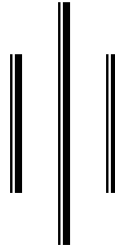


**RISK & RETURN ANALYSIS ON COMMON STOCK INVESTMENT
OF NEPALESE INSURANCE COMPANIES (With Reference to NLICL,
NLIC, SIC, SICL & UIC)**

A Thesis



Submitted To

**Office of the Dean
Faculty of Management
Tribhuvan University**



Submitted By

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*In the Partial Fulfillment of the Requirement for the
Degree of Master of Business Studies (MBS)*

March, 2014

RECOMMENDATION

This is to certify that the Thesis
Submitted by

GYANENDRA MAN TULADHAR

Entitled:

***RISK & RETURN ANALYSIS ON COMMON STOCK INVESTMENT OF
NEPALESE INSURANCE COMPANIES (With Reference to NLIIC, NLIC,
SIC, SICL & UIC)***

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NEPALESE INSURANCE COMPANIES***

(With Reference to NLI, NLIC, SIC, SICL & UIC)

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for the

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

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DECLARATION

I, hereby, declare that the work reported in this thesis entitled “*Risk & Return Analysis On Common Stock Investment Of Nepalese Insurance Companies (With Reference to NLIC, NLIC, SIC, SICL & UIC)*” submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work done for the partial fulfillment of the requirement for the Masters of Business Studies (MBS) under the supervision of **Asso. Prof. Rita Maskey** of Shanker Dev Campus, Putalisadak, Kathmandu.

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Date: - March, 2014

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ABBREVIATIONS

CAPM	Capital Assets Pricing Model
CV	Coefficient of Variation
DPS	Dividend Per Share
EPS	Earning Per Share
HPR	Holding Period Return
MBA	Masters' of Business Administration
MBS	Masters' of Business Studies
MVPS	Market Value Per Share
NEPSE	Nepal Stock Exchange
NLIC	Nepal Life Insurance Company
NLICL	National Life Insurance Company Limited
NP	Net Profit
NRB	Nepal Rastra Bank
P/E	Price Earning
S.D	Standard Deviation
SDC	Shankar Dev Campus
SEBON	Securities Boar of Nepal
SIC	Sagarmatha Insurance Company
SICL	Shikhar Insurance Company limited
SML	Security Market Line
SR	Systematic Risk
T. U.	Tribhuwan University
UIC	United Insurance Company
USR	Unsystematic Risk

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

According to the nature, characteristics and objectives of the insurance company, they are also refined to as financial intermediaries. All insurance Companies are capable of providing industrial finance, government finance and even personal finance. They provide different finance through their investment policy and strategy, based upon their corporate objectives and nature of the line of insurance business. In the context of Nepalese insurance companies, they provide various insurance policies and charge premium under insured risk and nature. Insurance companies collect fund a from various clients/people and organization as premium of insurance policies. So, all the insurance Companies are responsible for their clients interests.

Investment decision depends upon two factors i.e. risk and return. Risk is the fluctuation of actual returns and expected returns. The objective of risk and return analysis is that investors how to create more returns and decrease the risk. Portfolio analysis is to minimize risk at the given rate of return. Portfolio is known as mix of two and more assets to investment. The minimization of risk is possible by investing in two or various securities. The portfolio theory is concerned with the selection of optimal portfolios i.e. portfolio that provides the highest possible return for any specific level of risk or the lower possible risk for any specified rate of return. Portfolio theory has been developed for financial assets to making investment from 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 (Alexander, Sharpe & Bailey; 2003: 17).

Risk and return arise simultaneously out of any financial assets on which investors invest their funds. To maximize return without considering risk is almost impossible. Risk and return are needed not only at the time of initial investment but also for the whole investment processes where major decision should be made.

Financial market facilitates the flow of funds from surplus to deficit units. Those financial markets that facilitate the flow of short- term funds, that is, less than one year are know as money market. While those that facilitate the flow of long-term funds are known as capital markets. There are two

types of securities. Securities having life less than one year are called money market securities and securities having long life, generally of more than one year are called capital market securities.

Return, on the other, is income received from an investment, which is mainly two types one, is cash flow (revenue) receipts and other is income earned by appreciation of investment. These aforesaid terms should be quantified and examined thoroughly to help investors achieve their investment goal. Risk and return, portfolio selection, portfolio performance evaluation, efficient and frontier set, capital assets pricing model etc. are the most important dimensions of investment and without these aspects we cannot assume investment (Fisher & Jordan, 2000: 89).

Generally, investors are risk-averse meaning that given the choice they choose less risky assets for the same level of return. Investor always seeks higher return for more risk as risk premium. So, primary problem in investment is to identify the security which has low and high return. Risk can be reduced by the creation of the portfolio. Right portfolio can diversify and eliminate the unsystematic risk, which is associated with change, in return on the market as a whole cannot be avoided. These risk and return, are obviously an important concept in investment and should be addressed. Insurance sectors have been fast growing situation at the current time. For investment in this sector should be analyzed carefully in terms of risk, return and portfolio creation. Reported profits, dividend is not enough base for rational investment and it is suggested not to quit from this sectors, risk and return should be performed between the firms of this industry to combine securities and to form portfolio. Securities of losing company may prove to be useful to construct portfolio combining with the stock of profit making company (Pradhan, 1993: 13).

1.2 Profile of Sample Companies

1.2.1 National Life Insurance Company Limited

National Life Insurance Company Limited (formerly known as National life & General Insurance Co. Ltd.) was incorporated in 1988 A.D. under Nepal Company Act 1964 and the insurance Act 1968 of Nepal with prime objective to meet growing insurance requirements of the country. For more than two decades, National Life has built reputation as a company that believes in highest level of customer's service. The company's well known name and good reputation are reinforced by commitment to deliver value and service to all who do business (www.nationallife.com.np).

1.2.2 Nepal Life Insurance Company

Nepal Life Insurance Company established under the Company Act 2053 and Insurance Act 2049 as a public limited company on 2058/01/21 (04/05/2001). Nepal Life is the foremost life insurance company established by private investors. The promoters of the company are a group of well known businessmen and business houses of Nepal. Within the eleven years of operation the Company has set up an excellent business record and has a strong financial position. The company has insured itself with well-know reinsurance company "Hannover Re Life Reinsurance Company", Germany for conventional policies and "SCOR Global Life", France for Term Assurance Foreign Expatriate policies (www.nepallife.com.np).

1.2.3 Sagarmatha Insurance Company

Sagarmatha Insurance Co. Ltd. incorporated in 1996 has been promoted by the prominent entrepreneurs and leading industrial Groups - Salt Trading Corporation, Golchha Organisation, Jyoti Group, MC Group, National Finance Co. Ltd; Nepal Construction and Engineering Corporation and other promising entrepreneurs. Sagarmatha Insurance, First Foreign Joint Venture Company of Nepal in General Insurance, with Ceylinco Insurance Co. Ltd. of Sri Lanka has been awarded "CNCI Achievers Industrial Excellence - 2002" Gold Medal by The Ceylon National Chamber of Industries among the best industry in the SAARC region.

Joint Venture Partner, Ceylinco Insurance Co. Ltd. No.1 Insurance Company in Sri Lanka, is internationally recognized as an industry leader in product innovation, was placed within the top four General Insurance Companies in Asia, competing with over 1,000 insurance companies and received this prestigious award at the fourth Asia Insurance Industry Awards Ceremony 2000, held in the Philippines. The company is professionally managed by a team of highly experienced and dedicated executives / employees (www.sagarmathainsurance.com.np).

1.2.4 Shikhar Insurance Company

Shikhar Insurance Company Ltd. (SICL) is an established General Insurance Company promoted by a young team of reputed Industrial and Business Houses involved in various fields like Aviation, Banking, Manufacturing, Trading, Travel Trade, Media Houses etc. SICL is a company with a vision, geared up to face the every challenge that persists in the insurance industry. The challenges being developing policies as per the requirement of the client at an economical price, filling the void of the acute shortage of technical manpower in the insurance industry, introducing new products at

par with international standards, creating capacities within the markets so that the outflow of the precious convertible currency can be minimize (www.shikharinsurance.com.np).

1.2.5 United Insurance Company (Nepal) Limited

United Insurance Co. (Nepal) Limited is an ISO 9001:2000 certified insurance company. The company has started its operation from December 1, 1993 (Mangsir 16, 2050) after its registration with the Company Registration's Office and approved by Insurance Board. The company is promoted by leading industrialists and reputed trading and commercial houses of Nepal and has a wide participation. The Authorized Capital of the Company is Rs. 150 million out of which Rs. 60 million have been subscribed. In near future its paid-up capital will be Rs. 100 million (www.unitedinsurance.com.np).

1.3 Statement of the Problem

In comparison to the development and growth of capital market the investors attitude and knowledge does not seem to have changed significantly. They do not have sufficient knowledge about risk and return. There are no separate institutions to provide required information to make rational decision and on the other hand lacks of proper policy discourage the investors. Government policy is less encouraging proper investment situations. Some plans and policies are not implemented. There are no strong commitment towards increasing public investment in policy makers and government. Investors are the bases for any company they are the sources of revenue as a customer for the stockbrokers and financial institutions and ultimately they are the backbone of economic development of the nation. However, any above body has no any effective program to develop investor's knowledge. People feel more risk in stock investment than its real risk that may due to lack of proper knowledge about the stocks he/she is trading in due to the false presentation of stock prices in the secondary market. To build their confidence unbiased analysis and information about it is necessary. Unavailability of a simple and clear way or technique to analyze risk and return of individual stock and portfolio is therefore being a major weakness to increase stock investment and stock market efficiency as well.

In context of Nepal, investors are facing the problem of institutions to provide adequate information about the investment options. Investor should not get enough informational related to risk return as well as portfolio analysis of investing sectors. After the emergence of NEPSE in 1993

A.D. these type of problem somehow solved but the problem to another the Nepalese people is they feel more risk in stock investment than as its real risk. It keeps them in dilemma, whether they should invest in stock not and this all conditions makes them to not utilize their funds as a result investors have no much more alternatives for investment. Therefore, everyone is making investment on security market. Only few companies are listed in NEPSE, which still limits the opportunities of investment. This trend has made the market unbalanced and unfair. If any or financial institution issues share their becomes huge demand rather than supply but if any manufacturing and processing issues shares very little investors make investment.

- What is the risk and return on investment in selected Insurance companies stocks?
- Which Insurance company can be selected based on risk and return?
- Which Insurance company is better for investor to select?
- What is the relation of each Insurance company with the industry index?
- What is the proportion of systematic risk and unsystematic risk from the total risks?
- What is the common stock's price under capital assets pricing model method of sample Insurance companies?

1.4 Objectives of the Study

The basic objective of the study is to find out the condition of risk and return analysis of common stock investment and suggestion how to create a optimal portfolio among the selected insurance companies. The other specific objectives of the study are as follow.

- To analyze risk and return of investment in common stock of Insurance companies.
- To determine relation of each Insurance company with the industry index.
- To evaluate common stock's price under capital assets pricing model method.
- To shows the current market movement, Insurance company index movement and selected sample Insurance companies price movement in trend line.

1.5 Significance of the Study

The study is mainly concerned with the risk and return analysis at Nepalese insurance company. Considering the above in mind, following problems are identified which are to be researched. In Nepalese contest the concept of security market began with the set up of Nepal stock exchange "former known as securities exchange center" in 1976. This is the only stock market in Nepal.

Many investors are still afraid to invest in securities because of inadequate knowledge in this field and most investors are exploited from market intermediaries. The significance of this study are as follows.

- This study will be helpful to investors regarding the risk return statistics association with investment. Analysis of comparative study among various insurance companies will be benefited for them to know about the position of financial performance.
- Risk return analysis and portfolio theory will create awareness to utilize their scarce resources with optimization. The customers financing agencies and stock traders are interested in the performance of the insurance company and they can identify as to which insurance company they should invest. This study will be helpful to know an idea about the optimum portfolio creation for Nepalese investors and financial institution.
- The study will give more information about the condition of companies and it will help to contribute to increase the analytical power of the investors in capital market.
- This study also helps to insurance company definitely contribute and play vital role for domestic resource mobilization, economic development and maintain economic confidence of various segments and extends credit to people.

1.6 Limitations of the Study

Every work has its own limitation due to lack of time, resources and knowledge. This study has following limitations.

- This study has been based on secondary sources of data i.e. annual reports of insurance company, Nepal Rastra Bank, Insurance Board, SEBON, NEPSE, government publications, other related journals and news papers.
- The study is only concerns about risk and return analysis of sample insurance companies and idea about optimal portfolio creation.
- Among the various insurance companies in Nepal the study is only concerned on five insurance companies.
- The study covers a period of five fiscal years from the fiscal year 2008/09 to 2012/013 which will be processed for drawing conclusion.

- The study concentrates only on those factors which are related with common stock and available in the form required for analyzing the different issues.

1.7 Organization of the Study

The research will be divided into five chapters.

Chapter - I - Introduction

It introduces background of study, statement of problem, objective of the study, significance of the study, limitations of the study and organization of the study.

Chapter - II - Review of Literature

It includes pilot studies and textual concepts with regard to conceptual framework on investment, risk, return and portfolio along with the review of major books, journal, research work and thesis etc.

Chapter - III - Research Methodology

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

Chapter - IV - Presentation and Analysis of Data

This chapter deals with the presentation and analysis of data. It analyses the data and interprets the results using different financial and statistical tools, table, chart and graphs. It also includes the major findings of the study.

Chapter - V - Summary, Conclusions and Recommendations

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

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

CHAPTER - II

REVIEW OF LITERATURE

Review of literature means reviewing research studies or other relevant propositions in the related area of the study so that all the past studies their conclusions and deficiencies may be known & further research can be conducted. This chapter deals with the theoretical aspects of the topic risk & return and portfolio analysis in comprehensive detail and descriptive manner. Main purpose of reviewing the literature is to develop some expertise in ones area to see what new contribution can be made and to receive some idea for developing a research design.

This chapter focuses on the review of literature, research studies and other pertinent prepositions in the related field study, textbooks and reference books relevant to the risk, return, investment and portfolio of insurance companies in Nepal particularly different journals, Article, Annual reports and some research paper related with this topic .

2.1 Conceptual Framework

Conceptual Review provides the fundamental theoretical frame work and foundation to the present study. Hence, books, research paper etc. dealing with theoretical aspects of risk, return, investment and portfolios are taken into consideration.

2.1.1 Investment

Investment usually means the sacrifice of the current money for future money. The sacrifice takes place in the present and the reward comes later, if at all, and the magnitude is generally uncertain. However, Shrestha describes investment as utilization of saving for something that is expected to produce profit or benefits. Investment is employment of funds to achieve added income or growth in value. It involves the commitment of resources put off from current consumption with hope of capitalizing some benefits in future. It includes both real asset and financial asset .Real asset investment denotes the tangible assets like building, land, machinery, factory and the like. On the other hand, financial asset investment indicates papers representing an indirect claim to real asset held by someone else. .Nevertheless, real asset is less liquid than financial asset.

Investment may be defined on the purchase by an individual or institutional investor of financial or real assets that produces a return proportional to the risk assumed over some future investment

period. It is an investment is a commitment of funds made in the expectation of some rate of return. If the investment is properly undertaken the return will be commensurate with the risk the investor assumes (Shrestha; 2002: 54)

Investment can be made on real assets or financial assets. An investment on real asset is known as real investment and on financial assets is known as financial investment. Real investment is also known as fixed assets investment, which indicates investment on land and buildings, machinery, factory & etc. Financial investment means the investment on financial assets like shares, debentures, warrants, convertibles etc.

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

The above definitions infer that an investment is the allocation and mobilization of funds for a certain time period to acquire some extra benefit or extra attachment with mobilized fund.

2.1.1.1 Investment Portfolio

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

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

“A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment assets is called a portfolio” (Weston & Brigham; 1982: 98).

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

2.1.1.2 Investment Alternatives

There are various alternatives for investors.

1. Equity Securities	<ul style="list-style-type: none"> • Common Stock • Preferred Stock 	
2. Short term debt securities	<ul style="list-style-type: none"> • Negotiable certificates of deposit • Commercial paper • Banker's acceptances • Treasury Bills 	
3. Intermediate and Long Term Debt Securities	<ul style="list-style-type: none"> • Government securities 	<ul style="list-style-type: none"> ➤ Treasury Notes ➤ Treasury Bonds ➤ Saving Bonds
	<ul style="list-style-type: none"> • Agency securities 	
	<ul style="list-style-type: none"> • Municipal Securities 	<ul style="list-style-type: none"> ➤ Revenue bonds ➤ General obligation bonds
	<ul style="list-style-type: none"> • Corporate bonds 	
4. Hybrid Securities	<ul style="list-style-type: none"> • Convertible preferred stock • Convertible bonds 	
5. Derivative securities	<ul style="list-style-type: none"> • Options • Community futures • Financial futures • Options in futures • Rights • Warrants 	
6. Real Assets	<ul style="list-style-type: none"> • Precious Metal • Real State • Collectibles 	
7. International Investment	<ul style="list-style-type: none"> • Multinationals Corporations • Foreign stocks traded on all local exchange • American Depository Receipts (ADRs 	
8. Other Investment	<ul style="list-style-type: none"> • Pension Funds 	

Alternatives	<ul style="list-style-type: none"> • Mutual funds • Closed –end Companies
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Source: Weston, and Brigham; 1982: 106.

2.1.1.3 Investment process

The investment process analyze how an investors makes decision about what securities to invest in, how extensive this investment should be and when they should be made. The investment process is as follows:

1. Setting investment policy

The initial step in setting an investment policy involves determines the investment objectives and the amount of one’s invest able wealth. Investment is always related with risks and returns. This step involves the identification of potential categories of financial assets for consideration in the ultimate portfolio. The identification of assets based on the investment on the investment objectives, amount of invests able wealth and tax status of investor.

2. Performing security Analysis

In this stage, security analysis involves examining a number of individual securities/ group of securities within the broad categories of financial assets. The investor will evaluate them of their price whether they are under price and overpriced, risk associated with that specific security, their expected return and real return and so on.

3. Portfolio construction

At this stage we identify assets in which in invest and what proportion of the investor’s wealth to put in each one. While constructing a portfolio, the selectivity, timing and diversification need to be addressed by the investor.

4. Portfolio Revision

This step involves both realizing that the currently held portfolio is not optimal and specifying another portfolio to hold with superior risk-return characteristic. The investor must balance the cost of moving to the new portfolio against the benefit of the revision.

5. Portfolio Performance Evaluation

In this stage is to evaluate the investment performance. The performance should be evaluated not only in terms of the returns but also the risks experienced. To evaluate the performance appropriate measures and standards are needed (Bhalla; 2001:94).

2.1.2 Common Stock

It is an ownership share in a corporation. Common stock certificates are legal documents that evidence ownership in a company that is organized as a corporation they are also marketable financial instrument. Sole proprietorship and partnership are other forms of business organizations, but only corporations can issue common stocks.

Common stock is the recipient of the residual income of the corporation. Through the right to vote, holders of common stock have a legal control over the corporation. An element of risk is also involved in equity ownership due to its low priority of claim at liquidation. Common stockholders have limited liability. Common equity provides a cushion for creditors if losses occur on dissolutions. The equity-to-total-assets ratio is an indicator of the degree by which the amounts realized on the liquidation may decline from the stated book values before creditors suffer losses.

“Common stock has one important investment characteristic and one important speculative market price tends increase irregularly but persistently over the decades as their net worth builds through the reinvestment of undistributed earnings. However, most of the time common stocks are subject to irrational and excessive price function in both directions, as the consequence of the ingrained tendency of most people to speculative or gamble, i.e. to give way to hope fear and greed.”

"Of all the forms of securities common stock appears to be the most romantic while fixed income investment revenue may be more important to most of the investor. Common stock seems to the capture their interest the most. The potential reward and penalties associated with common stock

make them on interesting even exciting proposition, no wonder, and common stock investment is a favorite's topic for conversation in parties and gets together" (Fisher, & Jordan; 2000: 103).

"Common stockholders of a corporation are its residual owners, their claim to income and assets comes after creditors and preferred stock holders have been paid full. As a result, stockholders return on investment is less certain than the return to lender or to a preferred stockholder. On the other hand, the share of a common stock can be authorized either with or without par value. The par value of a stock is merely a stated figure in the corporate charter and is of little economic significance" (Van Horne; 1997: 160).

Common stock holders of a corporation are its residual owners, their claim to income and assets comes after creditors and preferred stock holders have been paid in full. As a result, a stockholders return on investment is less certain than the return to lenders or to preferred stockholders. On the other hand, the shares of a common stock can be authorized either with or without par value. The par value of a stock is merely a stated figure in the corporate charter and is of little economic significance. A company should not issue stock at a price less than par value because stockholders who bought stock for less than par value would be liable to creditors for the difference between the below par price they paid and the par value. Common stock holders are entitled certain right, which are as follows (Van Horne; 1997: 165).

- Control through voting right
- Preemptive right
- Limited liability
- Right to income and distribution of additional shares
- Residual right

2.1.2.1 Common Stock Values

Common stock values are either denoted by par value, book value or market value. These three terms are different and their rupee amount differs.

a. Par Value

The face value of one stock established at the time the stock is initially issue known as par value. Generally common stock carry Rs100 par value.

b. Book Value

The sum of the cumulative R/E and other entries such as common stock and capital contribution in excess of par value under stock holders equity is the book value of the equity.

c. Market Value

The value of share in secondary market traded between investors and traders is the market value. Market value is the consequence of demand and supply.

2.1.3 Security Market

A security market can be defined as a mechanism for bringing together buyers and sellers of financial assets. In order to, facilitate trading. It means the market where the securities are treated. Security market can be distinguished in to.

- Primary and secondary market
- Money and Capital Market

2.1.3.1 Primary Market

Security offered for the first time to the general public through the primary securities market. The issuer may be a brand new company. It is also known as New Issue Market (NIM).

2.1.3.2 Secondary Market

“The secondary market is not keeping pace with the growth of the primary market. This is mainly due to lack of the needed efforts on the concerned authority to devise suitable package of measure to encourage the growth of broker network in the country's growing stock exchange” (Shrestha; 1992: 18).

2.1.3.3 Money Market

Money market is also called short term financial market which is the set of supplying short term debt or working capital needed for industries, business or incorporated etc. The instruments of money market are inter-bank deposited, government securities, banker's acceptance, certificate of deposited and commercial papers issued by non financial institutions.

2.1.3.4 Capital Market

Capital Market is the market where the transaction of long term finance is made. The fund collected in this market are raised and traded by long term financial instrument such as equities and bonds.

2.1.4 Return on Common Stock

The meaning of return has different meaning to different investors. The rate of return from capital investment is a concept that has different meaning to different investors. Some competitive seek near term cash inflow and give less value to more distant returns. Return can be expressed by cash dividend or capital gain or loss. Some investors measure return using financial ratios. Single holding period return may be defined as all possible future cash flows that can be earned holding securities up to holding period. It can be also defined as the changes in the value plus any cash distribution expressed as a percentage of the beginning of the period of investment value. An investor can obtain two kind of income from the investment is a share or bonds. They are as follows;

- Income from price appreciation or losses from price depreciation. It is called capital losses and gain.
- Cash flows income from cash dividend or coupon interest payment.

Return shows financial position of any organization. The company position of any Organization may be better if it has higher return. Return is rewards for an investor from his or her organization. Investors always want to maximize expected return subject to their tolerance for risk. Return is motivating forces and it is the key method available to investors in capering investment alternatives. Realized rate of return and expected rate of return which are often used in language of investment. Realized rate of return is after the fact return that was earned or it is the historical return.

The return on investment can be measured as the total gain and losses expressed on the behalf of owner over the given period of time. It is commonly stated as the change in value plus any cash distribution expressed as percentage of the beginning period investment value. The expression for calculating the rate of return (Ks) earned any assets over the period (t) is commonly defined as;

$$\text{Total Return} = \text{Capital Gain} + \text{Regular Gain (Ordinary Gain)}$$

$$\text{Capital Gain} = \text{Ending Price} - \text{Beginning Price}$$

$$\text{Regular Gain} = \text{Dividend Or Interest (Bhattarai; 2008: 102)}$$

2.1.4.1 Single Period Rate of Return

The investment return is defined as the after tax increase in the value of the initial investment. The increase in value can come from two sources: direct cash payment to the investor or an increase in the market value of the investment relative to the original purchase price.

2.1.4.2 Required Rate of Return

When setting the required rate of return on an investment, an investor must consider the real rate of return, expected inflation and risk. Because consumption is foregone today, the investor is entitled to a rate of return that compensated for this deferred consumption since the investor expects to receive an increase in the real goods purchase later, and assuming for the moment, zero inflation and risk, the required rate could equal to the real rate of return, in which case it would represent the pure time value of money. The capital markets determine this real based upon the supply of money to be invested relative to the demand for borrowed money (Cheney and Moses; 1995: 33).

The required rate of Return is the minimum rate of return that an investor expects from his/her investment in risky assets. It is the function of real rate of return and risk. The required rate of return is the return on risk free assets.

2.1.4.3 Expected Rate of Return

If an investment is to be made, the expected rate of return or the expected holding period return, should be equal to or greater than the required rate of return for that investment. The expected rate of return is based upon the expected cash receipt (e.g. dividend and interest) over the holding period and the expected ending or selling price. The expected rate of return is unknown future return. The investor has forecast possible outcomes each based upon a possible state of the economic. Each economic state will result in a different expected rate of return. Subjective probabilities are assigned to each outcome. The overall expected rate of return, $E(HPR)$ can be calculated as a weighted average of the three forecasts (Cheney and Moses; 1995: 35).

2.1.5 Risk on Common Stock

Risk, in simple word, is an uncertainty. Risk and uncertainties are the facts of life so to the common stock holder. Technically, their meanings are different. Risk, simply in Investment, means a chance of happening some unfavorable event or danger of losing some value. Risk suggests that a decision maker knows the possible consequences of a decision and their relative livelihoods at the times he makes decision.

“The practice is to translate the uncertainty into a mathematical value which represents the uncertainty into a mathematical value which represent the best estimate of all uncertainty value. But risk is treated differently. Although risk arises from uncertainty, its magnitude depends upon the degree of variability in uncertain cash flows, it is measured in terms of standard deviation. In project analysis the project risk indicated of the probability of return being less than the expected value higher the probability of such loss or less return, higher the project risk” (Pradhan; 1992: 244).

“Risk is defined in Webster’s dictionary as a „hazard: a peril: exposure to loss or journey”, thus for most, risk refers to the chance that some unfavorable event will occur. If u invest in speculative stock (or, really, any stock), you are taking a risk in the hope of making an appreciable return” (Weston & Brigham; 1995: 182).

2.1.5.1 Sources of Risk

a. Interest Rate Risk

Interest rate risk is potential variability of return caused by changed in the market interest rate. If market interest rates rise, then investment's values and market price will fall and vice versa. The variability of return that results is interest rate risk. This interest rate risk affects the price of bond and stock etc.

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 consumers price index is a widely followed measure of the rate of inflation.

c. Bull-Bear Market Risk

Bull bear risk arise from the variability in market return resulting from alternating bull and bear market forces. When a security index arises fairly consistently from a low point, called a trough, for a period of time, this upward trend is called a bull market. The bull market ends when the market Index reached a peak and starts a downward trend. The period during which the market declined to the next trough is called a bear market.

e. Management Risk

Though many top executives earn princely salaries, occupy luxuries offices and wield enormous power within their organization, they are mortal and capable of making a mistake or a poor decision. Furthermore errors made by business managers can harm those who invested in their firm forecasting management errors is difficult work that may not be worth the effort and, as a result, impacts a needless skepticism with informed insight as they endeavor to analyze subjective management risks.

f. Default Risk

Default risk is that portion of an investments total risk that results from changed in the financial integrity of the investment.

g. Liquidity Risk

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

h. Call Ability Risk

That portion of a securities total variability of return 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 than average rate of return. This additional return should increase as the risk that the issue will be called increases.

i. Convertibility Risk

Convertibility risk is that portion of the total variability of return from a convertible preferred stock that reflects the possibility that the investment may be converted into the issuer's common stock at a time harmful to the investors best interests.

j. Political Risk

Political risk arises from the exploitation of a politically weak group for the benefit of a politically strong group, with the efforts of various group to improve their relative positions increasing the variability of return from the affected assets (Frank & Keith 2004).

k. Industry Risk

An industry may be viewed as a group of companies that compete with each other to market a homogeneous product. Industry risk is that portion of an investment's total variability of return caused by events that affect the products and firms that make up an industry. The stage of the industry's life cycle, international tariffs and or quotas on the products produced by an industry, product or industry related taxes, industry wide labor union problems, environmental restrictions. Raw materials availability and similar factors interact and affect all the firms in an industry simultaneously (Cheney and Moses; 1995: 33).

2.1.5.2 Types of Risk

The total variance of the rate of return is the sum total of various risks which are primarily classified into two types.

1. Systematic Risk
2. Unsystematic Risk

Hence,

Total Risk = Systematic Risk + Unsystematic Risk

a. Systematic Risk

It refers to that portion of the variability of an individual security's return caused by factors affecting the market as a whole as such it can be thought of being nondiversifiable. It is because of this that it

is also called market risk or relevant risk. The systematic risk is market related. In other words, it arises from the changes in the economy and market condition. For example, high inflation, recession, impact of political factors, wars, depression, long term changes etc which are beyond the control of company management. It affects all the firms in the market. The systematic risk is rewarded in the form of risk premium, sometimes; systematic risk is called market risk. Systematic risk affects almost all assets in the economy, at least to some degree, whereas unsystematic risk affects at a small number of assets. The principle of diversification has an important implication to a diversified investor, only systematic risk matters. Systematic risk accounts for 25% to 50% of the total risk of any security (Fisher & Jordan; 2000: 167). Some of the sources of systematic risk include.

- Interest rate changes.
- Changes in purchasing power.
- Changes in investor's expectation about the overall performance of the economy.
- Because diversification cannot eliminate systematic risk, this type of risk is the predominant determinant of the individual security risk premium. This risk is also called beta risk (Weston and Brigham; 1982:89).

b. Unsystematic Risk

It is also called diversifiable risk or company specific risk or unavoidable risk. It is such a risk which is unique to the firm. The unsystematic risk is non market factors related. In other word, it arises from the project specific factors. This portion of risk is possible to reduce or eliminate through diversification of their investments. It is inherent individual companies or projects. It is the variability in the security's return caused by such factors as;

- Management capability and decisions.
- The availability of the raw materials.
- Strikes.
- The unique effects of government regulations such as pollution control.
- The effect of foreign competition.
- The particular levels of financial and operating leverage of the firm employees (Weston and Brigham; 1982:89).

2.1.6 Statistical Measure of Risk

The parameter of return distribution is a measure of dispersion of variability around expected return. The basic and conventional measure of dispersion is the standard deviation. For normally distributed returns, the mean and the variance of the distribution well describe the investment performance and support in right way valuing risky investment. The measurement of risk has always been a subject for debate. This disagreement stamps primarily from the various ways investors perceive risk (Cheney and Moses, 1992: 40).

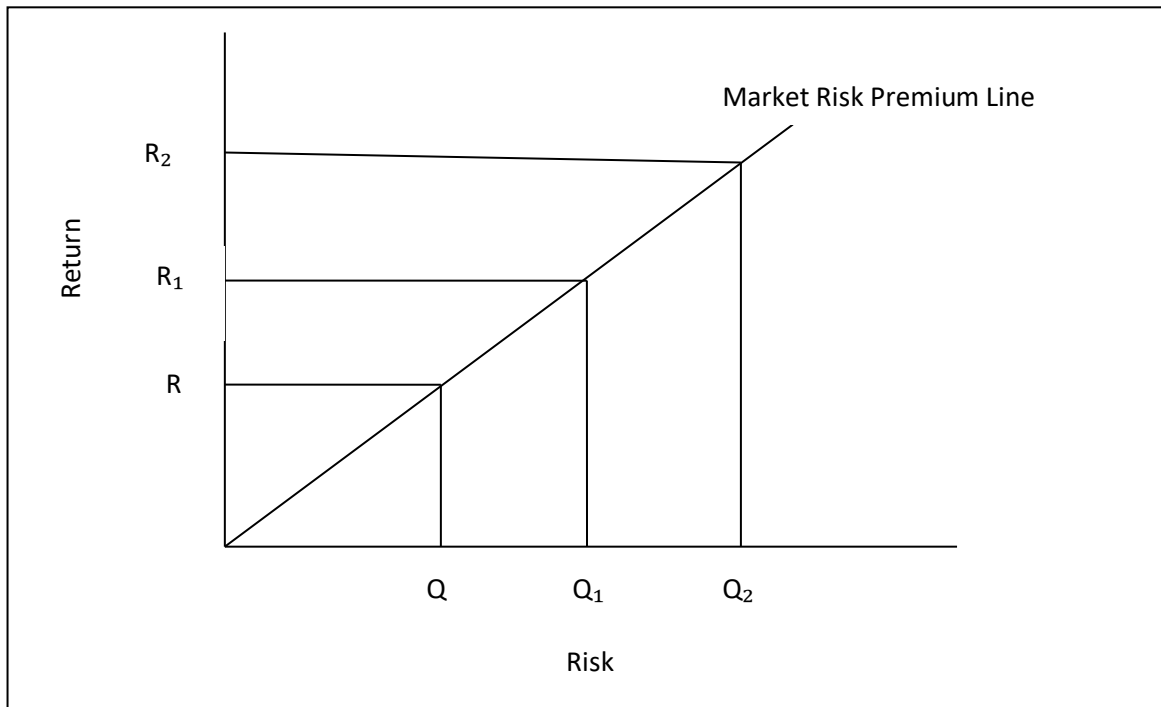
2.1.7 Relationship between Risk and Return

The relationship between risk and return is described by investor perception about risk and their demand for compensation. Those investors who can tolerate higher level of risk should be regarded with higher level of return. This statement is supported by the most empirical studies of historical risk return relationship. No investors like to invest in risky security unless he is assured of adequate compensation for the assumption of risk. Therefore, it is the investors required risk premium that establishes a link between risk and return. In a market dominated by rational investors, higher risk will command higher premiums, the trade-off between the two assumes a linear relationship between risk and risk premium.

The observed differences in both the levels and variability of the rates of return across securities are indicative of the underlying risk return relation in the market (Lorie, Dodd and Kempton; 1983: 33).

Generally, there is a positive relationship between rate of return and risk. It means an investor can usually attain more return by selecting dominant assets that involve more risk. While it is not always true that a riskier asset will pay a higher average rate of return, it is usually true. The reason is that investors are risk averse. As a result, high risk assets must offer investors high return to induce them to make this riskier investment. Naturally, investors are likely to prefer more return and less risk. It means investors will not choose an investment that guarantees less return when investment promising higher return in the same level of risk class are readily available. Risk and Return relationship can be shown by following figure.

Figure 2.1
Relationship between Risk and Return



2.1.8 Portfolio Risk and Return

Each asset's expected return and risk along with the expected return and risk for other asset's and their interrelationships are important inputs in portfolio selection. In order to construct efficient portfolios, the investor must be able to quantify the portfolios expected return and risk (Cheney & Mosses; 1992: 92).

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

2.1.8.1 Portfolio Return

The expected return of a portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportions of the investor's wealth invested in each asset and the sum of the weight must equal to one (Cheney & Mosses; 1992: 97).

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

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

Where,

R_P = Return on Portfolio

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

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

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

2.1.8.2 Portfolio Risk

The calculation of a portfolio risk is not as straight forward as the calculation of a portfolio's expected return. In order to calculate the risk of a portfolio, consideration must be given not only to the risk of the individual assets in the portfolio and their relative weights but also to the extent to which the assets returns move together. We measure the risk of an individual asset by the variance of returns or its square root, the standard deviation. The degree to which the asset's return move together is measured by the covariance or correlation coefficient. By combining the measures of individual asset risk (variance or standard deviation), relative asset weights, and the co-movement asset's return (covariance or correlation), the risk of the portfolio can be estimated. Total risk is measured by either the variance or its square root, the standard deviation of returns (Cheney & Mosses; 1992: 105).

For two assets case;

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

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

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

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

For three assets case;

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

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

W_C = Weight or Proportion of Asset 'C'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

δ_C = Risk on Asset 'C'

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

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

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

2.1.9 Capital Asset Pricing Model (CAPM)

CAPM is a model based on the presentation that the required rate of return on any stock is equal to the risk free rate of return plus its risk premium, where risk is measured by the beta coefficient. The CAPM is a relationship in which the expected rate of return of the asset is a linear function of that asset's systematic risk. The CAPM represents the trade-off systematic risk for the returns that investors expect to receive. The CAPM explains the behaviour of security prices. It further explains how the prices and interest rate on risky financial assets are determined in the capital market. CAPM combines the principles of portfolio theory with certain assumptions regarding investors' expectations and market characteristics (Francis 1997: 273).

Assumptions

- Individual are risk averse.
- Individual can borrow and lend free at risk free rate of interest.

- Individuals have homogenous expectations regarding risk and returns of securities.
- The market is perfect and competitive.
- There are no transaction costs and taxes.
- Securities are divisible.

The CAPM equation is written as follows;

$$\Sigma(R_j) = R_f + (R_m - R_f)\beta_j$$

where,

$\Sigma(R_j)$ = Expected return on assets

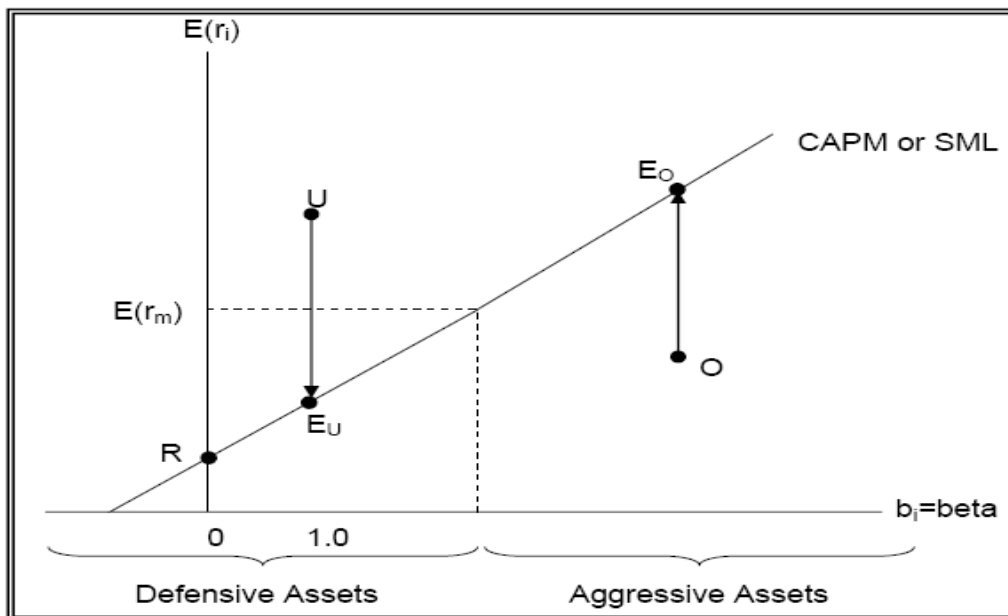
R_f = Risk free rate of return

R_m = Market return

β_j = Coefficient of Beta

Figure: 2.2

Capital Assets Pricing Model



Source: Francis; 1997: 276

A vertical line in the Figure shows a risk class for systematic risk. The CAPM relates an expected return to each of the systematic risk. These expected returns can be interpreted as the appropriate discount rates, as the cost of capital, or as equilibrium rate of return that investors expect for that

amount of systematic risk. In the figure, U and O are not in equilibrium on the CAPM. Asset U is undervalued and therefore desirable to own the asset. The price of U will rise in the market as more investors purchase it. When price goes up of asset U, its return falls. When U's return falls to the return consistent with its beta on the SML, equilibrium is attained. The asset O is overvalued. Investors will attempt to sell O, and therefore puts the downward pressure on O's price. When the return on asset O increases to the rate that is consistent with the beta risk level given by the SML, equilibrium will be achieved and downward price pressure will cease. Hence, the CAPM or SML is relationship in which the expected rate of return of the individual asset is a linear function of that asset's systematic risk as represented by beta (β), symbolically. According to Sharpe & Litner (CAPM) study: the greater the beta of a security, the greater the risk and the greater the expected return required. The lower the beta, the lower will be the risk (Francis; 1997: 278).

2.2 Review of related Studies

2.2.1 Review of Journal/Articles

Smith (1996), *"The Application of Economic Theory to financial markets"* it is a large body of theory including such as well known models as "Modern portfolio Theory" of Markowitz (1952). The capital assets pricing model of Sharpe (1964), The efficient market Hypothesis of Samuelson (1965) and Fama (1965), and the option pricing model of Black and Scholes (1973). Although these model are all included in institute of faculty education Ltd., their acceptance or use is controversial.

Investor's whether they are individual or institutions such as pension funds mutual funds or cloolege endowments hold portfolio that is they hold a collection of different securities. Much of the innovation in investment research over the past 40 years has been the development of a theory of portfolio management and this module is principally an introduction to these new methods. It will answer the basic question what rate of return will investors demand to hold a risky security in their portfolio.

The investor return is a measure of growth in wealth resulting from that investment. This growth measure is expressed in percentage forms to make it comparable across large and small investors. Stock return may be riskier or more volatile, but this concept is a difficult one to express simply. To do so, we borrow a concept from statistics, called standard deviation. It as single measure, allowing us to quantity asset return by risk, and it also provides the basis for investor decision about portfolio choice.

Rishi & Gyan (2002), on the title of *“Expected return, realized return and Asset pricing tests”* is also relevant in our research. In this paper the writer mentioned that “almost all of the testing I am aware of involves using realized returns as proxy for expected returns relies on a belief that information surprise trend to cancel out over the period of a study and realized returns are therefore an unbiased estimate of expected returns. However, I believe that here is sample evidence that is belief is misplaced. There are periods longer than 10 years during which stock market realized returns are on average less than the risk free rate (1973 to 1984). There are periods longer than 50 years in which risky long term bonds on average under perform the risk free rate (1927 to 1981). Having a risky assets with an expected return above the risk less rate is an extremely weak condition for realized returns to be an appropriate proxy for expected returns and 10 and 50 years is an awfully long time for such a weak condition not to be satisfied.

Shrestha (2004), has given a short glimpse on the *“Portfolio Management in Commercial Bank, theory and practice”* Shrestha has highlighted the following issues in the articles. The portfolio Management becomes very important both for individuals as well as institutional investors. Investors would like to select a best mix of investment assets subject to the aspect of higher return which is comparable with alternative opportunities available according to the risk class of investors, good liquidity with adequate safety of investment, certain capital gains, maximum tax concession, flexible investment, economic, efficient and effective investment mix.

However, Shrestha has also presented the approaches to be added for designing a good portfolio and its investment. To find out the invisible assets (generally securities) having scope for the returns depending upon individual characteristics like age, health, disposition, liquidity, tax liability, find out the risk of securities depending upon the attitude of investor toward risk, develop alternative investment strategies for selecting a better portfolio, this will ensure a trade off between risk and return. So as to attach primary objective of wealth maximization at lowest risk and identify securities for investment to reduce volatility of return and risk. In the context, Shrestha has presented two types of investment analysis techniques i.e. fundamental analysis and technical analysis to consider any securities such as equity debentures or bond and other money and capital market instruments.

He has suggested that the banks having international network can also offer access to global financial market. Shrestha has also pointed out the required skilled manpower research and analysis and proper Management Information System (MIS) in any type of commercial banks to get success in portfolio management and customer's confidence.

Robert & Nardin (2006), entitled "*Commonality in the Determinants of Expected Stock Returns*" they presented with evidence that the determinants of the cross section of expected stock return were stable in their identify and influence from period to period and from country. The determinants were related to risk, liquidity, price level, growth potential and stock price history. Out of sample predications of expected returns, using moving average values for the pay-offs to these firm characteristics were strongly and consistently accurate. Two findings, however, distinguished their paper form others in the contemporary literature. First, the stock with higher expected and realized rate of return was unambiguously of lower risk than the stocks with lower returns. Second, they found that the important determinants of expected stock returns were strikingly common to the major equity markets of the world. Given the nature of the texts, it was highly unlikely that those results may be attributed to bias or data snooping. Consequently, the result seems to reveal a major failure in the efficient market hypothesis.

2.2.2 Review of Previous Thesis

Manandhar (2008), conduct a study on the topic "*A Study on Risk and Return Analysis on Common Stock of Listed Commercial Bank in Nepal*" the main objective of the study was to analyze the risk return and other relevant variables that help in making decisions about investment on securities of the listed commercial banks. The other specific objectives of this study were as follows;

- To evaluate common stock of listed commercial bank in terms of risk and return and to perform sector wise comparison on the basis of market capitalization.
- To identity whether the share of commercial banks are overpriced, under priced or at equilibrium price.
- To identify the correlation between returns of commercial banks.
- To construct optimum portfolio from listed common stock.
- To make relevant suggestion and practical idea and materialize recommendations based on findings.

This study used market value per share and cash dividend per share as well as financial tools. The major findings of the study were;

- Among all the securities common stock is known to be must risky security.
- Higher the risk higher will be the return.

- Most of investors attached to common stock securities because of its higher expected returns.
- As for the investors it is important to analyze each investment, company to pentagonal returns with the risk and average the potential returns form an investment should compensate for the level of risk undertaken.

Gyawali (2009), has conducted a research work on the topic *“Risk and return on common stock”* He used secondary data analysis with five commercial banks covering 5 years period from 2056/057 to 2060/061. The major objectives of his studies were as follows.

- To determine the risk, return and other relevant factors that directly affect the investment in common stock.
- To evaluate the common stock of the listed commercial banks in terms of risk and return to perform sector wise comparison on the basic of market capitalization.

This study used market prices of stock and dividend per share as well as statistical tools to analysis the data. The major findings of the study were;

- Among five commercial banks standard chartered bank and Himalayan bank is the continuous dividend payer.
- Among sample banks Nepal Bangladesh bank ltd it has lowest expected return.
- Bangladesh bank is high risky and standard bank is low risky.

Joshi, (2010), has studied on the topic *“Problems in choice of optimum portfolio of stock in Nepal stock Exchange”* This study s based on 21 listed ‘A’ graded companies data are used to analyze. The main objectives of the study is to find out and analyze the major problems of investors facing regarding selection of most profitable stocks in NEPASE and other objective were;

- To analyze the trend of NEPSE.
- To analyze the problems and find out some resolutions for the problems.
- To suggest the measure of the improvement of the stock market as well as for better meet of invest.
- To try to found out the best portfolio of NEPSE to invest

This was an empirical study on investors problem regarding selection of most portfolio stock of NEPSE. Various financial tools are used to fund out the best stock available in the NEPSE such as

standard deviations, holding period return, coefficient of variation portfolio return, portfolio standard deviation and others. The findings of the study were as follows.

- With the help of coefficient of variation more variable stocks are ignored where as the only lesser variable stock are used to construct portfolio. It return more the only yardstick to make investment decision than CIT be the better are which gives the optimum of 37% monthly holding period return.
- As per standard deviation NHDFC seems better though its HPR comes to negative. So to make decision easier negative return stocks were ignored and picked three least standard deviation stock to construct portfolio, due to high fluctuating almost stocks seems riskier so to invest in single stock means to welcome the risk.
- The analysis and calculation concluded the stock of CIT and PFC be the best when the proportion on investment of PFC and CIT is 55% and 45% respectively.

Pokharel (2011), has under taken a study entitled "*Risk & Return on Common Stock Investment of Commercial Banks, With Reference to Six Commercial Banks*" the basic objectives of his research were as follows.

- To analyze whether the common stock of commercial banks are correctly priced or not.
- To analyze the required rate of return and expected rate of return.
- To study the systematic and unsystematic risk associated with securities of the commercials banks.

The researcher used financial as well as statistical tools such as standard deviations, holding period return, coefficient of variation portfolio return, portfolio standard deviation and others. The findings of the study were as follows.

- Among the six commercials banks, NABIL bank has highest expected rate of return on common stock i.e.14.03% and NIB bank has negative expected rate of return o common stock i.e.-3.9698%. Similarly, The common stock of BOKL is most risky asset, which has highest standard deviation i.e. 52.15% and HBL stock is less risky due to lowest standard deviation i.e.19.49%.

- Regarding the market capitalization of six selected companies, SCBNL has the maximum market capitalization i.e.31.36% and the market capitalization of BOKL is low by 7.11%.
- Considering the different investment sectors, the expected return of other sector is maximum by 34.53% and the processing sector has very low expected return - 12.076%. Similarly, considering coefficient of variation of different sectors, the trading sector has maximum by 18.49 units, which indicate that to earn 1 unit of return, the investor has to bear 10.49 units of risk. The coefficient of variation on manufacturing & processing is -3.1349 and -3.28 (negative) respectively.

Mishra (2012), has conducted a study entitled "*Risk and Return Analysis of Common Stock of Five Listed Commercial Banks*" The major objectives of the study were as follows.

- To calculate and analyze the risk and return of banking sector.
- To evaluate common stock of listed commercial banks.
- To analyze whether the common stock of commercial banks are correctly priced or not etc.

Various financial tools are used to fund out the best stock available in the NEPSE such as standard deviations, holding period return, coefficient of variation portfolio return, portfolio risk and others. The findings of the study were as follows.

- Regarding the market capitalization of selected companies, SCBL has the maximum market capitalization and NBBL has the minimum market capitalization.
- Regarding the market capitalization of the inter industry, Banking sector has 65%, Insurance & Finance has 14%, Manufacturing & Processing sector has 13%, Hotel sector has 7%, Trading sector has 1% and Other sector has negotiable proportion of share in over all market capitalization.
- The return of SCBL is maximum i.e.73.30% but its risk also maximum but if risk is taken into account for consideration, NIBL has the minimum risk of 43.82%.
- In industry wise analysis, the expected return of finance and insurance has a maximum expected return i.e. 27.70%, while other sector has a minimum expected return i.e.16.61%. If the risk is assessed in term of C.V., Banking sector has minimum C.V. like 1.66, which indicates that it is better to invest on the shares of banking sector.

Oli (2013), conducted a study entitled *“A Study On Risk & Return Analysis On Common Stock Investment Of Nepalese Insurance Companies”* The major objectives of the study were as follows.

- To analyze risk and return of investment in common stock of Insurance companies.
- To determine relation of each Insurance company with the industry index.
- To evaluate common stock’s price under CAPM method.

The researcher used market prices of stock and cash dividend per share as well as holding period return, coefficient of variation, portfolio return, portfolio risk and others. The findings of the study were as follows.

- Expected rate of return of insurance sector is 1.55% with the Standard deviation of 24.47% and coefficient of variation of insurance index is 3.16.
- The common stock of SIC, NLIC & UIC are under priced and the common stock of NLICL and SICL are overpriced.
- From the analysis of optimal portfolio creation between SIC and UIC it is find that, the optimum portfolio is made if investment is made into 50% and 50% of SICL & UIC common stock.
- The proportion of systematic risk and unsystematic risk on total risk of NLICL has 24.54% & 75.46%, NLIC has 8.91% & 91.09%, SIC has 30.54% & 69.46%, SICL has 58.05% & 41.95% and UIC has 40.17% & 59.83% respectively.

2.3 Research Gap

There are lot of research work done by different Researcher on the topic of “Risk and Return Analysis” Some researcher are used very few sample size which may not cover the whole population and some researcher used nominal fiscal period which may not provide the whole scenario of market. Some researcher use only statistical tools and technique to determine the risk and return of the assets or securities of firm. This research work on the topic of “Risk and Return Analysis of Nepalese Insurance Companies With Reference to NLICL, NLIC, SICL, SIC & UIC ” has taken the five year data from fiscal year 2008/09 to fiscal year 2012/013 and five insurance companies are taken as sample so that this study is differ from other research work.

To find out the condition of Risk and Return the research is done in five insurance companies among the 25 insurance companies, which are listed in Nepal Stock Exchange. In the study of few

thesis on same topic of several commercial banks, companies and hotels by previous researcher. There is found a poor analysis of risk and return. The previous researcher used the Nipse index, but this study finds out conclusion using industry index i.e. insurance company's index which is sub index of NEPSE.

CHAPTER - III

RESEARCH METHODOLOGY

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

3.1 Research Design

Research design is a plan, structure and strategy of investigations conceived so as to obtain answer to research questions and to control variance. It is the arrangement of conditions for collection and analysis of data in a manner aiming at combining relevance to the research purpose with economy in procedure. Considering this study objectives, the analysis is based on certain research design. In order to achieve the objectives, historical research design has been adopted. Most of the data and information of the study were related with the past phenomenon. On this background it can be considered as a historical research (Wolf, 1975:51)

3.2 Sources of Data

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

3.3 Method of Data Collection

It indicates the sources of data and how they collected. In this study, data are collected through published sources. They were collected from the correspondent offices and their respective websites. The annual reports of insurance company for the period of five years are obtained from the website of selected insurance company. Unpublished master's thesis, books, research papers, articles, journals have been collected mainly from Centre Library of Tribhuvan University, library of Shanker Dev Campus and Insurance Board Magazines and newspapers are from concerned authorities.

3.4 Population & Sample

The term population of data denotes for the data of each organization which is within the boundary of specific organization whereas sample data are the data of those organization which has been selected from that whole population for study. The population of this study is the all 25 insurance companies which are currently operating in Nepal. Judgmental sampling is to be used while selecting sample organizations for this study. The sample consists of 5 insurance companies. The selected sample insurance company for the analysis are as follows.

- National Life Insurance Company (NLIC)
- Nepal Life Insurance Company Limited (NLICL)
- Sagarmatha Insurance Company (SIC)
- Shikhar Insurance Company Limited (SICL)
- United Insurance Company (UIC)

3.5 Data Analysis Tools

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

3.5.1 Financial Tools

On the study of portfolio investment analysis financial tools are more applicable. Financial tools are particularly are used for the analysis as well as the interpretation of financial data. These tools can be engaged to procure the precise knowledge of a business, which are fruitful for analyzing the

strength and weakness of the investment policies and strategies. Thus, following financial tools are used to achieve the study goal.

3.5.1.1 Market Price of Stock (P)

In this study, market price is one of the major data. In this study we have taken closing price of the stock as market price because it is difficult to get all the required data accurately. The closing price is used as market price of stock that has a specific time of one year.

3.5.1.2 Dividend (D)

Dividend is relevant during the computation of rate of return. This is a reward to the shareholders for their investment. If a company declares only the cash dividend, there are no problems to take the dividend amount. But, if the company declares stock dividend (Bonus Share), it is difficult to obtain the amount that really shareholders has gained. In this case, they get extra numbers of shares as dividend and simultaneously price the stock declines as a result of increased number of stocks. To get a real amount of dividend there are no any model. So the models have been developed considering practical as well as theoretical aspect.

$$\text{Dividend per share (DPS)} = \frac{\text{Total Amount of Dividend Paid}}{\text{No. of Common Stock Outstanding}}$$

If company declares only cash dividend, there is no problem while taking the exact amount of dividend that is relevant. But if the company declares stock dividend (bonus share), it is difficult to obtain the amount that really shareholders have gained. In this case, they get extra numbers of shares as dividend and simultaneously price of stock declines as a result of increased number of stocks.

3.5.1.3 Return on Common Stock (R)

Return is the income received on as investment plus any change in market price, usually expressed as a percent of the beginning market price of the investment. The single period rate of return can be calculated by using the following formula.

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

Where,

P_1 = Ending Value of Share

P_0 = Beginning Value of Share

D_1 = Dividend per Share

3.5.1.4 Expected Rate of Return $E(R_j)$

Expected rate of return $E(R_j)$ is the arithmetic mean of the past years return. It can be calculated using the following formula,

$$E(R_j) = \sum P_j \times R_j$$

Where,

P_j = probability distribution of stock j

R_j = Rate of return of stock j

In another way, when historical data (time series data) are given, it can be calculated as,

$$E(R_j) = \frac{\sum R_j}{N}$$

Where,

$E(R_j)$ = Expected rate of return on stock j

N = Number of years that the return is taken

Σ = Sign of summation

3.5.1.5 Standard Deviation (S.D) of the Stock Return

Standard deviation measure the dispersion from the mean. In other words, it is the statistical measure of the variability of the distribution of return around its mean. It is the square root of the variance and measures the risk on the stock investment.

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

Where,

R_A = Rate of return of individual asset

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

σ = Standard deviation or risk

n = no. of years

3.5.1.6 Coefficient of Variation (C.V)

It is applicable to calculate the risk per unit of the expected return. "It is the ratio of standard of returns to the mean of that distribution. It is the measure of reliable risk". (Van Horne and Wachowicz, 1995: 94). The CV is a measure of relative dispersion that is useful in comparing the risk of assets with differing expected return. The higher the coefficient of variation the greater the risk, which is expressed as follows.

$$CV_j = \frac{\sigma_j}{\bar{R}_j} \times 100$$

Where,

CV_j = Coefficient of variation of stock j.

σ_j = Standard deviation of return on stock j.

\bar{R}_j = Average rate of return of stock j.

3.5.1.7 Correlation Coefficient

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

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

Where,

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

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

- If $r_{AB} = +1$, Correlation between two assets is perfectly positive in this condition a single unit of risk cannot be minimized.
- If $r_{AB} = -1$, Correlation between two assets is perfectly Negative in this condition all the risk can be minimized.
- If $r_{AB} = 0$, There is no correlation between two assets in this condition a little bit of risk can be minimized.

3.5.1.8 Covariance

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

Covariance between Assets 'A' and Assets 'B'

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

Where,

R_A = Rate of return of individual asset 'A'

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

R_B = Rate of return of individual asset 'B'

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

3.5.1.9 Beta coefficient (β)

The beta coefficient is an idea of systematic risk. It may be used for ranking the systematic risk of different assets. It is an index of the degree of movement of an assets return in response to a change in the market return. An asset's historical returns are used in finding the asset's beta coefficient.

Beta coefficient shows the market sensitivity of stock. Higher the beta greater the sensitivity and reaction to the market movement. Beta coefficient of a particular stock will be less than equal or more than 1, but the beta of market beta serves. As a benchmark or measuring scale for the evaluation of risk of individual stock. Beta coefficient can be expressed as follows.

$$\text{Beta coefficient } (\beta_j) = \frac{\text{COV}(r_i, r_m)}{\sigma_m^2}$$

Where,

$\text{cov}(r_i, r_m)$ = Covariance of the return on assets j, and market portfolio.

σ_m^2 = Variance of the return on the market portfolio.

R_m = Required rate of return on the market portfolio of securities.

3.5.1.10 Portfolio Return

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

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

Where,

R_P = Return on Portfolio

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

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

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

3.5.1.11 Portfolio Risk

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

For two assets case;

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

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

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

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

For three assets case;

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

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

W_C = Weight or Proportion of Asset 'C'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

δ_C = Risk on Asset 'C'

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

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

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

3.5.2 Statistical Tools

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

3.5.2.1 Arithmetic Mean or Average

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

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

Where,

\bar{X}	=	Arithmetic Mean
$\sum X$	=	Sum of values of all items, and,
N	=	Number of items

3.5.2.2 Standard Deviation

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

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

Where,

σ	=	Standard deviation
$\sum (X - \bar{x})^2$	=	Sum of squares of the deviations measured from arithmetic average.
N	=	Number of items

3.6 Methods of Analysis and Presentation

Methods of analysis are applied as simple as possible. Results are presented in tabular form and clear interpretation on it is given simultaneously. Detail calculations, which can not be shown in the body part of the report, are presented as annexes at the end of the report. To make report simpler and easily understandable; charts, bar diagrams and charts have been used. Summary, findings and recommendations are presented finally.

CHAPTER – IV

PRESENTATION AND ANALYSIS OF DATA

The analysis is fully based on secondary data. In presentation section, data are presented in terms of table and charts. The presented data are then analyzed using different statistical tools mentioned in chapter three. At last the results of analysis are interpreted. However, there is no distinct line of demarcation for each section (like presentation section, analysis section & interpretation section). The main purpose of analyzing data is to change it from an unprocessed form to an understandable presentation which consists of organizing, tabulating and performing the statistical data. The presentation of data is the basic organization and classification of the data for analysis. This is the section where, the filtered data are presented and analyzed. This is one of the major chapters of this study because it includes detail analysis and interpretation of data from which concrete result can be obtained. Detail data of MPS, EPS, PIE ratio and total dividend of each bank and their interpretation and Analysis is done with reference to the various reading and Literature review in the preceding chapter. Efforts are made to analyze and diagnose the recent insurance companies index movement. This is sub-index of NEPSE, with a special reference to the listed insurance companies.

4.1 Analysis of NEPSE Index Movement

Index is one of the most important indicators of secondary market which is considered as mirror of country's economic trend. NEPSE index group consists of various indices and they are calculated on the basis of market capitalization. Out of them overall NEPSE index is the oldest one which is being calculated from the initial days of NEPSE. Similarly the other indices are sensitive index, group wise index and Float index. NEPSE Index is calculated by considering all listed share including that of promoter share of all listed companies at NEPSE.

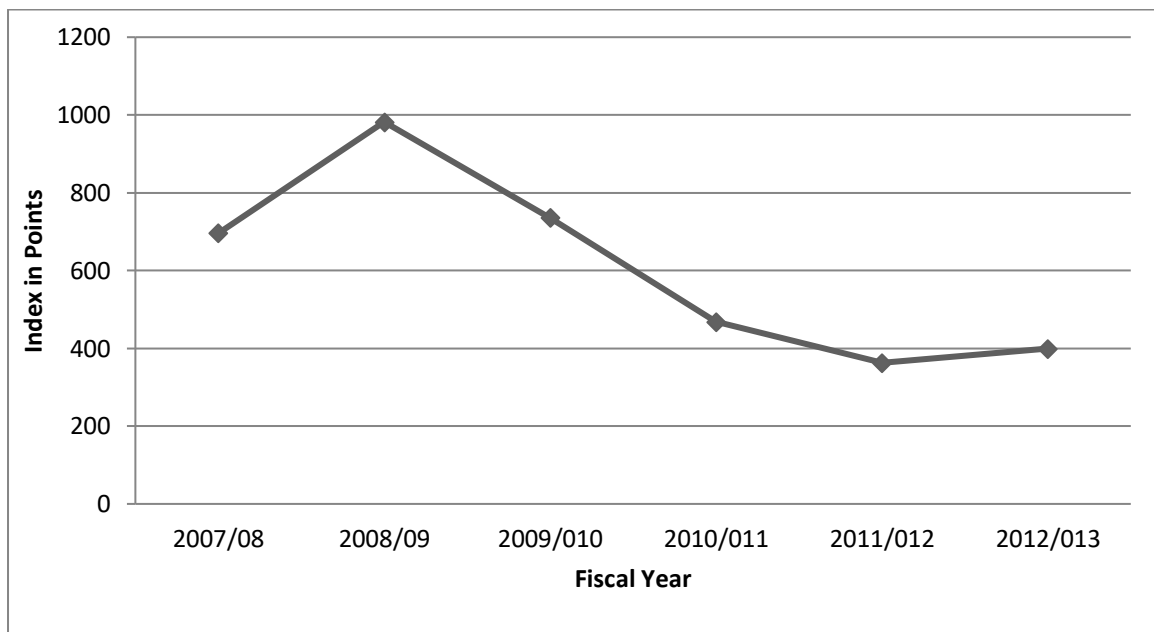
Table : 4.1
NEPSE Index Movement

(In Point)

Fiscal Year	Index
2007/08	696.58
2008/09	982.12
2009/010	735.87
2010/011	468.53
2011/012	362.85
2012/013	398.89

Source: www.nepse.com

Figure: 4.1
Trend of NEPSE Index Movement



Source: Table 4.1

Table 4.1 and figure 4.1 show that the NEPSE Index is in increasing trend at the beginning of the study period, it has highly increase in the fiscal year 2007/08 to 2008/09. After that it is decreasing trend and NEPSE index falls less than 500 point in current days. The highest index is 982.12 points in the fiscal year 2008/09. The trend of NEPSE index is shows in the following figure.

4.2 Analysis of Insurance Company Industry Index Movement

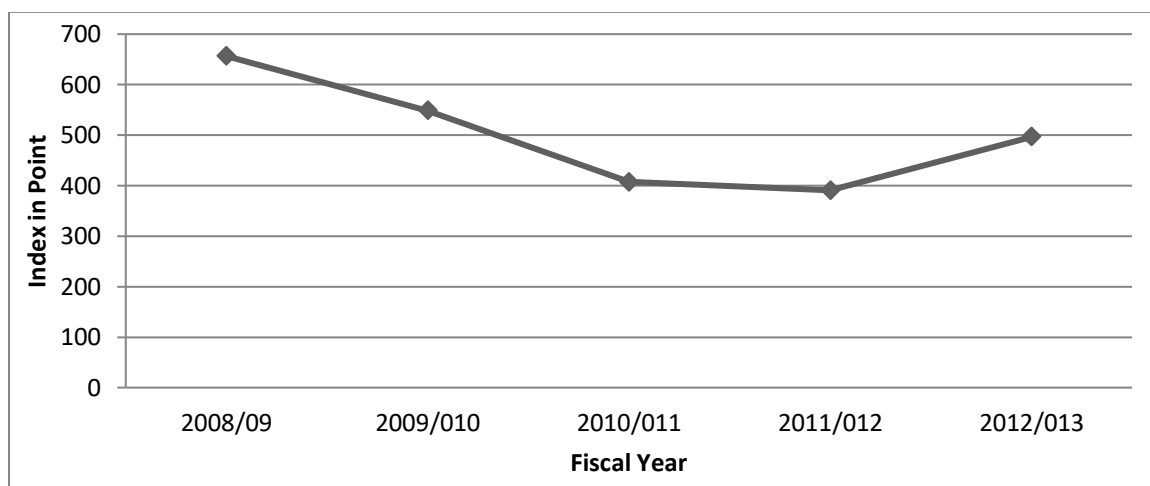
Insurance Companies Index is a sub index of NEPSE, which is calculated based on only Insurance Companies sector, the number of listed Insurance Companies operating in Nepal Increase to 21, mid April 2012. The study take sample five Insurance Companies for analyze. Insurance Companies Index represent the Insurance sector, it is the mirror of Insurance Companies sector Development and growth.

Table : 4.2
Insurance Companies Industry Index Movement

Fiscal Year	Insurance Companies Index
2008/09	656.41
2009/010	548.52
2010/011	407.14
2011/012	390.74
2012/013	496.57

Source: www.nepse.com

Figure: 4.2
Trend of Insurance Companies Industry Index Movement



Source: Table 4.2

Table 4.2 & Figure 4.2 show the Insurance Companies Industry Industry Movement in several years, it can be seen that there is decreasing trend of index from 2009/010 to 2012/013. There is maximum Index touch at point 656.41 in the fiscal year 2008/09. While NEPSE Index at Boom point then after NEPSE Index falls downward that affected all sub-Index and current stock market situations is very

critical, NEPSE Index is struggled at less than 500 point and Insurance Companies is struggled at 496.57 point at the end of the fiscal year 2012/013.

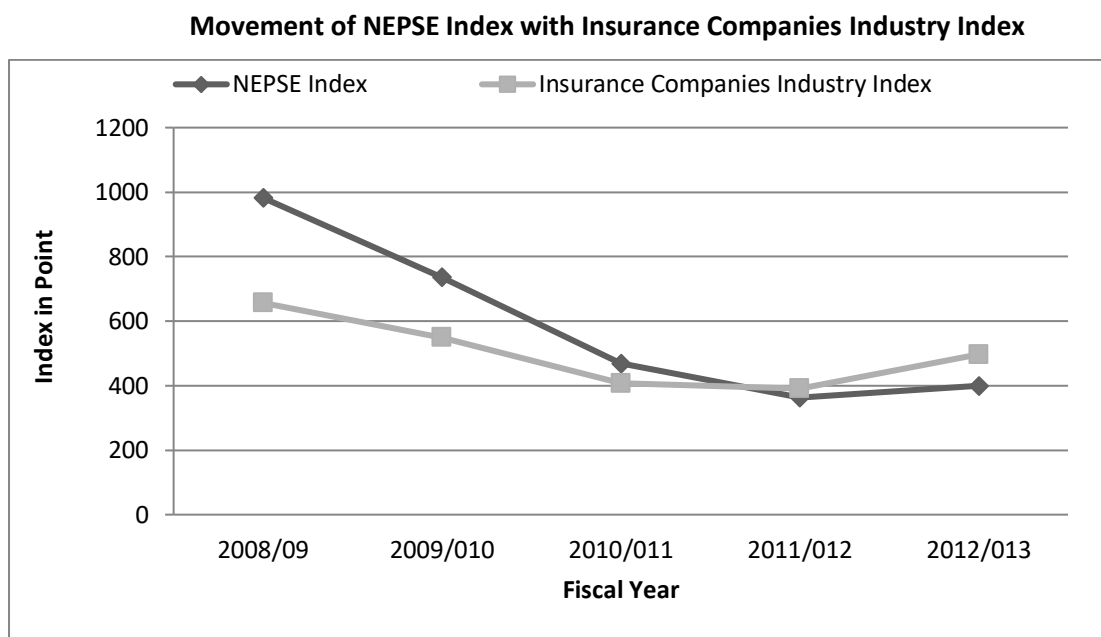
Table : 4.3
NEPSE Index with Insurance Companies Industry Index

(In Point)

Year	NEPSE Index	Insurance Companies Industry Index
2008/09	982.12	656.41
2009/010	735.87	548.52
2010/011	468.53	407.14
2011/012	362.85	390.74
2012/013	398.89	496.57
Average	589.65	499.88

Source: www.nepse.com

Figure: 4.3



Source: Table 4.3

Table 4.3 & Figure 4.3 show that the comparative analysis of NEPSE index with Insurance Companies Industry Index. NEPSE index is greater than the Insurance Companies Industry Index except the fiscal year 2012/013. In the fiscal year 2012/013, the Insurance Companies Industry Index is 496.57 points and NEPSE index is 398.89 points. The average NEPSE index within the five-year study period is 589.65 points and that of Insurance Companies Industry Index is 499.88 points.

Table : 4.4**Annual Return of Insurance Industry**

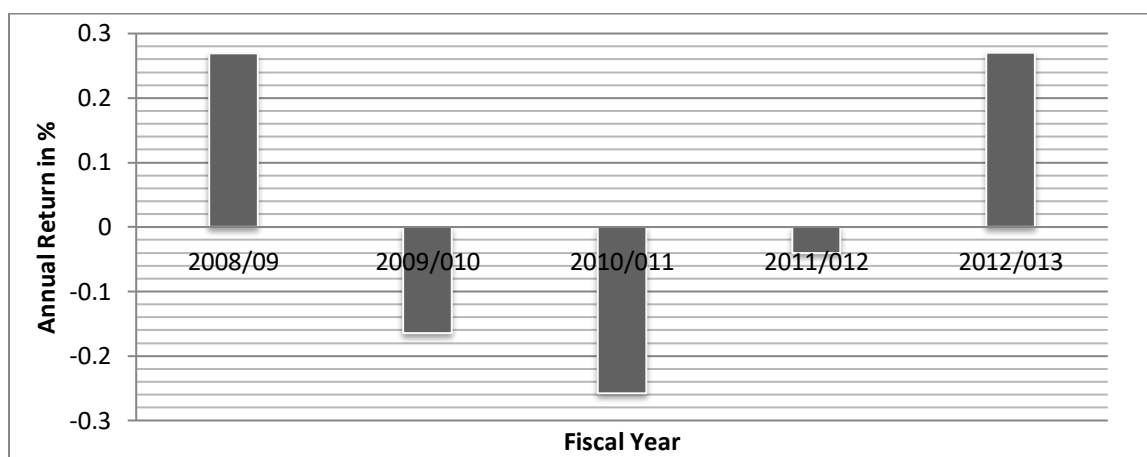
Fiscal Year	Insurance Company Industry Index (In Point)	Annual Return (R) From Insurance Industry (In %)
2007/08	517.25	-
2008/09	656.41	0.2690
2009/10	548.52	-0.1644
2010/11	407.14	-0.2577
2011/12	390.74	-0.0403
2012/13	496.57	0.2708
Expected Return (\bar{R})		0.0155
Risk (δ)		0.2447
Coefficient of Variation (CV)		3.1585

Source: www.nepse.com& Appendix I

Table 4.4 shows that the Expected rate of return of insurance sector is 1.55% with the Standard deviation of 24.47% and coefficient of variation of banking index is 3.16. This denotes that to get per unit return 3.16 unit of risk must be bearded.

Figure : 4.4

Annual Realized Rate at Return from Insurance Industry Index



Source: Table 4.4

Figure 4.4 shows that annual Realized Rate of Return of insurance Sector, the highest annual return of insurance Sector is in the fiscal year 2012/013 i.e. 27.08% which shows that in this year investor are Received profit from insurance Sector's Common stock but after the fiscal year 2009/010 the annual rate of return of insurance Sector is Negative. The high negative return is 25.77 in the fiscal year 2010/011. In these year investor bear lose from insurance investment.

4.3 Risk and Return Analysis of Sample Insurance Companies

4.3.1 Nepal Life Insurance Company Limited (NLICL)

Table: 4.5

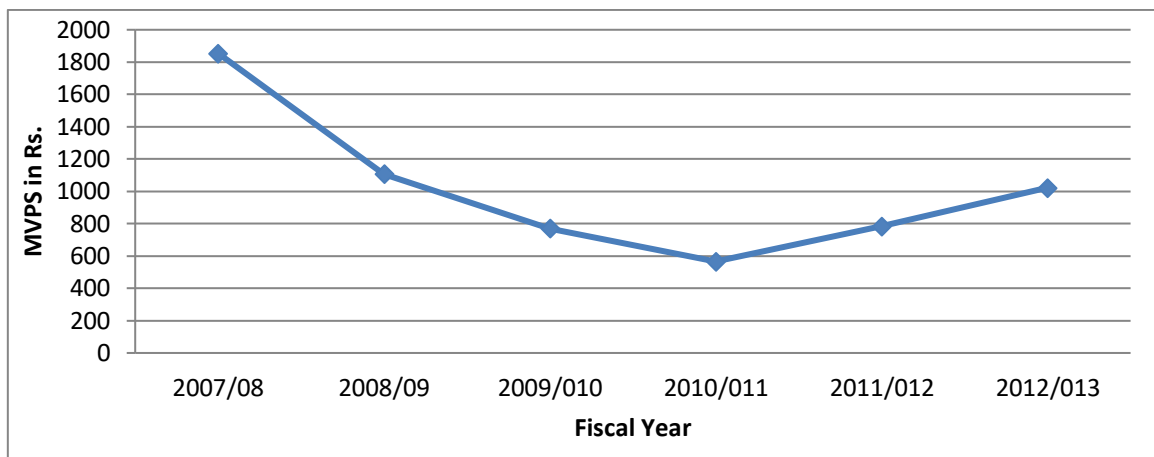
Analysis of Major Financial Indicator of NLICL

FY	MVPS (Rs.)	Dividend (%)	Annual Return (R %)	EPS (Rs.)	P/E Ratio (Times)
2007/08	1854	-	-	-	-
2008/09	1108	-	-0.4024	2.67	414.98
2009/010	770	-	-0.3051	1.68	458.33
2010/011	566	-	-0.2649	56.78	9.97
2011/012	785	126.32	0.6101	166.85	4.70
2012/013	1021	147.31	0.4883	204.24	4.99

Source: Appendix II

Table 4.5 shows that the NLICL is not paying dividend in each fiscal year but in the fiscal year 2011/012 & 2012/013 it pays Rs.126.32 & Rs. 147.31 cash dividend. The P/E Ratio of NLICL is maximum in the year 2009/010 and minimum in the year 2011/012 i. e. 458.33 times and 4.70 times respectively and the P/E ratio is in fluctuating trend over the study period. EPS is increases each year than previous year except the fiscal year 2009/010 EPS is highest in the fiscal year 2012/013 i.e. Rs. 204.24 and that of lowest is Rs. 1.68 in the fiscal year 2009/010.

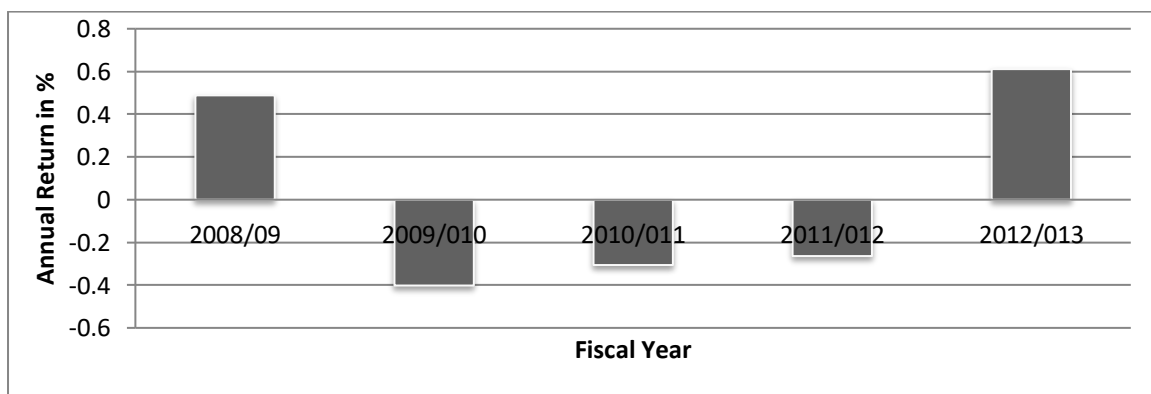
Figure: 4.5
Trend of MVPS of NLICL



Source: Table 4.5

Figure 4.5 shows the trend line of Closing market price of NLICL, the closing MVPS of NLICL is highest in the year 2007/08 i.e. Rs. 1854 and minimum in the year 2010/011 i.e Rs. 566 and the trend of MVPS is in decreasing except the year 2011/012 & 2012/013 than previous year.

Figure: 4.6
Trend of Annual Return on Stock of NLICL



Source: Table 4.5

Figure 4.6 shows the annual return on stock of NLICL over the study period. The annual return is highest in the year 2011/012 i.e. 61.01% and and minimum in the year 2008/09 i.e 40.24% negative

return and the trend of annual rate of return is in fluctuating over the study period. The annual return shows the investor's annual return who invested in the common stock of NLICL.

Table: 4.6
Summary of Risk and Return Indicators of NLICL

Variables	Value
Expected Return (\bar{R}_{NLICL})	0.0252
Risk (δ_{NLICL})	0.4829
Variance (δ_{NLICL}^2)	0.2332
Coefficient of Variation (CV)	19.16
Covariance between Return of Insurance Industry & Return of NLICL ($COV_{NLICL \& II}$)	0.029
Correlation between Return of NLICL & Return of Insurance Industry ($r_{NLICL \& II}$)	0.2454
Beta Coefficient (β_{NLICL})	0.4843
Systematic Risk (SR)	0.1185
Unsystematic Risk (USR)	0.3644
Proportion of Systematic Risk in Total Risk	24.54%
Proportion of Unsystematic Risk in Total Risk	75.46%

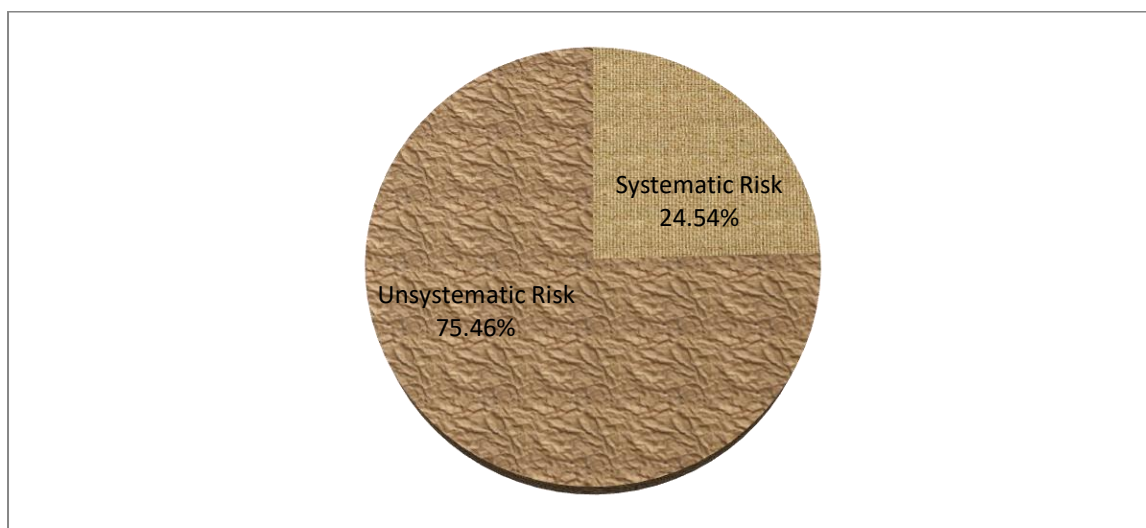
Source: Appendix II

Table 4.6 shows, the expected rate of return of NLICL is 0.025 with the standard deviation of 0.4829 and coefficient of variation of NLICL is 19.16. This denotes that to get per unit return 19.16 unit of risk must be beared.

According to table, beta coefficient of NLICL is found 0.4843 that is lower than one (1) therefore, this is an defensive type of asset. That means stock of NLICL is less volatile than the Industry. Beta is an indicator of systematic risk and that is found to be less than one so, this is defensive type of assets and found to be less risky. Correlation between industry and NLICL is 0.2454, which is positive this shows the positive relation between industry and NLICL's stock. NLICL has 0.1185 systematic risk from the total risk and 0.3644 unsystematic risks.

Figure: 4.7

Proportion of Systematic Risk & Unsystematic Risk of NLI



Source: Table 4.6

According to figure 4.7, NLI has 24.54% systematic risk which can not be diversifiable and 75.46% unsystematic risk which can be diversifiable. The unsystematic risk is very high in the company so the managements of the company is try to minimize it.

4.3.2 National Life Insurance Company (NLIC)

Table: 4.7

Analysis of Major Financial Indicator of NLIC

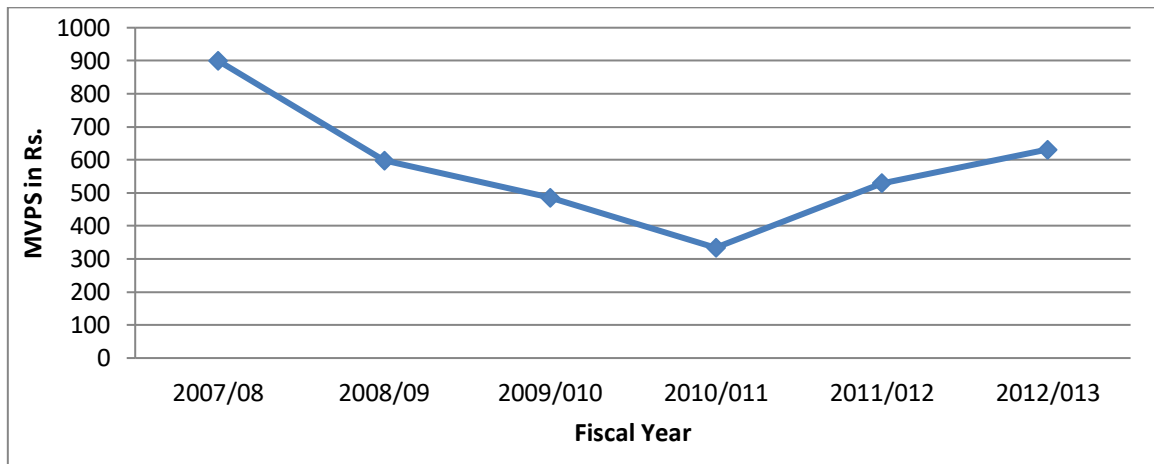
FY	MVPS (Rs.)	Dividend (%)	Annual Return (R %)	EPS (Rs.)	P/E Ratio (Times)
2007/08	900	-	-	-	-
2008/09	598	-	-0.3356	18.15	32.94
2009/010	486	21	-0.1522	10.74	45.24
2010/011	334	32	-0.2469	36.33	9.19
2011/012	529	26	0.6617	24.02	22.03
2012/013	631	29	0.2476	27.41	23.02

Source: Appendix III

Table 4.7 shows that the NLIC is not paying dividend in the fiscal year 2007/08 to 2008/09 after that NLIC is paying dividend Rs. 21, Rs. 32, Rs. 26 & 29 in the fiscal year 2009/010, 2010/011, 2011/012 & 2012/013 respectively. The P/E Ratio of NLIC is maximum in the fiscal year 2009/010 and minimum in the year 2010/011 i. e. 45.24 times and 9.19 times respectively and the P/E ratio is fluctuating

each year than previous year. EPS is fluctuating trend during the study period, the highest EPS is Rs. 36.33 in the fiscal year 2010/011 and that of lowest is Rs. 10.74 in the fiscal year 2009/010.

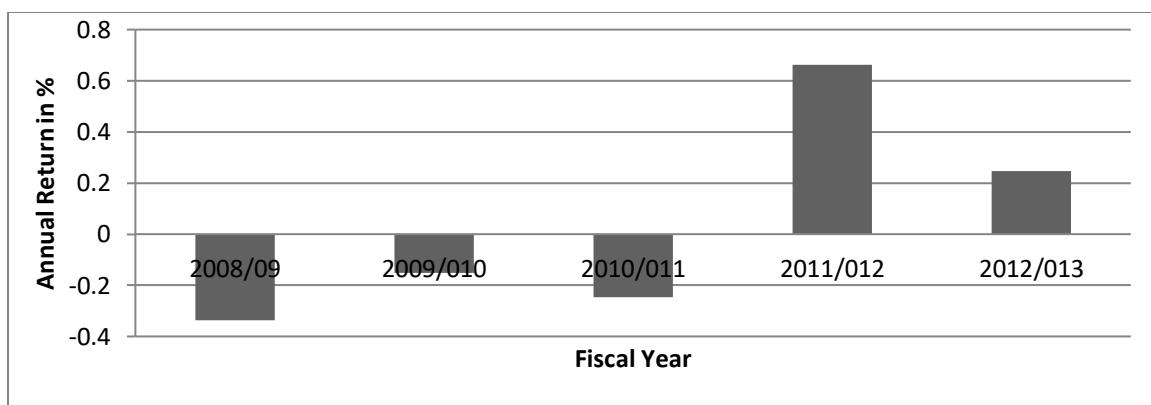
Figure: 4.8
Trend of MVPS of NLIC



Source: Table 4.7

Figure 4.8 shows the trend e of Closing market price of NLIC, the closing MVPS of NLIC is highest in the fiscal year 2007/08 i.e. Rs. 900 and minimum in the fiscal year 2010/011 i.e Rs. 334. It has decreasing trend up to the fiscal year 2010/011 from Rs. 900 to Rs.334 after that it is increases.

Figure: 4.9
Annual Return on Stock of NLIC



Source: Table 4.7

Figure 4.9 shows the annual return on stock of NLIC during the study period. The annual return is highest in the fiscal year 2011/012 i.e. 66.17% and minimum in the year 2066/7i.e 33.56% of negative return and the trend of annual rate of return is in fluctuating over the study period. The annual return shows the investor's annual return who invested in the common stock of NLIC.

Table: 4.8**Summary of Risk and Return Indicators of NLIC**

Variables	Value
Expected Return (\bar{R}_{NLIC})	0.0349
Risk (δ_{NLIC})	0.4153
Variance (δ_{NLIC}^2)	0.1724
Coefficient of Variation (CV)	11.89
Covariance between Return of Insurance Industry & Return of NLIC ($COV_{NLIC \& II}$)	0.009
Correlation between Return of NLIC & Return of Insurance Industry ($r_{NLIC \& II}$)	0.089
Beta Coefficient (β_{NLIC})	0.1503
Systematic Risk (SR)	0.0370
Unsystematic Risk (USR)	0.3783
Proportion of Systematic Risk in Total Risk	8.91%
Proportion of Unsystematic Risk in Total Risk	91.09%

Source: Appendix III

Table 4.8 shows the expected rate of return of NLIC is 0.0349 with the standard deviation of 0.4153 and coefficient of variation of NLIC is 11.89. This denotes that to get per unit return 11.89 unit of risk must be borne.

According to table, beta coefficient of NLIC is found 0.1503 that beta is less than one (1). Therefore this is a defensive type of asset. That means stock of NLIC is less volatile than the industry. Beta is an indicator of systematic risk and that is found to be less than one so, this is defensive type of assets and found to be less risky. Correlation of coefficient between industry and NLIC is 0.089, which is positive this shows the positive relation between industry and NLIC's stock. NLIC has 0.0370 units of systematic risks from the total risk and 0.3783 units of unsystematic risks.

Figure: 4.10

Proportion of Systematic Risk & Unsystematic Risk of NLIC



Source: Table 4.8

According to figure 4.10, NLIC has 8.91% systematic risk which can not be diversifiable and 91.09% unsystematic risk which can be diversifiable. The unsystematic risk is very high in the company so the management of the company is try to reduce it otherwise it may be harmful for the company.

4.3.3 Sagarmatha Insurance Company (SIC)

Table: 4.9

Analysis of Major Financial Indicator of SIC

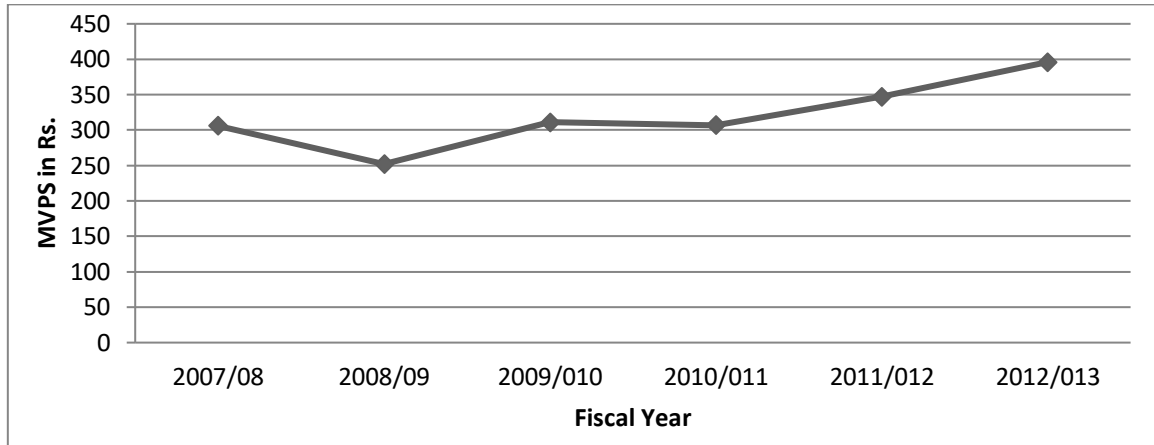
FY	MVPS (Rs.)	Dividend (%)	Annual Return (R %)	EPS (Rs.)	P/E Ratio (Times)
2007/08	306	10.86	-	-	-
2008/09	252	10.53	-0.1421	41.80	6.03
2009/010	311	11.32	0.2790	49.86	6.24
2010/011	307	-	-0.0129	70.33	4.32
2011/012	347	-	0.1303	106.39	3.26
2012/013	396	7.25	0.1621	113.49	3.49

Source: Appendix IV

Table 4.9 shows that the SIC is paying dividend in the fiscal year 2007/08 to 2009/010 & 2012/013 in the other fiscal year SIC is not paying any dividend. The highest dividend is paid in the fiscal year 2009/010 i.e. Rs. 11.32 Per share. The P/E Ratio of SIC is maximum in the year 2009/010 and

minimum in the year 2011/012 i. e. 6.24 times and 3.26 times respectively and the P/E ratio is in decreases each year than previous year except the fiscal year 2009/010 & 2012/013.

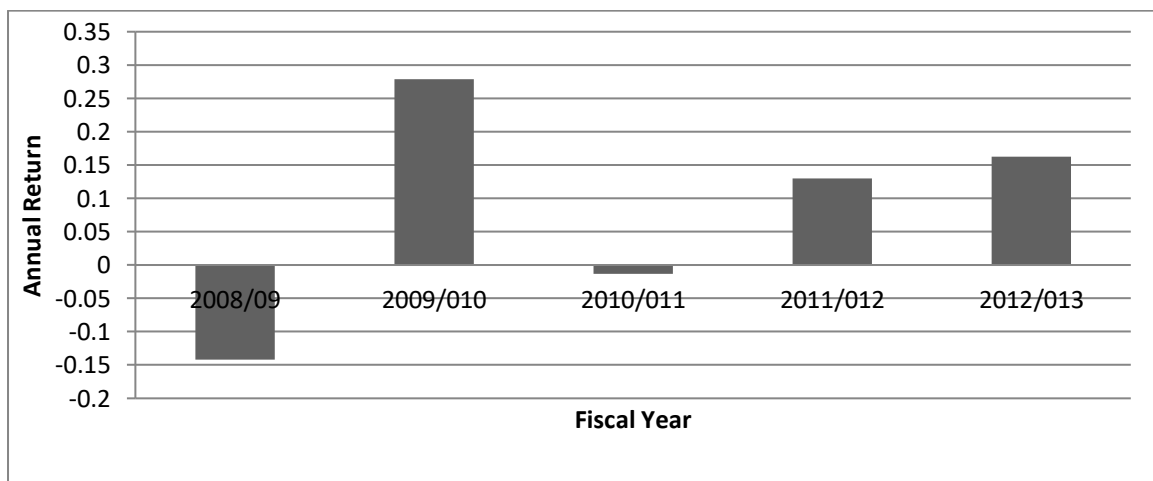
Figure: 4.11
Trend of MVPS of SIC



Source: Table 4.9

Figure 4.11 shows the trend of Closing market price of SIC, the closing MVPS of SIC is highest in the fiscal year 2012/013 i.e. Rs. 396 and minimum in the fiscal year 2008/09 i.e Rs. 252. MVPS is fluctuating each year during the study period.

Figure: 4.12
Trend of Annual Return on Stock of SIC



Source: Table 4.9

Figure 4.12 shows the annual return on stock of SIC during the study period. The annual return is highest in the fiscal year 2009/010 i.e. 27.90% and minimum in the year 2008/09 i.e 14.21% of negative return and the trend of annual rate of return is in fluctuating each year during the study

period. The annual return shows the investor's annual return who invested in the common stock of SIC.

Table: 4.10
Summary of Risk and Return Indicators of SIC

Variables	Value
Expected Return (\bar{R}_{SIC})	0.0833
Risk (δ_{SIC})	0.1634
Variance (δ_{SIC}^2)	0.0267
Coefficient of Variation (CV)	1.96
Covariance between Return of Insurance Industry & Return of SIC ($COV_{SIC \& II}$)	-0.0122
Correlation between Return of SIC & Return of Insurance Industry ($r_{SIC \& II}$)	-0.3051
Beta Coefficient (β_{SIC})	-0.2037
Systematic Risk (SR)	0.0499
Unsystematic Risk (USR)	0.1135
Proportion of Systematic Risk in Total Risk	30.54%
Proportion of Unsystematic Risk in Total Risk	69.46%

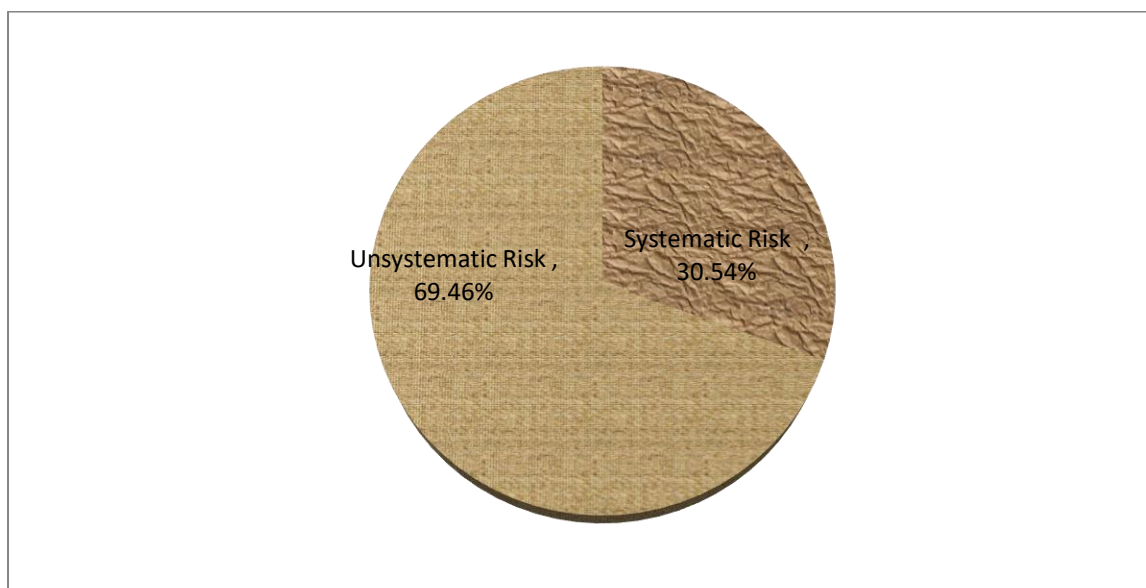
Source: Appendix IV

Table 4.10 shows, the expected rate of return of SIC is 0.0833 with the standard deviation of 0.1634 and coefficient of variation of SIC is 1.96. This denotes that to get per unit return 1.96 unit of risk must be beared.

According to table, beta coefficient of SIC is found -0.2037 that beta is less than one (1). Therefore this is an defensive type of asset. That means stock of SIC is less volatile than the Industry. Beta is an indicator at systematic risk and that is found to be less than one so, this is defensive type of assets and found to be less risky. Correlation of coefficient between industry and SIC is -0.3051, which is negative this shows the negative relation between industry and SIC's stock. SIC have 0.0499 units of systematic risks from the total risk and 0.1135 units of unsystematic risks.

Figure: 4.13

Proportion of Systematic Risk & Unsystematic Risk of SIC



Source: Table 4.10

According to figure 4.13, SIC has 30.54% systematic risk which can not be diversifiable and 69.46% unsystematic risk which can be diversifiable. The unsystematic risk is high in the company so the managements of the company is try to minimize it.

4.3.4 Shikhar Insurance Company Limited (SICL)

Table: 4.11

Analysis of Major Financial Indicator of SICL

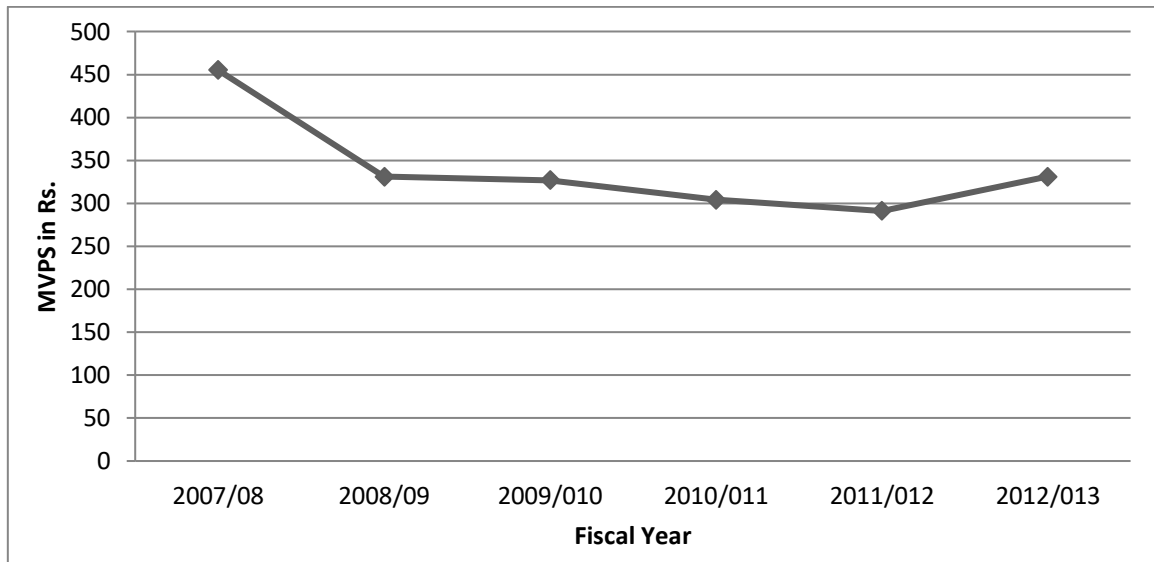
FY	MVPS (Rs.)	Dividend (%)	Annual Return (R)	EPS (Rs.)	P/E Ratio (Times)
2007/08	455	-	-	-	-
2008/09	331	13.50	-0.2429	20.40	16.22
2009/010	327	12.63	0.0261	26.35	12.41
2010/011	304	-	-0.0703	44.99	6.76
2011/012	291	42.10	0.0957	46.01	6.32
2012/013	331	31.41	0.2454	49.37	6.70

Source: Appendix VI

Table 4.11 shows that the SICL is, paying dividend Rs.13.50, Rs. 12.63, Rs. 42.10 & Rs. 31.41 in the fiscal year 2008/09, 2009/010, 2011/012 & 2012/013 in the other fiscal year SICL is not paying any dividend. The highest cash dividend is paid in the year 2011/012 i.e. Rs. 42.10 Per share. The P/E

ratio of SICL is decreases each year than previous year except the fiscal year 2012/013 during the study period. The P/E Ratio of SICL is maximum in the fiscal year 2008/09 and minimum in the year 2011/012 i. e. 16.22 times and 6.32 times respectively and the EPS of SICL is increases each year than previous year during the study period.

Figure: 4.14
Trend of MVPS of SICL

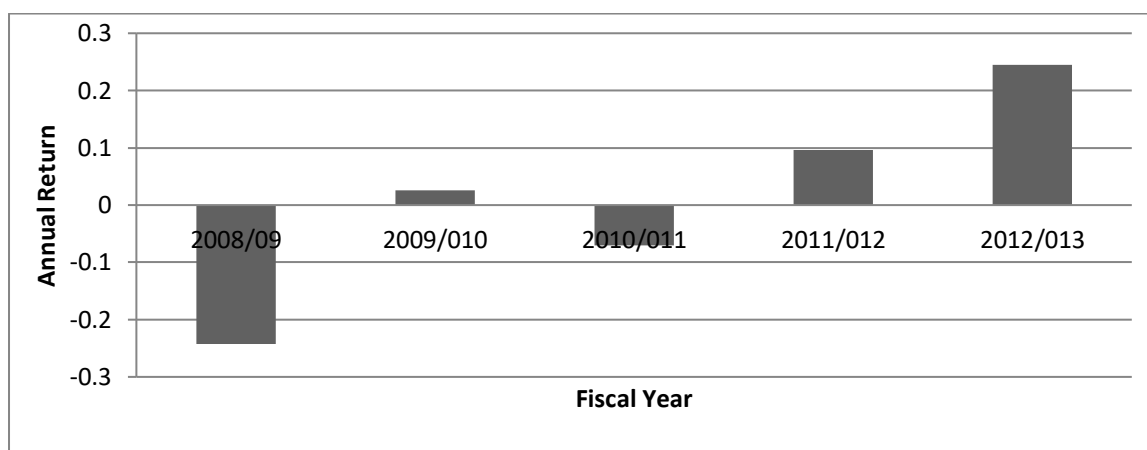


Source: Table 4.11

Figure 4.14 shows the trend of Closing market price of SICL, the closing MVPS of SICL is highest in the fiscal year 2007/08 i.e. Rs. 455 and minimum in the fiscal year 2011/012 i.e. Rs. 291. The MVPS of SICL is decreases each year than previous year during the study period except the fiscal year 2012/013.

Figure: 4.15

Annual Return on Stock of SICL



Source: Table 4.11

Figure 4.15 shows the annual return on stock of SICL during the study period. The annual return is highest in the year 2012/013 i.e. 24.54% and minimum in the year 2008/09 i.e. 24.29% of negative return and the trend of annual rate of return is fluctuating in each fiscal year. The annual return shows the investor's annual return who invested in the common stock of SICL.

Table: 4.12

Summary of Risk and Return Indicators of SICL

Variables	Value
Expected Return (\bar{R}_{SICL})	0.0108
Risk (δ_{SICL})	0.1826
Variance (δ_{SICL}^2)	0.0334
Coefficient of Variation (CV)	16.91
Covariance between Return of Insurance Industry & Return of SICL ($COV_{SICL \& II}$)	0.0026
Correlation between Return of SICL & Return of Insurance Industry ($r_{SICL \& II}$)	0.0582
Beta Coefficient (β_{SICL})	0.0434
Systematic Risk (SR)	0.1060
Unsystematic Risk (USR)	0.0758
Proportion of Systematic Risk in Total Risk	58.05%
Proportion of Unsystematic Risk in Total Risk	41.95%

Source: Appendix VI

Table 4.12 shows, the expected rate of return of SICL is 0.0108 with the standard deviation of 0.1826 and coefficient of variation of SICL is 16.91 this denotes that to get per unit return 16.91 unit of risk must be beared.

According to table, beta coefficient of SICL is found 0.0434 that beta is less than one (1). Therefore this is an defensive type of asset. That means stock of SICL is less volatile than the Industry. Beta is an indicator at systematic risk and that is found to be less than one so, this is defensive type of assets and found to be less risky. Correlation of coefficient between industry and SICL is 0.0582, which is positive this shows the positive relation between industry and SICL's stock. SICL have 0.1060 units of systematic risks from the total risk and 0.0758 units of unsystematic risks.

Figure: 4.16
Proportion of Systematic Risk & Unsystematic Risk of SICL



Source: Table 4.12

According to figure 4.16, SICL has 58.05% systematic risk which can not be diversifiable and 41.95% unsystematic risk which can be diversifiable. The unsystematic risk is controllable which can be controlled by the management of the company and the unsystematic risk is not controlled by the management so it may be harmful for the company.

4.3.5 United Insurance Company (UIC)

Table: 4.13

Analysis of Major Financial Indicator of UIC

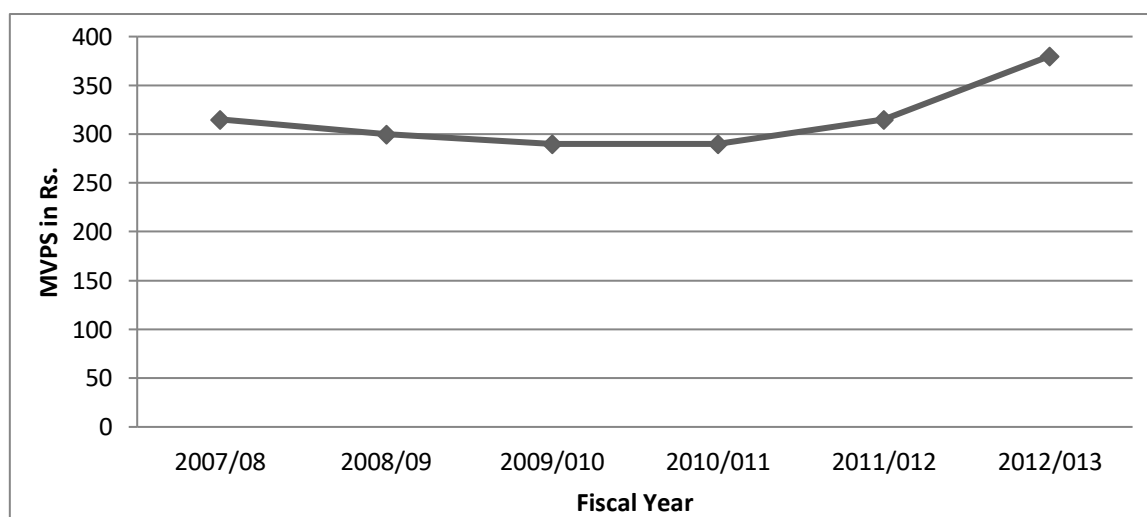
FY	MVPS (Rs.)	Dividend (%)	Annual Return (R)	EPS (Rs.)	P/E Ratio (Times)
2007/08	315	-	-	8.84	35.62
2008/09	300	-	-0.0476	2.27	132.44
2009/010	290	-	-0.0333	8.62	33.63
2010/011	290	1.5	0.0052	10.72	27.50
2011/012	315	7.5	0.1121	7.63	41.28
2012/013	380	10	0.2381	9.21	41.25

Source: Annual Report of UIC from 2064 to 2069 & Appendix V

Table 4.13 shows that the UIC is, paying dividend Rs.1.5, Rs. 7.5 & Rs. 10 in the fiscal year 2010/011, 2011/012 & 2012/013 in the other fiscal year UIC is not paying any dividend. The highest cash dividend is paid in the year 2012/013 i.e. Rs. 10 Per share. The P/E ratio of UIC is fluctuating each year than previous year during the study period. The P/E Ratio of UIC is maximum in the fiscal year 2008/09 and minimum in the year 2010/011 i. e. 132.44 times and 27.50 times respectively and the EPS of UIC is also fluctuating each year than previous year during the study period.

Figure: 4.17

Trend of MVPS of UIC

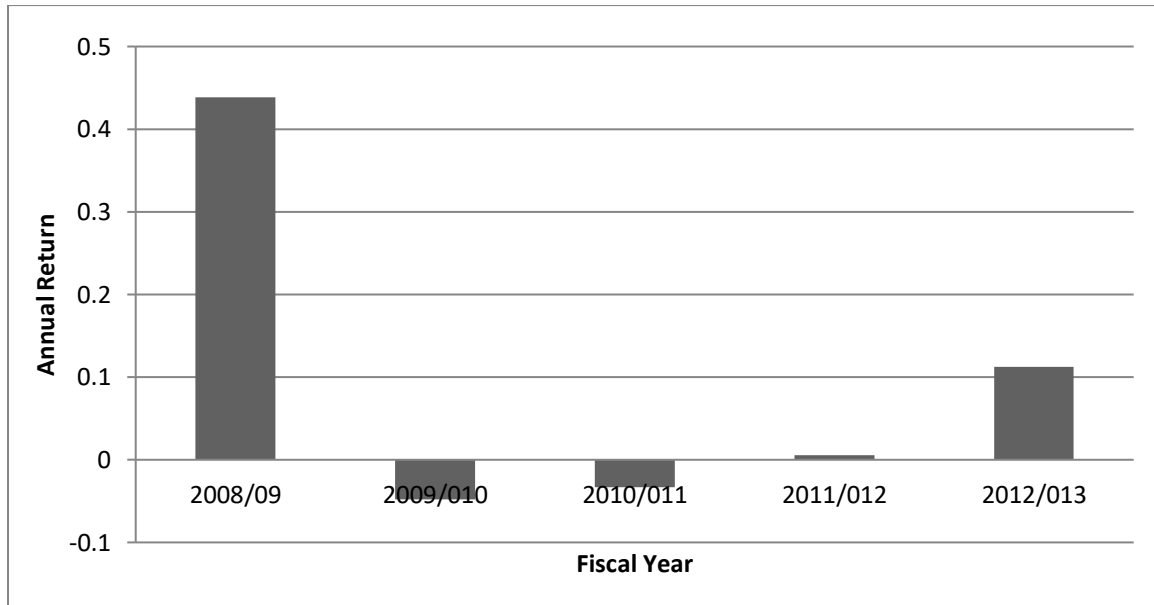


Source: Table 4.13

Figure 4.17 shows the trend of Closing market price of UIC, the closing MVPS of UIC is highest in the fiscal year 2012/013 i.e. Rs. 380 and minimum in the fiscal year 2009/010 & 2010/011 i.e Rs. 290. The MVPS of UIC is fluctuating each year than previous year during the study period.

Figure: 4.18

Annual Return on Stock of UIC



Source: Table 4.13

Figure 4.18 shows the annual return on stock of UIC during the study period. The annual return is highest in the fiscal year 2008/09 i.e. 43.84% and minimum in the year 2009/010 i.e 4.76% of negative return and the trend of annual rate of return is fluctuating in each fiscal year. The annual return shows the investor's annual return who invested in the common stock of UIC.

Table: 4.14**Summary of Risk and Return Indicators of UIC**

Variables	Value
Expected Return (\bar{R}_{UIC})	0.0549
Risk (δ_{UIC})	0.12
Variance (δ_{UIC}) ²	0.0144
Coefficient of Variation (CV)	2.19
Covariance between Return of Insurance Industry & Return of UIC ($COV_{UIC \& I}$)	0.0118
Correlation between Return of UIC & Return of Insurance Industry ($r_{UIC \& I}$)	0.4019
Beta Coefficient (β_{UIC})	0.1971
Systematic Risk (SR)	0.0482
Unsystematic Risk (USR)	0.0718
Proportion of Systematic Risk in Total Risk	40.17%
Proportion of Unsystematic Risk in Total Risk	59.83%

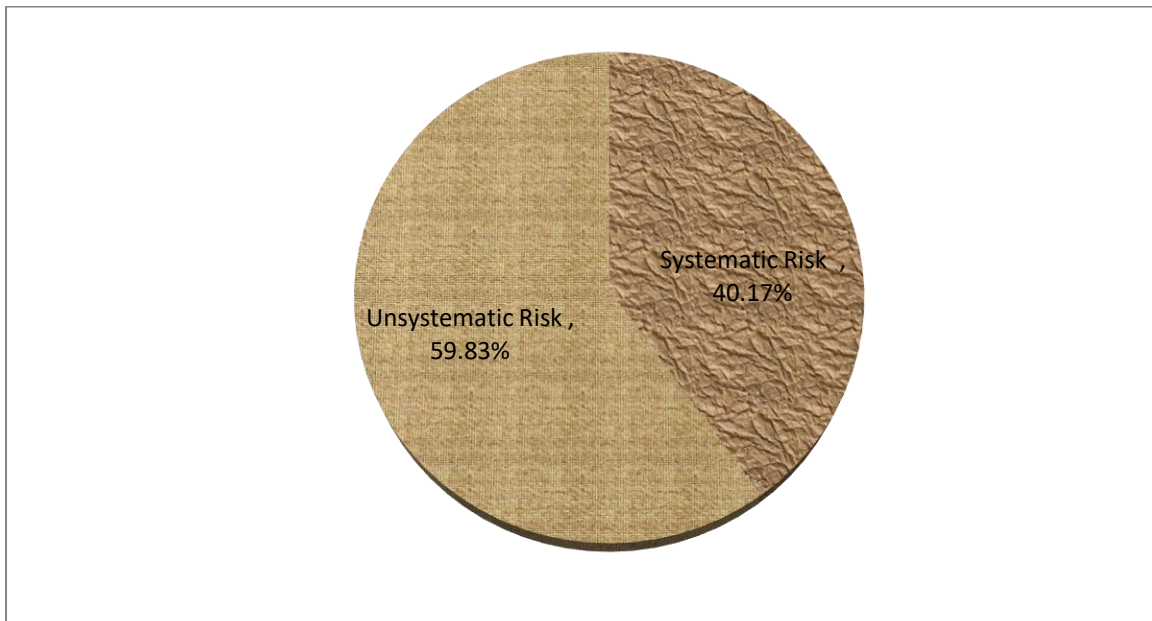
Source: Appendix V

Table 4.14 shows, the expected rate of return of UIC is 0.0549 with the standard deviation of 0.12 and coefficient of variation of UIC is 2.19 this denotes that to get per unit return 2.19 unit of risk must be beared.

According to table, beta coefficient of UIC is found 0.1971 that beta is less than one (1). Therefore this is an defensive type of asset. That means stock of UIC is less volatile than the Industry. Beta is an indicator at systematic risk and that is found to be less than one so, this is defensive type of assets and found to be less risky. Correlation of coefficient between industry and UIC is 0.4019, which is positive this shows the positive relation between industry and UIC's stock. UIC have 0.0482 units of systematic risks from the total risk and 0.0718 units of unsystematic risks.

Figure: 4.19

Proportion of Systematic Risk & Unsystematic Risk of UIC



Source: Table 4.14

According to figure 4.19, UIC has 40.17% systematic risk which can not be diversifiable and 59.83% unsystematic risk which can be diversifiable. The unsystematic risk is controllable which can be controlled by the management of the company.

4.4 Analysis of Common Stock's Price

Comparison of required rate of return and expected rate of return gives that result whether the common stock is under priced or overpriced. Generally for the price evaluation, the calculation of required rate of return is necessary and it can be calculated by using the following formula,

$$\text{Required rate of return (R)} = R_f + (\bar{R}_{BI} - R_f) \beta$$

Where,

R_f = Risk free rate of return i.e. 3.4%

\bar{R}_{BI} = Average return of insurance sector for the study Period i.e. 0.03288

β = Beta coefficient of each bank

In the above equation, the risk free rate of return (R_f) is needed to determine required rate of return. The discount rate of Treasury bill (T-bill) issued by Nepal Ratra Bank is taken as risk free rate (R). In Nepal, NRB issued two types of T-bill i.e. 91 days and 365 days but according to the suggestion

of T-bill section of NRB. It is better to take 91 days's weighted average discount rate as risk free rate. T-bill rate will be differs in various issues but in the study it is taken weighted average discount rate of 91 days T-bill of mid July (2013) fiscal year (2012/13). As provided by the T-bill section T-bill rate for fiscal year 2012/012 is 3.49%.

Table : 4.15

Analysis of Common Stock's Price Based on Required Rate of Return and Eexpected Rate of Return

Insurance Company	Beta	Required Rate of Return	Expected Rate of Return	Price Evaluation
NLICL	0.4843	0.0255	0.0252	Overpriced
NLIC	0.1503	0.0320	0.0349	Underpriced
SIC	-0.2037	0.0388	0.0833	Underpriced
SICL	0.1971	0.0341	0.0108	Overpriced
UIC	0.0434	0.0311	0.0549	Underpriced

Source: Appendix VII

Table 4.15 it is observed that the pricing of common stock of all sampled companies under study are under priced and over priced. The common stock of SIC, NLIC & UIC are under priced thus, under pricing situation of common stock of the company indicates that the sample company stock demands are very good investment opportunity. The investors can gain from buying the under priced stocks. The common stock of NLICL and SICL are overpriced in this situation the investors can gain from selling the overpriced stocks. It is recommended to purchase under priced stock but rational and efficient investment decision-maker need to analyze other dimensions as well as invest from the investment point of view.

4.5 Creation of Optimal Portfolio

The portfolio is the holding of securities and investment financial assets i.e. bond, common stock. A portfolio is a combination at investment assets. Portfolio management is related to efficient portfolio investment in financial assets. If portfolio is being constructed they can reduce unsystematic risk without losing considerable return. The portfolio analysis is performed to develop a portfolio that has the maximum return at whatever level of risk an investor thinks appropriate. Therefore, the investor need to extend analysis about create an optimal portfolio. For the study

purpose, this study take two companies for create portfolio these insurance companies are SIC and UIC.

Table: 4.16
Portfolio Risk and Return of Different Weight Invested in
Common Stock of SIC and UIC

Proportion of Investment in Common Stock of SIC (W_{SIC})	Proportion of Investment in Common Stock of UIC (W_{UIC})	Portfolio return (\bar{R}_p)	Portfolio Standard Deviation (δ_p)
0.75	0.25	0.0762	0.1360
0.50	0.50	0.0691	0.1172
0.25	0.75	0.0620	0.1112

Source: Appendix VIII & IX

According to table 4.16 we get portfolio return and portfolio standard deviation from investing different proportion in common stock of SIC and UIC. The maximum portfolio return is 7.62% if investment made into common stock of SIC 25% and UIC 75% and risk is 13.60%. If the investment is made into common stock of SIC 50% & UIC 50% than the portfolio return will be 6.91% & risk will be 11.72%. Similarly, if the investment is made into common stock of SIC 25% & UIC 25% than profit folio return & risk will be 6.20% & 11.12%. Proportionately the return is high in the low risk from the combination of 50% investment in SIC & 50% investment in UIC therefore, the optimum portfolio return is 6.91% and risk is 11.72%.

4.6 Major Findings

- NEPSE Index is in increasing trend at the beginning of the study period but it is decreasing trend and NEPSE index falls less than 500 point in current days.
- Insurance Companies industry index is struggled at 496.57 point at the end of the fiscal year 2012/013. The average NEPSE index within the five-year study period is 589.65 points and that of Insurance Companies Industry Index is 499.88 points.
- Expected rate of return of insurance sector is 1.55% with the Standard deviation of 24.47% and coefficient of variation of insurance index is 3.16.

- The expected rate of return of NLICL is 0.0252 with the standard deviation of 0.4829 and coefficient of variation of NLICL is 19.16. Similarly, beta coefficient of NLICL is findings 0.4843, Correlation between industry and NLICL is 0.2454 and NLICL has 0.1185 systematic risks from the total risk and 0.3644 unsystematic risks.
- The expected rate of return of SIC is 0.0833 with the standard deviation of 0.1634 and coefficient of variation of SIC is 1.96. Similarly, beta coefficient of SIC is finding 0.2037, correlation of coefficient between industry and SIC is 0.3051 and SIC has 0.0499 units of systematic risks from the total risk and 0.1135 units of unsystematic risks.
- The expected rate of return of SICL is 0.0108 with the standard deviation of 0.1826 and coefficient of variation of SICL is 16.91. Similarly, beta coefficient of SICL is finding 0.0434, correlation of coefficient between industry and SICL is 0.0582 and SICL has 0.1060 units of systematic risks from the total risk and 0.0758 units of unsystematic risks.
- The expected rate of return of NLIC is 0.0349 with the standard deviation of 0.4153 and coefficient of variation of NLIC is 11.89. Similarly, beta coefficient of NLIC is finding 0.1503, Correlation of coefficient between industry and NLIC is 0.089 and NLIC has 0.0370 units of systematic risks from the total risk and 0.3783 units of unsystematic risks.
- The expected rate of return of UIC is 0.0549 with the standard deviation of 0.12 and coefficient of variation of UIC is 2.19. Similarly, beta coefficient of UIC is findings 0.1971, correlation of coefficient between industry and UIC is 0.4019 and UIC has 0.0482 units of systematic risks from the total risk and 0.0718 units of unsystematic risks.
- The common stock of SIC, NLIC & UIC are under priced and the common stock of NLICL and SICL are overpriced.
- From the analysis of optimal portfolio creation between SIC and UIC it is find that, the optimum portfolio is made if investment is made into 50% and 50% of SICL & UIC common stock.

- The proportion of systematic risk and unsystematic risk on total risk of NLICL has 24.54% & 75.46%, NLIC has 8.91% & 91.09%, SIC has 30.54% & 69.46%, SICL has 58.05% & 41.95% and UIC has 40.17% & 59.83% respectively.

CHAPTER - V

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

This Chapter includes the conclusion derived from the analysis of the study. Summary of the study has been mentioned the First section. The Second section has been designed for the conclusion drawn from the study. The recommendation to eliminate the weakness, drawbacks of the common stock investment observed on the basis of finding have been labeled in the Third section.

5.1 Summary

The investment decision is one of the important parts of financial management. As blood is necessary for human beings, finance is for business organizations and industries. Every business organization should base their decision-making in financial management. Financial management is mainly concerned with the acquisition and utilization of funds. For this, financial market plays vital role in utilizing financial resource for expanding productive sectors in the country. It mobilizes unproductive and unutilized financial resources towards productive sectors and helps in expanding economic growth of a country.

Common stock is the most risky security and life blood of stock market. An investment in common stock of corporate firm neither ensures the rate of return nor ensures the return of principle. Common stock is the residual claimant to the earnings of the company. Common stocks holders receive whatever is left after all the other claimholder have taken their rightful share. Therefore, investment in common stock is very sensitive on the ground of risk.

The main objectives of the study are to analyze the risk and return of common stocks in Nepalese context that's why is focused on the common stock of listed insurance companies of Nepal and gives an idea about how to create a optimal portfolio. The study has taken a sample of listed five insurance companies as reference to analyze the risk and return in common stock investment, while analyzing the risk and return, brief reviews of related studies has been performed. Tables, graphs and diagrams are used to present the results of the analysis.

Secondary data are collected from NEPSE, previous studies, NRB publications and publications of selected insurance companies journals, books and Internet. Other types of information are collected

through personal visit to the executives and officers of the companies and official of security board of Nepal (SEBON) and NEPSE.

The study has adopted historical and analytical research design. The data utilized are mostly secondary in nature. Various financial tools are applied to used for analyze and present for the data. Among the 21 insurance companies listed in the NEPSE, five companies are taken as sample for the study. Data of the last five years are used for the study. Market price per share and dividend per share of the companies are used to analyze the risk and returns of the banks together with the insurance company index. And portfolio creates using two insurance companies. SICL and UIC used for create minimum variance portfolio.

This study divided into five chapters. First chapter is introduction chapter, introduction chapter include background of the study, statement of the problem, objectives of the study, focus of the study, significance of the study, limitation of the study, and organization of the study. Second chapter is review of literature. This chapter includes conceptual review, review of journal and article, review of related articals and related unpublished thesis. Third chapter is research design. This chapter include population and sample, sources of data, data collection technique and analysis tools. Fourth chapter is presentation and analysis of data, this chapter shows related table, figure and describes of the study. Fifth and last chapter is summary, conclusion and recommendation and bibliography, annexed presented at the end of the study.

5.2 Conclusions

Security market is an important part of capital market. To enhance the situation of capital market needs to improve the condition of security market. In Nepalese context, institutional set up of security market began along with the establishment of security exchange center in 1977 A.D. potential investors must be motivated toward investing activities and it is possible only if they are provide knowledge of risk and return behavior of securities and other information regarding securities and its market. These all, ultimately, help investor to be confident and improve investment in financial assets accompanying with efficiency and effectiveness.

The main focus of the study is trade-off between risk and return. The relationship between risk and return is described by investor's perception about risk and their demand for compensation. No investor will like to invest in risky assets unless he is assured of adequate compensation for the acceptance of risk. Hence the risk plays the vital role in the analysis of the investment. Risk and return is getting considerable attention in financial decision. The rate of return on the investment is

the function of many factors including the real cost of money, inflation risk, maturity risk and default risk etc. The investors willingly offer more capital at higher rate of return where as the users of capital shows their readiness to use more capital at lower rate. Risk is the probability of chances of losses. It shows the variability of the return on the investment.

Nepalese stock market is in emerging stage. Its development is acceleration since the political change in effect of openness and liberalization in National economy. But due to lack of information and poor knowledge, Nepalese individual investor cannot analyze the securities as well as market properly. From the analysis of various financial indicators of all the sample insurance companies, the following conclusion can be found.

SIC has the highest rate of return i.e. 8.33% and SICL has the lowest rate of return i.e. 1.01 percentage. UIC stock is the less risky assets and NLICL stock is the most risky assets. SIC is the best security measuring then in terms of CV. Stock of all sample companies are defensive stock.

Considering the insurance sectors risk and return, expected return of overall insurance index is 1.55% which is the lowest than the expected return of all insurance companies. The standard deviation found in insurance index is 24.47%, which represent the sensitivity on investment in the insurance sectors. The stock of SIC has more USR i.e. 91.09% that can be diversifiable and SICL have lowest USR i.e. 41.95%. Comparing the expected rate of return and equilibrium rate of return there is found stock of SIC, NLIC & UIC are under priced and the common stock of NLICL and SICL are overpriced.

5.3 Recommendations

The finding of this study might be useful for those who are concerned with the investment in common stock of insurance companies directly or indirectly. On the basis of major finding of the study the researcher thinks appropriate to recommend the concerned institutions to individual authorities as well as other in order to consider the following suggestions.

- Expected return recommends that insurance companies common stock are the best option for the investment as they are providing attractive rate of return.
- Among selected five insurance companies, the stock of SIC, SICL & UIC are under priced so the investor should invest their funds of these companies stock to make more beneficial.

- Investors who want to have high return should invest in UIC & SICL because the return on stock of these companies is higher and risk is lower than other in comparison to return involved in their securities.
- In case of the stocks are undervalued and some are overvalued thus investors are recommended to sell the overvalued stocks and to buy the undervalued stock.
- Investors must concern with the portion of systematic risk in the total risk if portion of which is arises form external factors which can not be diversifiable but Unsystematic risk can be diversifiable risk this type risk arises from internal factor.
- Investment should be done with clear objective i.e. to make additional money not to cover up losses and better to investigate.
- Stock market is very risky job so investors should know his need, desires, risk taking capabilities, adaptability in the changing market to win the stock market. Good forecasting ability self knowledge and sound understanding on information of stock market can give a winning edge to the investors.
- Before making an investment decision in stock market, analyze your own risk attitude yours needs and requirements make several discussion with stock broker and make your decision on the basis of reliable information rather than rumor and imagination.
- The development of stock market is also dependent on political stability of the nation. So, government should be stable for the development of the stock market.
- Investors must concern with the portion of systematic risk in the total risk if portion of which is arises form external factors which can not be diversifiable but Unsystematic risk can be diversifiable risk this type risk arises from internal factor.
- It is recommended that for future student they can prepare new thesis based on this study and they can increase sample size and study period for advance result

BIBLIOGRAPHY

Books

- Alexander, J. G., Sharpe, W. F. & Bailey, J. (2003). *Fundamental of Investment*. (3rd Edition). Singapur: Prentice Hall.
- Bajracharya, S. & Bhattarai, R. (2005). *Corporate Financial Management*. (2nd Edition). Kathmandu: Pinacal Publication.
- Bhalla, V. K. (2001). *Investment Management*. (8th Edition). New Delhi: S. Chanda and
- Bhandari, D. R. (2004). *Banking and Insurance: Principle and Practice*. Kathmandu: Ayush Publication.
- Bhattraai, R. (2008). *Investment Theory and Practice*. (1st edition). Kathmandu: Buddha Academic Publication.
- Brealey, R. A. & Stewart, M. (1991). *Principles of Corporate Finance*. New Delhi: Tata Publishing House.
- Cheney, J. M. & Edward, A. M. (1992). *Fundamentals of Investment*. St. Paul: West Publishing Company Limited.
- Cheny, J. M and Mosses, E. A. (1995). *Fundamental of Investment*. St. Paul: West Publication Company.
- Fisher, D. E. & Jordan, R. J. (2000). *Security Analysis and Portfolio Management*. (6th Edition). New Delhi: Hall of India Pvt. Ltd.
- Francis, J. C. (1997). *Investment Analysis and Management*. New York: Mc-Graw Hill Publication.
- Frank, K. R. & Keith, C. B. (2004). *Investment Analysis & Portfolio Management*. (7th Edition). City Thomson south- Western.
- Hampton, J. (1998). *Financial Decision Making*. New Delhi: Prentice Hall of India Pvt. Ltd.
- Kothari, C. R. (1999). *Research Methodology Methods & Techniques*. New Delhi: Vishwa Prakashan.
- Pradhan, S. (2003). *Basic of Financial Management*. Kathmandu: Educational Enterprises.
- Reilly, F. K. & Brown, K. C. (2003). *Investment Analysis & Portfolio Management*. Singapore: Thompson Asia Pvt. Ltd.
- Van Horn, J. C. & Wachowicz, J. (2001). *Fundamental of Financial Management*. New Delhi: Pearson Education Inc.
- Van Horn, J. C. (2000). *Financial Management & Policy*. New Delhi: Prentice Hall of India.

Weston, J.F. & Brigham, E. F. (1996). *Essentials of Managerial Finance*. Forth Worth: The Dryden Press.

Journals and Periodicals

Manandhar, K. D. (2004). *Capital Market Development in Nepal*. Journal of Management & Development. 1(5): 39.

NEPSE (2006-2012), *Trading Report*, Nepal Stock Exchange.

NLIC (2006-2012), *Annual Report*, National Life Insurance Company.

NLICL (2006-2012), *Annual Report*, Nepal Life Insurance Company Limited.

Rishi, R. & Gyan, B. (2002), *Expected Return, Realized Return and Asset Pricing Tests*, Journal of Finance, Volume XIV, P-22

Robert A. H. and Nardin L. B. (2006), *Commonality in the Determinants of Expected Stock Returns*, Journal of Corporate Finance, Vol: IV, P-28

SEBON (2006-2012), *Annual Report*, Securities Board of Nepal.

Shrestha, (2004). *Portfolio Management in Commercial Bank, Theory and Practice*. Nepal Bank Patrika, Baishakh Masanta, NBL Vol, 28:67

Shrestha, R. P. (2005). *Stock Market & Economic Development*. Journal of Economic Development. Vol: 2, P-28.

SIC (2006-2012), *Annual Report*, Sagarmatha Insurance Company.

SICL (2006-2012), *Annual Report*, Shikhar Insurance Company Limited.

Smith (1996). *The Application of Economic Theory to financial markets*. Journal of Financial Economics, Vol: VI, P-16

UIC (2006-2012), *Annual Report*, United Insurance Company.

Thesis

Gyawali, D. (2008), *Risk and return on common stock*, Pokhara: An Unpublished Master Degree thesis. Faculty of Management. Prithivi Narayan Campus. T. U.

Joshi, R. (2009), *Problems in choice of optimum portfolio of stock in Nepal stock Exchange*, Pokhara: An Unpublished Master Degree thesis. Faculty of Management. Prithivi Narayan Campus. T. U.

Manandhar D. R. (2007), *A Study on Risk and Return Analysis on Common Stock of Listed Commercial Bank in Nepal*, Kathmandu: An Unpublished Master Degree thesis. Faculty of Management. Nepal Commerce Campus. T. U.

Mishra S. (2011), *Risk and Return Analysis of Common Stock of Five Listed Commercial Banks*, Kathmandu: An Unpublished Master Degree thesis. Faculty of Management. Shankar Dev Campus. T. U.

Oli, P. (2013), *A Study On Risk & Return Analysis On Common Stock Investment Of Nepalese Insurance Companies*, Kathmandu: An Unpublished Master Degree thesis. Faculty of Management. Shankar Dev Campus. T. U.

Pokharel, R. (2010), *Risk & Return on Common Stock Investment of Commercial Banks, With Reference to Six Commercial Banks*, Kathmandu: An Unpublished Master Degree thesis. Faculty of Management. Shankar Dev Campus. T. U.

Websites

www.investorwords.com

www.nepalstock.com

www.investopedia.com

www.nrb.org.np

www.sebon.com

Appendix - I

Calculation of Annual Return of Insurance Industry

Fiscal Year	Insurance Industry Index (In Point)	Annual Return (R_{II})	$R_{II} - \bar{R}_{II}$	$(R_{II} - \bar{R}_{II})^2$
2064/065	517.25	-	-	-
2065/066	656.41	0.2690	0.2535	0.0643
2066/067	548.52	-0.1644	-0.1799	0.0324
2067/068	407.14	-0.2577	-0.2732	0.0747
2068/069	390.74	-0.0403	-0.0558	0.0031
2069/070	496.57	0.2708	0.2553	0.0652
Total		$\sum R_{II} = 0.0775$	$\sum (R_{II} - \bar{R}_{II})^2 = 0.2396$	

Calculation of Annual Return from Insurance company industry Index, which is calculated with the use of following formula;

$$R_{II} = \frac{P_1 - P_0}{P_0} \times 100$$

For the fiscal year, 2065/066,

$$= \frac{656.41 - 517.25}{517.25} \times 100 = 0.2690 \text{ or, } 26.90\%$$

For the calculation of other fiscal year, same process will be repeated.

$$\text{Expected Return } (\bar{R}_{II}) = \frac{\sum R_{II}}{N} = \frac{0.0775}{5} = 0.0155 \text{ or, } 1.55\%$$

$$\text{Risk } (\delta_{II}) = \sqrt{\frac{\sum (R_{II} - \bar{R}_{II})^2}{N-1}} = \sqrt{\frac{0.2396}{5-1}} = 0.2447 \text{ or, } 24.47\%$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta_{II}}{\bar{R}_{II}} = \frac{0.2447}{0.0155} = 3.1585$$

Appendix - II

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of NLICL

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{NLICL})	$R_{NLICL} - \bar{R}_{NLICL}$	$(R_{NLICL} - \bar{R}_{NLICL})^2$	$R_{II} - \bar{R}_{II}$	$(R_{NLICL} - \bar{R}_{NLICL})$ $(R_{II} - \bar{R}_{II})$
064/65	1854	-	-	-	-	-	-
065/66	1108	-	-0.4024	-0.4276	0.1828	0.2535	-0.1084
066/67	770	-	-0.3051	-0.3303	0.1091	-0.1799	0.0594
067/68	566	-	-0.2649	-0.2901	0.0842	-0.2732	0.0793
068/69	785	126.32	0.6101	0.5849	0.3421	-0.0558	-0.0326
069/70	1021	147.31	0.4883	0.4631	0.2145	0.2553	0.1182
Total			$\sum R_{NLICL} = 0.1260$		$\sum (R_{NLICL} - \bar{R}_{NLICL})^2 = 0.9326$		$\sum (R_{NLICL} - \bar{R}_{NLICL}) (R_{II} - \bar{R}_{II}) = 0.1159$

$$R_{NLICL} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2064/065,

$$= \frac{1108 - 1845 + 0}{1854} \times 100 = -4024$$

For the calculation of other fiscal year, same process will be repeated.

$$\text{Expected Return } (\bar{R}_{NLICL}) = \frac{\sum R_{NLICL}}{N} = \frac{0.1260}{5} = 0.0252$$

$$\text{Risk } (\delta_{NLICL}) = \sqrt{\frac{\sum (R_{NLICL} - \bar{R}_{NLICL})^2}{N-1}} = \sqrt{\frac{0.9326}{5-1}} = 0.4829$$

$$\text{Variance } (\delta_{NLICL})^2 = 0.2332$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta_{NLICL}}{\bar{R}_{NLICL}} = \frac{0.4829}{0.0252} = 19.1558$$

Covariance between Return of Insurance Industry & Return of NLICL ($COV_{NLICL \& II}$)

$$= \frac{\sum (R_{II} - \bar{R}_{II}) (R_{NLICL} - \bar{R}_{NLICL})}{N-1} = \frac{0.1159}{5-1} = 0.0290$$

Correlation between Return of EBL & Return of Banking Industry ($r_{NLICL \& II}$)

$$= \frac{COV_{NLICL \& II}}{\delta_{NLICL} \times \delta_{II}} = \frac{0.0290}{0.4829 \times 0.2447} = 0.2454$$

$$\text{Beta Coefficient } (\beta_{NLICL}) = \frac{COV_{NLICL \& II}}{\delta_{II}^2} = \frac{0.0290}{0.2447^2} = 0.4843$$

$$\text{Systematic Risk (SR)} = r_{NLICL \& II} \times \delta_{NLICL} = 0.2454 \times 0.4829 = 0.1185$$

$$\text{Unsystematic Risk (USR)} = \delta_{NLICL} - (r_{NLICL \& II} \times \delta_{NLICL}) = 0.4829 - 0.1185 = 0.3644$$

$$\text{Proportion of Systematic Risk in Total Risk} = \frac{SR}{\text{Total Risk}} = \frac{0.1185}{0.4829} \times 100 = 24.54\%$$

$$\text{Proportion of Unsystematic Risk in Total Risk} = \frac{USR}{\text{Total Risk}} = \frac{0.3644}{0.4829} \times 100 = 75.46\%$$

Appendix - III

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance,

Correlation and Beta Coefficient of NLIC

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{NLIC})	$R_{NLIC} - \bar{R}_{NLIC}$	$(R_{NLIC} - \bar{R}_{NLIC})^2$	$R_{II} - \bar{R}_{II}$	$(R_{NLIC} - \bar{R}_{NLIC})$ $(R_{II} - \bar{R}_{II})$
064/65	900	0	-	-	-	-	-
065/66	598	0	-0.3356	-0.3705	0.1372	0.2535	-0.0939
066/67	486	21	-0.1522	-0.1871	0.0350	-0.1799	0.0337
067/68	334	32	-0.2469	-0.2818	0.0794	-0.2732	0.0770
068/69	529	26	0.6617	0.6268	0.3928	-0.0558	-0.0350
069/70	631	29	0.2476	0.2127	0.0453	0.2553	0.0543
Total			$\sum R_{NLIC} = 0.1747$		$\sum (R_{NLIC} - \bar{R}_{NLIC})^2 = 0.6898$		$\sum (R_{NLIC} - \bar{R}_{NLIC}) (R_{II} - \bar{R}_{II}) = 0.0361$

$$R_{NLIC} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2065/066,

$$= \frac{598 - 900 + 0}{900} \times 100 = 0.3356$$

For the calculation of other fiscal year, same process will be repeated.

$$\text{Expected Return } (\bar{R}_{NLIC}) = \frac{\sum R_{NLIC}}{N} = \frac{0.1747}{5} = 0.0349$$

$$\text{Risk } (\delta_{NLIC}) = \sqrt{\frac{\sum (R_{NLIC} - \bar{R}_{NLIC})^2}{N-1}} = \sqrt{\frac{0.6898}{5-1}} = 0.4153$$

$$\text{Variance } (\delta_{NLIC})^2 = 0.1724$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta_{NLIC}}{\bar{R}_{NLIC}} = \frac{0.4153}{0.0349} = 11.89$$

Covariance between Return of Insurance Industry & Return of NLIC ($COV_{NLIC \& II}$)

$$= \frac{\sum (R_{II} - \bar{R}_{II}) (R_{NLIC} - \bar{R}_{NLIC})}{N-1} = \frac{0.0361}{5-1} = 0.009$$

Correlation between Return of NLIV & Return of Insurance Industry ($r_{NLIC \& II}$)

$$= \frac{COV_{NLIC \& II}}{\delta_{NLIC} \times \delta_{II}} = \frac{0.009}{0.4153 \times 0.2447} = 0.089$$

$$\text{Beta Coefficient } (\beta_{NLIC}) = \frac{COV_{NLIC \& II}}{\delta_{II}^2} = \frac{0.009}{0.2447^2} = 0.1503$$

$$\text{Systematic Risk (SR)} = r_{NLIC \& II} \times \delta_{NLIC} = 0.089 \times 0.4153 = 0.0370$$

$$\text{Unsystematic Risk (USR)} = \delta_{NLIC} - (r_{NLIC \& II} \times \delta_{NLIC}) = 0.4153 - 0.0370 = 0.3783$$

$$\text{Proportion of Systematic Risk in Total Risk} = \frac{SR}{\text{Total Risk}} = \frac{0.0370}{0.4153} \times 100 = 8.91\%$$

$$\text{Proportion of Unsystematic Risk in Total Risk} = \frac{USR}{\text{Total Risk}} = \frac{0.3783}{0.4153} \times 100 = 91.09\%$$

Appendix - IV

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance,

Correlation and Beta Coefficient of SIC

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{SIC})	$R_{SIC} - \bar{R}_{SIC}$	$(R_{SIC} - \bar{R}_{SIC})^2$	$R_{II} - \bar{R}_{II}$	$(R_{SIC} - \bar{R}_{SIC})(R_{II} - \bar{R}_{II})$
064/65	306	-	-	-	-	-	-
065/66	252	10.53	-0.1421	-0.2254	0.0508	0.2535	-0.0571
066/67	311	11.32	0.2790	0.1957	0.0383	-0.1799	-0.0352
067/68	307	-	-0.0129	-0.0962	0.0092	-0.2732	0.0263

068/69	347	-	0.1303	0.0470	0.0022	-0.0558	-0.0026
069/70	396	7.25	0.1621	0.0788	0.0062	0.2553	0.0201
Total			$\sum R_{SIC} = 0.4165$	$\sum (R_{SIC} - \bar{R}_{SIC})^2 = 0.1068$		$\sum (R_{SIC} - \bar{R}_{SIC}) (R_{II} - \bar{R}_{II}) = -0.0486$	

$$R_{SIC} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2064/065,

$$= \frac{252 - 306 + 10.86}{306} \times 100 = -0.1421$$

For the calculation of other fiscal year, same process will be repeated.

$$\text{Expected Return } (\bar{R}_{SIC}) = \frac{\sum R_{SIC}}{N} = \frac{0.4165}{5} = 0.0833$$

$$\text{Risk } (\delta_{SIC}) = \sqrt{\frac{\sum (R_{SIC} - \bar{R}_{SIC})^2}{N-1}} = \sqrt{\frac{0.1068}{5-1}} = 0.1634$$

$$\text{Variance } (\delta_{SIC})^2 = 0.0267$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta_{SIC}}{\bar{R}_{SIC}} = \frac{0.1634}{0.0833} = 1.9612$$

Covariance between Return of Insurance Industry & Return of SIC ($COV_{SIC \& II}$)

$$= \frac{\sum (R_{II} - \bar{R}_{II}) (R_{SIC} - \bar{R}_{SIC})}{N-1} = \frac{0.0486}{5-1} = -0.0122$$

Correlations between Return of SIC & Return of Insurance Industry ($r_{SIC \& II}$)

$$= \frac{COV_{SIC \& II}}{\delta_{SIC} \times \delta_{II}} = \frac{0.0122}{0.1634 \times 0.2447} = -0.3051$$

$$\text{Beta Coefficient } (\beta_{SIC}) = \frac{COV_{SIC \& II}}{\delta_{II}^2} = \frac{0.0122}{0.2447^2} = -0.2037$$

$$\text{Systematic Risk (SR)} = r_{SIC \& II} \times \delta_{SIC} = 0.3051 \times 0.1634 = 0.0499$$

$$\text{Unsystematic Risk (USR)} = \delta_{SIC} - (r_{SIC \& II} \times \delta_{SIC}) = 0.1634 - 0.0499 = 0.1135$$

$$\text{Proportion of Systematic Risk in Total Risk} = \frac{SR}{\text{Total Risk}} = \frac{0.0499}{0.1634} \times 100 = 30.54\%$$

$$\text{Proportion of Unsystematic Risk in Total Risk} = \frac{USR}{\text{Total Risk}} = \frac{0.1135}{0.1634} \times 100 = 69.46\%$$

Appendix - V

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of UIC

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{UIC})	$R_{UIC} - \bar{R}_{UIC}$	$(R_{UIC} - \bar{R}_{UIC})^2$	$R_{II} - \bar{R}_{II}$	$(R_{UIC} - \bar{R}_{UIC})$ $(R_{II} - \bar{R}_{II})$
064/65	315	0	-	-	-	-	-
065/66	300	0	-0.0476	-0.1025	0.0105	0.2535	-0.0260
066/67	290	0	-0.0333	-0.0882	0.0078	-0.1799	0.0159
067/68	290	1.5	0.0052	-0.0497	0.0025	-0.2732	0.0136
068/69	315	7.5	0.1121	0.0572	0.0033	-0.0558	-0.0032
069/70	380	10	0.2381	0.1832	0.0336	0.2553	0.0468
Total			$\sum R_{UIC} = 0.4748$		$\sum (R_{UIC} - \bar{R}_{UIC})^2 = 0.1631$		$\sum (R_{UIC} - \bar{R}_{UIC}) (R_{II} - \bar{R}_{II}) = 0.1601$

$$R_{UIC} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2064/065,

$$= \frac{300 - 315 + 0}{300} \times 100 = -0.0476$$

For the calculation of other fiscal year, same process will be repeated.

$$\text{Expected Return } (\bar{R}_{UIC}) = \frac{\sum R_{UIC}}{N} = \frac{0.2744}{5} = 0.0549$$

$$\text{Risk } (\delta_{UIC}) = \sqrt{\frac{\sum (R_{UIC} - \bar{R}_{UIC})^2}{N-1}} = \sqrt{\frac{0.0576}{5-1}} = 0.12$$

$$\text{Variance } (\delta_{UIC})^2 = 0.0144$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta_{UIC}}{\bar{R}_{UIC}} = \frac{0.12}{0.0549} = 2.1867$$

Covariance between Return of Insurance Industry & Return of UIC ($COV_{UIC \& II}$)

$$= \frac{\sum (R_{II} - \bar{R}_{II}) (R_{UIC} - \bar{R}_{UIC})}{N-1} = \frac{0.047}{5-1} = 0.0118$$

Correlations between Return of UIC & Return of Insurance Industry ($r_{UIC \& II}$)

$$= \frac{COV_{UIC \& II}}{\delta_{UIC} \times \delta_{II}} = \frac{0.0118}{0.12 \times 0.2447} = 0.4019$$

$$\text{Beta Coefficient } (\beta_{UIC}) = \frac{COV_{UIC \& II}}{\delta_{II}^2} = \frac{0.0118}{0.2447^2} = 0.1971$$

$$\text{Systematic Risk (SR)} = r_{UIC \& II} \times \delta_{UIC} = 0.4019 \times 0.12 = 0.0482$$

$$\text{Unsystematic Risk (USR)} = \delta_{UIC} - (r_{UIC \& II} \times \delta_{UIC}) = 0.12 - 0.0482 = 0.0718$$

$$\text{Proportion of Systematic Risk in Total Risk} = \frac{SR}{\text{Total Risk}} = \frac{0.0482}{0.12} \times 100 = 40.17\%$$

$$\text{Proportion of Unsystematic Risk in Total Risk} = \frac{USR}{\text{Total Risk}} = \frac{0.0718}{0.12} \times 100 = 59.83\%$$

Appendix - VI

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of SICL

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{SICL})	$R_{SICL} - \bar{R}_{SICL}$	$(R_{SICL} - \bar{R}_{SICL})^2$	$R_{II} - \bar{R}_{II}$	$(R_{SICL} - \bar{R}_{SICL})$ $(R_{II} - \bar{R}_{II})$
064/65	455	-		-	-	-	-
065/66	331	13.5	-0.2429	-0.2537	0.0643	0.2535	-0.0643
066/67	327	12.63	0.0261	0.0153	0.0002	-0.1799	-0.0027
067/68	304	-	-0.0703	-0.0811	0.0066	-0.2732	0.0222
068/69	291	42.1	0.0957	0.0849	0.0072	-0.0558	-0.0047
069/70	331	31.41	0.2454	0.2346	0.0550	0.2553	0.0599
Total			$\sum R_{SICL} = 0.0540$		$\sum (R_{SICL} - \bar{R}_{SICL})^2 = 0.1334$		$\sum (R_{SICL} - \bar{R}_{SICL}) (R_{II} - \bar{R}_{II}) = 0.0103$

$$R_{SICL} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2064/065,

$$= \frac{331-455+13.5}{290} \times 100 = -0.2492$$

For the calculation of other fiscal year, same process will be repeated.

$$\text{Expected Return } (\bar{R}_{SICL}) = \frac{\sum R_{SICL}}{N} = \frac{0.0540}{5} = 0.0108$$

$$\text{Risk } (\delta_{SICL}) = \sqrt{\frac{\sum (R_{SICL} - \bar{R}_{SICL})^2}{N-1}} = \sqrt{\frac{0.1334}{5-1}} = 0.1826$$

$$\text{Variance } (\delta_{SICL})^2 = 0.0334$$

$$\text{Coefficient of Variation (CV)} = \frac{\delta_{SICL}}{\bar{R}_{SICL}} = \frac{0.1826}{0.0108} = 16.91$$

Covariance between Return of Insurance Industry & Return of SICL ($COV_{SICL \& II}$)

$$= \frac{\sum (R_{II} - \bar{R}_{II})(R_{SICL} - \bar{R}_{SICL})}{N-1} = \frac{0.0103}{5-1} = 0.0026$$

Correlations between Return of SICL & Return of Insurance Industry ($r_{SICL \& II}$)

$$= \frac{COV_{SICL \& II}}{\delta_{SICL} \times \delta_{II}} = \frac{0.0026}{0.1826 \times 0.2447} = 0.0582$$

$$\text{Beta Coefficient } (\beta_{SICL}) = \frac{COV_{SICL \& II}}{\delta_{II}^2} = \frac{0.0026}{0.2447^2} = 0.0434$$

$$\text{Systematic Risk (SR)} = r_{SICL \& II} \times \delta_{SICL} = 0.0582 \times 0.1826 = 0.1060$$

$$\text{Unsystematic Risk (USR)} = \delta_{SICL} - (r_{SICL \& II} \times \delta_{SICL}) = 0.1826 - 0.1060 = 0.0758$$

$$\text{Proportion of Systematic Risk in Total Risk} = \frac{SR}{\text{Total Risk}} = \frac{0.1060}{0.1826} \times 100 = 58.05\%$$

$$\text{Proportion of Unsystematic Risk in Total Risk} = \frac{USR}{\text{Total Risk}} = \frac{0.0758}{0.1826} \times 100 = 41.95\%$$

Appendix - VII

Required Rate of Return

Bank Name	R _f	\bar{R}_{II}	R _f	β	R
NLICL	0.0349	0.0155	0.0349	0.4843	0.0255
NLIC	0.0349	0.0155	0.0349	0.1503	0.0320
SIC	0.0349	0.0155	0.0349	0.2037	0.0309

SICL	0.0349	0.0155	0.0349	0.0434	0.0341
UIC	0.0349	0.0155	0.0349	0.1971	0.0311

$$\text{Required rate of return (R)} = R_f + (\bar{R}_{II} - R_f) \beta$$

Appendix VIII

Calculation of Coefficient of Variation between SIC & UIC

F/Y	$R_{SIC} - \bar{R}_{SIC}$	$R_{UIC} - \bar{R}_{UIC}$	$(R_{SIC} - \bar{R}_{SIC})(R_{UIC} - \bar{R}_{UIC})$
065/66	-0.2254	-0.1025	0.0231
066/67	0.1957	-0.0882	-0.0173
067/68	-0.0962	-0.0497	0.0048
068/69	0.047	0.0572	0.0027
069/70	0.0788	0.1832	0.0144
$\Sigma(R_{SIC} - \bar{R}_{SIC})(R_{UIC} - \bar{R}_{UIC})$			0.0277

Covariance between Return of SICL & Return of UIC ($COV_{SIC \& UIC}$)

$$= \frac{\Sigma(R_{SIC} - \bar{R}_{SIC})(R_{UIC} - \bar{R}_{UIC})}{N-1} = \frac{0.0277}{5-1} = 0.0069$$

Appendix IX

Calculation of Portfolio Return and Risk of SIC and UIC

Let,

$$\text{SIC} = A$$

$$\text{UIC} = B$$

We know that,

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

$$\text{Portfolio Risk } (\delta_P) = \sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + 2\text{COV}_{AB} W_A W_B}$$

If,

$$W_A = 0.75 \text{ and } W_B = 0.25$$

$$\bar{R}_P = 0.75 \times 0.0833 + 0.25 \times 0.0549 = 0.0762$$

$$\begin{aligned} \delta_P &= \sqrt{0.75^2 \times 0.1634^2 + 0.25^2 \times 0.12^2 + 2 \times 0.0069 \times 0.75 \times 0.25} \\ &= 0.160 \end{aligned}$$

If,

$$W_A = 0.50 \text{ and } W_B = 0.50$$

$$\bar{R}_P = 0.50 \times 0.0833 + 0.50 \times 0.0549 = 0.0691$$

$$\begin{aligned} \delta_P &= \sqrt{0.50^2 \times 0.1634^2 + 0.50^2 \times 0.12^2 + 2 \times 0.0069 \times 0.50 \times 0.50} \\ &= 0.1172 \end{aligned}$$

If,

$$W_A = 0.25 \text{ and } W_B = 0.75$$

$$\bar{R}_P = 0.25 \times 0.0833 + 0.75 \times 0.0549 = 0.0620$$

$$\begin{aligned} \delta_P &= \sqrt{0.25^2 \times 0.1634^2 + 0.75^2 \times 0.12^2 + 2 \times 0.0069 \times 0.25 \times 0.75} \\ &= 0.1112 \end{aligned}$$