuing company gains by calling in on issue is gained at the expense of the investors who have their securities called. That portion of a security's total variability of returns that derives from the possibility that the issue may be called is the call ability risk. Call ability risk commands a risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue would be called increases.

h. **Convertibility Risk:** Conversion is a contractual stipulation that is included in the terms of original security issue. This provision alters the variability of returns from the affected security. Convertibility risk is that portion of the total variability of return from a convertible bond or preferred stock that reflects the possibility that the investment may be converted into the issuer's common stock at a time or under terms harmful to the investor's best interests.

i. **Political Risk:** Political Risk arises from the exploitation of a politically weak group for the benefit of a politically strong group, with the effects of various to improve their relative position increasing the variability of return from the affected asset regardless of whether the charges that causes political risk are sought by political or by economic interest, the resulting variability of return is

called political risk if it is accomplished through legislative, judicial or administrative branches of the government. Political risk can be international as well as domestic.

j. Industrial Risk: Industry risk is that portion of investments total variability of return caused by events that affect the products and firms that make up an industry. The stage of the industry 's life cycle, international tariffs and/or quotas on the products produced by an industry, product or industry related taxes, industry wise labor union problems, environment restrictions, raw material availability, and similar factors interact and affect all the firm in an industry simultaneously. As a result of these commonalities, the price of the securities issued by competing firms tends to rise and fall together.

2.1.3 Investment Portfolio

"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.

Pradhan (1992) states that, "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."

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.

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.

2.1.4 Portfolio Analysis

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 the reviews 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.

2.1.4.1 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 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;

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

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"

2.1.6 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;

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

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$$\sigma_p = \sqrt{w_A^2 \sigma_A^2 + w_B^2 \sigma_B^2 + 2\,w_A w_B r_{AB}\,\sigma_A\,\sigma_A}$$

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

2.1.7 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:

2.1.7.1 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.

2.1.7.2 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.

2.1.7.3 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.

2.1.7.4 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.

2.1.7.5 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.

"The portfolio selection model developed by Markowitz is based on several assumptions regarding investor's behavior" *(Bhalla; 2001: 68).*

a. Investors consider each investment alternative as being represented by probability distribution of expected returns over same holding period.

b. Investors maximize one period-expected utility and poses utility curve, which demonstrates diminishing marginal utility of wealth.

c. Investor estimates the risk on the basis of the variability of expected returns.

d. Investors base decisions solely on expected return and variance of returns only.

e. For a given risk level, investors prefer high returns to lower returns. Similarly, for a given level of expected return, investors prefer less risk to more risk.

2.1.8 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'

2.1.9 Portfolio Performance Evaluation

Many Investors mistakenly base the success of their portfolios on returns alone. Few consider the risk that they took to achieve those returns. Since the 1960s, investors have known how to quantify and measure risk with variability of returns, but no single measure actually looked at both risk and return together. Today, we have three sets of performance measurement tools to assist us with our portfolio evaluations. The Treynor, Sharpe and Jensen ratios combine risk and return performance into a single value, but each is slightly different.

2.1.9.1 Treynor Measure

Jack L. Treynor was the first to provide investors with a composite measure of portfolio performance that also included risk. Treynor's objective was to find a performance measure that could apply to all investors, regardless of their personal risk preferences. He suggested that there were really two components of risk: the risk produced by fluctuations in the market and the risk arising from the fluctuations of individual securities.

Treynor introduced the concept of the security market line, which defines the relationship between portfolio returns and market rates of returns, whereby the slope of the line measures the relative volatility between the portfolio and the market (as represented by beta). The beta coefficient is simply the volatility measure of a stock, portfolio or the market itself. The greater the line's slope, the better the risk-return tradeoff.

The Treynor measure, also known as the reward to volatility ratio, can be easily defined as:
(Portfolio Return-Risk Free Rate)/ Beta

The numerator identifies the risk premium and the denominator corresponds with the risk of the portfolio. The resulting value represents the portfolio's return per unit risk.

2.1.9.2 Sharpe Measure

The Sharpe ratio is almost identical to the Treynor measure, except that the risk measure is the standard deviation of the portfolio instead of considering only the systematic risk, as represented by beta. Conceived by Bill Sharpe, this measure closely follows his work on the capital asset pricing model (CAPM) and by extension uses total risk to compare portfolios to the capital market line.

The Sharpe ratio can easily defined as:

(Portfolio Return – Risk Free Rate) / Standard Deviation

2.1.9.3 Jensen Measure

Like the previous performance measures discussed, the Jensen measure is also based on CAPM. Named after its creator, Michael C. Jensen, the Jensen measure calculates the excess return that a portfolio generates over its expected return. This measure is also known as alpha.

The Jensen ratio measures how much of the portfolio's rate of return is attributable to the manager's ability to deliver above-average returns, adjusted for market risk. The higher the ratio, the better the risk-adjusted returns. A Portfolio with a consistently positive excess return will have a positive alpha, while a portfolio with a consistently negative excess return will have a negative alpha.

The formula is broken down as follows:

Jensen's Alpha = Portfolio Return – Benchmark Portfolio Return

Where: Benchmark Return (CAPM) = Risk Free Rate of Return + Beta (Return of Market – Risk-Free Rate of Return)

2.2 Review of Journals and Articles

In this part of the study, various journals and articles that are related to the investment performance are reviewed.

A) Review of International Journals and Articles

Warner (1996), in his article *"Diversify is Still the Manager's Mantra",* stated that some investors got a rude shock in 1995. The investors thought that global diversification would maximize opportunities while reducing their risks. Instead, investors who sank all their saving into a mutual fund indexed to the

all American Standard & Poor's 500-stock Index earned 37%, compared with 12.5% for sophisticates who put their money in funds composed of international stocks and bonds.

But many money managers are bet that 1995 will turn out to have been exception. They argue that Wall Street's gains were brought about partly by an endemic dollar that didn't revive until late summer. American's love affair with their own high technology issues also fueled the rise. Now, the steep run up in US stock prices has many investors chanting their mantra of global diversification more loudly than ever.

Some allocates are shifting their resources to capture the greater gains they expect overseas. Indeed, the best way to exploit the benefits of falling rates around the world may be carved up a portfolio into fairly even slices.

Angerer and Lam (2009), in their article, *"Income Risk and Portfolio Choice: An Empirical Study"*, reveals that permanent income risk has a larger effect on risky asset holding than transitory income risk. However, no existing empirical work has distinguished between these two types of income risk. This paper makes the first attempt to measure permanent and transitory income risks from household-level data and estimate their effects on risky asset holding. Using NLSY 79 data, we show that permanent income risk significantly shifts a household's portfolio toward risk-free assets. We also show that, consistent with theory, transitory income risk has little effect on portfolio allocation.

An accurate understanding of portfolio choice in the presence of labor in- come risk is important for evaluating the impact of government policies, such as income taxation, social security, and unemployment insurance. Also, reliable evaluation of the welfare gain from international financial market integration requires an accurate determination of the extent to which the

international differences in risky asset shares are caused by international differences in uninsurable labor income risk. Further research could use the findings of this paper to improve the accuracy of these evaluations.

Dumas, Kurshev and Uppal (2009), in their article,*"Equilibrium Portfolio Strategies in the Presence of Sentiment Risk and Excess Volatility"*, reveals that in a capital market characterized by excessive volatility, the return behavior that would prevail in equilibrium and the trading strategy that would allow a rational investor with the proper beliefs to take advantage of the excess volatility generated by the presence of overconfident investors. In a general equilibrium "difference-of-opinion" model, stock prices are excessively volatile. There are two groups of agents, and one (overconfident) group believes that the magnitude of the correlation between the innovations in the signal and innovations in some unobserved variable (the expected growth rate of dividends) is larger than it actually is. Consequently, when a signal is received, this group of agents adjusts their beliefs too much and overreacts to it, which then generates excessive stock price movements. The excess movement is regarded as a "sentiment" factor.

For given beliefs, however, both classes of agents are rational in their decision making, in the sense that both are inter temporal optimizers. In this way, the overconfident investors are not sitting ducks. The investors with the proper beliefs have to engage in a fairly intricate investment strategy to triumph over the overconfident investors. And their victory can be achieved only in the fairly long run.

Garmaise and Moskowitz (2009), in their article, *"Catastrophic Risk and Credit Markets"*, presented a model in which banks are inefficient in financing properties facing catastrophic risk because they do not specialize in monitoring the implementation of safety-improving investments. This function is best performed by insurers, but imperfections in the supply of catastrophe insurance

can distort real estate markets by limiting the provision of bank credit and preventing positive NPV projects from being undertaken.

An empirical analysis of the effects of earthquake risk provides evidence in support of the theory, suggesting that inefficiencies in the catastrophe insurance market reduce the provision of bank credit, limit the market participation of less wealthy investors, and hamper neighborhood revitalization in disadvantaged areas. They also analyzed the 1994 Northridge earthquake, which led to a reduction in bank lending to high risk properties, but only for about 3 months; they find no significant longer-term financing or pricing effects arising from the Northridge earthquake.

Hurricane risk, like that of earthquakes, reduces bank financing. Further terrorism and political risk share the central features of natural disaster risk and may be even more subject to an insufficient supply of insurance. Exposure to catastrophic risks, both natural and unnatural, continues to grow due to population shifts to at-risk areas, global warming, and changing political dynamics. Continued inefficiencies in the sharing of catastrophic risks and their effects on broader capital markets may have implications for long- term growth in a wide variety of countries.

B) Review of Nepali Journals and Articles

Timilsina (2001), has published an article on *"Managing Investment Portfolio"*. He has however, confronted with the problems of managing investment portfolio particularly in times of economics low down like ours. 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 the 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.

Shrestha (2002), 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.

2.3 Review of Thesis

In this part of the study, the previous theses that have been made in investment analysis are reviewed to know the objectives and major findings of such theses.

Bhandari (1998), on thesis entitled, *"A Study on Impact of Interest Rate Structure on Investment Portfolio of CBs of Nepal"*. The main objective of his study is to see the impact of interest rate on investment portfolio of CBs by analyzing their deposit, loan and advances, interest spread investment and bills purchased and discounted.

His major findings enumerated that the deposit rates and lending rates of the CBs have been changing time to time. It is found that deposit rates and lending rates increased slightly immediately after liberalizations of interest rate on August 31, 1989, after that rates started to decline. CBs investment in government securities dramatically increased which is due to lack of proper commercial banks invest a small part of their resources in non fund based areas such as purchase and discounts of bills. His recommendation was to

attract more deposits CBs offer more incentive and government and NRB should not force the CBs to invest more in government and other low yield securities.

Kisi (1999), prepared thesis entitled, *"Portfolio Analysis of Commercial Banks in Nepal"*, has made an effort to examine the concept of investment and loans and advances portfolio of commercial banks. In this study he has analyzed financial performance and portfolio of commercial banks with ratio analysis, investment portfolio analysis, loan and advance portfolio, risk and return analysis and trend analysis.

He has found that Commercial banks are investing considerably higher amount of fund in government securities and are investing very low amount of their fund in shares of other companies' i.e. more than 1% on an average. The banks are providing very high amount of their funds on private sector i.e. more than 82% on average. The joint venture banks have given the second priority to the foreign bills purchases and discount. Similarly, the beta coefficient of commercial banks have higher than 1, the commercial banks have some risky assets. The return of CBs lie above the security market line, which indicated that commercial banks stock is under priced and accepted. Through the years, trends of loans and investment and total deposits of commercial banks are increasing, the percentage change in each year is decreasing. Eventually, the financial performance of CBs is found to be performing better than the domestic Nepalese banks operating under the same environment.

Tuladhar (2000), conducted a study on *"A Study on Investment Policy of Nepal Grindlays Bank Limited in Comparison to Other Joint Venture Banks of Nepal"* with the objective to study the fund mobilization and investment policy with respect to fee-based off-balance sheet transaction and fund based on-balance sheet transactions, to study the liquidity, efficiency of assets

management and profitability position and to evaluate the growth ratios of loan and advances and total investment with respective growth rate of total deposit and net profit.

Tuladhar found that Nepal Grindlays Bank Ltd. has maintained consistent and successful liquidity than NABIL Bank Ltd. and Himalayan Bank Ltd. The mean of total investment to total deposits ratio of Nepal Grindlays Bank Ltd. is higher than the other JVBs. The mean of the loan and advances to total deposits ratio of Nepal Grindlays Bank Ltd. is less and inconsistent than NABIL Bank Ltd. and Himalayan Bank Ltd. Similarly, Loan and advances to working fund ratio of Nepal Grindlays Bank Ltd. was found less than the mean ratio of other banks. Investment on government securities to working fund ratio of Nepal Grindlays Bank Ltd. had the highest mean ratio than NABIL Bank Ltd. and Himalayan Bank Ltd. during the study period.

From the analysis of growth ratio of total investment it is found that Nepal Grindlays Bank Ltd. and NABIL Bank Ltd. have negative growth ratio i.e. they used to reduce the investment during the study period. But it is increasing in the case of Himalayan Bank Ltd. Finally, the growth ratio of net profit of Nepal Grindlays Bank Ltd. seemed to be more satisfactory than NABIL Bank Ltd. but in case of Himalayan Bank it seemed to be very high.

Bhatta (2003), prepared a thesis entitled, *"Portfolio Management of Listed Companies in Nepal"*. The main objective of the study was to identify the present situation of portfolio management of finance company in Nepal with the help of risk return and other relevant variables. He concludes that the most of finance companies have enough unsystematic risk (diversifiable risk); that means there is no effective portfolio management of listed finance companies. In the context risk and return of Nepalese finance companies investor has to beat a higher portfolio risk to increase little bid of portfolio return.

The major problem to manage the portfolio is volatility of different securities in Nepalese capital market. For the selection of portfolio in Nepal technical analysis does not work effectively but fundamental analysis work effectively. In Nepalese stock market passive strategy is more suitable then active strategy to achieve better result. Corporate investor think portfolio evaluation is necessary but lack of specific knowledge they depend on conventional method.

Khaniya (Banjade) (2003), prepared the thesis entitled, *"Investment Portfolio Analysis of Joint Venture Banks"* five listed joint venture banks: NABIL, SCBNL, HBL, NBBL and EBL as a sample. The main objective of the study was to study portfolio structure of NABIL bank ltd as compared to other joint venture banks. From the findings the investment portfolio structure of NABIL is following market trend in composing into loans and advances to private sector enterprise and securities is to purchase of government securities. The financial performance of NABIL banks is at moderate position of other joint venture banks, some of banks earn high some banks earn low then NABIL bank.

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 to discuss fund mobilization and investment policy in respect to its fee based off balance sheet transaction and fund based on balance sheet transaction, to evaluate the liquidity, efficiency, profitability and risk position and growth ratios of loans and advances, total investment of selected banks.

The major findings of Acharya enumerated that SCBL is comparatively better than NIBL and NIBL has the lowest cash and bank balance deposits. SCBL has good deposits collection and has made enough investment on government

securities but maintained low investment policy. The on balance sheet operation is average successful but the off balance sheet transaction has been strongly maintained by the SCBL. Similarly, SCBL has successfully maintained and managed its assets towards income generating activities. Also, the profitability ratio of SCBNL is comparatively higher position than the other banks.

Pathak (2008), conducted the study on *"Investment Analysis of Commercial Banks, A Comparative Study on HBL and Nepal SBI."* The main objectives of the thesis are to evaluate the liquidity, assets management, efficiency, profitability and risk position of Himalayan Bank in comparison to that of Nepal SBI, to study the relationship between investment and deposits of the banks and to analyze investment trend, deposits trend and total income and their projection for next five years.

Pathak found that both the banks should maintain required current ratio, as the current ratio of both banks is not sufficient. They have to consider more on the liquidity of the deposits as they are for the sake of the bank's reputation. As banks have invested less on shares of other companies so recommended to mobilize its fund for business and industries for industrial support. 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.

CHAPTER – III

RESEARCH METHODOLOGY

3.1 Research Design

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.

3.2 Population and Sample

The population of the study is all the commercial banks and finance companies. The total number of financial institutions operating in Nepal is 388. However, the study of investment performance analysis of all the financial institutions in this study is impossible. Thus, only four financial institutions were taken as sample. The samples were selected randomly.

The selected sample financial institutions for the analysis are as follows:

    a. Himalayan Bank Limited (HBL)

    b. Everest Bank Limited (EBL)

    c. Lumbini Finance and Leasing Company Limited (LFLCL)

    d. Universal Finance Limited (UFL)

Table 2.1

Population and Sample

FIs	Population	Sample	Sample %
Commercial Bank	27	2	7.41
Development Bank	63	0	0
Finance Company	77	2	2.60
Others	221	0	0
Total	**388**	**4**	**1.03**

3.3 Sources of Data

This study is mainly based on secondary data. The required data for the study are collected from concerned financial institutions, Nepal Rastra Bank, NEPSE and SEBO/N. Similarly, the websites of financial institutions as well as NEPSE were also extensively used to collect data. In addition to above, supplementary data and information was collected from 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 from the periodical economic journals and from other published and unpublished reports.

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 performance analysis, financial tools are more applicable. These tools can be used to get the precise knowledge of a business which in turn is 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) 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 performance analysis of financial institutions, only few ratios related to investment are taken for the purpose of the study.

i) Total Investment to Total Deposit Ratio

This ratio is used to measure the ability of financial institutions (FI) 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 FI's 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 Shares & Debentures to Total Investment

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

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

iv) Investment on Other to Total Investment

This ratio shows that the FI's investment on other, such as certificate of deposit, mutual fund, fixed savings of local and foreign banks, out of total deposit collection. It can be calculated by dividing other investment by total investment.

$$\text{Investment on Other to Total Investment} = \frac{\text{Other Investment}}{\text{Total Investment}}$$

b) 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, and interest on debenture. "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:

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

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

Besides investment in government securities and corporate shares and debentures, the FI's also make investment in other sector like certificate of deposit, mutual fund, fixed savings of local and foreign banks to earn income. Thus return on other investment enlightens the income received to the investment made in other sector. This can be stated as:

$$\text{Return on Other Investment } (R_O) = \frac{\text{Income in Other Investment}}{\text{Total Other Investment}}$$

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;

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

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.

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

where,

R = Rate of return on Individual Assets

n = Number of years of observations

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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

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,

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

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.

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

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,

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

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.

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

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

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:

$$t \times \frac{r}{\sqrt{1 \, Zr^2}} \mid \sqrt{fn \; Z2A}$$

Where, r = simple correlation coefficient

N = number of observation

CHAPTER – IV

DATA PRESENTATION AND ANALYSIS

This part of the study deals with the analysis of ratio, return on individual investment, risk on individual investment, portfolio risk and return, and regression analysis. At the end, the major findings of the analysis are presented.

4.1 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 financial institutions are calculated and analyzed.

4.1.1 Total Investment to Total Deposit Ratio

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

Table 4.1

Total Investment to Total Deposit Ratio

FY	HBL	EBL	LFLCL	UFL
2003/04	42.22	31.44	2.38	9.84
2004/05	47.12	21.08	4.56	8.87
2005/06	41.10	30.43	3.39	14.20
2006/07	39.35	27.41	8.33	10.41
2007/08	41.89	21.10	9.63	8.71
Mean	**42.34**	**26.29**	**5.66**	**10.41**
S.D.	**2.90**	**4.98**	**3.16**	**2.23**
C.V.%	**6.84**	**18.92**	**55.88**	**21.45**

(Source: Appendix I)

The Table 4.1 represents 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 HBL fluctuated during the period. HBL utilized 42.22%, 47.12%, 41.10%, 39.35% and 41.89% 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 42.34% of the total deposit of HBL had been utilized for investment purpose. Also, the coefficient of variation in total investment to total deposit was 6.84%.

Similarly, the total investment to total deposit of EBL also fluctuated during the period. The table showed that EBL mobilized 31.44%, 21.08%, 30.43%, 27.41% and 21.10% 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, 26.29% of the total deposit had been utilized for investment. And the coefficient of variation in such ratio was 18.92%.

Likewise, the total investment to total deposit of LFLCL fluctuated during the five consecutive years taken for research. The ratio was highest in the fiscal year 2007/08 (9.63%) and lowest in the fiscal year 2003/04 (2.38%). The coefficient of variation was 55.88% and the average ratio was 5.66%. This seemed that LFLCL mobilized only the paltry sum in investment.

Also, the mobilization of deposit for investment purpose of UFL was also inconsistent during the periods and thus fluctuated. The ratio 9.84% in the fiscal year 2003/04, which decreased to 8.87% in the fiscal year 2004/05, increased to 14.20% in the fiscal year 2005/06, again decreased to 10.41% in the fiscal year 2006/07 and finally reduced to 8.71% in the fiscal year 2007/08. In average, UFL utilized 10.41% of the total deposit collection in making investment.

Comparing four financial institutions, it can be concluded that banks mobilized highest portion of the total deposit in investment than finance companies. Among two sampled banks, the mobilization of total deposit in investment of HBL (42.34%) was higher than that of EBL (26.29%). However, between two finance companies, UFL (10.41%) mobilized more of the total deposit in investment than LFLCL (5.66%) did. Also, on the basis of coefficient of variation on the ratio, it can be considered that HBL had more stable investment policy than others, since the coefficient of variation of HBL (6.84%) was lowest than that of EBL (14.96%), LFLCL (55.88%) and UFL (21.45%).

Figure 4.1

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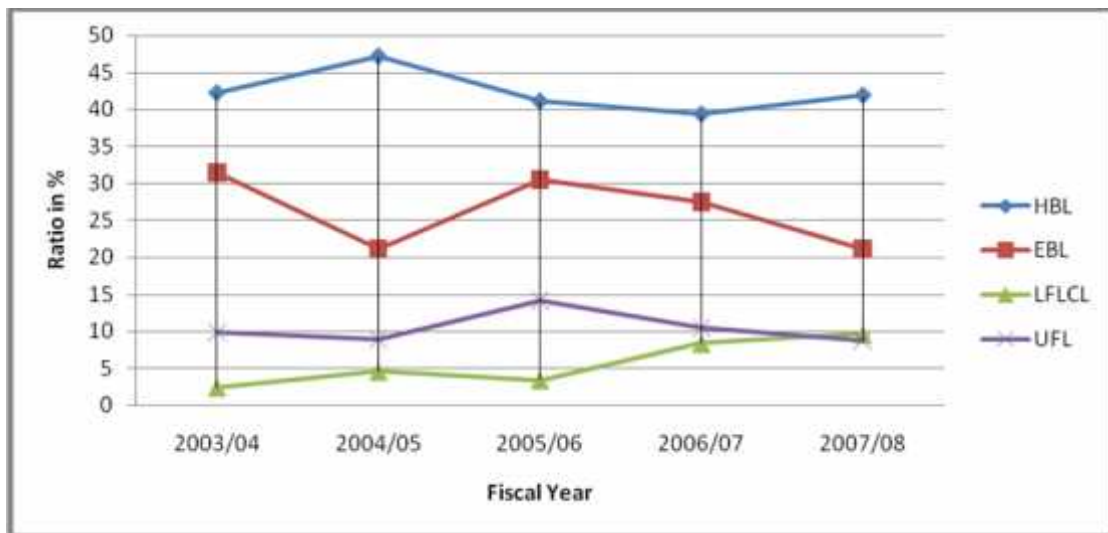
4.1.2 Investment in Government Securities to Total Investment

This ratio is very useful to know in which extent the financial institutions 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 4.2

Investment in Gov. Securities to Total Investment

FY	HBL	EBL	LFLCL	UFL
2003/04	36.93	97.27	89.91	0.00
2004/05	46.78	98.65	45.19	0.00
2005/06	47.24	84.48	54.19	0.00
2006/07	54.60	94.39	20.71	0.00
2007/08	56.01	95.30	16.86	0.00
Mean	**48.31**	**94.02**	**45.37**	**0.00**
S.D.	**7.61**	**5.59**	**29.51**	**0.00**
C.V.%	**15.75**	**5.94**	**65.03**	**0.00**

(Source: Appendix I)

The Table 4.2 measures the proportion of total investment mobilized in the government securities. The table showed that 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.

Likewise, the ratio of EBL increased from 97.27% in the fiscal year 2003/04 to 98.65% in the fiscal year 2004/05 and then decreased to 84.48% in the fiscal year 2005/06, again increased to 94.39% in the fiscal year 2006/07 and finally reached to 95.30% in the fiscal year 2007/08 (46.75%). In average, the investment in government securities covered approximately 94.02% of the total investment. The coefficient of variation on such ratio was 5.94%.

Similarly, excluding fiscal year 2005/06, it seemed that the ratio in LFLCL followed decreasing trend in the five years period. The ratio was 89.91% in the base 2003/04 and finally reached to 16.86% in the fiscal year 2007/08. The

reducing ratio indicated that LFLCL was more fascinated to invest in corporate shares and debentures, and in other form of investment such as in fixed deposit, than in government securities. In average, LFLCL invested 45.31% of the net investment in government securities and the coefficient of variation on such ratio was 65.03%, indicating higher inconsistency.

Since UFL did not make any type of investment in government securities within the five year periods, the ratio was Nil in each year. It will be worthwhile if UFL invest in government securities and thus ensure for profit increment.

Comparing the financial institutions, it can be concluded that EBL had the practice of investing highest proportion of total investment in government securities than other financial institutions. Also, the lowest coefficient variation of EBL (5.94%) than that of HBL (15.75%) and LFLCL (65.03%) indicated that EBL had more stable policy in investing government securities than other three financial institutions.

Figure 4.2

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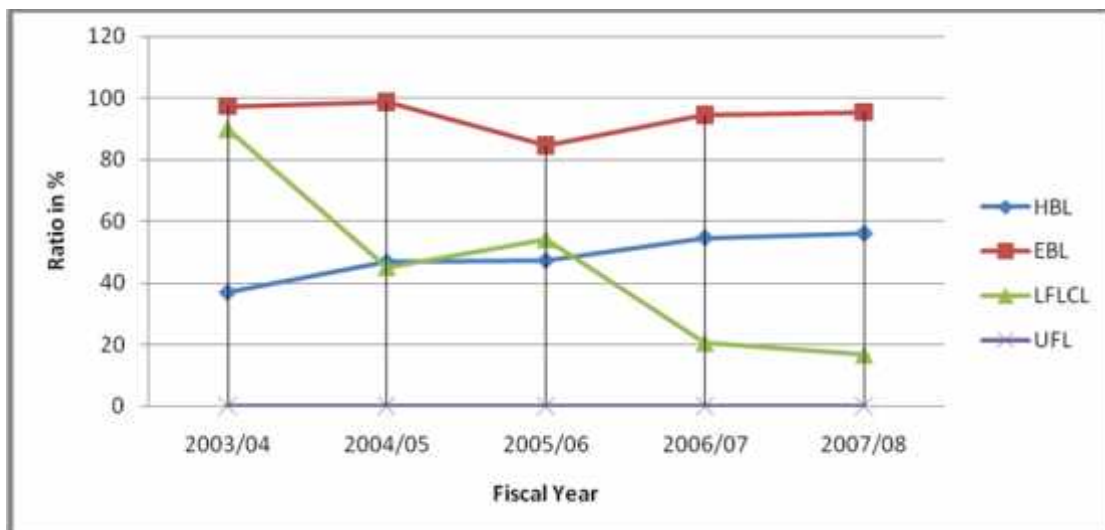
4.1.3 Investment in Shares & Debentures to Total Investment

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

Table 4.3

Investment in Shares & Debentures to Total Investment

FY	HBL	EBL	LFLCL	UFL
2003/04	0.37	0.67	14.58	10.43
2004/05	0.34	0.91	23.91	11.89
2005/06	0.37	0.47	28.75	6.20
2006/07	0.62	0.40	10.94	6.24
2007/08	0.67	2.00	8.91	6.29
Mean	**0.47**	**0.89**	**17.42**	**8.21**
S.D.	**0.16**	**0.65**	**8.56**	**2.74**
C.V.%	**33.50**	**72.95**	**49.13**	**33.38**

(Source: Appendix I)

The Table 4.3 depicts the proportion of investment in corporate shares & debentures to net investment. 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 33.50%.
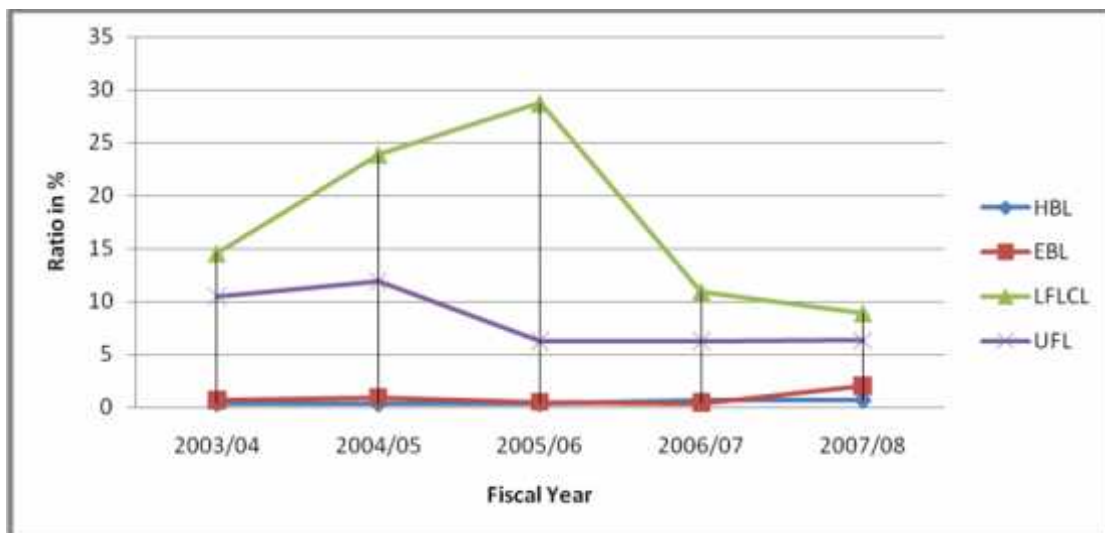
Similarly, investment in shares and debentures to net investment of EBL fluctuated during the entire period. The ratio ranged from 0.40% in the fiscal year 2006/07 to 2.00% in the fiscal year 2007/08. However, the average ratio was 0.89% only. Also, the coefficient of variation of 72.95% implied that EBL had no stable policy in investing in shares and debentures.

In contrast, the ratio in LFLCL was found to follow increasing trend for the first three years, i.e. from 14.58% in the fiscal year 2003/04 to 28.75% in the fiscal year 2005/06, and decreasing trend for the last two years, i.e. from 10.94% in the fiscal year 2006/07 to 8.91% in the fiscal year 2007/08. In average, LFLCL invested 17.42% of the net investment in corporate shares and debentures.

Likewise, the ratio in UFL increased from 10.43% in the fiscal year 2003/04 to 11.89% in the fiscal year 2004/05, and then decreased to 6.20% in the fiscal year 2005/06, again increased to 6.24% in the fiscal year 2006/07 and finally reached to 6.29% in the fiscal year 2007/08. In average UFL invested 8.21% of the net investment in corporate shares and debentures to increase overall profit.

Comparing all sample firms, it can be concluded that LFLCL has the policy of investing highest portion of total investment in shares and debentures than HBL, EBL and UFL.

Figure 4.3

Investment in Shares & Debentures to Total Investment

4.1.4 Investment in Others to Total Investment

This ratio measures the proportion of the total investment amount investment in the other sector excluding government securities and corporate shares and debentures. Higher the ratio indicates higher priority given in other investment.

Table 4.4

Investment in Others to Total Investment

FY	HBL	EBL	LFLCL	UFL
2003/04	62.70	2.06	0.00	89.57
2004/05	52.88	0.43	33.16	96.18
2005/06	52.40	15.07	19.88	99.88
2006/07	44.78	5.23	68.37	99.88
2007/08	43.32	2.74	74.24	99.78
Mean	**51.22**	**5.10**	**39.13**	**97.06**
S.D.	**7.74**	**5.83**	**31.72**	**4.48**
C.V.%	**15.12**	**114.22**	**81.07**	**4.61**

(Source: Appendix I)

The Table 4.4 highlights on proportion of other investment to net investment. The table shows that ratio of investment in other sectors like certificate of deposit, mutual fund, fixed account of local and foreign banks etc, to net investment of HBL followed decreasing trend and thus ranged from 62.70% in the fiscal year 2003/04 to 43.32% in the fiscal year 2007/08. In average, HBL invested 51.22% of the total net investment in other investment sector.

However, the ratio in EBL fluctuated during the entire period and thus was highest (15.07%) in the fiscal year 2005/06 and lowest (0.43%) in the fiscal year 2004/05. In average the ratio was 5.10% and the coefficient of variation was 114.22%, which indicated higher inconsistency in the ratio.

Since LFLCL made no investment in other sector in the fiscal year 2003/04, the ratio of other investment to net investment in that year was 0%, which gradually reached to 74.24% in the fiscal year 2007/08. Initially, LFLCL showed no interest in investing other sectors, while in the last two years the net investment of LFLCL was highly dominated by such investment. Thus other investment played greater role in LFLCL to increase the profit. The average investment made by LFLCL on other sector was 39.13% of the total net investment.

Similarly, the total investment of UFL was highly dominated by the other investment. All of the five year periods' ratios were greater than 89% and thus ranged from 89.57% in the fiscal year 2003/04 to 99.88% in the two fiscal years, i.e. in the fiscal year 2005/06 and 2006/07.

Comparing four financial institutions, it can be considered that banks followed the investment policy of decreasing proportion of investment in other, while finance companies followed the investment policy of increasing proportion of investment in other. Among four financial institutions, UFL followed most aggressive policy of utilizing its total investment in other investment.

Figure 4.4

Investment in Others to Total Investment
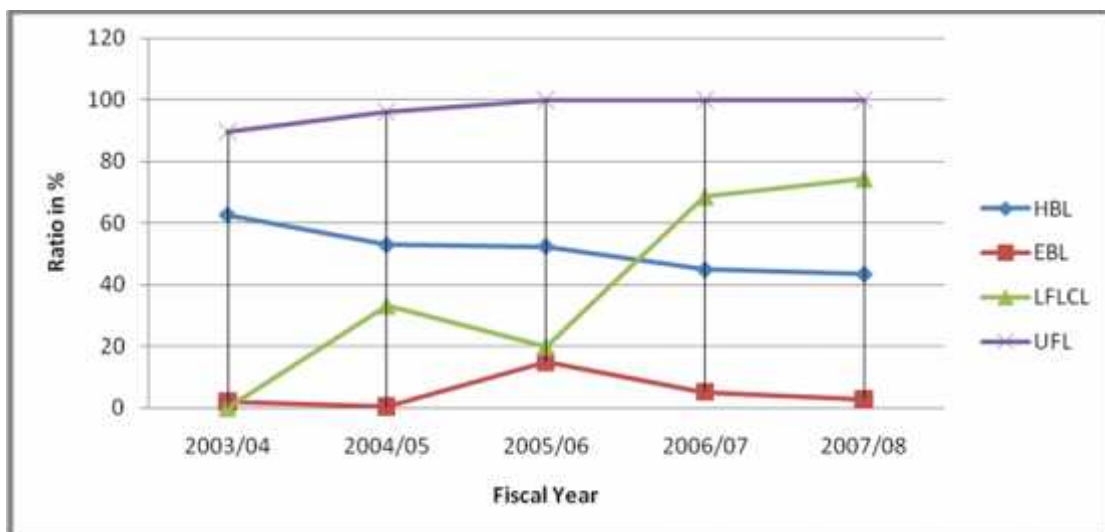
4.2 Return on Individual Investment

The FI's made investment in different sector, so to know the return on each sector of investment is essential to make sound investment policy.

4.2.1 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 HBL, EBL, LFLCL and UFL is presented in the Table 4.5, Table 4.6, Table 4.7 and Table 4.8 respectively.

Table 4.5

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 4.5 shows 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 4.5

Return on Government Securities of HBL
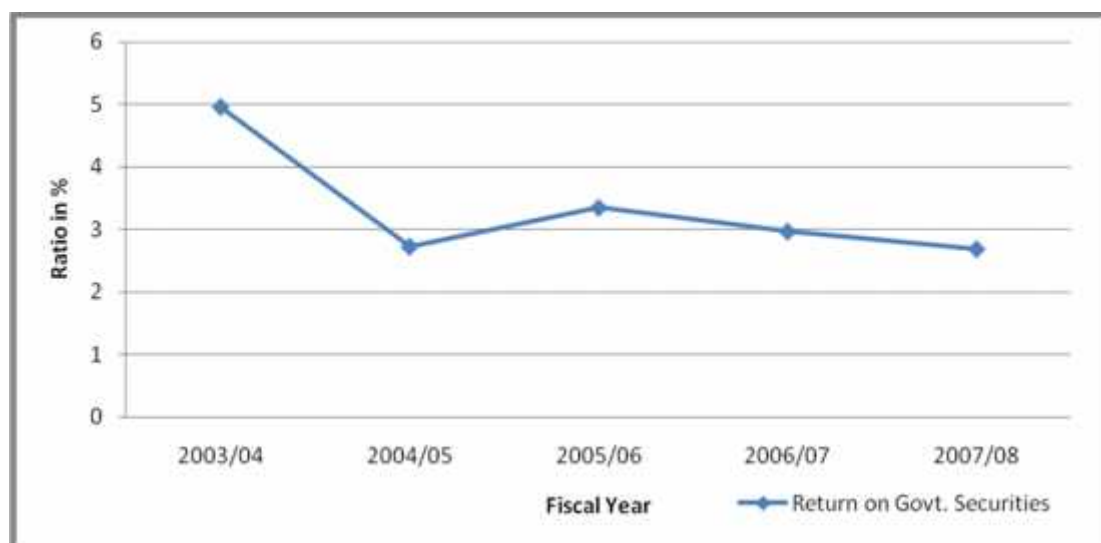
Similarly, the return on government securities of EBL is presented in the table 4.6.

Table 4.6

Return on Government Securities of EBL

FY	Interest Income on Govt. Securities	Investment in Govt. Securities	Return on Govt. Securities (R_g)
2003/04	92.51	2466.43	3.75
2004/05	77.99	2100.29	3.71
2005/06	97.27	3548.62	2.74
2006/07	128.57	4704.63	2.73
2007/08	180.22	4821.60	3.74
Average	**115.31**	**3528.31**	**3.33**

(Source: Annual Reports of EBL)

The Table 4.6 shows that the investment in government securities of EBL decreased to Rs. 2100.29 millions in the fiscal year 2004/05 from Rs. 2466.43 in the fiscal year 2003/04 as a result the return on government securities of EBL also decreased to Rs. 77.99 millions from Rs. 92.51 millions in the same period. However after the fiscal year 2004/05, both the government securities

and interest income had increased in the successive years. Although, both the investment in government securities and interest income on such securities were more in the successive years compared to the corresponding values in the previous year, the return on government securities was found to have followed the decreasing trend for the first four years. This indicated that the interest income did not increase in the same speed that the investment did. However, in average the return on government securities ranged from 2.73% in the fiscal year 2006/07 to 3.75% in the fiscal year 2003/04. In average EBL earned 3.33% of the total investment on government securities as interest income.

Figure 4.6

Return on Government Securities of EBL
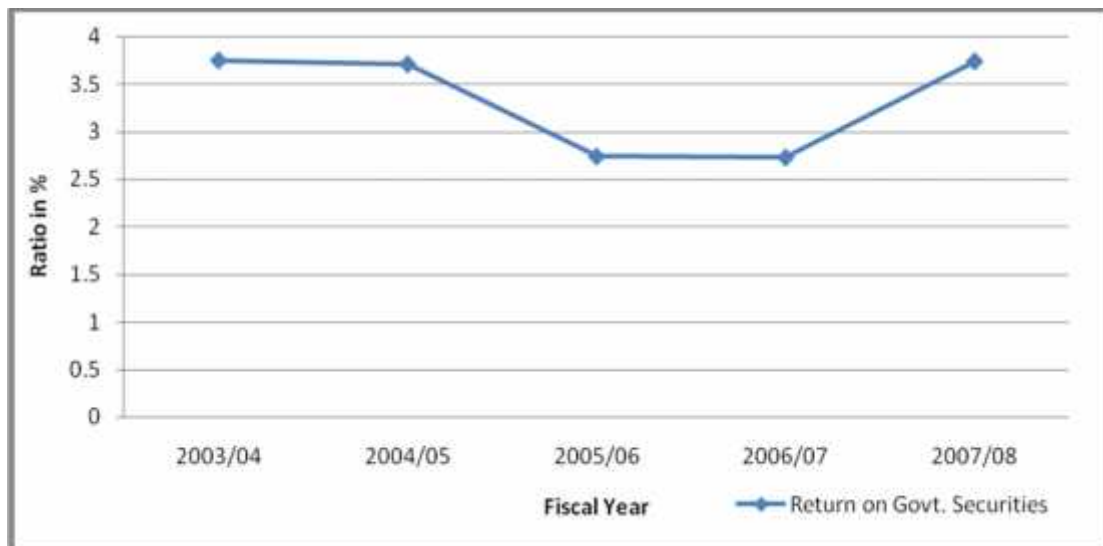
Likewise the return on government securities of LFLCL has been computed in the Table 4.7.

Table 4.7

Return on Government Securities of LFLCL

FY	Interest Income on Govt. Securities	Investment in Govt. Securities	Return on Govt. Securities (R_g)
2003/04	3.47	13.63	25.50
2004/05	0.86	13.63	6.28
2005/06	0.86	13.63	6.28
2006/07	0.86	13.63	6.28
2007/08	0.86	13.63	6.28
Average	**1.38**	**13.63**	**10.13**

(Source: Annual Reports of LFLCL)

The Table 4.7 shows the investment on government securities of LFLCL in each fiscal year was Rs. 13.63 millions. Also, the interest income earned by LFLCL in each fiscal year was Rs. 0.86 millions, except in the base year 2003/04, when the company earned highest interest income of Rs. 3.47 millions. As a result, the return on government securities of LFLCL in each fiscal year, except in 2003/04, was 6.28%. The table showed that in average, the interest income earned and investment made on government securities were Rs. 1.38 millions and Rs. 13.63 millions respectively and the average return on government securities was 10.13% in the five years period. This indicated that the investment policy of LFLCL in investment government securities, such as, in treasury bills and government saving bonds, was better in the base year 2003/04 compared to other years.

Figure 4.7

Return on Government Securities of LFLCL

Finally, the return on government securities of UFL is presented in the Table 4.8.
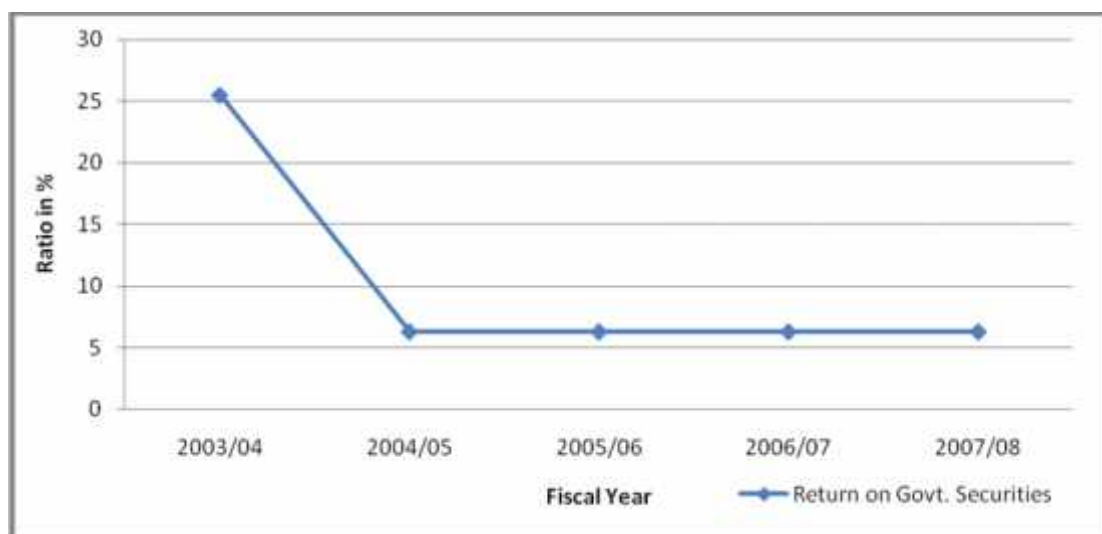
Table 4.8

Return on Government Securities of UFL

FY	Interest Income on Govt. Securities	Investment in Govt. Securities	Return on Govt. Securities (R_g)
2003/04	0	0	0
2004/05	0	0	0
2005/06	0	0	0
2006/07	0	0	0
2007/08	0	0	0
Average	**0**	**0**	**0**

(Source: Annual Reports of UFL)

The Table 4.8 reveals that UFL had no practice of investing in government securities, as a result it did not earned any kind of income from government securities. It will be worthwhile if UFL considers the investment in government securities and thus enhance its profit achievement.

As the study is concerned with the comparative study of investment performance analysis, the comparison on the return on government securities has been done in the Table 4.9.

Table 4.9

Comparison on Return on Government Securities

Average	HBL	EBL	LFLCL	UFL
Interest	Rs. 176.91	Rs. 115.31	Rs. 1.38	Rs. 0
Gov. Securities	Rs. 5594.46	Rs. 3528.31	Rs. 13.63	Rs. 0
Return (R_g)	3.34%	3.33%	10.13%	0%

(Source: Table 4.5, Table 4.6, Table 4.7 & Table 4.8)

The Table 4.9 depicted that both the banks, i.e. HBL and EBL, earned almost the same percentage of return, i.e. 3.34% (HBL) and 3.33% (EBL), on government securities. While in case of financial companies, LFLCL earned 10.13% of the total investment in government securities as return. Comparing all, LFLCL (finance company) was more efficient in generating interest income in government securities than HBL (bank) and EBL (bank).

4.2.2 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, dividend received and the capital gain from holding the common stock. The higher the return on shares and debentures, the higher will be the retaining capacity of FI's on investors. The return on shares and debentures of HBL, EBL, LFLCL and UFL is presented Table 4.10, 4.11, 4.12 and 4.13 respectively.

Table 4.10

Return on Shares and Debentures of HBL

FY	Income on SD	Investment in SD	Return on SD (R$_s$)
2003/04	-0.12	34.27	-0.35
2004/05	0.30	39.91	0.75
2005/06	-0.67	39.91	-1.68
2006/07	5.90	73.42	8.04
2007/08	49.12	89.56	54.85
Average	**10.91**	**55.41**	**12.32**

(Source: Annual Reports of HBL)

The Table 4.10 shows that the return on shares and debentures of HBL followed fluctuating trend. The return ranged from -1.68%% in the fiscal year 2005/06 to 54.85% in the fiscal year 2007/08. In average, HBL earned 12.32% of the total investment in shares and debentures as return. Since, HBL had no practice of making investment in corporate debenture, the return achieved was from the fluctuation on corporate shares only.

Figure 4.8

Return on Shares and Debentures of HBL
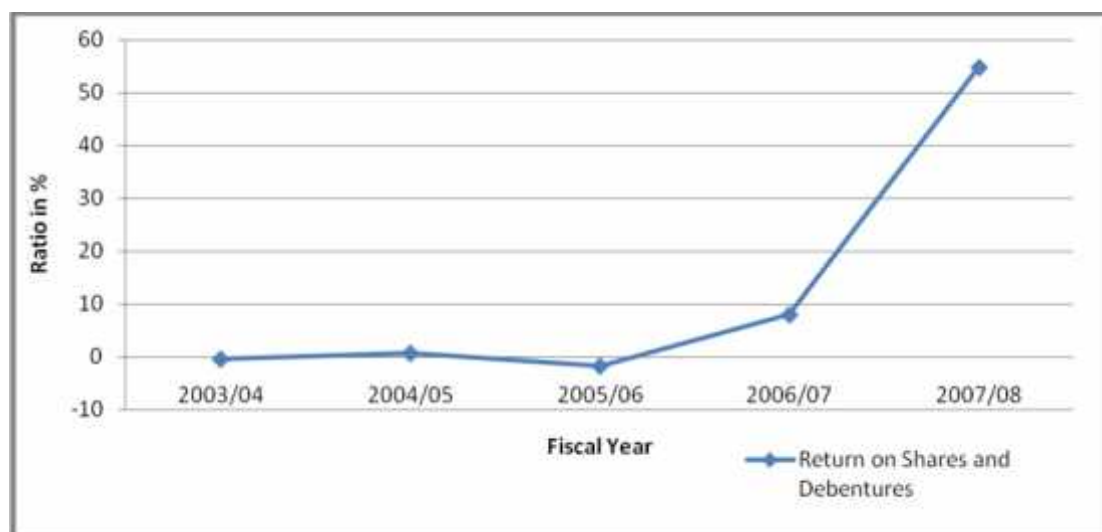
Similarly, the return on corporate shares and debentures of EBL has been presented in Table 4.11.

Table 4.11

Return on Shares and Debentures of EBL

FY	Income on SD	Investment in SD	Return on SD (R_s)
2003/04	0.00	17.11	0.00
2004/05	0.025	19.39	0.13
2005/06	-0.55	19.89	-2.77
2006/07	1.94	19.89	9.75
2007/08	1.01	101.15	1.00
Average	**0.45**	**35.49**	**1.62**

(Source: Annual Reports of EBL)

The Table 4.11 shows the return on investment in shares and debentures of EBL. The table showed that EBL earned highest return in the fiscal year 2006/07, when the return was 9.75% of the total investment in shares and debentures. Similarly, the return on shares and debentures was lowest in the fiscal year 2005/06, which was -2.77%. In average, EBL earned 1.62% as return on the investment in corporate share and debenture.

Figure 4.9

Return on Shares and Debentures of EBL

Also, the return on shares and debentures of LFLCL has been presented in the Table 4.12.

Table 4.12

Return on Shares and Debentures of LFLCL

FY	Income on SD	Investment in SD	Return on SD (R$_s$)
2003/04	0.01	2.21	0.45
2004/05	5.53	7.21	76.70
2005/06	-0.09	7.23	-1.24
2006/07	2.01	7.20	27.92
2007/08	4.59	7.20	63.75
Average	**2.41**	**6.21**	**33.51**

(Source: Annual Reports of LFLCL)

The Table 4.12 shows that the return on share and debenture investment of LFLCL increased for the first two years, i.e. from 0.45% in the fiscal year 2003/04 to 76.70% in the fiscal year 2004/05, then decreased to -1.24% in the fiscal year 2005/06, increased to 27.92% in the fiscal year 2006/07 and finally reached to 63.75% in the fiscal year 2007/08. In average, LFLCL earned 33.51% of the investment in shares and debentures as dividend and capital gain.

Figure 4.10

Return on Shares and Debentures of LFLCL
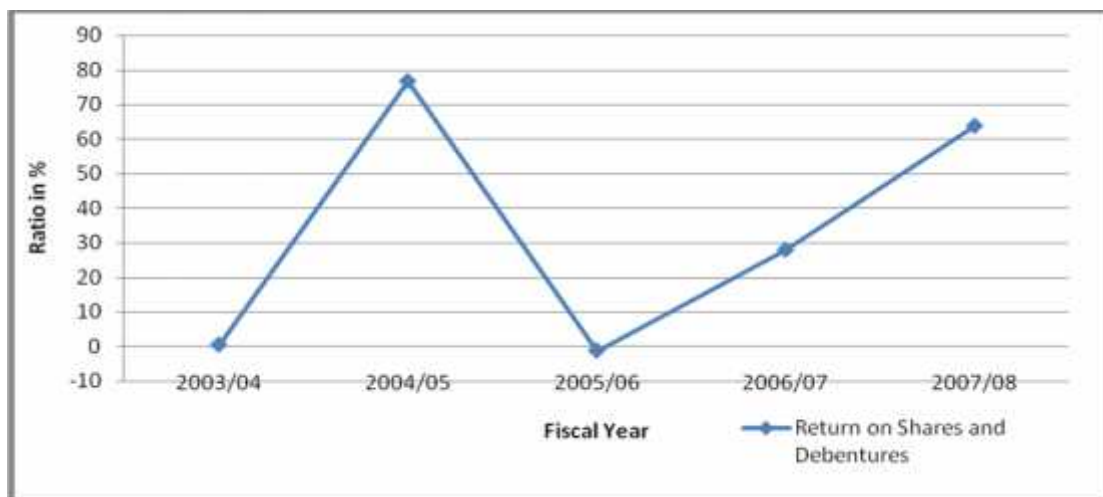
Likewise, the return on corporate shares and debentures of UFL has been revealed in Table 4.13.

Table 4.13

55

Return on Shares and Debentures of UFL
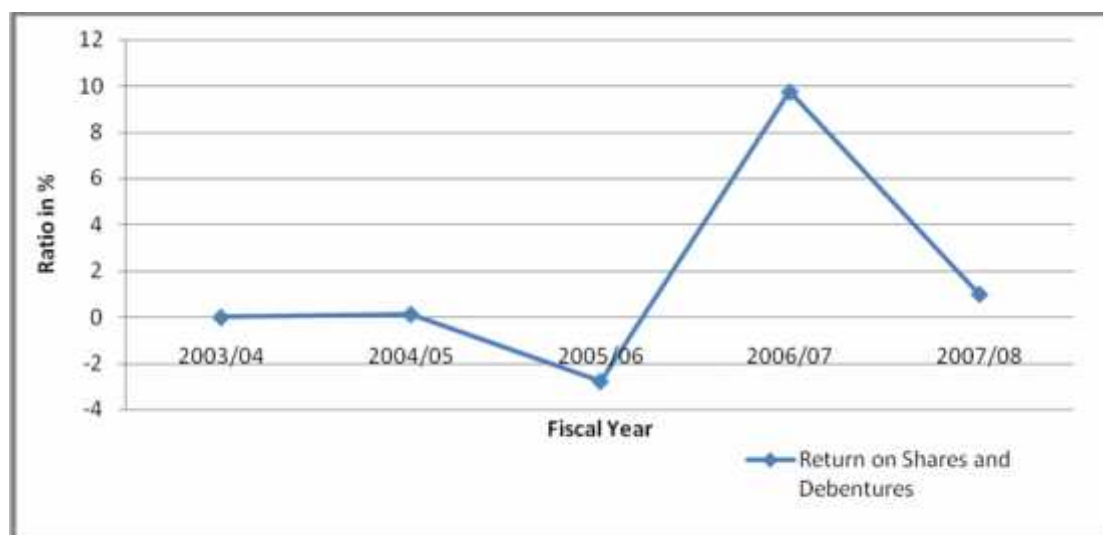
FY	Income on SD	Investment in SD	Return on SD (R_s)
2003/04	0.014	4.54	0.31
2004/05	0.001	4.82	0.02
2005/06	-0.121	4.25	-2.85
2006/07	0.263	4.25	6.19
2007/08	-0.107	4.32	-2.48
Average	**0.01**	**4.44**	**0.24**

(Source: Annual Reports of LFLCL

The Table 4.13 depicts that the return on investment in shares and debentures of UFL decreased for the first three years, i.e. from 0.31% in the fiscal year 2003/04 to -2.85% in the fiscal year 2005/06, then increased to 6.19% in the fiscal year 2006/07 and finally decreased to -2.48% in the fiscal year 2007/08. As UFL did not invested in corporate debentures within the five year period, the fluctuation in the return on shares was solely caused by the price change of the stock that UFL held.

Figure 4.11

Return on Shares and Debentures of UFL
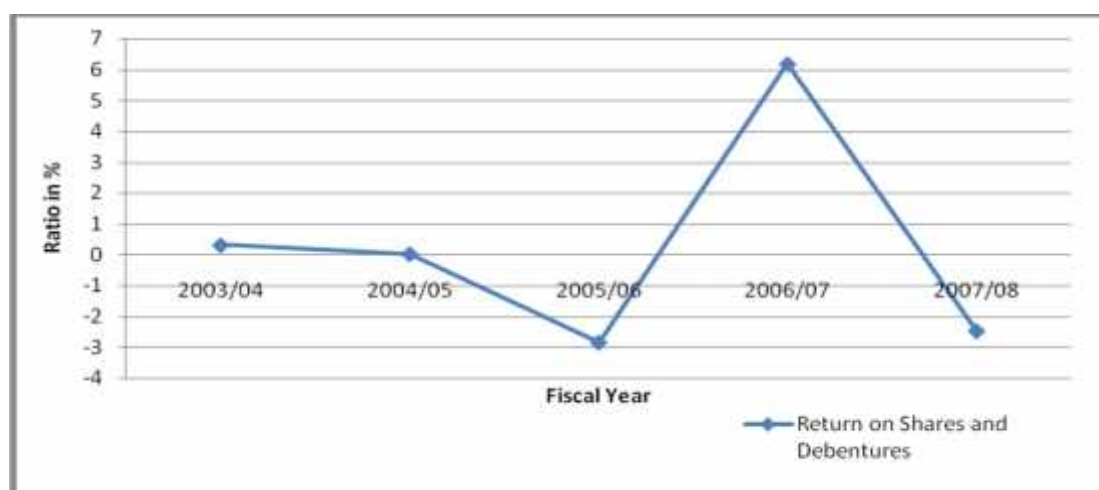
The comparison on the return on shares and debentures of FI's is presented in the Table 4.14.

Table 4.14

Comparison on Return on Shares and Debentures

Average	HBL	EBL	LFLCL	UFL
Income	Rs. 10.91	Rs. 0.45	Rs. 2.41	Rs. 0.01
Shares & Debentures	Rs. 55.41	Rs. 35.49	Rs. 6.21	Rs. 4.44
Return (R_s)	12.32%	1.62%	33.51%	0.24%

(Source: Table 4.10, Table 4.11, Table 4.12 & Table 4.13)

Comparing the sample firms, it can be concluded that between two banks, HBL's investment in shares and debentures was more fruitful than EBL, since the amount of interest earned by HBL (Rs. 10.91 millions) was higher than that of EBL (Rs. 0.45 millions) and also the return on shares and debentures of HBL (12.32%) was higher than that of EBL (1.62%). However, between two finance companies, LFLCL's investment in corporate shares and debentures was more beneficial than that of UFL, since LFLCL earned more return (33.51%) than UFL did (0.24%). Consequently among the four financial institutions, LFLCL's (finance company) investment on corporate shares and debentures was better than that of others.

4.2.3 Return on Other Investments

Besides the investment in government securities and investment in corporate shares and debentures, the investment made in other sector like certificate of deposit, mutual fund, fixed deposit of local banks and foreign banks and others are kept as other investments.

Table 4.15

Return on Other Investment of HBL

FY	Income on OI	Other Investment	Return on OI (R_o)
2003/04	105.40	5826.11	1.81
2004/05	174.94	6182.70	2.83
2005/06	313.54	5706.15	5.49
2006/07	341.17	5294.69	6.44
2007/08	318.09	5778.95	5.50
Average	**250.63**	**5757.72**	**4.42**

(Source: Annual Reports of HBL)

The Table 4.15 shows that the income in other investments of HBL followed increasing trend for the first four years, i.e. from Rs. 105.40 millions in the fiscal year 2003/04 to Rs. 341.17 millions in the fiscal year 2006/07, while in the fiscal year 2007/08, the income slightly decreased to Rs. 318.09 millions. However, the investment amount in other investment was in fluctuating trend over the five consecutive years. The investment amount ranged from Rs. 5294.69 millions in the fiscal year 2006/07 to Rs. 5826.11 millions in the fiscal year 2007/08. Consequently, the return on other investments was in progressive trend, the return on other investments was only 1.81% in the fiscal year 2003/04, which followed increasing trend up to the fiscal year 2006/07, which was 6.44% and finally decreased to 5.50% in the fiscal year 2007/08. In average, the return on other investment of HBL for the five years period was 4.42%, which was quite satisfactory.

Figure 4.12

Return on Other Investment of HBL
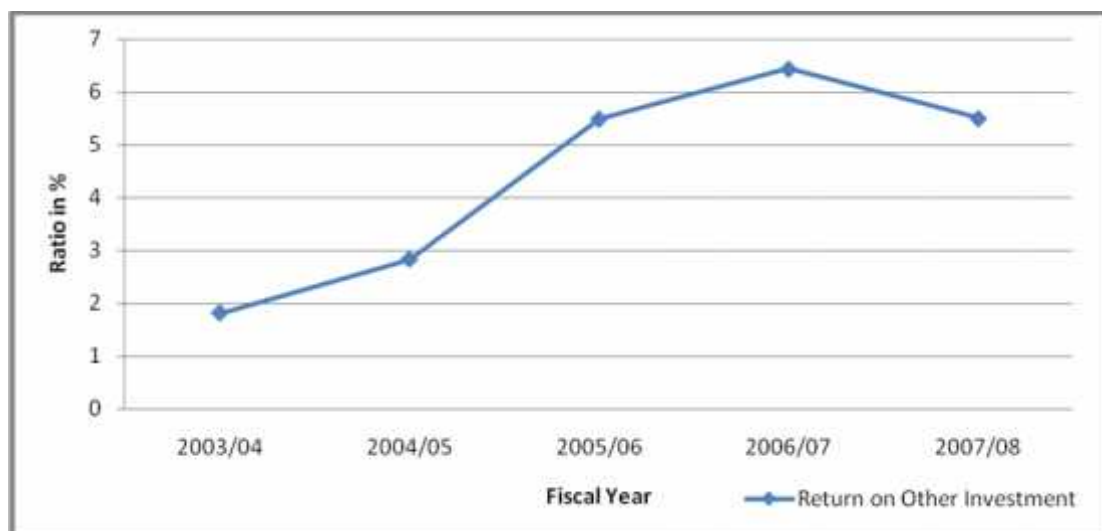
Similarly, the return on other investment of EBL has been presented in the Table 4.16.

Table 4.16

Return on Other Investment of EBL

FY	Income on OI	Other Investment	Return on OI (R_o)
2003/04	1.60	52.12	3.08
2004/05	7.68	9.26	82.98
2005/06	35.31	632.82	5.58
2006/07	48.66	260.60	18.67
2007/08	38.74	138.40	27.99
Average	**26.40**	**218.64**	**27.66**

(Source: Annual Reports of EBL)

The Table 4.16 reveals that the income on other investment of EBL ranged from Rs. 1.60 millions in the fiscal year 2003/04 to Rs. 48.66 millions in the fiscal year 2006/07. Similarly, the investment made on other ranged from Rs. 9.26 millions in the fiscal year 2004/05 to Rs. 632.82 millions in the fiscal year 2005/06. The table also depicted that the return on other investment of EBL was highly fluctuating and thus ranged from 3.08% in the fiscal year 2003/04 to 82.98% in the fiscal year 2004/05, which clearly indicated that the other investment policy of EBL was highly unstable and thus was most risky. In

average, the income earned from other investment was Rs. 26.40 millions, the other investment made was Rs. 218.64 millions and the return on other investment was 27.66%.

Figure 4.13

Return on Other Investment of EBL
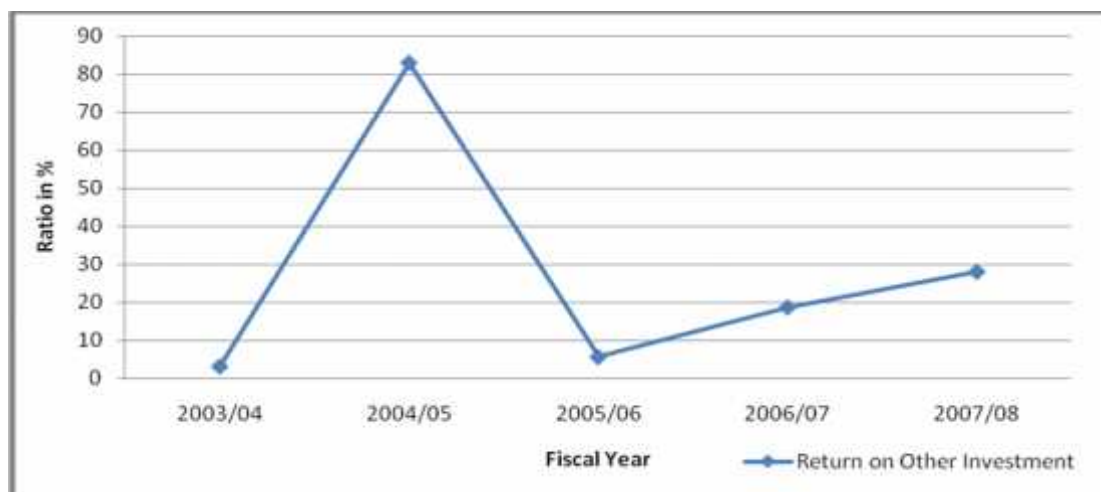
Likewise the return on other investment of LFLCL has been depicted in the Table 4.17.

Table 4.17

Return on Other Investment of LFLCL

FY	Income on OI	Investment in OI	Return on OI (R_o)
2003/04	0.00	0.00	0.00
2004/05	5.14	10.00	51.38
2005/06	3.44	5.00	68.75
2006/07	6.26	45.00	13.92
2007/08	9.94	60.00	16.57
Average	**4.96**	**24.00**	**30.12**

(Source: Annual Reports of LFLCL)

The Table 4.17 depicts that the LFLCL made no other investment in the fiscal year 2003/04 besides investment in government securities and corporate shares and debentures. LFLCL made Rs. 10.00 millions investment in other sectors in the fiscal year 2004/05 as a result it earned Rs. 5.14 millions income, which

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was 51.38% of the total investment. Similarly, in the fiscal year 2005/06, 2006/07, 2007/08, the return on other investment of LFLCL were 68.75%, 13.92% and 16.57% respectively of the total other investment made. In average, LFLCL earned Rs. 4.96 millions as income, made Rs. 24.00 millions as investment, and received 30.12% of the investment as return.

Figure 4.14

Return on Other Investment of LFLCL
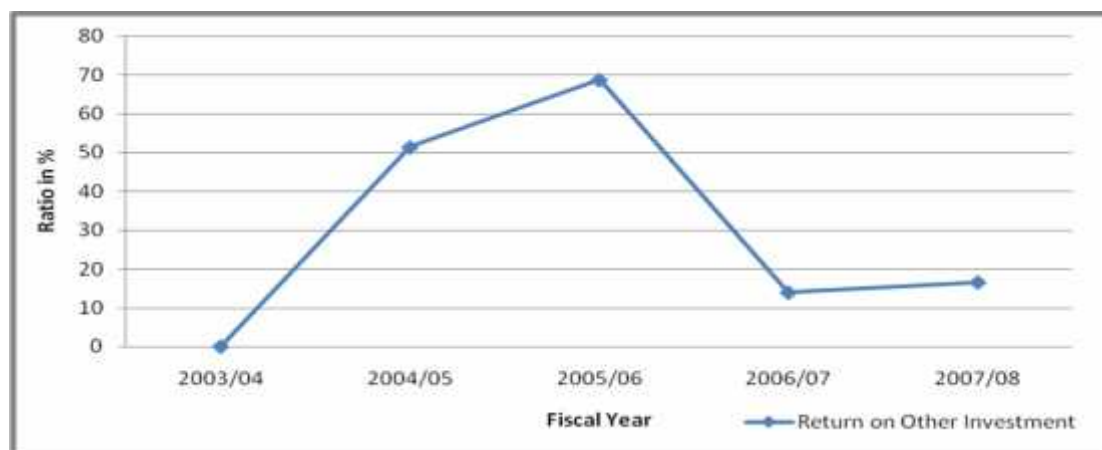
Also, the return on other investment of UFL has been presented in the Table 4.18.

Table 4.18

Return on Other Investment of UFL

FY	Income on OI	Investment in OI	Return on OI (R_o)
2003/04	3.82	39.00	9.80
2004/05	4.10	39.00	10.52
2005/06	4.20	68.50	6.13
2006/07	7.24	68.00	10.65
2007/08	11.05	68.50	16.13
Average	**6.08**	**56.60**	**10.65**

(Source: Annual Reports of UFL)

The Table 4.18 shows that the income on other investment of UFL was in increasing trend throughout the five consecutive years. The income was Rs. 3.82 millions, Rs. 4.10 millions, Rs. 4.20 millions, Rs. 7.24 millions and Rs.

11.05 millions in the fiscal year 2003/04, 2004/05, 2005/06, 2006/07 and 2007/08 respectively. However, the return on other investment followed fluctuating trend in the periods, and thus ranged from 6.13% in the fiscal year 2005/06 to 16.13% in the fiscal year 2007/08. In average, UFL earned Rs. 6.08 millions income, which was 10.65% of the average other investment.

Figure 4.15

Return on Other Investment of UFL
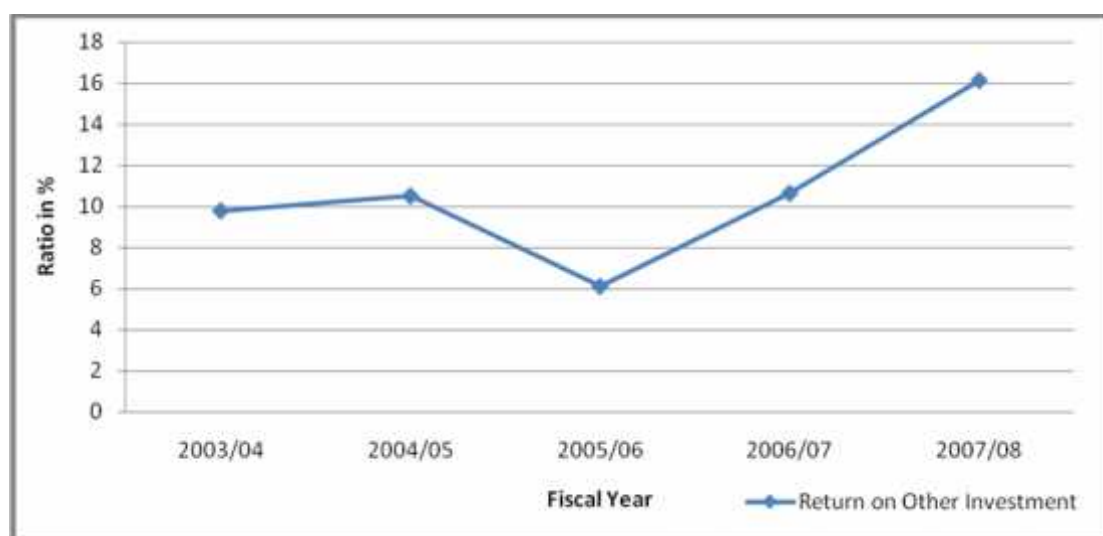
The comparison on the return on other investment of four financial institutions is presented in the Table 4.19.

Table 4.19

Comparison on Return on Other Investment

Average	HBL	EBL	LFLCL	UFL
Income	Rs. 250.63	Rs. 26.40	Rs. 4.96	Rs. 6.08
Other Investment	Rs. 5757.72	Rs. 218.64	Rs. 24.00	Rs. 56.60
Return (R_o)	4.42%	27.66%	30.12%	10.65%

(Source: Table 4.15, Table 4.16, Table 4.17 & Table 4.18)

The comparative table shows that although HBL earned highest income (Rs. 250.63 millions) than other financial institutions, the return generating capability of LFLCL's investment was much more efficient than others', LFLCL earned highest return, i.e. 30.12% of other investment, than other

financial institutions. After LFLCL, EBL's earning capacity from other investment was also highly appreciable, which was 27.66% of the investment made on other sector.

4.3 Risk on Individual Investment

To have a optimum investment policy, the knowledge risk associated with each of the investment assets is essential. The risk on each investment assets of FI's is presented in the below tables.

4.3.1 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 HBL, EBL, and LFLCL is presented in the Table 4.20, Table 4.21 and Table 4.22 respectively.

Table 4.20

Risk on Government Securities of HBL

FY	Return on Gov. Securities (R_g)	$R - \overline{R}_g$	$(R - \overline{R}_g)^2$
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 4.20 demonstrates 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 4.21

Risk on Government Securities of EBL

FY	Return on Gov. Securities (R_g)	$R - \bar{R}_g$	$(R - \bar{R}_g)^2$
2003/04	3.75	0.4160	0.1731
2004/05	3.71	0.3760	0.1414
2005/06	2.74	-0.5940	0.3528
2006/07	2.73	-0.6040	0.3648
2007/08	3.74	0.4060	0.1648
		Total	1.1969
		Risk (σ_g)	**0.55**

(Source: Appendix II)

The Table 4.21 measures the risk on the government securities of EBL bank. As the variance on return on government securities in the fiscal year 2006/07 was highest, i.e. 0.3648, and least in the fiscal year 2004/05, i.e. 0.1414, it can be considered that the investment in government securities was most risky in the fiscal year 2006/07 and least risky in the fiscal year 2004/05. However there was 0.55% (σ_g) risk in the return on government securities of EBL.

Table 4.22

Risk on Government Securities of LFLCL

FY	Return on Gov. Securities (R_g)	$R - \bar{R}_g$	$(R - \bar{R}_g)^2$
2003/04	25.50	15.38	236.42
2004/05	6.28	-3.84	14.78
2005/06	6.28	-3.84	14.78
2006/07	6.28	-3.84	14.78
2007/08	6.28	-3.84	14.78
		Total	**295.53**
	Risk (σ_g)		**8.60**

(Source: Appendix II)

The Table 4.22 reveals the risk on government securities of LFLCL. The table showed that the risk on generating return on government securities was most in the fiscal year 2003/04 ($\sigma^2_g = 236.42$) and least in the remaining fiscal years ($\sigma^2_g = 14.78$). Similarly, in the five consecutive years there was 8.60% (σ_g) risk in the return in government securities of LFLCL.

Table 4.23

Comparison on Risk on Government Securities

Risk	HBL	EBL	LFLCL	UFL
R_g	0.94%	0.55%	8.60%	0%[*]

Comparing the financial institutions, it can be concluded that the risk in return on investment on government securities of LFLCL (8.60%%) was highest than that of HBL (0.94%%) and EBL (0.55%). As the return on government securities of LFLCL (10.13%) was also highest, it can be considered that higher the risk yields higher return.

4.3.2 Risk on Shares and Debentures

Besides government securities, shares and debentures is another medium of investment. The risk on shares and debentures of HBL, EBL, LFLCL and UFL is presented in Table 4.24, Table 4.25, Table 4.26 & Table 4.27 respectively.

Table 4.24

Risk on Shares and Debentures of HBL

FY	Return on Shares & Deb. (R_s)	$R - \overline{R}_s$	$(R - \overline{R}_s)^2$
2003/04	-0.35	-12.67	160.58
2004/05	0.75	-11.57	133.91
2005/06	-1.68	-14.00	196.06
2006/07	8.04	-4.28	18.34
2007/08	54.85	42.53	1808.63
		Total	**2317.51**
		Risk (σ_s)	**24.07**

(Source: Appendix II)

The Table 4.24 reveals that the risk in return in investment on shares and debentures of HBL was highest in the fiscal year 2007/08 (^2_s = 1808.63) and lowest in the fiscal year 2006/07 (^2_s = 18.34). In average, there was 24.07% risk ($_s$) in the return in investment in shares and debentures on HBL in the five years period.

Table 4.25

Risk on Shares and Debentures of EBL

FY	Return on Shares & Deb. (R_s)	$R - \bar{R}_s$	$(R - \bar{R}_s)^2$
2003/04	0.00	-1.62	2.63
2004/05	0.13	-1.49	2.23
2005/06	-2.77	-4.39	19.29
2006/07	9.75	8.13	66.06
2007/08	1.00	-0.62	0.39
		Total	**90.60**
		Risk (σ_s)	**4.76**

(Source: Appendix II)

The Table 4.25 measures the risk on the EBL'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 2006/07 ($^2{}_s$ = 66.06) and lowest in the fiscal year 2007/08 ($^2{}_s$ = 0.39). Similarly, in five years period the risk in investment on shares and debentures was 4.76%.

Table 4.26

Risk on Shares and Debentures of LFLCL

FY	Return on Shares & Deb. (R_s)	$R - \bar{R}_s$	$(R - \bar{R}_s)^2$
2003/04	0.45	-33.07	1093.36
2004/05	76.7	43.18	1864.86
2005/06	-1.24	-34.76	1207.98
2006/07	27.92	-5.60	31.32
2007/08	63.75	30.23	914.09
		Total	**5111.61**
		Risk (σ_s)	**33.52**

(Source: Appendix II)

The Table 4.26 depicts that the risk in investment in shares and debentures of LFLCL was highest in the fiscal year 2004/05 ($^2{}_s$ = 1864.86) and lowest in the fiscal year 2006/07 ($^2{}_s$ = 31.32). However, there was 33.52% risk in the return in investment in shares and debentures in the five years period.

Table 4.27

Risk on Shares and Debentures of UFL

FY	Return on Shares & Deb. (R_s)	$R - \bar{R}_s$	$(R - \bar{R}_s)^2$
2003/04	0.31	0.07	0.01
2004/05	0.02	-0.22	0.05
2005/06	-2.85	-3.09	9.54
2006/07	6.19	5.95	35.43
2007/08	-2.48	-2.72	7.39
		Total	52.40
		Risk (σ_s)	3.62

(Source: Appendix II)

The Table 4.27 shows that the risk on the investment in corporate shares and debentures of UFL followed increasing trend in the first four year periods, i.e. from 0.01 in the fiscal year 2003/04 to 35.43 in the fiscal year 2006/07, and finally decreased to 7.39 in the fiscal year 2007/08. In average, the risk on corporate shares and debenture investment of UFL was 3.62%.

Table 4.28

Comparison of Risk on Shares and Debentures

Risk	HBL	EBL	LFLCL	UFL
R_s	24.07%	4.76%	33.52%	3.62%

(Source: Table 4.24, Table 4.25, Table 4.26 & Table 4.27)

Comparing all the selected financial institutions, it can be concluded that the risk in return on investment on shares and debentures of LFLCL (33.52%) was highest than that of HBL (24.07%), EBL (4.76%) and UFL (3.62%). As the return on shares and debentures of (33.51%) was also highest, it can further be considered that LFLCL had better investment policy in shares and debentures than in others.

4.3.3 Risk on Other Investment

Besides investment in government securities and corporate shares and debentures, the financial institutions also make investment in other sectors, like in fixed account of local and foreign banks, mutual fund, certificate of deposit and so on to increase the income. The risk on such other investment of HBL,

EBL, LFLCL and UFL is presented in the Table 4.17, Table 4.18 and Table 4.19 respectively.

Table 4.29

Risk on Other Investment of HBL

FY	Return on Other Investment (R_O)	$R = \bar{R}_0$	$(R = \bar{R}_0)^2$
2003/04	1.81	-2.60	6.78
2004/05	2.83	-1.58	2.51
2005/06	5.49	1.08	1.16
2006/07	6.44	2.03	4.10
2007/08	5.5	1.09	1.18
		Total	1.14
		Risk(σ_o)	1.98

(Source: Appendix II)

The Table 4.29 depicts that the risk on return in other investment of HBL bank was in fluctuating trend. The risk was most in the fiscal year 2003/04 ($^2{}_o =$ 6.78) and least in the fiscal year 2005/06 ($^2{}_o = 1.16$). In the five fiscal years, the risk in other investment of HBL was 1.14% ($_l$).

Table 4.30

Risk on Other Investment of EBL

FY	Return on Other Investment (R_O)	$R = \bar{R}_0$	$(R = \bar{R}_0)^2$
2003/04	3.08	-24.58	604.18
2004/05	82.98	55.32	3060.30
2005/06	5.58	-22.08	487.53
2006/07	18.67	-8.99	80.82
2007/08	27.99	0.33	0.11
		Total	4232.93
		Risk(σ_o)	32.53

(Source: Appendix II)

The Table 4.30 measures the risk in return on other investment of EBL. The table delineated that the risk in other investment was highest ($^2{}_o = 3060.30$) in the fiscal year 2004/05 and lowest ($^2{}_o = 0.11$) in the fiscal year 2007/08. In five consecutive reviewed years, there was 32.53% ($^2{}_o$) risk in the return on investment in others of EBL.

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Table 4.31

Risk on Other Investment of LFLCL

FY	Return on Other Investment (R_O)	$R = \bar{R}_o$	$(R = \bar{R}_o)^2$
2003/04	0.00	-30.12	907.46
2004/05	51.38	21.26	451.82
2005/06	68.75	38.63	1491.97
2006/07	13.92	-16.20	262.57
2007/08	16.57	-13.55	183.71
		Total	**3297.52**
		Risk (σ_o)	**28.71**

(Source: Appendix II)

The Table 4.31 reveals the risk on other investment of LFLCL. The table showed the risk on generating return on other investment was most in the fiscal year 2005/06 (σ^2_o = 1491.97) and least in the fiscal year 2007/08 (σ^2_o = 183.71). Similarly, in the five consecutive years there was 28.71% (σ_o) risk in the return in other investment of LFLCL.

Table 4.32

Risk on Other Investment of UFL

FY	Return on Other Investment (R_O)	$R = \bar{R}_o$	$(R = \bar{R}_o)^2$
2003/04	9.80	-0.85	0.72
2004/05	10.52	-0.13	0.02
2005/06	6.13	-4.52	20.39
2006/07	10.65	0.00	0.00
2007/08	16.13	5.48	30.07
		Total	**51.20**
		Risk (σ_o)	**3.58**

(Source: Appendix II)

The Table 4.32 shows that the risk on generating income from other investment of UFL followed fluctuating trend during the period. The risk was highest (σ^2_o = 30.07) in the fiscal year 2007/08 and nil (σ^2_o = 0.00) in the fiscal year 2006/07. In average UFL faced 3.58% risk during the five years period in other investment.

Table 4.33

Comparison on Risk on Other Investment

Risk	HBL	EBL	LFLCL	UFL
R_o	1.98%	32.53%	28.71%	3.58%

(Source: Table 4.29, Table 4.30, Table 4.31 & Table 4.32)

Comparing the sample firms, it can be concluded that EBL was the most risk taker in investment on other. Since, the standard deviation (risk) on return in other investment was highest in EBL (32.53%) than that in HBL (1.98%), LFLCL (28.71%) and UFL (3.58%). However, in spite of taking highest risk, the return on other investment of EBL (27.66%) was lower than that of LFLCL (30.12%). This clearly indicated the better investment policy of LFLCL than that of EBL.

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. Financial institutions invest their funds in government securities, in corporate shares and debentures, and in others.

Table 4.34

Portfolio Return on Investment of HBL

Assets	Return (R)	Amount	Weight (W)	W x R
Govt. Sec.	3.34	5594.46	0.490	1.64
Shares & Deb.	12.32	55.41	0.005	0.06
Other	4.41	5757.72	0.505	2.23
		Portfolio Return (R_p)		**3.93**

(Source: Appendix II)

The Table 4.34 depicts that the portfolio return on investment of HBL was 3.93%, which was greater than the average return on government securities, 3.93% > 3.34%. However, the portfolio return was lower than the mean rate of return on shares and debentures, i.e. 3.93% < 12.32%, and on other investment, i.e. 3.93% < 4.41%. It would be better if HBL decreases the investment amount

in government securities, and invest such amount mainly in corporate shares and debentures and partly in other investment to increase the portfolio income.

Table 4.35

Portfolio Return on Investment of EBL

Assets	Return (R)	Amount	Weight (W)	W x R
Govt. Sec.	3.33	3528.31	0.933	3.11
Shares & Deb.	1.62	35.49	0.009	0.02
Other	27.66	218.64	0.058	1.60
			Portfolio Return (R_p)	**4.72**

(Source: Appendix II)

The Table 4.35 shows that the expected rate of return on portfolio of EBL was 4.72%, which was greater than the average rate of return on government securities, 4.72% > 3.33%, and average rate of return on shares and debentures, 4.72% > 1.62%, and lower than the average rate of return on other investment, 4.72% < 27.66%. In the context of EBL, it would be better if EBL decreases the investment amount of corporate shares and debentures and divert such amount mainly in other investment to have sound investment policy.

Table 4.36

Portfolio Return on Investment of LFLCL

Assets	Return (R)	Amount	Weight (W)	W x R
Govt. Sec.	10.12	13.63	0.311	3.15
Shares & Deb.	33.52	6.21	0.142	4.75
Other	30.12	24.00	0.547	16.49
			Portfolio Return (R_p)	**24.39**

(Source: Appendix II)

The Table 4.36 reveals that the expected rate of return on portfolio of LFLCL was 24.39%, which was more than the mean rate of return on government securities, 24.39% > 10.12%. However, the portfolio return was lower than the mean rate of return on corporate shares and debentures, 24.39% < 33.52%, and on other investment, 24.39% < 30.12%. To increase the profit, it would be better if LFLCL decreases the investment amount in government securities and

divert such amount mainly in corporate shares and debentures and partly in other investment to enjoy the sound investment policy.

Table 4.37

Portfolio Return on Investment of UFL

Assets	Return (R)	Amount	Weight (W)	W x R
Shares & Deb.	0.24	4.44	0.073	0.02
Other	10.65	56.60	0.927	9.87
		Portfolio Return (R$_p$)		**9.89**

(Source: Appendix II)

Within the last five years, UFL made investment only on two sectors, i.e. in corporate shares and debentures and in other investment. UFL did not make investment in government securities. The portfolio return on two assets investment of UFL was 9.89%, which was far higher than the average rate of return on corporate shares and debentures, i.e. 9.89% > 0.24%, and lower than the average rate of return on other investment, i.e. 9.89% < 10.65%. It is highly recommended that UFL make investment in government securities to increase income and thus have sound investment policy.

Table 4.38

Comparison on Portfolio Return

Portfolio Return	HBL	EBL	LFLCL	UFL
R$_p$	3.93%	4.72%	24.39%	9.89%

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

Comparing the sample firms on the basis of portfolio return, it can be concluded that finance companies, especially LFLCL, was more efficient in managing its investment portfolio, as the portfolio return of LFLCL (24.39%) was highest than that of HBL (3.93%), EBL (4.72%) and UFL (9.89%).

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.

Table 4.39

Portfolio Risk on Investment

FI	$w_g^2 \sigma_g^2$ c_1	$w_s^2 \sigma_s^2$ c_2	$w_o^2 \sigma_o^2$ c_3	$2 w_g w_s r_{gs} \sigma_g \sigma_s$ c_4	$2 w_s w_o r_{so} \sigma_s \sigma_o$ c_5	$2 w_g w_s r_{gs} \sigma_g \sigma_s$ c_6	σ_p^2 $c_1+c_2+c_3+c_4+c_5+c_6$
HBL	0.214	0.014	1.002	-0.0472	0.0904	-0.5813	0.69
					Portfolio risk (σ_p)		**0.83**
EBL	0.260	0.002	3.536	-0.0166	-0.0051	0.7887	4.57
					Portfolio risk (σ_p)		**2.14**
LFLCL	7.141	25.64	247.06	-13.9943	9.7864	-49.2722	226.37
					Portfolio risk (σ_p)		**15.05**
UFL	*	0.0693	11.0056	*	-0.0327		11.04
					Portfolio risk (σ_p)		**3.32**

*Note: * indicates no investment in Gov. Securities by UFL   (Source: Appendix II)*

The Table 4.39 measures the portfolio risk of the sample firms. The table verified the fact that highest return yields highest risk, since LFLCL had highest portfolio return (24.39%) than others, it carried highest portfolio risk (15.05%). Likewise, UFL was more efficient than HBL and EBL in yielding higher portfolio return (9.89%) and thus carried higher portfolio risk (3.32%) than HBL and EBL. Since, the portfolio return of HBL (3.93%) was least than that of others, the portfolio risk of HBL (0.83%) was also least. Similarly, the portfolio risk of EBL was 2.14%. This implied that finance companies, LFLCL and UFL, are risk taker and banks, HBL and EBL, are risk averter. Among the sample firms, LFLCL had better investment policy than that of others.

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 net profit after tax on investment has been analyzed.

4.6.1 Regression Line of Net Profit on Total Investment

Let net profit after tax, NPAT, be the function of total investment, then the regression line of return on investment to total investment is given by;

NPAT   =   f (Total Investment)

$$\text{NPAT}_{\text{HBL}} \quad = \quad -519.44 + 0.08 \text{ Inv.}$$

$$\text{NPAT}_{\text{EBL}} \quad = \quad -29.31 + 0.08 \text{ Inv.}$$

$$\text{NPAT}_{\text{LFLCL}} \quad = \quad -9.08 + 0.85 \text{ Inv.}$$

$$\text{NPAT}_{\text{UFL}} \quad = \quad -1.62 + 0.24 \text{ Inv.}$$

Table 4.40

Regression Analysis of NPAT on Total Investment

FI	no. of observation (n)	Constant (a)	regression coefficient (b)	T value
HBL	5	-519.44	0.08	2.51
EBL	5	-29.31	0.08	2.83
LFLCL	5	-9.08	0.85	2.78
UFL	5	-1.62	0.24	2.06

(Source: Appendix III)

The Table 4.40 reveals that the NPAT of all the financial institutions has positive relationship with the total investment amount, since the beta coefficient of the regression line of each company was positive. The table showed that with per rupee increment in total investment, the net profit after tax of HBL and EBL increases by Rs. 0.08, LFLCL increases by Rs. 0.085 and UFL increases by Rs. 0.24. Hence, on the basis of regression line of net profit after tax on total investment, it can be concluded that investment of LFLCL was most fruitful and leads to Rs. 0.85 increase in net profit after tax with the same per rupee investment.

However, the t-statistics shows that only the relationship between NPAT and total investment of EBL and LFLCL is statistically significant, as the calculated t-value of only EBL (2.83) and LFLCL (2.78) is greater than and equal to the tabulated t-value (2.78) respectively at 5% level of significance and 4 degree of freedom, whereas the relationship between NPAT and total investment of HBL and UFL 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:

) The short term investment has covered major portion of the total deposit mobilization in the commercial banks, while less portion of the total deposit in finance companies. Hence, it can be inferred that loan and advances was given more priority in mobilizing deposit.

) Within, the total investment, the investment in government securities has ranged widely among the sample firms. However, it cannot be ignored that the government securities has got significant priority for investment. Among the sample firms, EBL has been more interested in government securities investment.

) Similarly, the investment in corporate shares and debentures occupied fewer portions in total investment. Finance companies have remained more interested than commercial banks in such investment. Likewise, the investment in other has also varied extremely. UFL has been more interested than other sample firms in such other investment.

) The return on government securities, corporate shares and debentures, and others made by LFLCL yielded highest return in each individual assets than the investment made by other sample firms. Also, the investment risk in government securities and corporate shares and debentures of LFLCL was highest. Thus, it can be inferred that greater return yields higher risk. In addition, the return on other investment yielded highest return than government securities and corporate shares and debentures in most of the cases.

) The portfolio risk and return in finance companies were comparatively higher than the those in commercial banks. Thus, it can be inferred that finance companies, LFLCL and UFL, are risk taker and banks, HBL and EBL, are risk averter. Among the sample firms, LFLCL had better investment policy than that of others.

ل Only the relationship between NPAT and total investment of EBL and LFLCL was statistically significant, whereas the relationship between NPAT and total investment of HBL and UFL was statistically insignificant.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main task of financial institutions is to mobilize idle resources in productive areas by collecting it from scattered sources and generating profit. A financial institution plays the role of intermediary between saving and investment and fulfills the credit needs of customers as well as investment requirements of savers. Successful formulation and effective implementation of investment policy is the prerequisite for the better performance of financial institution. Similarly, good investment policy has a positive impact on economic development of the country and vice-versa. Therefore, the financial institution must mobilize its deposits and other funds to profitable, secured, stable and marketable sectors so that it can earn a good profit. The income or profit of the financial institution entirely depends upon its investment decision. Considering this fact, it should never invest its funds in individual security alone, which is subject to too much depreciation and fluctuations. Financial institution should accept that types of securities, which are commercial, marketable, stable, liquid and profitable. A financial institution should not lay all its eggs on the same basket i.e. to minimize risk it must diversify its investment on different sectors and in different securities.

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

presentation.

5.2 Conclusion

On the basis of data analysis and major findings drawn, it can be concluded that HBL is most aggressive in mobilizing its total deposit in investment than other financial institutions. The ratio analysis helped to conclude that EBL and LFLCL have highly used their investment amount in government securities than other financial institutions, while HBL and UFL focused on other investment. Also, UFL ignored government securities while making the investment policy.

Similarly, it can be concluded that in case of HBL, investment in shares and debentures is much more risky than investment in government securities and in other, as the standard deviation on return on investment in shares and debentures is much higher than that of investment in government securities and in other. However, the return on share and debentures is much higher than the return in others. Similarly, in case of EBL, it can be considered that investment in others, such as in mutual fund, certificate of deposit, fixed account of other banks etc., is much more risky than investment in other researched assets, as the standard deviation on return on investment in other is highest than that of government securities and corporate shares and debentures. Along with much more risky, the other investment yielded higher percentage of return than government securities and shares and debentures, which verified the fact 'higher the risk, higher the return.'

Likewise, in case of LFLCL it can be concluded that the investment in shares and debentures is much more risky than the investment in government securities and other investment. Also, the investment in corporate shares and debentures yielded higher return than government securities and other investment. Also, the investment risk on shares and debentures of UFL is also higher than that of other investment. However, the other investment yielded

higher rate of return than investment in corporate shares and debentures.

Hence, overlooking the risk and return pattern of each bank individually, it can be concluded that the investment in corporate shares and debenture is much more risky and investment in government securities is more securedother investment.Also the portfolio return aid to conclude that the investment practices of LFLCL is much fruitful than that of other financial institutions, however the investment portfolio of LFLCL is much more risky than that of others.

Eventually, on the basis of regression lines of net profit after tax on total investment, it can be concluded that per rupee increment in total investment lead to greatest rupee increase in net profit of LFLCL than other financial institutions. Also, the efficiency of turning investment amount on return is highest in LFLCL than in HBL, EBL and UFL. Hence, it can be concluded that LFLCL has best investment policy than other selected financial institutions in terms of rate of return.

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 financial institutions.

) From the study, all selected financial institutions 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 financial institutions have not effectively utilized portfolio management concept. The deposit collected is highly dominated by loan and advances and investment was given second priority. Therefore, in order to increase the overall

profit, they should compile an optimum portfolio between granting loan and investment.

) The performances of sampled financial institutions do not seem to be satisfactory in terms of utilizing its resources efficiently in productive sectors. Therefore, all financial institutions need to identify the new investment sectors and make efficient investment in various sectors.

) Each financial institution 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.

) It would be better if HBL decreases the investment amount in government securities, and invest such amount mainly in corporate shares and debentures and partly in other investment to increase the portfolio income.

) It would be better if EBL decreases the investment amount of corporate shares and debentures and divert such amount mainly in other investment to have sound investment policy.

) To increase the profit, it would be better if LFLCL decreases the investment amount in government securities and divert such amount mainly in corporate shares and debentures and partly in other investment to enjoy the sound investment policy.

) It is highly recommended that UFL make investment in government securities to increase income and thus have sound investment policy.

APPENDIX - I

Calculation of Mean, Standard Deviation and Coefficient of Variations of Major ratios

FY	HBL			EBL			LFLCL			UFL		
	Inv.	Dep.	Ratio	Inv.	Dep.	Ratio	Inv.	Dep.	Ratio	Inv.	Dep.	Ratio
2003/04	9292.10	22010.33	42.22	2535.66	8063.90	31.44	15.16	636.09	2.38	43.54	442.31	9.84
2004/05	11692.34	24814.01	47.12	2128.93	10097.69	21.08	30.16	661.19	4.56	40.55	456.99	8.87
2005/06	10889.03	26490.85	41.10	4200.52	13802.44	30.43	25.15	741.67	3.39	68.58	482.90	14.20
2006/07	11822.98	30048.42	39.35	4984.31	18186.25	27.41	65.82	789.77	8.33	68.08	653.77	10.41
2007/08	13340.18	31842.79	41.89	5059.56	23976.30	21.10	80.82	838.98	9.63	68.65	788.12	8.71
Mean			42.34			26.29			5.66			10.41
S.D.			2.90			4.98			3.16			2.23
C.V.%			6.84			18.92			55.88			21.45
FY	Gov. Sec.	Inv.	Ratio	Gov. Sec.	Inv.	Ratio	Gov. Sec.	Inv.	Ratio	Gov. Sec.	Inv.	Ratio
2003/04	3431.73	9292.10	36.93	2466.43	2535.66	97.27	13.63	15.16	89.91	0.00	43.54	0.00
2004/05	5469.73	11692.34	46.78	2100.29	2128.93	98.65	13.63	30.16	45.19	0.00	40.55	0.00
2005/06	5144.31	10889.03	47.24	3548.62	4200.52	84.48	13.63	25.15	54.19	0.00	68.58	0.00
2006/07	6454.87	11822.98	54.60	4704.63	4984.31	94.39	13.63	65.82	20.71	0.00	68.08	0.00
2007/08	7471.67	13340.18	56.01	4821.60	5059.56	95.30	13.63	80.82	16.86	0.00	68.65	0.00
Mean			48.31			94.02			45.37			0.00
S.D.			7.61			5.59			29.51			0.00
C.V.%			15.75			5.94			65.03			0.00
FY	Shr.,Deb.	Inv.	Ratio	Shr.,Deb.	Inv.	Ratio	Shr.,Deb.	Inv.	Ratio	Shr.,Deb.	Inv.	Ratio
2003/04	34.27	9292.10	0.37	17.11	2535.66	0.67	2.21	15.16	14.58	4.54	43.54	10.43
2004/05	39.91	11692.34	0.34	19.39	2128.93	0.91	7.21	30.16	23.91	4.82	40.55	11.89
2005/06	39.91	10889.03	0.37	19.89	4200.52	0.47	7.23	25.15	28.75	4.25	68.58	6.20
2006/07	73.42	11822.98	0.62	19.89	4984.31	0.40	7.20	65.82	10.94	4.25	68.08	6.24
2007/08	89.56	13340.18	0.67	101.15	5059.56	2.00	7.20	80.82	8.91	4.32	68.65	6.29
Mean			0.47			0.89			17.42			8.21
S.D.			0.16			0.65			8.56			2.74
C.V.%			33.50			72.95			49.13			33.38
FY	Other	Inv.	Ratio	Other	Inv.	Ratio	Other	Inv.	Ratio	Other	Inv.	Ratio
2003/04	5826.11	9292.10	62.70	52.12	2535.66	2.06	0.00	15.16	0.00	39.00	43.54	89.57
2004/05	6182.7	11692.34	52.88	9.26	2128.93	0.43	10.00	30.16	33.16	39.00	40.55	96.18
2005/06	5706.15	10889.03	52.40	632.82	4200.52	15.07	5.00	25.15	19.88	68.50	68.58	99.88
2006/07	5294.69	11822.98	44.78	260.6	4984.31	5.23	45.00	65.82	68.37	68.00	68.08	99.88
2007/08	5778.95	13340.18	43.32	138.4	5059.56	2.74	60.00	80.82	74.24	68.50	68.65	99.78
Mean			51.22			5.10			39.13			97.06
S.D.			7.74			5.83			31.72			4.48
C.V.%			15.12			114.22			81.07			4.61

B) Calculation of Regression Line of Net Profit on Total Net Investment of EBL

Fiscal Year	Investment X	NPAT Y	x = X-X̄	y = Y-Ȳ	x²	y²	xy
2003/04	2535.66	143.57	-1246.14	-116	1552854.9	13403	144265.16
2004/05	2128.93	168.21	-1652.866	-91	2731966	8305	150625.68
2005/06	4200.52	237.29	418.724	-22	175329.79	486	-9232.86
2006/07	4984.31	296.41	1202.514	37	1446039.9	1374	44577.19
2007/08	5059.56	451.22	1277.764	192	1632680.8	36818	245177.36
Total	**18908.98**	**1296.70**			**7538871.5**	**60386**	**575412.529**

i) Calculation of Mean

For Investment   For NPAT

Mean   X̄ = X/5 = 3781.80   Ȳ = Y/5 = 259.34

ii) Calculation of Correlation Coefficient between Investment and NPAT

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \cdot \sum y^2}} = \frac{575412.53}{674715} = 0.8528$$

iii) Calculation of Standard Deviation ( )

For Investment   For NPAT

$$\sigma_x = \sqrt{\frac{\sum(x-\bar{x})^2}{N}} = \sqrt{\frac{7538871.493}{5}}$$

$$\sigma_y = \sqrt{\frac{\sum(y-\bar{y})^2}{N}} = \sqrt{\frac{60386}{5}}$$

= 1227.91   = 109.90

iv) Now the regression line of NPAT, Y on Total Investment, X is given by;

$$Y-\bar{Y} = r \cdot \frac{\sigma_y}{\sigma_x}(X-\bar{X})$$

or, Y- 259.34 $= 0.8528 \cdot \frac{109.90}{1227.91}(X-11407.33)$

or, Y- 259.34 = 0.08 X - 288.65

Y = -29.31 + 0.08 X

v) Calculation of t-value

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{(n-2)} = \frac{0.8528 \times \sqrt{(5-2)}}{1- 0.7273} = \frac{1.4771}{0.5222} = 2.83$$

C) Calculation of Regression Line of Net Profit on Total Net Investment of LFLCL

Fiscal	Investment	NPAT					

Year	X	Y	x = X-X̄	y = Y-Ȳ	x^2	y^2	xy
2003/04	15.16	-5.78	-28.26	-34	798.74064	1142	955.26
2004/05	30.16	41.99	-13.262	14	175.88064	195	-185.27
2005/06	25.15	3.26	-18.272	-25	333.86598	613	452.41
2006/07	65.82	37.92	22.398	10	501.6704	98	221.74
2007/08	80.82	62.71	37.398	35	1398.6104	1203	1297.34
Total	217.11	140.10			3208.7681	3252	2741.477

i) Calculation of Mean

For Investment   For NPAT

Mean   X̄ =   X/5 =   43.42   Ȳ =   Y/5 =   28.02

ii) Calculation of Correlation Coefficient between Investment and NPAT

$$r = \frac{xy}{\sqrt{x^2 \, y^2}} = \frac{2741.477}{3230} = 0.8487$$

iii) Calculation of Standard Deviation ( )

For Investment   For NPAT

$$\sigma_x = \sqrt{\frac{\sum (x-\bar{x})^2}{N}} = \sqrt{\frac{3208.76808}{5}}$$ $$\sigma_y = \sqrt{\frac{\sum (y-\bar{y})^2}{N}} = \sqrt{\frac{3252}{5}}$$

= 25.33   = 25.50

iv) Now the regression line of NPAT, Y on Total Investment, X is given by;

$$Y-\bar{Y} = \frac{r \times \sigma_y (X-\bar{X})}{\sigma_x}$$

or, Y- 28.02   = $\frac{0.8487 \times 25.50}{25.33}$ (X-11407.33)

or, Y- 28.02   =   0.85   X - 37.10

or, Y   =   -9.08   +   0.85   X

v) Calculation of t-value

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{(n-2)} = \frac{0.8487 \times \sqrt{(5-2)}}{\sqrt{1- 0.7202}} = \frac{1.4699}{0.5289} = 2.78$$

D) Calculation of Regression Line of Net Profit on Total Net Investment of UFL

Fiscal	Investment	NPAT					

Year	X	Y	x = X-X̄	y = Y-Ȳ	x^2	y^2	xy
2003/04	43.54	7.28	-14.34	-5.14	205.64	26.46	73.76
2004/05	40.55	9.67	-17.33	-2.75	300.33	7.58	47.73
2005/06	68.58	10.60	10.70	-1.82	114.49	3.33	-19.52
2006/07	68.08	17.17	10.20	4.75	104.04	22.52	48.41
2007/08	68.65	17.40	10.77	4.98	115.99	24.76	53.59
Total	**289.4**	**62.12**			**840.49**	**85**	**203.9757**

i) Calculation of Mean

For Investment   For NPAT

Mean   X̄ =   X/5   =   57.88   Ȳ =   Y/5   =   12.42

ii) Calculation of Correlation Coefficient between Investment and NPAT

$$r = \frac{xy}{\sqrt{x^2 \cdot y^2}} = \frac{203.98}{267} = 0.7647$$

iii) Calculation of Standard Deviation ( )

For Investment   For NPAT

$$\sigma_x = \sqrt{\frac{\sum (x-\bar{x})^2}{N}} = \sqrt{\frac{840.4374}{5}} \qquad \sigma_y = \sqrt{\frac{\sum (y-\bar{y})^2}{N}} = \sqrt{\frac{85}{5}}$$

= 12.97   = 4.11

iv) Now the regression line of NPAT, Y on Total Investment, X is given by;

$$Y - \bar{Y} = r \times \frac{\sigma_y}{\sigma_x} (X - \bar{X})$$

or, Y - 12.42   =   0.7647 $\frac{4.11}{12.97}$ (X-11407.33)

or, Y - 12.42   =   0.24 X - 14.05

or, Y   =   -1.62   +   0.24 X

v) Calculation of t-value

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{(n-2)} = \frac{0.7647 \times \sqrt{(5-2)}}{\sqrt{1- 0.5847}} = \frac{1.3245}{0.6444} = 2.06$$

APPENDIX - II

A) Calculation of mean return, risk & correlation Coefficient of HBL

Year	R_g	R_s	R_o	$R_{G=}$ $R_g-\bar{R}_g$	$R_{S=}$ $R_s-\bar{R}_s$	$R_{O=}$ $R_o-\bar{R}_o$	R^2_G	R^2_S	R^2_O	
2003/04	4.96	-0.35	1.81	1.62	-12.67	-2.60	2.62	160.58	6.78	2
2004/05	2.73	0.75	2.83	-0.61	-11.57	-1.58	0.37	133.91	2.51	7
2005/06	3.35	-1.68	5.49	0.01	-14.00	1.08	0.0001	196.06	1.16	-(
2006/07	2.97	8.04	6.44	-0.37	-4.28	2.03	0.14	18.34	4.10	1
2007/08	2.69	54.85	5.5	-0.65	42.53	1.09	0.42	1808.63	1.18	2
Total	16.7	61.61	22.07				3.56	2317.51	15.73	3

i) Calculation of Mean Return

For Government Securities

$$\bar{R}_g = R_g/5 = 3.34$$

For Corporate Shares & Debentures

$$\bar{R}_s = R_s/5 = 12.32$$

For Other

$$\bar{R}_o = R_o/5 = 4.41$$

ii) Calculation of Risk ( ) on Return

For Government Securities

$$\sigma_g = \sqrt{\frac{\sum R^2_G}{N-1}} = \sqrt{\frac{3.56}{4}} = 0.94$$

For Corporate Shares and Debentures

$$\sigma_s = \sqrt{\frac{\sum R^2_S}{N-1}} = \sqrt{\frac{2317.51}{4}} = 24.07$$

For Other

$$\sigma_o = \sqrt{\frac{\sum R^2_O}{N-1}} = \sqrt{\frac{15.73}{4}} = 1.98$$

iii) Calculation of Correlation Coefficient between Return on,
Government Securities & Shares and Deb.

$$r_{gs} = \sqrt{\frac{\sum R_G \times R_S}{R^2_G \quad R^2_S}} \quad \frac{-39.67}{90.78}$$

Coporate Shares and Deb. & other investment

$$r_{so} = \sqrt{\frac{\sum R_S \times R_O}{R^2_S \quad R^2_O}} \quad \frac{73.772}{190.94}$$

$$= \quad -0.44 \qquad\qquad\qquad = \quad 0.39$$

Government Securities & Other investment

$$r_{go} \quad = \quad \sqrt{\frac{\sum R_G \times R_O}{R^2_G \quad R^2_O}} \qquad = \quad \frac{-4.697}{7.4794}$$

$$= \quad -0.63$$

APPENDIX - III

A) Calculation of Regression Line of Net Profit on Total Net Investment of HBL

Fiscal Year	Investment X	NPAT Y	$x = X-\overline{X}$	$y = Y-\overline{Y}$	
2003/04	9292.10	263.05	-2115.23	-168	447
2004/05	11692.34	308.28	285.014	-123	812
2005/06	10889.03	457.46	-518.296	26	2686
2006/07	11822.98	491.82	415.654	61	1727
2007/08	13340.18	635.87	1932.854	205	3735
Total	**57036.63**	**2156.48**			**8732**

i) Calculation of Mean

For Investment   For NPAT

Mean $\overline{X} = \sum X/5 = \quad 11407.33 \qquad\qquad \overline{Y} = \sum Y/5 =$

ii) Calculation of Correlation Coefficient between Investment and NPAT

$$r \quad = \quad \frac{\sum xy}{\sqrt{\sum x^2 \quad \sum y^2}} \qquad = \quad \frac{727825.05}{884751} \qquad = \quad 0.822$$

iii) Calculation of Standard Deviation ( )

For Investment   For N

$$\sigma_x \quad = \quad \sqrt{\frac{\sum(x-\overline{x})^2}{N}} \qquad = \quad \sqrt{\frac{8732737.588}{5}} \qquad\qquad\qquad \sigma_y \quad =$$

$$= \quad 1321.57$$

iv) Now the regression line of NPAT, Y on Total Investment, X is given by;

$$Y-\overline{Y} \qquad\qquad = \qquad r \frac{\sigma_x \quad \sigma_y}{\sigma_x} (X-\overline{X})$$

$$= \quad \frac{0.8226 \quad 133.89}{1321.57} (X-11$$

or, Y- 431.30

88

	or, Y-	431.30	≡		0.08	X - 950.74
			≡		+	
	or, Y			-519.44	0.08	X

v) Calculation of t-value

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

$$= \frac{0.8226 \times \sqrt{(5-2)}}{1- 0.6767} = \frac{1.4248}{0.5686} = 2$$

iv) Calculation of portfolio risk

$$\sigma_p = \sqrt{w_g^2 \sigma_g^2 + w_s^2 \sigma_s^2 + w_o^2 \sigma_o^2 + 2 w_g w_s r_{gs} \sigma_g \sigma_s + 2 w_s w_o r_{so} \sigma_s \sigma_o + 2 w_g w_o r_{go} \sigma_g \sigma_o}$$

Assets	Amount	Wt.	$w_g^2 \sigma_g^2$	$w_s^2 \sigma_s^2$	$w_o^2 \sigma_o^2$	$2 w_g w_s r_{gs} \sigma_g \sigma_s$	$2 w_s w_o r_{so} \sigma_s$
			c_1	c_2	c_3	c_4	c_5
Gov. Sec.	3528	0.933	0.260	0.002	3.536	-0.0166	-0.0051
Shares & Deb.	35	0.009					
Other	219	0.058					
Total	**3782**						**Portfoli**

v) Calculation of Portfolio Return

Assets	Wt.	R	W X R
Gov. Sec.	0.933	3.33	3.11
Shr. & Deb.	0.009	1.62	0.02
Other	0.058	27.66	1.60
Portfolio Return (R_p)			**4.72**

B) Calculation of mean return, risk & correlation Coefficient of EBL

Year	R_g	R_s	R_o	$R_{G=}$ $R_g-\overline{R_g}$	$R_{S=}$ $R_s-\overline{R_s}$	$R_{O=}$ $R_o-\overline{R_o}$	R^2_G	R^2_S	R^2_O
2003/04	3.75	0.00	3.08	0.42	-1.62	-24.58	0.17	2.63	604.18
2004/05	3.71	0.13	82.98	0.38	-1.49	55.32	0.14	2.23	3060.30
2005/06	2.74	-2.77	5.58	-0.59	-4.39	-22.08	0.35	19.29	487.53
2006/07	2.73	9.75	18.67	-0.60	8.13	-8.99	0.36	66.06	80.82
2007/08	3.74	1.00	27.99	0.41	-0.62	0.33	0.16	0.39	0.11
Total	**16.67**	**8.11**	**138.30**				**1.20**	**90.60**	**4232.93**

i) Calculation of Mean Return

For Government Securities

$$\overline{R_g} = R_g/5 = 3.33$$

For Corporate Shares & Debentures

$$\overline{R_s} = R_s/5 = 1.62$$

For Other

$$\overline{R_o} = R_o/5 = 27.66$$

ii) Calculation of Risk ( ) on Return

For Government Securities

$$\sigma_g = \sqrt{\frac{\sum R^2_G}{N-1}} = \sqrt{\frac{1.20}{4}} = 0.55$$

For Corporate Shares and Debentures

$$\sigma_s = \sqrt{\frac{\sum R^2_S}{N-1}} = 4.7$$

For Other

$$\sigma_o = \sqrt{\frac{R^2_O}{N-1}} = \sqrt{\frac{4232.93}{4}} = 32.53$$

iii) Calculation of Correlation Coefficient between Return on,
Government Securities & Shares and Deb.

$$r_{gs} = \sqrt{\sum R_G \times R_S} = -3.79$$

Coporate Shares and Deb. & other inve

$$r_{so} = \sqrt{R_S \times R_O} = -1$$

$$R^2_G \quad R^2_S \qquad 10.413 \qquad\qquad R^2_S \quad R^2_O \qquad 61$$

$$= \qquad -0.36 \qquad\qquad\qquad = \qquad \begin{matrix} - \\ 0.03 \end{matrix}$$

Government Securities & Other investment

$$r_{go} \quad = \sqrt{\dfrac{\sum \bar{R_G} \times \bar{R_O}}{R^2_G \quad R^2_O}} \qquad \dfrac{29.255}{71.179}$$

$$= \qquad 0.41$$

iv) Calculation of portfolio risk

$$\sigma_p = \sqrt{w_g^2 \sigma_g^2 + w_s^2 \sigma_s^2 + w_o^2 \sigma_o^2 + 2 w_g w_s r_{gs} \sigma_g \sigma_s + 2 w_s w_o r_{so} \sigma_s \sigma_o + 2 w_g w_o r_{go} \sigma_g \sigma_o}$$

Assets	Amount	Wt.	$w_g^2 \sigma_g^2$	$w_s^2 \sigma_s^2$	$w_o^2 \sigma_o^2$	$2 w_g w_s r_{gs} \sigma_g \sigma_s$	$2 w_s w_o r_{so} \sigma_s \sigma_o$	$2 w_g w_o r_{go} \sigma_g \sigma_o$	σ_p^2
			c_1	c_2	c_3	c_4	c_5	c_6	$c_1+c_2+c_3+c$
Gov. Sec.	5594	0.490	0.214	0.014	1.002	-0.0472	0.0904	-0.5813	0.69
Shares & Deb.	55	0.005							
Other	5758	0.505							
Total	**11408**							**Portfolio risk (σ_p)**	**0.8**

v) Calculation of Portfolio Return

Assets	Wt.	R	W X R
Gov. Sec.	0.490	3.34	1.64
Shr. & Deb.	0.005	12.32	0.06
Other	0.505	4.41	2.23
Portfolio Return (R_p)			**3.93**

iv) Calculation of portfolio risk

$$\sigma_p = w_g^2 \sigma_g^2 + w_s^2 \sigma_s^2 + w_o^2 \sigma_o^2 + 2 w_g w_s r_{gs} \sigma_g \sigma_s + 2 w_s w_o r_{so} \sigma_s \sigma_o + 2 w_g w_o r_{go} \sigma_g \sigma_o$$

Assets	Amount	Wt.	$w_g^2 \sigma_g^2$	$w_s^2 \sigma_s^2$	$w_o^2 \sigma_o^2$	$2 w_g w_s r_{gs} \sigma_g \sigma_s$	$2 w_s w_o r_{so} \sigma_s \sigma_o$	$2 w_g w_o r_{go} \sigma_g \sigma_o$	σ_p^2
			c_1	c_2	c_3	c_4	c_5	c_6	$c_1 + c_2$
Gov. Sec.	13.63	0.311	7.141	25.64	247.06	-13.9943	9.7864	-49.2722	226.36
Shares & Deb.	6.21	0.142							
Other	24.00	0.547							
Total	**43.84**						**Portfolio risk (σ_p)**		**15.05**

v) Calculation of Portfolio Return

Assets	Wt.	R	W X R
Gov. Sec.	0.311	10.12	3.15
Shr. & Deb.	0.142	33.52	4.75
Other	0.547	30.12	16.49
Portfolio Return (R_p)			**24.39**