CHAPTER – I
INTRODUCTION

1.1 Background of Study

A country can't achieve a better standard of living without proper development of trade, commerce and industry. Thus industrialization and commercialization is possible only with the support of two big institutes i.e. banking and insurance. Insurance plays a vital role to develop business, private life and as well as whole economy of the country. Thus it is indicator of economic development of the country.

Investor always wants favorable return to yield by its stock. They invest their belonging with an expectation of getting some reward. Hence they only invest in that opportunity where they can get higher return, one of the investment sector from which higher return can be obtained through insurance company. But it has high risk also. Therefore risk and return is getting considerable attention in financial management. They are equally important for a small individual firm and for the large concerns. Return is the reward for bearing risk and risk is always associated with return.

Every investor wants to mitigate the unpredictable risk. To minimize the future uncertainties the concept of insurance has emerged, so insurance is the mechanism of risk shifting.

Most of the Nepalese investors are finding to invest in single security. Due to lack of information and poor knowledge, market intermediaries exploit investors. So, many investors are afraid to invest in stocks. The investors are the main source of capital and are the backbone of overall economic development. For this purpose this study will initiate to improve the individual investor's perception and knowledge that may also lead the capital market run smoothly and efficiently, which is essential to spreading economic development of the nation.

The origin of insurance is lost in antiquity. The earliest traces of insurance in the ancient world are found in the form of marine trade loans or carriers' contracts which included an element of insurance. Evidence is on record that arrangements embodying the idea of insurance were made in Babylonia and India at quite an early period. However there is no evidence that insurance in its present form was practiced prior to the twentieth century.

In Nepal, trend of investing in insurance companies are increasing day by day with the hope of favorable return and to recover from their loss. Today insurance companies are growing rapidly with more rapid from offering different types of benefit. As regards its development in Nepal, the first insurance company Nepal Insurance Company was established in 1991 B.S. but before its establishment there were different Indian companies undertaking insurance business in Nepal. A milestone was set in 1967 when Rastriya Sansthan was born, as a fully government owned enterprise.

In Nepal insurance companies were properly developed after 2025 B.S. In recent are registered under the insurance company act 2025 B.S. In recent there are seventeen insurance companies and among them only one companies are to be considered for the study purpose.

Nepal Life, 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 an authorized capital of Rs.100 Crore. Issued Capital of Rs.50 Crore and Paid-up Capital of rs.37.5 Crore. As on Ashoj 2069 the company has insured 4,85,541 under conventional policies worth Rs.5329 Crore and 3,34,460 Foreign Expatriate policies worth Rs.16273 Crore. Out of the total premium collected the company has invested Rs.1132 Crore as per guidelines of Bima Samiti. The company has insured itself with well-known reinsurance company "Hannover Re Life Reinsurance Company", Germany for conventional policies and "SCOR Global Life", France for Term Assurance Foreign Expatriate policies. To endeavor through the noble institution of Life Insurance in making every family economically safe and secure whereby every citizen of Nepal may contribute his might in building a healthy, prosperous, strong and Vibrant Nation. To cater to financial and social needs of every segment of society by designing differentiated and innovative insurance instruments. To provide after sales service to customers that can be hailed as the best.

Being in the business of selling life insurance products it is performing the same job as the other insurers dealing with "Life Insurance". However, Nepal Life Insurance Company has its own identity because of the mission and manner for which it is working. The company is working with a time bound strategy to fulfill its vision of spreading message of insurance to every home and to contribute substantially in making Nepal an economically healthy and vibrant nation. Apart from spreading the network of branches all over Nepal the company plans to make a quantum jump in number of agents and to provide them adequate training for providing knowledge and skill, so that the company can reach the depth in the market.

The company is focusing on providing qualitative services of International Standard. Our ambition is to provide across the counter services in all its operations. This ambition cannot be fulfilled without the help of information technology. The company has strong IT infrastructure. All branches of Nepal Life has been connected through wide area networking to provide better customers service.

The main focus of this study is risk and return analysis of the common stock investment of the Nepal Life insurance company of Nepal. The study analyzes how one can get profit by minimizing the risk. For this purpose, market return, expected return, total risk, systematic risk and unsystematic risk are analyzed to give an idea to get sustainable profit by diversifying the risk to avoid future loss of the common stock investment.

1.2 Statement of Problem:

In a developing country like Nepal most people lie below poverty line and do not have enough money to invest in the same way those who want to invest also are poorly educated. Due to lack of information and knowledge individual investors who are being manipulated and exploited by the financial institution and other market intermediaries to such an extent that investing in common stock is intolerably hazardous. Even there is no any separate institution, which provides exact or perfect information required to make rational decision about the future regarding risk and return on investment in Nepal. Government is promoting common stock investment. In Nepalese context most of the people feel that there is more risk in such investment and very few people can analyze risk and return associated with the stock.

Therefore, it needs courage and faith to invest in common stock. Mostly it can be generated from proper evaluation with giving view to the prevailing market atmosphere.

a. Are the investors their more interest for investing on common stock of insurance company?
b. What are the criteria for evaluation that the stock they are holding is given them favorable return?
c. What should be the compensation they have to receive for bearing the risk?
d. How can one make higher return through risk?
e. How do they know about the magnitude of the risk?

These are the burning issues that have influenced researcher to carry out this study.

1.3 Objective of the Study:

The main objective of this research is to assess the risk associated with the common stock investment of Nepal Life Insurance company and other variables that helps to decide about the stock investment in insurance companies.

The other objectives of this study are as follows:

1. To find out the investors show their more interest for investing on common stock of Insurance Company.
2. To analyze risk and return on common stock of insurance company as well as with market.
3. To find the return of stocks explained by market risk factor.
4. To evaluate that the stock of insurance company is over-priced, under-priced or correctly priced.
5. To evaluate common stock's price under CAPM method.

1.4 Need or Significance of the Study:

This study targets to analyze and enhance stock investments and it gives information's about Nepalese capital market by analyzing risk and return. Thus, this study is beneficial for those entire people who are directly or indirectly related to Nepalese capital for those entire people who are directly related to Nepalese capital market and also helpful to other researchers are in the investment. The investment of NLIC Company showed effectively

Return on stock or what return from investment? The investor can read and research risk and return on common stock from this study.

1.5 Research Methodology

Research methodology is the way to solve systematically about the research problem. For this purpose, the research is exploratory as well as descriptive and analytical in order to accomplish the objectives of the study. The research methodology is designed on the basis of secondary data in a very clear and direct way using both financial and statistical tools.

a) Research Design

The research is based on the recent historical data, so simply it is a historical research. It covers the data from 2006/07 – 2011/12. It deals with the common stock of Life Insurance Companies on the basis of available information. For the analysis, the common stocks of the Nepal Life Insurance Company are taken into account. Financial analysis with various statistical and financial tools and testing of hypothesis has also been used for analysis aspect.

b) Sources of data

All the data necessary for the research will be collected from secondary sources. Data related to market prices of shares (MPS), market capitalization and movement of NEPSE index has been taken from the trading report published by NEPSE, other relevant data has been collected from individual Nepal Life Insurance Institution, Security Board of Nepal (Thapathali) and from their websites.

The collection procedure is summarized below:-
➢ Trading manual published by Nepal Stock Exchange Limited.
➢ Related URL.
➢ Materials published in Newspapers and Magazines.
➢ Other related journals, periodicals, books and booklets.

c) Population and Sample

This study is based on the comparative study of risk and return on the basis of common stock investment of 7 Life Insurance Companies listed in NEPSE. Population is all the 7 Life Insurance Companies are listed in NEPSE. There are a total 7 Life Insurance Company registered under Nepal Rastra Bank. For this study, only one, Nepal Life Insurance Company is taken over 5 fiscal year data calculation. Judgment sample is used for the study.

d) Methods of Analysis

The study employs various financial tools and statistical tools such as percentage graph Person's coefficient of correlation, standard deviation. Likewise some financial tools such as holding special period return, expected rate of return and CAPM to analyze the data collected from various sources. Before, analysis, data has been presented in the tabular format, charts and graphs.

1.6 Limitation of the Study

a) Only five years observations covering from 2006/07 to 2011/12 are analyzed.
b) Only Risk and Return on common stock analyzed.
c) The study is based on secondary data collected from annual reports, financial statements and related websites.
d) The researcher is concerned with certain Nepal Life Insurance Companies only.
e) Tools are used for the analysis, is developed in the context of the efficient market.

1.7 Organization of Study

Chapter One – Introduction

This chapter is introductory and deals with subject matter of the study including background of the study, focus of study, problem of the study, objectives of the study, significance of the study, limitation of the study, organization of the study, etc.

Chapter Two – Review of Literature

This chapter contains the profound review of available literature related to the area of the study. It is directed towards the review of conceptual framework and review of major

related studies. Risk and return, its relationship, determinants, measuring techniques and methods, etc.

Chapter Three – Research Methodology

This unit presents research methodology used in the study which includes various tools and techniques of data. It consists of research method as library research and field research, sources of data, population and sample, research design, methods of data analysis etc.

Chapter Four – Data Presentation and Analysis

This chapter presents the analysis and presentation of data by using various methods of statistical and financial tools, tables, pie charts, etc will be used accordingly.

Chapter Five – Summary, Conclusion and Recommendation

This chapter is summary of main findings, conclusion, recommendation and suggestions for further important.

CHAPTER – II

LITERATURE OF REVIEW

2.1 Introduction

The literature develops some expertise in one's area, to see what new contributions can be made, and to receive some ideas for devolving a research design thus, the previous study. In other word, there has to be continuity in research. This continuity in research is ensured by linking the present study with past research studies.

It is an Advancement of exiting knowledge and in-depth study of subject matters. It starts with a search of a suitable topic and continuous throughout the volumes of similar or related subjects. This chapter with about review of literature; deals with the review of the financial system and investment opportunity. The more details are in descriptive manner, for this study, various books, journal and articles as well as the past thesis review were taken into consideration. During the review of this research, in depth study and theoretical investigation regarding portfolios aspects and their present application and potentialities also are made.

The simplest meaning of the investment is sacrificing the present worth to generate more value of worth in certain future. It is concern with the sacrifice of the current rupee for the expectation of future money. It maximizes the wealth position. Investment, in its broadest sense, means the sacrifice of the current dollars for future dollars, two different attributes are generally involved time and risk. The sacrifice takes place in present and is certain. The reward comes later, if at all and magnitude is generally uncertain" (Francis; 1998:38).

There are only few special books and research work related to this topic has been published in Nepal. On other hand, Nepalese stock market is still in creeping stage. So, there are not sufficient materials that provided basic guidelines for this study. Some Master Degree Thesis that is available in TU which are related with this thesis have been reviewed. In additional, some independent studies carried out by well known financial exports are taken to consideration. Topics from basic academic courses books and different studies published in magazine, thesis of seniors and journals related to the study are reviewed in this topic.

2.2 Conceptual Review

Risk and returns go together in investment and finance. It is not sensible to talk about returns without talking about risk because investment decision involves a risk return trade off. Risk is defined as the chance that the actual outcome from an investment will differ from the expected outcome. Return is the motivation force in the investment process, that is, it is the reward for undertaking the investment. Therefore it is importance to investors. It is the only relation way (after allowing for risk) for corporation to compare alternative investments that differ in what they offer. An investor requires a higher return form a risky project in order to compensate for the risk. The main aim is to maximize the returns with a given level of risk or to minimize the risk with a given level of return therefore for this purpose the return and risk need to be measured. (Thapa Kiran, Koirala Narayan, 2064)

The investment return is defined as the after tax increases in the total value of the initial investment. The increase in the value can come from two sources; a direct cash payment to the investor (i.e. dividend or interest) or an increase in the market value of the investment relative to original purchase price (capital gain). Risk represents the variability of possible future returns from an investment. Return tends to increase as one looks farther into the future investors are generally risk averse. This implies that risky investment must offer higher expected return than that offered by less risky investment in order to make people buy and hold them.Risk identification is the process by which a business systematically identifies those current and potential risks that might adversely affect (Williams, Jr, Michael L. Smith and Peter C, Young 1998).

2.2.1 Common Stock

A security that represents ownership in a corporation holders of common stock exercise control by electing a board of directors and voting on corporate policy. Common stockholders are on the bottom of the priority ladder for ownership structure. In the event of liquidation, common shareholders have rights to a company's assets only after bondholders, preferred shareholders and other debt holders have been paid in full.

Common stock is a form of corporate equity ownership, a type of secutity. It is called "Common" to distinguish it from preferred stock. In the event of bank duptey, common stock investors receive their funds after preferred stock holders, bondholders, creditors,

etc. on the other hand, common shares on average perfume better than preferred shares or bonds over time. Common stock is usually ruling shares, though not always. Holders of common stock are able to influence the corporation through votes on establishing corporate objectives and policy, stock splits and electing the company's board of directors. Some holders of common stock also receive preemptive rights, which enable them to retain their proportional ownership in a company should it issue another stock offering. Additional benefits from common stock include earning dividends and capital correlation. Common stock is recipient of the residual income of the corporation. Through the rights to vote, holders of common stock have legal control of the corporation. An element of high risk is involved with common stock investment and in its low priority of claims at liquidation. When investors buy common stock they receive certificate of ownership as a proof to their being part of the company. The certificate States the number of shares purchased and their value per share (Sharpe, 2006:203)

2.2.2 Meaning of Return

(Bhattarai: 2008:102): 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 investor measures return using financial ideas. 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:

1. Income from price appreciation or losses from price depreciation. It is called capital losses and gain.
2. 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 motivation 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 …any assets over the period (t) is commonly defined as,

Total return = capital gain + regular gain (ordinary gain)

Capital gain= ending price-beginning price

Regular gain = dividend or interest

2.2.2.1 Single Period Rate of Return

(Bhattarai 2008:104) The rate of return is the speed at which the investor's increase or decrease. This rate of return depends upon the future cash flows that include cash receipt (dividend) and capital gains. And the investors make investment for high rate of return at minimum risk. Thus, the investor's single period rate of return can be defined as the total return that the investor receives during the holding period of the shares as a percentage of the purchase price at the beginning of the holding period of the holding period. The rate of return over the holding period is called holding period rate of return (HPR).

This can be calculated as;

$$Kt = \frac{Pt - Pt - 1 + Ct}{Pt - 1}$$

Where,

Kt = actual or expected or realized rate of return

Pt = price or value of asset at time (t) or beginning price

Pt-1= price or value of assets at time t-1 or ending price

Ct = cash flows received from the investment in the time period t-1 to t

2.2.2.2 Required Rate of Return

Required rate of return is the minimum return that an investor expects at least no to suffer from loss. If an investor gets below required rate he definitely suffer from loss. "While suffering from loss of return an investor must consider the real rate of return expected inflation and risk. Because consumption is forgone ….the investor is entitled to a rate of return that compensates for this deferred consumption. Since the investor expects to receive an increase in the real goods purchased later and assuming for the moment zero expects to receive inflation and risk the required rate could equal the real rate of return, in which case it would represent the pure time value of money. For examples if an investor plans to lend $500 today in exchange for consumption at some later date (Assuming no inflation and Risk), then the lender may expect to receive $5015 at expected time of consumption. The $15 return on the investment of $500 for 3 percent represents the pure time value of money. The real return paid to compensate the investors deferred consumption.

The required rare or return is the function of real rate of return and risk. It is the minimum rate of return an investor will accept. The required rate of the return for an assets or portfolio of assets can be estimated using the equation for the SML suggested by the CAPM model.

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 toady, investor is entitled to a rate of return that compensative for differ consumption in future. Required rate of return is the rate of return demanded by an investor forgoing in present utility and satisfaction. If investors postponed his satisfaction for uncertain future, investment should compensate his satisfaction. The compensation demand on behalf of future uncertainty over the risk free risk, is required rate of return. The capital market determines required rate. The required rate of return is the minimum rate of return that an investor expects from his investment. It is function of real rate of return and risk (Waston & Brigham;1982:177).

2.2.2.3 Expected Rate of Return

The return that an investor expects from his investments in the forthcoming future is called expected rate of return. An investor normally estimates his expected rate of return

by analysis the trend of return or the expected holding return should be equal or greater than the required rate of return for those investments. The expected rate of return is based upon the expected cash receipts (e.g. Dividend or interest) over the holding period and the expected ending or selling price.

The expected rate of return is an ex-ante or unknown future return. Unless the real rate return is guaranteed, must investor recognizes this possible rate or return into a single number called the expected rate of return or holding period rate of return is based upon the expected cash receipts over the holding period and the expected ending or selling price. Depending up on the assumption made about cash receipts and ending prices a number of expected rates of return are possible. These possible rates estimated by the investors are summarized in an expected rate of return. The expected rate of return must be greater or equal to the rate of return in order for the investor to find the investment acceptable. Portfolio theory: best way of investments for rational investor. Normally almost the investors are risk averse. They need high or satisfactory level of return hearing risk as low as possible. Portfolio theory gives the concept of investment in a very good way that "never keeps all the eggs in a single basket." i.e. never invest your entire amount in a single asset. Investment on more than one security means diversification or minimizing risk.

In 1952, Iarry M. Markowitz proposed the concept of the portfolio theory. He gave a very new concept on investment on more than single assets to minimize risk and maximize return. The portfolio theory developed by Markowitz is based on following assumption.

- The expected return from an asset is the mean value of a probability distribution of future returns over some holding period

- The risk of an individual assets or portfolio is based on the variability of returns (i.e. standard deviation or variance).

Expected Return:

$$E(R) = \sum_{i=1}^{n} P_{ri} \times R_i$$

Where,

E(R) = Expected rate of return

Pri = Probability distribution for i[th] security

R_i = Return distribution for i[th] security

Expected rate of return is the return on expects by his/her investment. Suppose one invested Rs.100 in security of Nepal Bank Limited he/she thinks that it will generate year-end dividend of Rs.15%. The expected rate of return should be higher than required rate of return. Expected return is the hypothetical rate of return. The expected rate of return based upon the expected cash receipt over the holding period and expected return must be reasonable. Most expectation based on history. Reasonable conclusions about future returns could be reached by looking at the past, tempered with the understanding that these returns. Even if your expectations are reasonable, however, there are the possibilities that your investment's actual return will be different from the expectation. This is risk, we must take as an investor and it includes the possibility of losing original investment. Risk is greater when the variation is greater in return (Bhattarai; 2008:113).

2.2.2.4 Expected Rate of Return Based on Historical Data

During this research, it is assumed that history repeats itself. The future cash flows will base on the historical cash flow. The expected rate of return will be the average of historical rate of returns. In term of holding period return, the expected rate of return for any specific securities is the expected rate of return taken from it's historical return. However, the simple arithmetic averaging ignores the compounding effects that result if the first period returns reinvested. In addition, the result of the arithmetic average, return distorted if there are large differences in the rate of return across period. Large difference is the periodic rates of return and larger investment horizons will; because the arithmetic rate of return to be misleading. The geometric rate of return does not suffer from this defect. The geometric mean rate of return HPR defined as the rate of return that would make the initial investment equal to the ending investment value (Weston & Brigham; 1982:178).

The expected return on a portfolio is simply the weighted average expected returns of assets included in the portfolio, where the weights are the proportion of investment initially made in each asset included in the portfolio.

Symbolically,

$$E\left(r_p\right) = \sum_{i=1}^{n} w_i E(r_i) = w_1 E(r_1) + w_2 E(r_2) + \ldots\ldots + w_n E(r_n)$$

Where,

$E(r_p)$ = expected return of portfolio

W_i = weight of ith asset or stock

$E(r_i)$ = expected return of ith asset

n = number of assets included in the portfolio

Variance of return of portfolio: The portfolio risk is the standard deviation/variance associated with the alternatives on which the investment is made. The standard deviation or the variance of returns from an investment is the total risk of our investment. This total risk is measured by using the following equation:

$$Var(r_p) = \sum_{i=1}^{n} \sum_{j=1}^{n} w_i w_j Cov_{ij}$$

Where,

w_i = proportion (weight) of investment in security i

w_j = proportion (weight) of investment in security j

Cov_{ij} = Covariance of the returns between security i and security j,

n = number of assets included in the portfolio

Var (r_p) = variance of return of portfolio i.e., $\dagger_p^2$

While the portfolio expected return is a straight forward weighted average of return on the individual security, whereas portfolio risk (S.D.) is not the weighted average of individual security because it need to consider the relationship between two variable, called

correlation, and the correlation coefficient (r) measures the degree of the relationship between the variables. In statistical terms, we say that the return on stock A and B are perfectly negatively correlated, with r = -1. The opposite of perfectly negative correlation, with r = -1, is perfect positive correlation, with r = +1. Return on two perfectly positively correlated stocks would move up and down together and a portfolio consisting of two such stocks would be exactly as risky as the individual stocks. Diversification does nothing to reduce risk if the portfolio consists of perfectly positively correlated stocks (Weston and Brigham, 1996, P-195).

"When stocks are perfectly negatively correlated (r = -1), all risk can be diversified away, but when stocks are perfectly positively correlated (r = +1), diversification is ineffective. In reality, most stocks are positively correlated, but not randomly selected stocks would be about +0.6, and for most pairs of stocks, r, would lie in the range of +0.5 to 0.7. Under such conditions, combining stocks into portfolios reduces risk but doe not eliminate it completely." (Weston and Brigham, 1996, P-198).

"Correlation between security return complicates our calculation of portfolio standard deviation by forcing us to calculate the covariance between return for every possible pair wise combination of securities in the portfolio. But, this dark could of mathematical complication contains a silver lining correlation between securities provides for the possibility of eliminating some risk without reducing potential return." (Van Horne, 1999, P-96).

"What would happen in we included more than two stocks in the portfolio?

As a rule, the riskiness of a portfolio is reduced as the number of stocks in the portfolio increases. If we added enough stocks, could we completely eliminate risk? In general, the answer is no, but the extent to which adding stocks to a portfolio reduces depends on the degree of correlation coefficient, lower the risk, in a largest portfolio. If smaller the positive correlation coefficient, lower the risk, in a largest portfolio. If we could find a set of stocks whose correlation is negative, all risk could be eliminated. In the typical case, where the correlations among the individual stocks are positive but less than +1. Some, but not all, risk can be eliminated." (Weston and Brigham, P-198).

"Correlation coefficient which is significant in portfolio construction, is standardize statistical measure of the linear relationship between two variables. It's range is from 1

16

(perfect negative correlation) to +1 (perfect positive correlation)". Lower the correlation coefficient, higher the reduction in portfolio risks. But there are three influence which reduce portfolio risk in relation in portfolio risk in relation to the standard deviation of individual securities in isolation: (1) the extent to which the correlation between the returns from the individual securities is less than 1 (2) the number of securities in the portfolio, and (3) the proportion or weights of the individual securities in the portfolio in relation to their correlation among one another. The effect of these three influences combined is determined by relating individual securities to all securities the market portfolio." (Weston and Brigham, P-103).

2.2.2.5 The Return on Common Stock Investment

Return is the income received on an investment plus any charge in the market price, usually expressed as a percentage of the beginning market price of the investment. Return is reward received from investment, for sacrifice of present certain amount of assets. Return is the motivational factor, encourages investors to sacrifice some certain amount of asset for uncertain benefit in future.

"The return for holding an investment over some period say a year in simply any cash payments received due to ownership plus the change in market price of stock, dividend by the beginning price (Van Horne and Wachowicz, 1995, P-9).

Return is the income received on investment plus any change in market price usually expressed as a percent of beginning price of the investment. Although a return on investment is not necessarily guaranteed, it is expected return that motivates people to invest. Every investment doesn't guarantee a return. The return on investment may be made up of more than one source of income. There are two kinds of return that investor received from common stock.

i. **Current Income:** It is received periodically in form of dividends from stock.

ii. **Capital gain:** The second dimension of return is concerned with change, if any in the market value of a stock. Investors pay a certain amount for stock from which they expect to receive not only current income, but also the return of the invested funds some times in the future.

Return is the key variable in the investment decision because this measure allows us to compare the amount of actual or expected gain provided by various investments.

Most people agree that past data often provide a meaningful basis for formulation of future expectation. A common practice in the investment world is not look closely at the historical performance if a given investment when formulating expectation about its future performance. Expected return can also be used in investment decision process rather than historical behavior. Expected return is what one think the stock and bond will earn in future (in terms of dividend/interest plus capital gain) that determines what an investor should be willing to pay for a security (Gitman and Joehnk, 1990 P-(170-173).

Return on common stock also known as single period of return. It is cash received as dividend plus change is price of stock. We can calculate actual return of common stock with the help of cash dividend and stock price of previous year and current year. The rate of return formula can be stated on a form appropriate for almost any investment.

Single period rate of return $(r_1) = \dfrac{\text{Ending Price - Beginning Price + Dividend}}{\text{Beginning Price}}$

$$= \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$$

Where,

P_t = Stock price at the end of period t.

P_{t-1} = Stock price of the end of period t-1.

D_t = Cash dividend received during the tth period.

This formula can be used to calculate both actual single period return (based on historical data) as well as expected single period return (based on expected dividend and price).

Chany and Moses, states that annualized rate of return and several period rate of return can be calculated in two ways. The first one is simply to take the arithmetic average of the annual holding period returns over a given period and the second one, which also takes into account the compounding effects of cash receipts over different time intervals is, the geometric mean rate of return.

The simple arithmetic mean, $E(r_1) = \sum\limits_{t=1}^{n} \dfrac{r_t}{n}$

The geometric mean (G.M.) $= \sum\limits_{t=1}^{n} (1 + r_1)^{1/n} - 1$

Where,

   $E(r_t)$ = arithmetic mean of return

   n = number of years

   GM = Geometric mean return

   r_t = single period rate of return

For investors, return is considered as the main attraction to invest in a risky security as a stock accepting a varying degree of risk tolerance.

2.2.3 Risk

Risk is the potential variability in future cash flows. Therefore, it is defined as variability of returns in a period. The wider the range of possible events that can occur, the greater the risk, that means higher the variability higher the risk and vice versa. Risk and uncertainty are the integral part of investment. Risk is a situation where the possible consequences of the decision are known. However, uncertainty is a situation sphere the probabilities cannot be eliminated. However, risk and uncertainty are used interchangeably.

"Risk is defined in Wester's dictionary as a hazard, a peril exposure to loss or journey, thus for most, risk refers to the chance that some unfavourable 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, Basely and Brigham; 1995: 182-183).

"Although there is difference in the specific definitions of risk and uncertainty, for our purposes and in most financial literature the two terms are used interchangeably. In fact, one way to define risk is the uncertainty of future outcomes. And alternative definitions

might be the probability of an adverse outcome. Subsequently, in our discussion of portfolio theory, we will consider several measures of risk that are used when developing the theory (Relly and Brown; 2004:210-211).

Types of Risk

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

    i. Systematic Risk

    ii. Unsystematic Risk

Hence,

$$\text{Total Risk} = \text{Systematic Risk} + \text{Unsystematic Risk}$$

$\text{Var }(R_j) = s_j^2 Var(R_m) + Var(e)$

- Systematic risk $= s_j^2 Var(R_m)$

- Unsystematic risk $= Var(R_j) - s_j^2 Var(R_m)$

Risk can be measured in terms of standard deviation, coefficient of variation and beta. Standard deviation is to find out unsystematic risk whereas the beta analysis systematic risk. The systematic risk is the risk caused by the whole system and can't be diversified whereas occurrence of unsystematic risk is due to internal factors and such risk can be diversified. It also can be known as avoidable risk.

Systematic risk is due to overall market risk; change in the world energy situation, change in the nation's economy risk that affect security overall or the investor who hold a well diversified portfolio will be exposed to this type of risk. Unsystematic risk is unique to particular company, being independent of economic, political and other factors that effect securities in a systematic manner, however by diversifications this kind of risk can be reduced and even eliminated if diversification is efficient. Various studies suggest that 15 to 20 stocks selected randomly are sufficient to eliminate most of the unsystematic risk of a portfolio.

The beta coefficient (s) is an index of systematic rise; beta coefficient may be used for ranking the systematic risk of different assets. If the beta (s) is larger than 1 i.e. $s > 1$ the asset is more volatile than the market. This is called an aggressive asset. If beta is less than 1 i.e. $s < 1$ than the asset is suppose to be defensive one. Its price fluctuation is less volatile than that of the market.

Beta also measures the slope of the characteristics line that can be defined as;
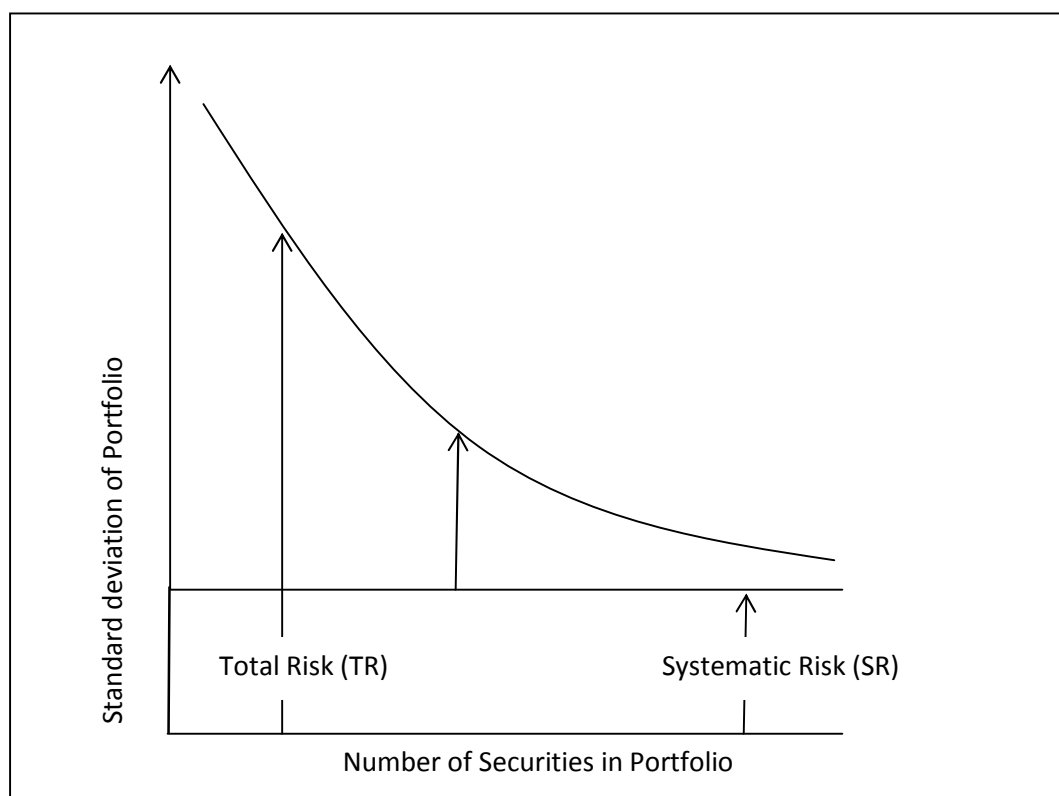
$$s_i = \frac{Cov(r_j, r_m)}{Var(r_m)}$$

Where ,

s_i = beta coefficient of the asset i

$Var(r_m)$ =Variance of market return

$Cov(r_m)$= Covariance of returns of the ith assets with the market

Diagram 2.1: Total, Unsystematic and Systematic Risk

The figure 2.1 represent as the number of randomly selected securities held in portfolio is increased, the total risk of portfolio is reduced in keeping with the reduction of unsystematic risk. Efficient diversification reduces the total risk of the portfolio to the point where only systematic risk remains.

Systematic Risk

It refers to that portion of the variability of an individual security's return cause by factors affecting the market as a whole as such it can be thought of being non diversifiable. 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 affect almost all assets in the economy, at least to some degree, whereas systematic 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.

   a) Interest rate changes.
   b) Changes in purchasing power.

Changes in investor's expectation about the overall performance of the security 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 (Western and Brigham; 1982:89).

Unsystematic Risk

It is also called diversifiable risk or company specific risk or unavoidable risk. It is such s 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 cause by such factors as:

1. Management capability and decisions.
2. The availability of the raw materials.
3. Strikes.
4. The unique effect of government regulations such as pollution control.
5. The effect of foreign completion.
6. The particular levels of financial and operating leverage of the firm employees (Weston and Brigham; 1982:89).

2.2.4 Relationship between Risk and Return

The expected return from any investment proposal will be linked in fundamental relationship to the degree of proposed risk. In order to be acceptable a higher risk proposal must offer a higher forecast return than lower risk proposal (Hampton; 1996:341).

"The observe difference in both the levels and variability of the rate of return across securities are indicative of the underlying risk and return in the market". Usually, there is a positive relationship between rate or 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 in practice. The reason is that investors are risk adverse. As a result, high risk assets must offer investors high return to induce them to make the riskier investment normally; Investors are likely to prefer more return and less risk. It means investors will not choose an investment that guarantee has return when investment promising higher returns in the same level of risk class are readily available (Loric, Dodd and Kempton; 1985:1029).

Risk a complicated subject and need to be properly analysis. The relationship between risk and return is described by investor's perception and expectation about risk and their demand for compensations, no investor is like to invest in risky asset until he assured adequate compensation for the assumption of risk. Therefore, it is the investors required risk premium that established a link between risk and return. In a market dominated, by rational investors, higher risk will be rewarded higher premium and the tradeoff between

23

risk premium (i.e. return). The illustration of risk and return is shown in the figure 2.2 below:

Figure 2.2: Relationship between Risk and Return

Return

Market Risk Premium line

R_1

R_2

R_3

$\dagger_1$ $\dagger_2$ $\dagger_3$ Risk
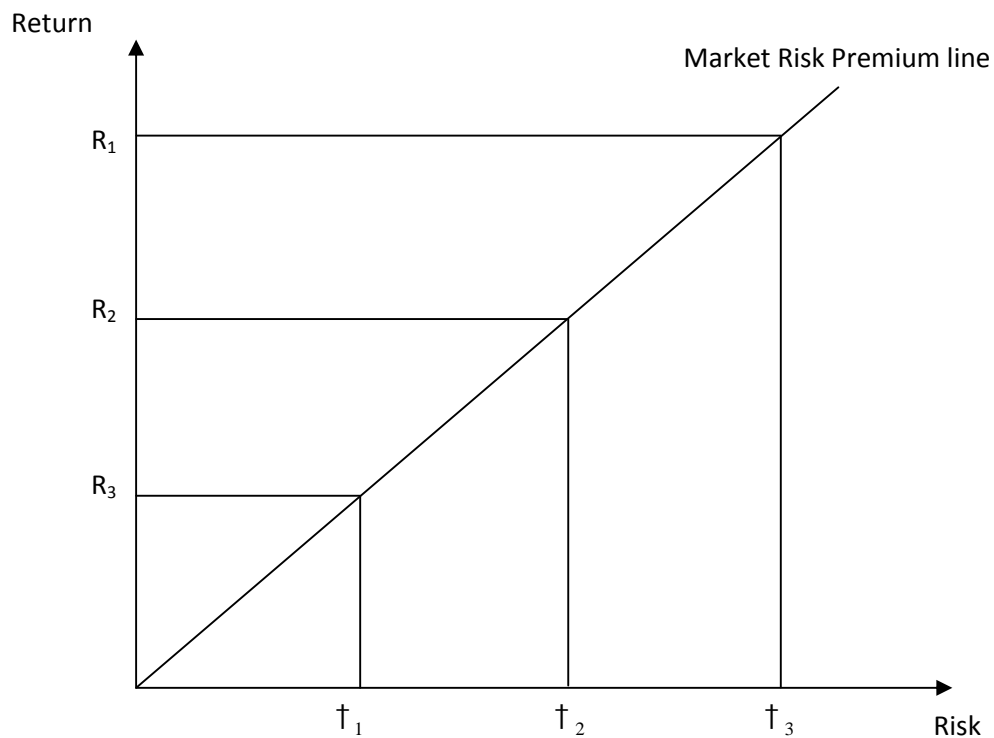
With the reference to figure 2.2, when risk is $\dagger_1$ return is supposed to be R_1 magnitude. When the level of risk increase from $\dagger_1$ to $\dagger_2$ the return is also expected to increase from R_1 to R_2. Thus the linear fashion indicates higher risk premium increased or decreased proportion to a change in level of risk.

2.3 Capital Assets Pricing Model (CAPM)

A model based on the proportion that any stock's required rate of return is equal to the risk free rate of return plus a risk premium, where risk reflects diversification. CAPM describes the relationship between risk and expected return and it serves as a model for the pricing of risky securities. In this model, a security's expected return is the risk free rate plus a premium based on the systematic risk of the security. If this expected return does not meet or beat our required return, the investment should not be undertaken.

"The CAPM is undoubtedly the most successful model to link the risk and expected return of capital assets. The relationship between expected return and unavoidable risk and the valuation of securities that follows, in the essence of the capital asset pricing model."

CAPM assumes that investors can lend and borrow at the same risk free rate of interest. CAPM states that expected return on assets depend on

a) The time value of money.

b) The reward per unit of systematic risk.

c) The asset systematic risk as measured by bet.

"The geographical version of CAPM is called the security market line (SML) which shows the relation between risk and the required rate of return." (Prasana Chandra, 1994). The SML equation as suggested for the computation of expected rate of return on common stock. This model is as under:

$$R_j = R_f \left[E(R_m) - R_f \right] s_j$$

Where,

R_j = Required rate of return or equilibrium rate of return for stock j.

R_f = Risk free rate of return.

$E(R_m)$ = Expected Return for the market portfolio

s_j = An index of systematic risk of stock j.

It means (i.e. s_j) the sensitivity of a stock's return. It changes in returns on the market portfolio. The beta of portfolio is simply a weighted average of the individual stock beta in the portfolio (Op. Cit, Van Horne, P-100).

"CPAM model is based on the proposition that any stock's required rate of return is equal to the risk-free rate of return plus a risk premium, where risk reflects diversification." (Op. Cit, Weston and Brigham, p-193).

"Based on the behavior of the risk averter investor, there is an implied equilibrium relationship between risk and expected return for each security. In market equilibrium, a security will be expected to provide a return commensurate with its unavoidable risk. This is simply the risk that cannot be avoided by diversification. The greater the unavoidable risk of a security, the greater the return that investor will expect from the security. The relationship between expected return and unavoidable risk, and the value of securities that follows, is the essence of the capital asset pricing model (CAPM)" (Op. Cit, Van Horne, P-(64-65)).

"The major implication of the CAPM is that the expected return of an asset will be related to a measure of risk for that asset known as beta (β). The exact manner, in which expected return and beta are related, is specified by the CAPM. The model provides the intellectual basis for a number of the current practices in the investment industry" (Sharpe and Alexander 5th ed. P-(261-262)).

"Remember the relevant risk associated with an individual stock is based on its systematic risk, which depends on how sensitive the firm's operations are to economic events such as interest rate changes and inflationary pressures. Because the general movements in the financial market reflect movement in the economy. The market risk of the stock can be measured by observing its tendency to move with the market, or with an average stock that has the same characteristics as the market. The measure of the stock's sensitivity to market fluctuations is called its beta coefficient. Beta is a key element of the CAPM" (Op. Cit, Weston, Basely and Brigham, P-202).

Beta measures undiversifiable risk. Beta shows how the price of a security responds to market forces. In effect the more responsive the price of a security is to change in the market; the higher will be its beta. Beta is calculated by relating the returns on a security with the returns for the market.

Market return is measured by the average return of a large sample of stocks, such as the S and P 500 stock index. The beta for the overall market is equal to 1.00. An asset or portfolio with a beta greater than 1.00 is considered to be aggressive (more risky than market) and an asset or portfolio with a beta less than 1.0 is considered to be defensive (less risky than market).

"Betas can be positive or negative. However, nearly all the betas are positive and most betas lie between 4 and 1.9" (Op. Cit, Fisher and Jordan, P-82).

CAPM helps an investor to decide whether to purchase or sell the stock of the particular company. It provides a means by which one can estimate the required rate of return of a security. On the basis of price and dividend data, expected return can be calculated. By comparing two or more than two returns, investors can analyze whether the stocks are over-priced or under-priced.

"The capital asset pricing model allows us to draw certain implications about the expected return of a specific security. The key assumptions in the model are that perfect capital markets exist and the investors have homogeneous expectations." (Op. Cit, Van Horne, P-85). After an assets average return and systematic risk have been estimated, they may be plotted in reference to the CAPM. In equilibrium every assets expected return and beta, systematic risk coefficient should plot as one point on the CAPM. To see why this is true, consider the figure 2.3 below, which shows two assets denoted by X and Y. Asset 'X' is under priced because its average rate of return is too high for the level of systematic risk it bears. Again asset 'Y' is over priced because its expected return is too low to induce investors to accept its undiversifiable risk.

Diagram 2.3: Under priced and Over Priced stock during Temporary Market Disequilibrium
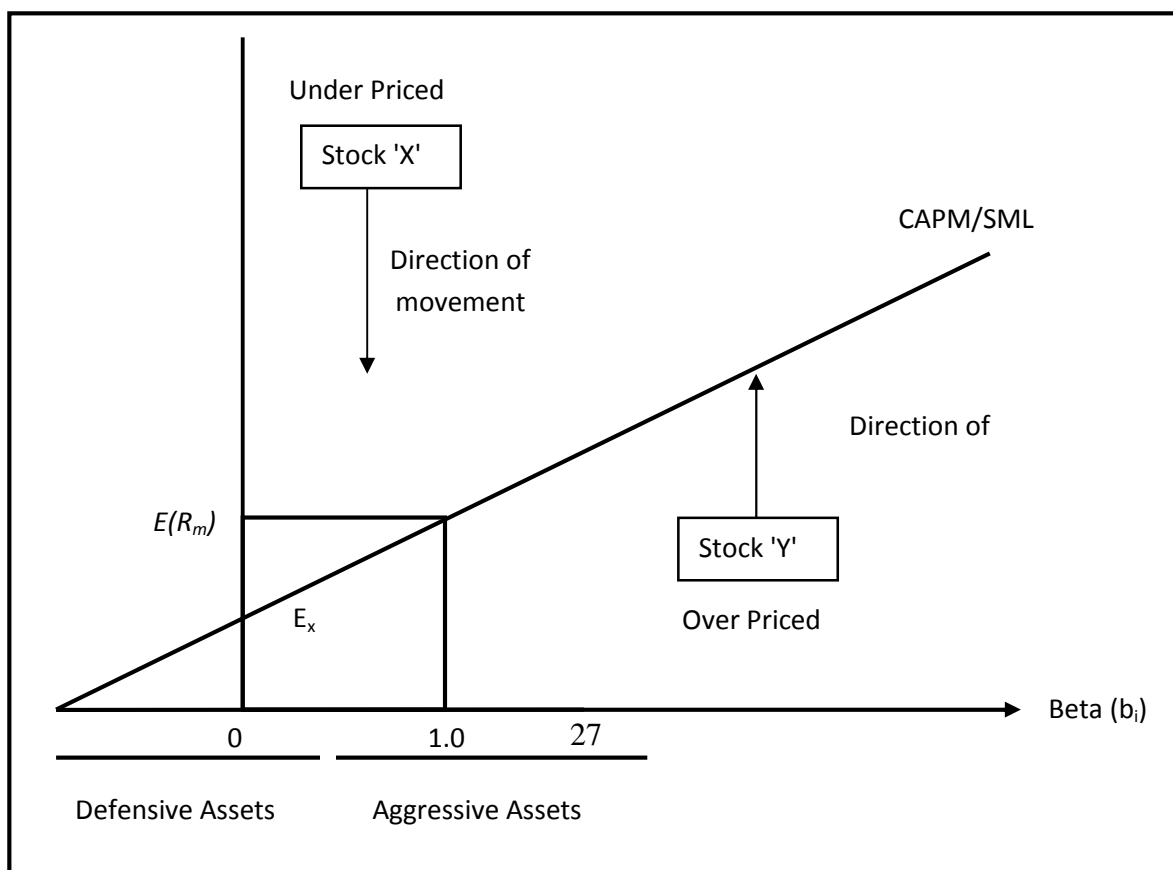
Investors seeing the opportunity for superior returns by investing in stock X, should rush to buy it. This action would rive the price up and the expected return down. It would continue until the market price was seemed that the expected return would now lie on the security market line (SML). In the case of stock Y investors holding this stock would sell it recognizing that they could obtain higher return for the same amount of systematic risk. This selling pressure would drive Y's market price down and its expected return up, until the expected return was on SML. These two assets should move to CAPM (SML) as shown by the arrows to their equilibrium position at that point marked E in figure 2.3.

To reach their equilibrium position on the CAPM (SML) asset X and Y must go through a price adjustment. Assuming assets systematic risk remain unchanged, the expected return of X must fall to E_x and expected return of Y must rise to E_Y in figure above. Supply and demand will set to work as outlined above to correct any disequilibrium for the CAPM. "When the expected returns for these two stocks return to the SML, market equilibrium will again prevail" (Francis Jack Clark, P-272-274).

Few people quarrel with the idea that investors require some extra return for taking risk. That is why, common stocks require higher return that government Treasury bill (which is assumed to be risk free because of taxing power that government enjoys). No one would want to invest in risky common stock if they offered only the same expected return as Treasury bills.

Investors do appear to be concerned principally with the risk that they cannot be eliminates by diversification. If this were so, we find that stock price increases when every two companies merge to spread their risk and we should find the investment companies which invest in share of other firms are highly valued than the shares they hold. But we don't observe either phenomenon. Merges undertake, just to spread risk and don't increase the stock price and investment companies are no more highly valued the stock held.

The CAPM captures these ideas in a simple way. That's why many financial managers find it the most convenient for reaching to the decision with the slippery motion of risk. And it is why economists often use the CAPM to demonstrate important idea in finance even when there are otherwise to prove these ideas. But this doesn't mean that CAPM is ultimate truth.

2.4 The Range

"The range (maximum return – minimum return) is known as one of the traditional way of measuring risk. It simply shows the difference between the best possible return and the worst possible return but does not provide information about the distribution of the rates of return between the extremes" (Cheney and Moses; 1992:4). The range is one of the traditional methods of measuring risk, which simply communicates the difference between the best possible returns and the worst possible return; it does not provide information about distribution of the rates of return between the extremes.

The Range = Best possible Rates of return-worst possible rate of return.

The degree of risk of an underlying security is reflected in the magnitude of the differences. The smaller the difference the lower will be degree of risk (Pokharel; 2004:11).

Another measure risk is the range of return. It is assumed that a larger range of expected returns, from the lowest to the highest return, means greater uncertainty and risk regarding future expected returns (Relly and Brown; 2004: 211).

2.5 Measurement of Risk and Return

2.5.1 Standard Deviation (SD)

Standard deviation measures the risk as variability of return. "Standard deviation is a statistical measure of the total risk. Smaller the variance, lower the risky of the stock and vice-versa. The risk or standard deviation is denoted by the symbol sigma (s). The square root of the variance of the rate of return is called the standard deviation (s) of the rate of return" (Thapa, Bhattarai and Basnet; 2006: 121-122).

Standard Deviation:

$$\dagger_R = \sqrt{\left[E\left(R^2\right) - E(R)\right]^2}$$

Where,

$\dagger_R$ = Sigma, Standard deviation for the return

$E(R^2) = R_i^2 \times P_i$

The coefficient of variation (CV) defines the risk associated with each dollar of expected return in term of the ratio of standard deviation of returns to the expected return.

CV is another way of expressing risk. The Standard deviation cannot be sufficient to compare two or more projects of different size with different expected value. To overcome this problem it is necessary to express the magnitude of variability on relative term in common unit for which the C.V. is widely used. Thus CV is quite appropriate to use it in many areas. C.V. is a measure of risk per unit of expected return. It is calculated by dividing the S.D. of return by the expected return as follows:

$$\text{Coefficient of variation (CV)} = \frac{\sigma_R}{E(R)}$$

The most common statistical indicator of an assets risk is the S.D., which measures dispersion around the expected value of return, which is calculated as follows:

$$\sigma_R = \sqrt{\sum [R_i - E(R)]^2 \times P_{ri}}$$

Where,

σ_R = Standard deviation of returns.

R_i = return for the ith outcome

P_{ri} = probability of occurrence of the ith outcome

$E(R)$ = Expected value of return

The formal i.e., commonly used to find the S.D. of return, situation in which all outcomes are known to and their probabilities are assumed equal is as follows:

$$\sigma_R = \frac{\sqrt{\sum [R_i - E(R)]^2}}{n-1}$$

CV is the measure of relative dispersion that is useful in comparing the risk of assets with differing expected returns. It can be presented as follows:

$$CV = \frac{\sigma_R}{E(R)}$$

At last the writer describes, higher the value of CV, the greater the risk and higher the value of S.D., greater the risk involved in the asset.

"Every investment involves uncertainty that makes future investment returns risky. The source of uncertainty that contribute to investment risk are interest rate risk, purchasing power risk, default risk, liquidity risk, callable risk, convertibility risk, political risk, industry risk etc. The uncertainties discussed above are the major sources of investment risk, but by means do they would add up to risk or total variability of return (Francis, 1992, P(3-9).

2.5.2 Coefficient of Variation (CV)

Standard deviation is obsolete measure of return whereas coefficient of variation is relative measure of return. Risk is measured by standard deviation. And risk per unit expected return is measured by coefficient of variation is denoted by CV. Greater the CV the greater relative risk of the investment. Coefficient of variation is calculated to compare the variability in returns of two alternative investments. Hence, it is useful to compare the investments having different expected return and different level of risk (Horne and Wachowicz; 2001:94).

2.5.3 Beta coefficient

This is a mathematical value that measures the risk of one asset in term of its effect on the risk of group of assets called portfolio. It is concerned solely with market related risk as would be the concern for the investor holding stocks and bonds. It is derived mathematically so that a high beta indicates a high level of risk and low beta represents a low level of risk (Weston & Brigham; 1982:192).

2.6 Sources of Risk

An investment is commitment of money that is expected to generate addition money. Every investment entails some degree of risks. A major objective of financial institution is to increase the returns for its owner by taking minimum risk. The effective management of the risk is central to its performance. Indeed, it can be argued that the main business function of financial institution is managing these risks through the consumption of maximum time and efforts in understanding and managing the various

sources and kinds of risks factors with its different natures and complexities. The primary risks factors that create investment uncertainties are as follows:

Interest Rate Risk

Asset transformation function is the key functions of financial institution. It involves buying primary securities or assets and issuing secondary securities liabilities to fund assets purchase. The primary security purchased by financial institutions often has maturity and liquidity characteristics which are different from those of secondary security that financial institutions sell. In mismatching the maturities of assets and liabilities as part of their asset transformation function.

Financial institutions potentially expose themselves the interest rate risks. Suppose when interest rate increases and maturity period of assets is greater than the maturity period of liabilities. At that time, if interest rate increases it decreases the market value of assets in comparison of its liabilities. So, interest rate is defined as the potential variability of return caused potential variability of return caused by the changes in its market rate interest rate. Interest rate can be variable. If we consider the single period return formula for the bond and stock. In interest rate risk, if market interest rate raises the investment values and market prices falls and vice-versa. The variability of return results interest risk. The interest rate risk affects the prices of bonds, stocks, real estate, gold and other derivatives securities (Bhattarai; 2008:107).

Bull-Bear Market Risks

Market risk is risk incurred in the trading of assets and liabilities due to changes in market forces like interest rates, exchange rates. Furthermore, market risk is the risk related to uncertainty on the earning on its trading portfolios caused by changes in the market condition. Saunders and Cornett in 10 additions have outlined two comments on market risk. These are as follows:

Comment 1: Market risk is value at risk (VAR) which is related to uncertainty.

Comment 2: Market risk is caused due to four major market forces. These are price of assets, interest rate, market volatility, market liquidity.

Market risk can be also cleared in Bull-Bear approach. This approach advocates that risk can rise from the alternating bull and bear market forces. Bull market creates when

32

security index arises fairly and consisting from also point called through for a period of time, the bull market ends when the market index reaches a peak and starts downward trend. The period during which the market decline to the next through is called a bear risk (Bhattarai; 2008:108).

Credit Risk

It is also called default risk. Default risk is probability that the borrower is unable to fulfill the term promised under the loan agreement. Saunders and Cornett have outlined three principles as follows:

Principle 1 : It is the risk losing principal and interest amount.

Principle 2 : When financial institution makes loans or buys securities with longer maturities. There is change of higher credit risk where principle plus interest earned not recover adequate in full amount.

Principle 3: Credit risk can be firm specific and systematic risk (Bhattarai; 2008:108).

Liquidity Risk

Liquidity risk is sudden surges in liability withdrawal may leave a financial institution in a position of having to liquidate assets in a very short period of time and at low prices. Liquidity risk arises when on its liability holders such a depositor or insurance policy maker etc. demand immediate cash for the financial claim they hold with financial institution or when holder of loan commitment or credit line suddenly exercise their right to borrow or draw down their right on their loan commitments. At that situation the financial institutions must either borrow additional funds or sells assets to meet the demands for the withdrawal of funds. In most cases financial institution has to face the liquidity crisis at the time when liability holder demands higher cash consequently. In other sense, liquidity risk is that position of an assets total variability of return which results from the prices discount given on sales. Commission paid in order to sale out delay. Perfectly liquid assets are highly marketable either price discounts must be given or these cost must be incurred by seller, in order to find a new investor for an assets is the larger the prices discount and/or commission which must be given up by the seller in order to affect a quick sale (Bhattarai; 2008:107).

Coallalibity Risk

Some bonds and preferred stock are issued with a provision that allows the issuer to call them in for repurchase. Issuer like the call provision because it allows them to buy back outstanding preferred stock and/on bond with funds from a newer issue if market interest rate drop below the level being paid on the outstanding securities. There is chance of creating callability risk. That portion of a securities total variability of returns which derives from the possibility that the issue may be called the callability risk. Callability risk commands a risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue will be called increase (Bhattarai; 2008:108).

Convertibility Risk

Call ability risk and convertibility risks are in two aspects. First both are contractual stipulations that included in the term of original security issue. Second, both of these provisions alter the variability of return from the affected security. Convertibility risk is that portion of the variability of return from a convertible bond of convertible preferred stocks. That reflects the possibility that the investment may be converted into issuers common stock at a time or under terms harmful to the investors best interest (Bhattarai; 2008:108).

Industrial Risk

An industry may be viewed as a group of companies that compete with each other to market homogenous products. Industry risk is that portion of risk that can be an investment variability of return caused by events that effects the product and firms that make up of an industry. The stage of industry cycle, international tariffs and/of quotas on the product produced by an industry related taxes, industry wide labor union problems, environmental restriction, raw materials acts and affect all the firms in the industry simultaneously. As a result of these commonalities, the prices of the securities issued by competing firms tend to rise and fall together (Bhattarai; 2008: 108).

Political Risk

Political risk arises from the exploitation of a politically weak group for the benefits of politically strong group, with the efforts of various groups to improve their relative

positions increasing the variability return from the affected assets. Regardless of whether the changes that cause political or by economic interests, the resulting variability of return is called political risk if it is accomplished through legislative judicial or administrative branches of government. Political risk can be classified as international political risk and domestic political risk (Bhattarai; 2008: 109).

Other Risks

Besides these above mentioned risks, there are other risks like off balance sheet risk, technological and operational risk, country and sovereign risk, insolvency risk etc (Bhattarai; 2008: 109).

2.7 Portfolio Management

Portfolio management means investing money in a number of securities and also of different types rather than one and changing over the mix as per the economic environment so that the investor can get the maximum return with the minimum investment also playing with the least. Portfolio management refers to the selection of securities and their continuous shifting in the portfolio to optimize return to suit the objectives of an investor. The idea in catching on with the boom in the capital market and an increasing number of people are inclined to make profit out of their and earned savings.

"A portfolio is collection of investment securities. Portfolio theory deals with the selection of optimal portfolios, i.e. portfolios that provides the highest possible return or the lowest possible risk for any specified rate of return" (Western & Copland; 1992: 302).

"Portfolio Management is the art of handling a pool of funds so that it not only preserves its original worth but also overtime appreciates in value and yields an adequate return consistent with the level of risk assumed" (Cohen, Zinbarg & Zeinkal; 1997: 591).

One of the safest ways an investment portfolio generates money is through fixed income investments. These are usually in the form of bonds issued by corporations or governments or from dividends paid to shareholders by a corporation. Issues effecting fixed income are the credit to shareholders by a corporation. Issues effecting fixed income are the credit worthiness, or default risk, of the issuer, and the yield earned by the bondholder. Safer lenders, such as those of governments or blue-chip companies,

typically pay a lower yield at times, so low governments or blue chip companies, typically pay a lower yield at times, so low that the real return after inflation is at or below zero. On the other hand, a company or government that goes bankrupt will be unable to pay its high dividends or service its debt. Yields between 3% and 7% are generally considered safe. When an investor sells something for more than they paid for it, they are said have to realized a capital gain. This sort of buying low and selling high is, of course, the goal of most investors. To do this successfully, however, requires patience, discipline and a deep knowledge of macroeconomic trends. In an environment when an economy is growing, most assets will tend to rise in value, making capital gains relatively easy to come by. Asset allocation is much more difficult and crucial in a period of stagnant or contracting growth. During these times, investors will have to monitor capital flows to know which assets can maintain their value or appreciate while others decline. Capital gains can be realized over a very long period of time, which is recommended for most novice investors, or over a very short period of time, as little as a few minutes or hours for risk-taking day traders.

To reduce the risk of asset allocation within a portfolio, managers diversity their holdings. This means they invest partially in fixed income while pursuing capital gains across the risk spectrum with other investments. If done correctly, diversification will vastly reduce risk while preserving growth potential. One asset class that got increased attention from portfolio managers recently was commodities. Traditionally, commodities were only traded on futures exchanges in contracts for delivery, which made them inconvenient for traditional portfolio investment. The proliferation of exchange-traded funds and exchange-traded notes backed by commodities futures, at a time when commodities in general were appreciating rapidly, led many managers to make commodities a permanent asset class in their portfolios. The objectives of portfolio management are:

Primary Objectives

- To maximize return
- To minimize risk

Secondary Objectives

- Regular return
- Safety or security of an investment

36

2.8 Review of Previous studies

Although, there are very less articles published about the risk and return analysis of Nepalese commercial banks, some of the related articles published in national and international newspapers and journals are extracted below.

"The performance of hedge funds: risk and return and incentive" Ravenscraft, (1999) in journal of finance have examined that Hedge funds may be enhancing returns by taking on extra risk. Many hedge funds use tools designed to reduce systematic rather than total risk. Though this is obviously true for short sellers and market neutral funds techniques such as short sales are employed by most hedge funds. In this study, the average total risk is higher for hedge funds. Thus, some of the characteristics that enhance hedge fund performance may not be appropriate for mutual funds that attract undiversified, risk averse clients.

The hedge fund conclude that the flexible investment options employed by budge funds make it difficult to classify hedge funds identity the correct benchmarks and thus measure of total risk may not fully capture the complex risk taking from hedge funds dynamic highly levered strategies monthly incentive fees, therefore contain an unknown reporting bias that may be as important as depreciation and transfer pricing issues in accounting profits.

Shrestha, S.R. (2055:67) Deputy Chief Officer of Nepal Rastra Bank, Banking operation department, 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 following aspects:

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

- In view of above aspects, following strategies are adopted.
- Do not hold any single security i.e. try to have a portfolio of different securities.
- Do not put all the eggs in one basket i.e. have a diversified investment (making investment in different sectors)
- Choose such a portfolio of securities, which ensures maximum return with minimum risk or lower of return but with added objectives of maximization.

A mining research conducted on "Financial Performance and Common Stock Pricing" by Khagendra Prasad Ojha in the year 2000 is also relevant to the present study. He carried out his study on the 18 firms with five years data from the fiscal year 1994/95 to 1998/99. In his study firstly he focused on the connection between the financial performance and common stock price and secondly he explored non-financial factor know as signaling effects he says that investment in common stock neither ensures annual return nor ensures return of the principal. Investment on common stock is very sensitive on the grounds of risk. Dividend to common stockholders is paid only if the firm makes an operating profit after tax and performance dividend.

The study focused on the financial performance where financial activities involve decision regarding:

- Forecasting and planning of financial requirement.
- Investment decision
- Financial decision

In the year 1999, K Great Rouwenhourst in his article 'Local Return Factors and Turnover in Emerging Stock Markets' concluded that the return factors in the emerging market are qualitatively similar to these in development markets. There is no evidence that local market beats are associated with average returns. The low correlation between country return factors suggests that the premiums have strong local characters. There is little evidence that the correlation between the local factor portfolios have increased which suggests that factors responsible for increase of emerging market country relation can separate these markets. A Bayesian analysis of premiums in developed and emerging market sows that, unless one has stronger prior beliefs to the country, the empirical evidence favors the hypothesis that size, momentum and value strategies can compensate the relationships between expected return and turnover and examines the turnover

characteristics of the local return factor portfolio. There is no evidence of a relation between expected return and turnover in emerging market.

Study carried out by Professor Dr. Manohar Krishna Shresta in 1992 in the title of "Shareholders Democracy and Annual General Meeting (AGM) Feedback". Where, Mr. Shrestha has critically analyzed the situation of common stock investors and the situation that is not improving till date. Mr. Shrestha's study has been divided into two parts. The first part includes view on the rights of the shareholders regarding how they exercise them in democratic perspective and second part consists of feedback and the issues raised by shareholders at different annual general meeting of Public Companies and financial institutions.

"In many cases the existing authoritarian mentally of management seems to have not considered the shareholders in deciding the managerial plans and policies. Top level decision often by passes the interest of shareholders. As the management lacks the serious concern about the protection of shareholder's rights and expectations. The annual general meting has become a platform for shareholders to express opinion and grievance in front of the management and board of directors. Many general meetings feedback reveal no serious response to the feelings of shareholders. It reflects unwillingness of the management and board of directors. Many general meetings feedback reveal no serious response to the feelings of shareholders. It reflects unwillingness of the management and board of directors to change their traditionally held activities towards shareholders" (Shrestha, 2002, P-12).

Dr. Shrestha has expressed his deep concern to the government for not taking any initiative in formulating separate act to protect the right of shareholders, although the size of shareholders population in Nepal has been growing constantly and he has questioned the need of separate act regarding the protection of shareholders right.

An article "The Theoretical Relationship between systemic risk and financial variable", by Robert G. Bowman in 2005. The purpose of this study was to examine the relationship between risk and financial variable. Systemic risk of livered firm is equal to the systemic risk of the same firm without leverage. There is no direct relationship earning variability and market risk. Systemic risk is directly related to the accounting beta. There is no theoretical basis for relationship of dividend pay out the beta. There is not only theoretical

relationship between dividend and systematic risk but also size and growth of the firm and systematic risk.

Another article published in the business age magazine of June 2005 entitled "Nepal Share Market an Investors Prospect" by Atma Ram Ghimire also proves quite helpful to this study.

He has mentioned in his article many unbalanced factors like political instability etc. are the main cause of decreasing share price. According to him current share price are on the declining process. The fluctuation in NEPSE is due to banking sector whose price change has no logical explanation. Price change was due to avaibility or unavaibility of bonus, dividend etc. The general public's are also reckless in their investment and booker organization is also unqualified and is a one-man show. In addition to this board always favors companies and not the investors.

2.9 Review of Thesis

Review of thesis is a section of review of literature where various thesis are reviewed which are related to its topic and which may be helpful for this study. In this section some previous thesis are reviewed which are some extent related to the topic risk and return and the objective is to know how the relation between risk and return is described and measured by different thesis.

Pradhan, R.S. (1993) carried out study on "Stock market behavior on small capital market" a case study. The study was based on date collection for seventeen enterprises from 1983 through 1990. One of the major objectives which are related to this study was too access the stock market behavior in Nepal. Summary:

- Dividend per share and MPS was positively correlated.

- Higher the earning on study the ratio of dividend per share to MPS.

In the study of Shrestha, (1999) "Portfolio Management in Commercial Banks: Theory and Practice" revealed the portfolio management becomes very import both for individual as well as institutional investors. Shrestha stated that the investors try to hold a well diversified portfolio that helps to achieve those benefits. Investors want to increase their return by making investment in different sectors with certainty.

However, Shrestha presented approaches to find out the risk of securities depending upon the attitude of investor toward risk, to develop alternative investment strategies for selecting a better portfolio, which will ensure a tradeoff between risk and return so as to attach the primary objective of wealth maximization at lowest risk and finally to identify securities for investment to refuse volatility of return and risk. He further stated that the commercial banks need competent manpower for continuous research and analysis and proper management information system to get success in portfolio management and customers confidence regarding the portfolio management in Nepalese joint venture banks.

Study conducted by Jeet Bahadur Sapkota (2007) in his thesis entitled, "Risk and Return Analysis in Common Stock Investment" is quite relevant to this study. He has included 8 commercial banks in his study. The main objective of the study is to analyze the risk and return of the common stocks of commercial banks and to calculate their portfolio. He has focused his thesis on the problem of improper knowledge amongst the investor about the opportunities present. His thesis concludes that, banking industry is the biggest one in terms of market capitalization and turnover. According to him both Government and the investors need to change their attitude towards the stock market. From his analysis, the portfolio approach of investment is better to win stock market investment.

Thus study "Risk and Return Analysis of Common Stock Investment (with special reference to insurance companies)" conducted by Pramina Pandey and submitted to FOM, TU in 2001 is somehow related with this study. She has tried to analyze the listed insurance companies by using statistical tools through available data. One of the major objectives that are concerned with this study is to analyze the risk and return and other relevant variable that helps in making decisions about stocks and investment in insurance companies.

She concluded that "Nepal is backward in the sense of economically. Its economic performance is not satisfactory. Generally public are least understood about the stock market and lack of adequate source of information are the main constraints for the development of stock market in Nepal. In her findings, on the basis of "Market Capitalization", size of Nepal Insurance Co. (NIC) is the biggest one. Expected return on the common stock of National Life and General Insurance Co. Ltd. (NLGICL) is maximum (i.e.65.39%), this high rate of return is due to unrealistic annual return in 2050/51. Expected return on the common stock of Himalaya General Insurance Co. Ltd.

(HGICL) and Everest Insurance Co. Ltd. (EICL) is lowest with negative value. In overall industrial sector expected return of finance and insurance sector is highest. Overall market expected return is over 50%. NLGICL expected return is highest whose ultimate risk is also to be the highest and EICL's risk and return is the lowest one. Some examples of portfolio are given in her study, which shows diversification between common stock of Premier Insurance Co. Ltd. (PICL) and United Insurance Co. (Nepal) Ltd. (UICL) is not beneficial because of its high correlation, and common stock of National Life and General Insurance Co. Ltd. (NLGICL) and NGB is also not good for diversification, as their proportion of weight minimizing risk is more than 100%. Selection of securities of common stock of NIC and NBL can reduce risk to some extent. She has addressed that by investing 66% on stock of NIC and 34% on stock of NBI can reduce risk.

On the basis of findings Mrs. Pandey concluded, NIC can be taken as best of investment as per minimum coefficient of variation and its return is also quite high i.e. more than 50%. In other hand, common stock of NLGICL is best one of investment because it has highest expected return i.e.65.39% than others. NIC is the best as per minimum CV and NLGICL is best as per higher expected return.

Lastly she recommend the following points to improve the investment in stock market than involves tradeoff between risk and return.

➢ Investment should be done with clear objective before investing.
➢ To make an investment strategy with balance between risk and return.
➢ The proper selection of portfolio approach is a better way to get success in stock market.
➢ To win the stock market, investors should always aware of changing market conditions.
➢ Establish an information channel to flow the information publically and Develop institutions to analyze the information by the companies for general investment.

Another study was conducted by Pankaj Kumar Jha in 2002 on the topic Risk and Return Analysis in Common Stock Investment. The major objective of the study was to describe the risk and return and other relevant variables that effect the investment of common stock. The study undertakes six listed insurance companies and has analyzed their data from fiscal year 1998 to 2001. The major findings of the study were as follows:

- The average expected return from insurance companies was 42.10. All the selected insurance companies have positive expected return, which ranges from 36.12 to 50.74.

- The total risk of insurance companies' ranges between 7.98 to 58.22. The average total risk of Insurance companies was 31.88; half of the companies were above the average and half of them were below the average risk.

- The portion of systematic risk of total risk is very high in insurance companies, which covers 86% of total risk. The unsystematic risk portion is very lower (i.e.14%) of total risk. It shows that insurance companies have reduced their unsystematic risk portion up to minimum level, but the higher portion of undiversifiable risk, which is beyond the control of management, is considerable.

A study carried out by Pramila Tuladhar in the year 2002 entitled "A Study on Risk and Return Analysis of Common Stock" is also relevant to this study. The main objective of her study is to analyze risk and return of the common stock and their portfolio as well as to access the past and present state of investment of common stock. She has included 11 companies from different sector in her study. She has found out that return of Bangladesh bank is highest where as that for Bisal Bazar Company (BBC) is lowest. Return is high in the beginning years but is declining in recent years. Nepal Lever Limited is most risky and BBC is least risky. Nepal Bangladesh Bank is best for investment as it has low CV where as Yak and Yeti Hotel Limited highest CV. The ranking selected companies the expected return of bank sector is highest and trading sector is lowest.

A thesis entitled "Analysis of Risk and Return on Common Stock Investment of Insurance Companies" was undertaken by Neelam Thapa and submitted to FOM, TU in 2003. The relevant objective of the study was to analyze risk and return and other relevant variables that help in making decisions and to identify the constructive portfolio of insurance company with that of Nepal Lever Limited or between two insurance companies.

The study is based on secondary data of five insurance companies covering five years data commencing from F/Y 2053/54 B.S. The major findings of the study were as: Because of the higher expected return associated with the common stock, Nepalese investors are attracted towards it.

The standard deviation, which measure the risk of an asset shows that most of the companies are risky. As higher risk must be associated with higher return, it is so only in the case of Everest Insurance Company and Himalayan General Insurance Company where as United Insurance Company and Premier Insurance Company is providing higher return at lower risk. Expected return of the Common Stock of NIC is least.

The beta coefficient, which is the measure of systematic risk reveals that Nepal Insurance Company has highest beta and Premier Insurance Company has least beta.

Comparisons between the Required Rate of Return (RRR) and Expected Rate of Return (ERR) the stock price of PICL, HGICL, EICL and UICL were under priced where as the stock of NIC is over-priced among the selected companies.

Mr. Durga Mani Sharma has undertaken a study entitled "Portfolio Management of Listed Commercial Banks and Insurance Companies in Nepal" in 2004 and submitted to Shankar Dev Campus, Tribhuwan University for the partial fulfillment of the Master's Degree. The relevant objectives of his study were to analyze the return and risk of the common stocks of listed commercial banks and insurance companies; to analyze the diversifiable and undiversifiable risk; and to determine whether the shares of commercial banks and insurance companies are correctly priced or not.

The study was based on five years historical data from F/Y 1998 to F/Y 2002. He had analyzed the secondary data using financial as well as statistical tools. Moreover, Mr. Sharma had analyzed the current status of portfolio management adopted by those companies using primary data.

Major findings of the study were:

➢ Considering the return and risk characteristics of the common stock of all the selected insurance companies, the common stock of EICL, was more attractive than others.
➢ The returns on common stocks of all insurance companies in F/Y 1999/2000 were highest among sampled years.
➢ The risk per unit of return was very high which proved that the market was more risky than the common stocks of insurance companies moved in the same direction means they had positive correlation.
➢ Most of the stocks seemed to be defensive and only few aggressive.

- The unsystematic risk of the stocks of all the companies was high in comparison total risk. It seemed that the variability of returns of the common stocks of most of the companies was company specific risk and could be diversified away with well-diversified portfolio.
- The stocks of the insurance companies were under priced since their required rates of return were less than their average rates of returns.

Study conducted by Mr. Sakar Tamot has been reviewed. Mr. Tamot has undertaken a study entitled "Risk and Return Analysis of Common Stock Investment of listed Insurance Companies in Nepal" in 2005. The general objective of this study is to analyze risk and return consisting of different listed companies in NEPSE and suggest for potential investors. The study taken 7 listed insurance companies and analyzed their data from F/Y 1997/98 to 2003/04; the major findings of the study were as follows:

- Considering the risk and return characteristics of common stock of all selected insurance companies, the common stock of Everest Insurance Company Ltd. was more effective.
- It was found that the return on common stock of all insurance companies in FY 1999/2000 were highest among the sampled years.
- The risk per unit of return was very high which proves that the market was more risky than the individual stock of insurance companies. Most of the stocks seem to be defensive and only few were aggressive.
- The unsystematic risks of all the companies were high in comparison to total risk. It seems that the variability of returns of the common stock of most of the companies were company specific and can be diversified with a well diversification.
- The stocks of insurance companies were least correlation with market and less beta coefficient indicating less volatility.
- The stocks of insurance companies were underpriced, since their required rate of returns were less than their average rate of return.

On the basis of the major findings, the researcher (Mr. Tamot) recommended that the stocks of insurance companies were found to be underpriced in the market since they were offering higher return than expected. Hence it was the time to purchase the stocks when they were underpriced in the market.

Lastly Mr. Dhurba Raj Neupane has undertaken a study entitled "Risk and Return Analysis on Common Stocks of Joint Venture Commercial Banks in Nepal" in 2008 and submitted to Bhairahawa Mutliple Campus, Tribhuwan University for the partial fulfillment of the Master's degree. The relevant objectives of his study were to analyze the risk and return of the common stocks of joint venture commercial banks.

The study was based on six years historical data from F/Y 2000/01 to F/Y 2005/06. He has analyzed the secondary data using financial as well as statistical tools.

Major findings of the study were as follows:

➢ NSBIBL have the highest Expected return and Standard deviation and Coefficient of Variance. Thus it has the most risky assets.

➢ Coefficient of determination is proportion of systematic risk to the total risk. NABIL and HBL has the highest Coefficient of determination which indicates that the total risk of them has consist with systematic risk which cannot be eliminated.

➢ The beta coefficient, which is the measure of systematic risk, reveals that NABIL, NSBIBL and EBL has highest beta. So those were aggressive types of assets. Similarly, HBL, SCBNL and NBBL has defensive type of assets with beta less than one.

➢ Comparisons between the required rate of return and expected rate of return the stock price of CBNL, NABIL, NSBIBL and EBL were underpriced where as the stock of HBL and NBBL were over-priced among the sampled banks. Thus he has shown that the stocks of joint venture banks are not equilibrium on the CAPM.

➢ Mr. Neupane has further included that the correlation coefficient of deficient bank to the market (NEPSE) indicated that they are dependent to each other. Risk cannot be eliminated by perfectly positive correlated stock. 80% of the sample banks was having perfectly positive correlation with market which reveals that the diversification cannot eliminate the risk.

Above books, Journals and independent studies by different authors are presented here in this chapter, knowledge relating to the topic "Risk and Return" has been achieved and those studies provides crucial cues for the research purpose.

2.10 Research Gap

Although some previous MBS students have conducted their thesis focused on the Risk and Return on common stock of listed insurance companies and investment banks. But now, this research is done to find out the condition of "Analysis of risk and return of insurance company in Nepal (A case study of Nepal Life Insurance Company)". Further researcher has conducted for research 5 Insurance Companies among 27 insurance companies and 3 commercial bank among 12 commercial banks. But in this research, the researcher has conducted for research only one life insurance company among 7 life insurance company, which is listed in NEPSE.

This thesis fulfils the gap by giving an idea about investing on common stock of Nepal Life Insurance Company. Further researcher analyzed only about portfolio,

This study gives expected risk and return, standard deviation, correlation co-efficient with mark risk, systematic and unsystematic risk and accurate, reliable conclusion than further research. It shows also the NLIC has regular dividend payer or not. This study takes 5 yeas fiscal year data from 2006/07 to 2011/12 which is not included by the previous researcher.

CHAPTER – III
RESEARCH METHODOLOGY

3.1 Introduction

Research may be defined as systematic and objective analysis and recording of controlled observation that may lead to the development of generalization principles or theories, resulting in prediction and possibly ultimate control of events. Research methodology is the submission of methods, techniques and the ways of study and analysis of data for solving the research problem. This chapter refers to the overall research processes which a researcher conducts during his/her study. This process of investigation involves a series of well thought out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answer to the problems. It includes research design, analyzing and interpreting the data with the purpose of finding answer to the problems. It includes research design, sources of data, analytical tools and procedure of collection and analysis of data. This research is on the basis of historical data by using both financial and statistical tools; detail analysis of different variables is performed. Conclusions derived from the study are presented in simple way so as to make the study easily understandable.

3.2 Research Design

The research is based on the recent historical data, so simply it is a historical research. It covers the data from 2006/07 – 2011/12. It deals with the common stock of Life Insurance Companies on the basis of available information. For the analysis, the common stocks of the Nepal Life Insurance Company are taken into account.

3.3 Population and Samples

Currently there are seven (7) life insurance companies listed in NEPSE by the mid July 2012. These seven companies are the population for the study. Due to absence and heterogeneity in availability of data it is beyond the capacity of this study to include all the life insurance companies. Those companies whose financial information i.e. high price, low price, closing price dividend per share are available for at least 5 years are selected for the analysis.

S. No.	Name of the Life Insurance Companies
1	Life Insurance Company Nepal Ltd.
2	Nepal Life Insurance Company Ltd.
3	National Life Insurance Company Ltd.
4	Gurash Life Insurance Company Ltd.
5	National Life and General Insurance Co. Ltd.
6	Premium Life Insurance Company Ltd.
7	United Life Insurance Company Ltd.

3.4 Sources of Data

The data required for the research is collected from the secondary sources. Those sources are as follows:

- Data related to the market price of stocks, market capitalization, movement of NEPSE index etc, is taken from the trading report published by NEPSE and the website of Nepal Stock exchange (i.e. www.nepalstock.com)

- NEPSE periodicals, journals, articles and previous research report etc, has also been considered.

3.5 Data Analysis Tools

To achieve the objective of the research, this study has used various financial and statistical tools to analyze the collected data that are necessary to find out the results. And those tools are as follows.

3.5.1 Financial Tools

3.5.1.a Market Price of Stock (P)

Market Price of stock is one of the major data of this study. There are three prices i.e. high price, low price and closing price of each years is available. Therefore two approaches either average price (i.e. average of high and low price) or closing price can be used. If average price is used, the result may be very close to reality as it represents the price of the whole year. To get the real average, volume and price of each transaction in

the stock and duration of time of each transaction in the whole year are essential. But it is very difficult to obtain and include all there information for this study. Due to such difficulties, the closing price of the stock is used as market price of the stock.

3.5.1.b Dividend (D)

Dividend is always based on the company's dividend policies, when company declares the cash dividend there is no problem 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 number of shares as dividend and simultaneously price of the stock declines as a result of the reared number of stock. To get a real amount of dividend there are no other model (formula) to the models have been developed considering practical as well as theoretical aspect.

The model :

(a) In case of stock dividend:
Total Dividend = Cash Dividend + Stock Divided % × Paid up value of share

(b) In case of "Right Issued" at par
Total Dividend = Cash Dividend + Right Issued % × Paid up value of share

3.5.1.c Return on Common Stock (Rj)

The stock return is usually expressed as a percent of the beginning price of the investment. It is the income received on investment plus any change in market price. Yearly returns on stock also known as holding period return, single period return which is received by the investors after a period (year). As we know that single period return includes capital gain and total dividend. It is calculated by adding the change in the market price i.e. capital gain with total dividend and then dividing by market price of previous year, symbolically.

$$R_j = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$$

Where

R_j = Annualize rate of return on stock j.

P_t = Price of stock at time t

P_{t-1} = Price of stock at time (t-1)

D_t = Cash dividend received at time t

3.5.1.d Expected Rate of Return on Common Stock E (Rj)

This study also requires finding out

The return that as investor expects from his investment is the forthcoming future is called expected rate of return.

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

Where

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

R_j = Return on stock J

N = number of years of return taken

$\sum$ = is the summation sign

3.5.1.e Return on Market

NEPSE index is the market index of Nepal Stock Exchange. Securities market indices have been constructed to give a quick answer about market. It is the percentage increase in NEPSE index. Market return is the average return of the market as a whole. It is calculated as:

$$R_m = \frac{NI - NI_{t-1}}{NI_{t-1}}$$

Where

R_m = Return on Market

NI_t = NEPSE index at time t

NI_{t-1} = NEPSE index at time (t-1)

51

3.5.1.f Expected Return on Market $E(R_m)$

Expected return on market is the future return expected by the market, which is calculated by dividing the sum of yearly return on market of past years divided by number of samples. The expected return on market is calculated as:

$$E(R_m) = \frac{\sum R_m}{n}$$

Where,

       $E(R_m)$ = Expected return on market

       R_m = Market return

       n= Number of samples period

       Σ = is the summation sign

3.5.1.g Standard Deviation (σ_j)

It is a statistical measure of the tightness or variability of set outcomes. The symbol is called (σ_j) sigma. It is the measure of total risk on stock investment. Standard deviation can be calculated using the following formula.

If data given as time series

$$\sigma_j = \sqrt{\frac{\sum[R_j - E(R_j)]^2}{n-1}}$$

If data is probability distribution

$$\sigma_j = \sqrt{\sum[R_j - E(R_j)]^2 \times P}$$

Where

       σ_j = Standard Deviation of return on stock j during the time period n

       P = Probability distribution of the observation

       R_j= Single period rate of return on stock j

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

n= Number of years that the returns are taken.

3.5.1 h Coefficient of Variation (C.V.)

It is the standardized measure of the risk per unit of return, calculated as the standard deviation divided by the expected return. It gives the result regarding the unit of risk to bear for earning 1 unit of return. It provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same. The higher coefficient of variation, higher the risk. It is calculated as.

$$C.V. = \frac{\dagger_j}{E(R_j)}$$

Where,

C.V. = Coefficient of variation of stock j.

$\dagger_j$ = Standard deviation on return on stock j.

$E(R_j)$ = Expected return on stock j.

3.5.1.i. Beta Coefficient ( )

The measure of a stock's sensitivity to market fluctuation is called its Beta coefficient. It is a systematic risk which cannot be eliminated by the means of desertification. Higher the beta, greater the sensitivity and reaction to the market improvement. Beat coefficient of a particular stock will be less than, equal to or more than 1, but the beta for market is always 1. Beta is a key element of the CAPM.

$$\text{s}_j = \frac{Cov(R_j R_m)}{\dagger_m^2}$$

Where,

s_j = Beta coefficient of Stock j

$Cov(R_j R_m)$ = Covariance between return on stock j and return on market

$\dagger_m^2$ = Variance of market return

3.5.1.j Correlation coefficient, $\left(\rho_{ij}\right)$

Two variables are said to have correlation when they are so related that the change in the value of one variable is accomplished by the change in the value of another variable. The measure of the degree of relationship between two variables is called correlation co-efficient. It is relative measure of degree to which the return on two assets moves together. The correlation coefficient can take on a range values between +1.0 and -1.0. If return on two securities is negatively correlated which combined in portfolio reduces the risk. Again if securities are positively correlated risk cannot be reduced. It can be calculated as.

$$\rho_{ij} = \frac{Cov_{ij}}{\sigma_i \sigma_j}$$

Where,

ρ_{ij} = Correlation coefficient for securities i and j.

Cov_{ij} = Covariance between securities i and j.

$\sigma_i \sigma_j$ = Standard deviation of returns for securities i and j.

3.5.1.k Systematic Risk and Unsystematic Risk

Systematic risk refers to that portion of total variability in return caused by factor affecting the price of all securities. Systematic risk is external to an industry and of business and is attributed to broad forces out of the business. Unlike unsystematic risk it is the risk that can be diversified away. Due to this character of this risk, it is said to be irrelevant risk to be concerned.

We can sort out systematic risk out of total risk using tools below:

Total Risk = Systematic + unsystematic risk

i.e. $\sigma^2 = \beta_i^2 \sigma_m^2 = e^2$

$$\text{Portion of systematic risk} = \frac{Systematic\ Risk}{Total\ Risk} = \frac{\beta_j^2 \sigma_m^2}{\sigma_j^2}$$

54

Where,

σ_j^2 = variance of stock j.

β_j^2 = Square of beta of stock j.

σ_m^2 = variance of market

Portion of unsystematic risk will simply be

(1 – Portion of Systematic risk) or $\left[1 - \dfrac{\beta_j^2 \sigma_m^2}{\sigma_j^2} \right]$. This unsystematic risk portion of risk

can be eliminated by any knowledgeable investor by holding a large enough portfolios of securities.

CHAPTER – IV

DATA PRESENTATION AND ANALYSIS

This chapter includes analysis of data collected and their presentation with interpretation. The chapter is the main part of study. Here, effort has been made to analyze risk and return on common stock investment, which includes detail data of market price of share and dividend of Nepal Life Insurance Company, their interpretation and analysis. With reference to the various readings and literature review in the processing chapter effort is made to analyze the recent Nepalese market movement to the listed life insurance companies.

The analysis of data consists or organizing, tabulating and assessing financial and statistical result. The basic objective of the chapter is to analyze and elucidate the collected data following and conversation of unprocessed data to an understandable presentation. Thus, different table and diagram are used to make the result easily understandable.

4.1 Analysis of Nepal Life Insurance Company

As the study has taken a special reference to Nepal Life Company is analyzed here separately. Only seven (7) life insurance companies are listed in NEPSE. Among them the study has taken only one for sample Nepal Life Insurance Company over 5 years data. Company's common stock's risk and return are analyzed properly.

Market price and dividend per share of Nepal Life Insurance Company are show below, in the table 4.1.

Formula:

Total Dividend = cash dividend + % of Stock dividend × Pas up value of share

Table No.4.1 : Sample Company's Market Price per Share (MPS)

and Dividend per Share

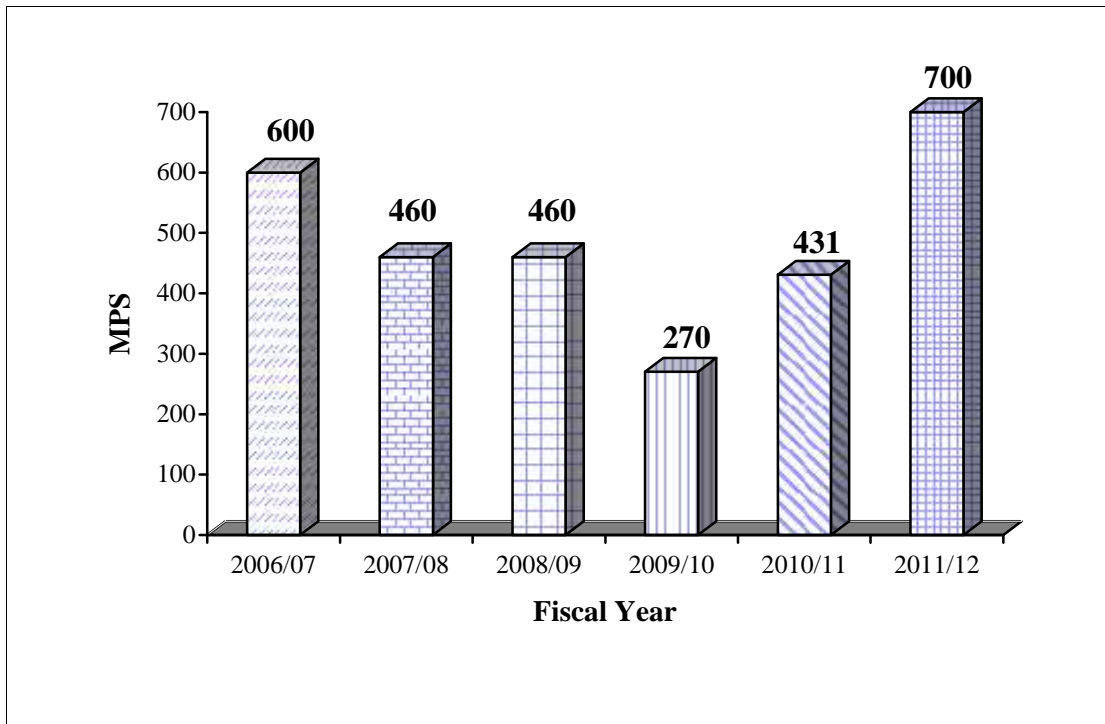| Company's Name	Fiscal Year		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Nepal Life Insurance Company	MPS	High (Rs.)	740	600	480	437	431	725
		Low (Rs.)	500	373	400	270	265	700
		Closing (Rs.)	600	460	460	270	431	700
	DPS	Total (Rs.)	20	30	0	100	0	0

Data Source: NEPSE Index Annual Report

4.1.1 Comparative Study of Market Price of Stock of Nepal Life Insurance Company Over 5 Years

Table No.4.2 : MPS of Sample Company

Company's Name	Fiscal Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Nepal Life Insurance Company	MPS	600	460	460	270	431	700

Diagram 4.1 : MPS of Sample Company's at FY 2005/06 to 2010/11

Data Source: Table No.4.2

The above table shows that the stock price of Nepal Life Insurance Company's fiscal year 2008/2009 has smallest figure of stock price comprising to other's fiscal years data. Stock price of NLIC has fluctuated every year. And it's highest price is in the Fiscal Year 2005/2006.
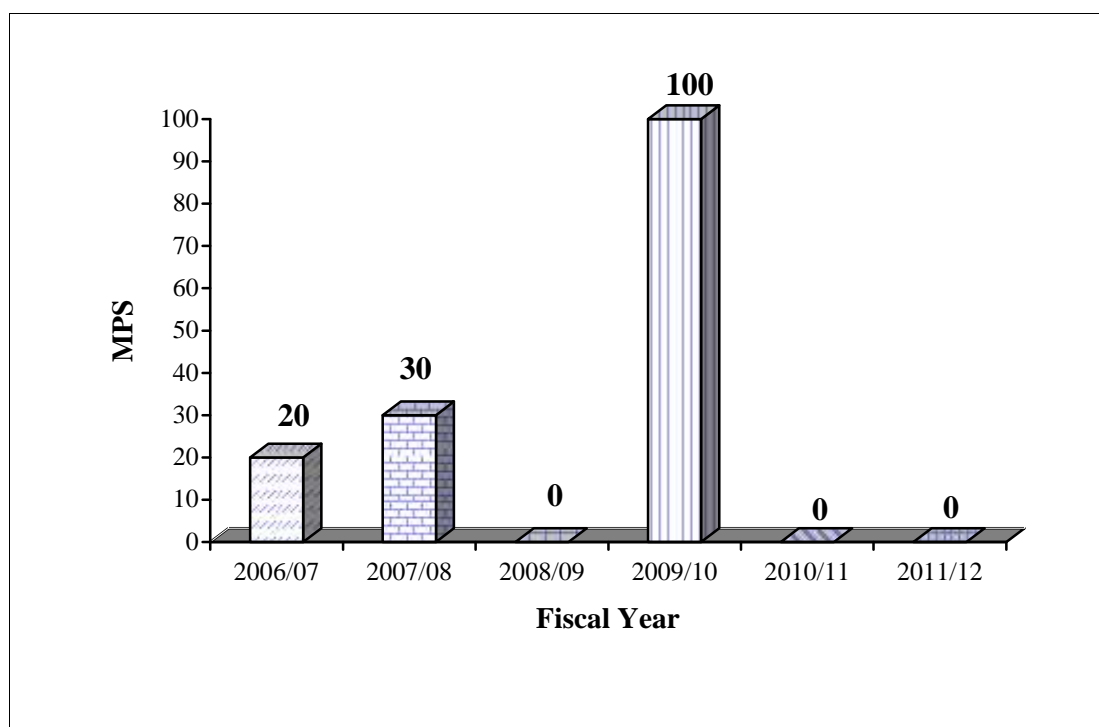
4.1.2 Comparative Study of Dividend Per Share of Sample Company for the purpose of Risk and Return Analysis

Table No.4.3 : DPS of Sample Company

Company's Name	Fiscal Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Nepal Life Insurance Company	DPS (Rs.)	20	30	0	100	0	0

Data Source: NEPSE Report

Diagram 4.2 : DPS of Sample Company's at FY 2005/06 to 2010/11

Data Source: Table No.4.3

The above table shows that NLIC is not a regular dividend payer. NLIC has not declared in FY 2007/08, 2009/10 and 2010/11. It's highest dividend pain in FY 2008/09.

Nepal Life Insurance, established under the Company Act 2053 and Insurance Act 2049 as a public limited company on 2058/01/21 (04/05/2001). Nepal Life Insurance is the foremost life insurance company established by private investors. The promoters of the company are a group of well known businessman 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 a authorized capital of Rs.100 Crore. Issued Capital Rs.50 Crore and Paid-up capital of Rs.37.5 Crore. As on Ashoj 2069 the company has insured 4,85,541 under conventional policies worn Rs.5329 Crore and 3,34,460 Foreign Expatriate policies worth Rs.16273 itself with well-known reinsurance company "Hannover Re Life Reinsurance Company", Germany for conventional policies and "SCOR Global Life", France for Term Assurance Foreign Expatriate policies.

To endeavor through the noble institution of Life Insurance in making every family economically safe and secure whereby every citizen of Nepal may contribute his might in building a healthy, prosperous, strong and Vibrant Nation. To cater to financial and social needs of every segment of society by designing differentiate and innovative insurance instruments. To provide after sales service to customers that can be hailed as the best.

Being in the business of selling life insurance products it is performing the same job as the other insurers dealing with "Life Insurance". However, Nepal Life Insurance Company has its own identity because of the mission and manner for which it is working. The company is working with a time bound strategy to fulfill its vision of spreading message of insurance to every home and to contribute substantially in making Nepal an economically healthy and vibrant nation. Apart from spreading the network of branches all over Nepal the company plans to make a quantum jump in number of agents and to provide them adequate training for providing knowledge and skill, so that the company can reach and depth in the market.

The company is focusing on providing qualitative services of International Standard. Our ambition is to provide across the counter services in all its operations. This ambition cannot be fulfilled without the help of information technology. The company has strong IT infrastructure. All branches of Nepal Life has been connected through wide area networking to provide better customers service.

4.2 Rate of Return, Expected Return, Standard Deviation, and Coefficient of Variation and Trend line of return of NLIC Ltd.

Rate of return (trend line) for each year are calculated on the basis of closing price of common stock and dividend amounts of respective year. Table 4.4 shows the calculation of year wise rate of return, expected rate of return, standard deviation and coefficient of variation of return.

Table No.4.4: Rate of Return, Expectation rate of return, S.D. and C.V. of Common Stock of NLIC

FY	Closing Price	Dividend (D)	$R = \dfrac{D_t + (P_t - P_{t-1})}{P_{t-1}}$	$[R - E(R)]$	$[R - E(R)]^2$
2006/07	600	20	-		
2007/08	460	30	-0.1833	-0.3516	0-1236
2008/09	460	0	0	-0.1683	0.0283
2009/10	270	100	-0.1957	-0.3640	0.1325
2010/11	431	0	0.5963	0.4280	0.1832
2011/12	700	0	0.6241	0.4558	0.2078
Total			0.8414		0.6754

Data Source: Table No.4.2 & 4.3

We have,

Expected Return, $E(R) = \dfrac{\sum R}{n} = \dfrac{0.8414}{5} = 0.1683$

Standard Deviation, $(\dagger) = \sqrt{\dfrac{\sum [R - E(R)]^2}{n-1}} = \sqrt{\dfrac{0.6754}{5-1}} = 0.4109$

Variance, $(\dagger^2) = (0.4109)^2 = 0.1688$

Coefficient of Variance, $(C.V.) = \dfrac{\dagger}{E(R)} = \dfrac{0.4109}{0.1683} = 2.4415$

Rate of return (Trend value) for each year are calculated on the basis of rate of return of common stock of NLIC respective year by using least square method as follows. Table 4.9 shows the calculation of year wise realized rate of return or trend line.

Table No.4.5 : Year wise Expected Rate of Return Data of NLIC

FY	Coded Year	Rate of Return (Y)	Deviation From FY 2008/09 (X)	XY	X^2	Trend Value (Y_{c+})
2006/07	1	-0.1833	-2	0.3666	4	-0.2739
2007/08	2	0	-1	0	1	0.0528
2008/09	3	-0.1957	0	0	0	0.1638
2009/10	4	0.5963	1	0.5963	1	0.3894
2010/11	5	0.6241	2	1.2483	4	0.6105
Total		0.8414	0	2.2112	10	

Data Source: Table No.4.12

We have,

The equation for the trend line, $Y_c = a + bx$

As $\sum X = 0$

$$a = \frac{\sum Y}{n} = \frac{0.8414}{5} = 0.1683$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{2.2112}{10} = 0.2211$$

Here,

Trend line, $Y_C = 0.1683 + 0.2211X$
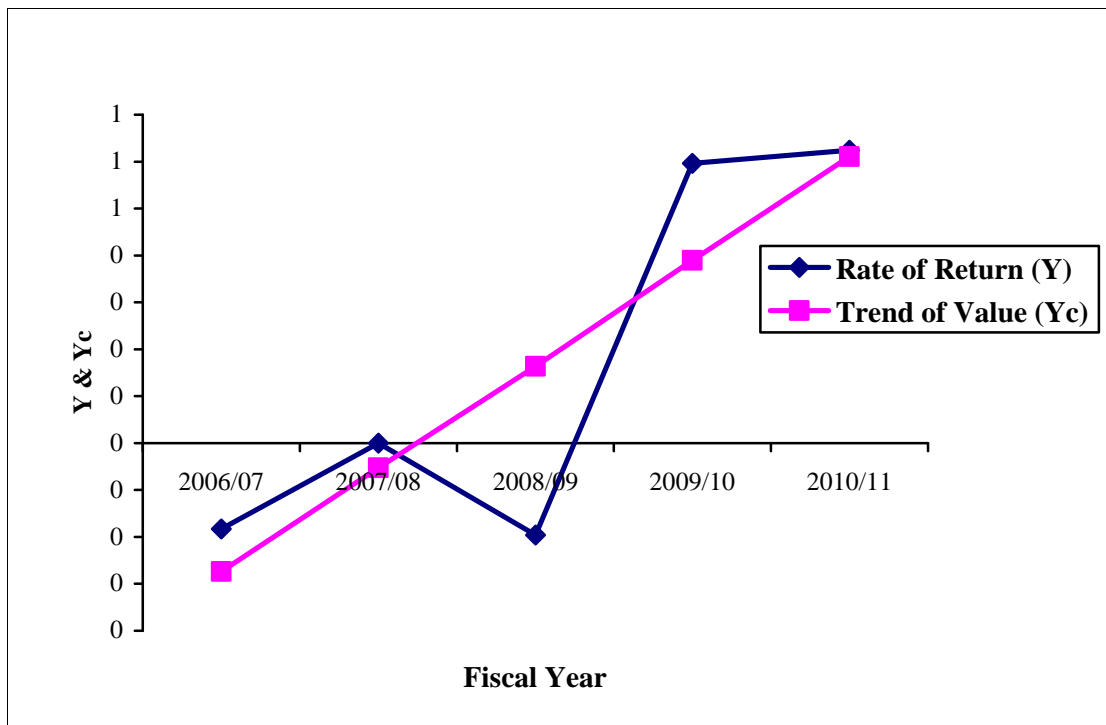
When, $X = -2$, $Y_C = 0.1683 + 0.2211 (-2) = 0.2739$

When, $X = -1$, $Y_C = 0.1683 + 0.2211 (-1) = 0.0528$

When, $X = 0$, $Y_C = 0.1683 + 0.2211 (0) = 0.1638$

When, $X = 1$, $Y_C = 0.1683 + 0.2211 (1) = 0.3894$

When, X = 2, $Y_C = 0.1683 + 0.2211 (2) = 0.6105$

Diagram 4.3 : Movement of Stock rate of return and Trend line of NLIC

Data Source: Table 4.9

In the above diagram 4.3, shows the movement of common stock of NLIC's rate of return (Y) and the trend line (Yc).

Rate of return is highly negative in FY 2006/07 and down to zero in FY 2007/08. Again the situation get worse and rate of return is negative in FY 2009/10. Then after the rate of return is positive in FY 2009/10. Similarly, the trend line is negative in the beginning two years but after FY 2008/09 it is positive till date of study.

4.3 Analysis of Market Risk and Return

In Nepal there is only one stock market, namely Nepal Stock Exchange. Overall market movement is represented by NEPSE index. The calculation of annual return, expected market return, market standard deviation and coefficient of variation of overall market is presented below in table 4.10.

Table No.4.6 : Rate of Return, Expected Return and C.V. of Market

FY	NEPSE Index (NI)	$R_m = \dfrac{NI_t - NI_{t-1}}{NI_{t-1}}$	$[R_m - E(R_m)]$	$[R_m - E(R_m)]^2$
2006/07	348.43	-		
2007/08	227.54	-0.3470	-0.425	0.1620
2008/09	204.86	-0.0997	-0.1552	0.0241
2009/10	222.04	0.0839	0.284	0.0008
2010/11	286.67	0.2911	0.2356	0.0555
2011/12	386.83	0.3494	0.2939	0.0864
Total		0.2777		0.3288

Data Source: NEPSE Annual Report

Expected Return of Market, $E(R_m) = \dfrac{\sum R_m}{n} = \dfrac{0.2777}{5} = 0.0555$

Market Standard Deviation, $(\dagger_m) = \sqrt{\dfrac{[R_m E(R_m)]^2}{n-1}} = \sqrt{\dfrac{0.3288}{5-1}} = 0.2867$

Variance, $(\dagger_m)^2 = (0.2867)^2 = 0.0822$

Coefficient of Variance, $(CV) = \dfrac{\dagger_m}{E(R_m)} = \dfrac{0.2867}{0.0555} = 5.1658$

4.4 Calculation of beta (s) Coefficient and other value of Sample Company's

4.4.1 Calculation of beta (β) Coefficient and other value of NLIC

Table No.4.7 : Beta (β) Coefficient and other Value of NLIC

FY	[R-E(R)]	[R_m-E(R_m)]	[R-E(R)] [R_m-E(R_m)]
2006/07	-0.3516	-0.4025	0.1415
2007/08	-0.1683	-0.1552	0.0261
2008/09	-0.3640	0.0284	-0.0103
2009/10	0.4280	0.2356	0.1008
2010/11	0.4558	0.2933	0.1337
Total		0.2933	0.3918

Data Source: Table No.4.8 & 4.10

$$\text{Cov}\ (R_i R_m) = \frac{\sum [R - E(R)]\ [R_m - E(R_m)]}{n-1} = \frac{0.3918}{5-1} = 0.0980$$

$$\text{Beta coefficient of NLIC}, (\beta) = \frac{Cov(R_i R_m)}{\sigma_m^{\ 2}} = \frac{0.0980}{0.0822} = 1.1922$$

Calculation of systematic risk and unsystematic risk.

We have,

Variance or total risk of NLIC, $(\sigma^2) = 0.1688$

Variance or Market, $(\sigma_m^{\ 2}) = 0.0822$

Total Risk = Systematic risk + Unsystematic risk

$$\sigma^2 = \beta^2 \sigma_m^{\ 2} + e^2$$

Systematic risk $\quad = (1.1922)^2 \times 0.0822$

$\qquad\qquad\qquad = 0.1168$

Unsystematic risk, (e^2) = Total Risk – Systematic risk

$$= 0.1688 – 0.1168 \quad = 0.0520$$

Calculation of Un-diversified Proportion ρ^2 (Coefficient of determination) and Diversifiable Proportion $1 - \rho^2$ (Coefficient of non-determination);

We have,

Proportion of Systematic risk $\rho^2 = \dfrac{\text{Systematic Risk}}{\text{Total Risk}}$

$$= \frac{0.1168}{0.1688}$$

$$= 0.6919$$

$$= 69.19\%$$

Correlation with market, $(\rho) = \sqrt{0.6919} = 0.8318$

Proportion of unsystematic risk, $\left(1 - \rho^2\right) = 1 - 0.6919$

$$= 0.3081 = 30.81\%$$

Table No.4.8: Comparative Summary of Sample Company with Market and its effect through investment point of view

Name	E(R)	S.D.	Remarks	C.V.	Remarks
NLIC	$E(R) > E(R_m)$	$\sigma_j > \sigma_m$	More risky	$CV < CV_m$	Low Risk

Data Source: Table No……

NLIC has a beta (β) of 1.1922 based on the yearly return during FY 2006/07 to 2011/12. A beta on NLIC has greater than one beta i.e., $\beta > 1$. It means that return of NLIC is highly volatile than the market return and called as aggressive assets.

4.5 Total Risk and its Division

The proportion of systematic risk indicates the percentage of variance of Sample Company's return explained by the change in the market returns. Thus the percent of Sample Company's risk is explained by the market and that is called the systematic risk, therefore it cannot be diversified. The unexplained variance is the specific risk of the firm. It is called unsystematic risk and it is known as diversifiable risk.

NLIC have highest proportion of systematic risk (coefficient of determination) 0.6919 respectively. This indicates that the total risk of them has consisted with systematic risk that can't be eliminated. Similarly their unsystematic risk can be diversified away.

The sample company's correlation with market is positive and this indicates that the market return goes up, return of sample company also goes up or vice versa.

4.6 Price Evaluation of Sample Companies

The relationship between an asset's return and its systematic risk can be expressed by the CAPM, which is also called the security market time (SML). It is an equilibrium model for measuring the risk-return trade off all assets including both inefficient portfolios. CAPM is a model that assumes stock's required rate of return is equal to the risk free rate plus rate risk premium where risk is measured by the beta coefficient. Beta coefficient play vital role in CAPM approach. The equation for the CAPM is $E(R_i) = R_f + [E(R_m) - R_f]_i$

If required rate of return is less than expected rate of return, the stock is said to be under priced and required rate of return is greater than expected rate of return, the stock is said to be over priced. For this analysis the risk free rate of return is needed, which is taken from the interest rate of Treasury bill issued by Nepal Rastra Bank. NRB issued Treasury bill, 91 days, 182 days and 364 days time duration. Where risk free rate is approximately 2.86%.

Table 4.14 shows the required rate of return, expected return and price evaluation.

Table No.4.9: Calculation of Required Rate of Return and Price

Evaluation by CAPM Model

Sample	R_f	$E(R_m)$	Beta	$E(R_1) =$ $R_f+[E(R_m)-R_f]$ $_i$	$E(R)$	Price Situation
NLIC	2.86%	5.55%	1.1922	6.07	16.83	Under priced

Data Source: Table No………

Where,

E(R) = Expected rate of return $\qquad$ (from table …..)

R_f = Risk free rate of return (0.0286)

$E(R_m)$ = Market rate of return (0.0555) $\qquad$ (from table …..)

$\quad$ = Beta of individual insurance companies (from table …..)

We know that,

Equilibrium rate of return, $E(R_j) = R_f + [E(R_m) - R_f]$ $_i$

$E(R_i)$ of NLIC = 2.86 + [5.55-2.86] × (1.1922) = 6.07%

The investors can gain from buying the stocks of NLIC. Their stock value will be increased in the near future providing the investors higher return. So investor should buy their stock and who are holding they shouldn't sell. Above diagram……shows the detail.

4.7 Major Findings of the Study

Major findings derived from this study are as follows:

➢ Stocks have greater risk than other form of securities hence investors must be prepared to face the ups and downs of the stock market.

➢ NLIC had not a regular Dividend payer throughout the sample period.

➢ NLIC has the highest expected rate of return on common stock i.e.16.83% in Fiscal Year 2009/10 throughout the various period.

- The risk associated with the assets can be measured by standard deviation and coefficient of variation. S.D. measures unsystematic risk. The total investment risk associated with the common stock of Nepal Life Insurance Company is 41.09%. While comparing with NEPSE Index Market S.D. of NLIC is highest i.e.41.09% and therefore common stock of NLIC is most risky. Coefficient of variation of NLIC is 2.4415, whereas coefficient of variation of market is 5.1658, which C.V. is more than NLIC.

- While comparing sample company with market, expected rate of return and standard deviation of NLIC is greater than market return which means total risk on return is more risky than the market return. But which means total risk on return is more than the market return. But their CV is less than CV of market and that means the company have less risk per unit return than market return.

- Beta, which is the measure of systematic risk and is defined by market explains the sensitivity or volatility of stock with market is used for ranking the systematic risk of various assets. Beta coefficient of NLIC has a beta of 1.1922 greater than one i.e. >1. It means that return of NLIC is highly volatile than the market return and called as aggressive assets.

- Lower the proportion of systematic risk that means higher the proportion of unsystematic is proportion risk can be diversified. Coefficient of determination is proportion of systematic risk to the total risk and that cannot be minimized through diversification. NLIC has the highest coefficient of determination i.e.69.19% with less diversification risk i.e.30.8%.

- The correlation coefficient of deficient of Nepal Life Insurance Company is to the market (NEPSE) indicates that they are dependent. Correlation coefficient of NLIC with market is 0.8318. Here the NLIC is positively correlated with market. This indicates that when the market return goes up, return of NLIC also goes up or vice versa.

- Comparison between Required Rate of Return and Expected Rate of Return helps us to identify whether the stock is under priced or overpriced. NLIC is under priced. Under priced stocks must be purchased whereas overpriced stocks should be sold.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The chapter has been divided into three sections. First section presents the summary where the whole study is summarized. Second section includes conclusion drawn from the study and lastly, the third section presents recommendation which erase the weakness and drawbacks of the study.

5.1 Summary and Conclusion

Common stock is an ownership share in a corporation, therefore the common stock holders are the true owners of a corporation. The return on common stock investment comes from periodic receipt of dividends and capital gains. An element of risk is also involved in equity ownership due to its low priority of claims at liquidation. Common stock is the source of raising the capital, which is considered to be riskier.

Risk and return plays a vital role in the analysis of any investment. Common stock is the most risky form of society. Investor's perception, attitude, belief, risk, handling behavior besides risk and return associated also play a vital role in rational investment decision. No investor will like to invest in risky security unless s/he is assured of adequate return as compensation for the acceptance of risk. But due to lack of proper information and alternatives in Nepal, investors are making blind investment. Most of the investors invest their funds in single security rather than they can be benefited by investing in portfolio of securities through diversification.

The main objectives of this study was to analyze the risk and return on common stocks of Nepal Life Insurance Company to find out the level of risk and return on common stock of NLIC. Five fiscal year data are taken as sample to analyze risk and return on common stock investment. Sound methodology has been used for the analysis of the collected information. Tables and diagrams are used to make the findings appropriate to understand. The used data are of secondary in nature.

This study has used various statistical as well as financial tools to accomplish its objectives. The statistical tools are used to calculate the value of return, expected return,

standard deviation, coefficient of variation, portfolio risk, portfolio return and correlation whereas financial tools are used to calculate the value of beta, systematic risk, unsystematic risk and risk minimizing weight. Properties of portfolio are also formed on the basis of expected return to examine the relationship between expected return and different measures of risk.

From the calculated values of different measures of risk and return and portfolio risk and return, we can reach in following conclusion:

Nepal Life Insurance Company has positive expected return. There is positive relationship between risk and return of NLIC. A beta coefficient of the sample company is more than one. Whereas NLIC is aggressive assets and its return is highly volatile tan the market return.

While comparing Required Rate of Return and Expected Rate of Return of Nepal Life Insurance Company, it is identified that common stock of NLIC have required rate of return less than the expected rate of return and concluded as under priced. Thus, the investors will be beneficial by investing in their stocks. Under priced stocks must be purchased whereas overpriced stocks should be sold.

The portfolio of Insurance companies have reduced the risk up to some extent and increased the return but some cases it has also increased the risk level and decreased the return. Thus, we can find the mixed effect of portfolio in risk and return of Insurance Companies. From the investment point of view NLIC has the satisfactory return with moderate risk and moderate coefficient of variation.

5.2 Recommendation

This study is aimed to analyze the risk and return of Nepal Life Insurance company on behalf of individual investors. Recommendation on the basis of available data is presented below.

➢ Aggressive investors who want high return should invest in NLIC as its E(R) is high.

➢ But the investors who do not like to bear high risk, such as risk adverse investors should invest in the securities of NLIC.

➢ The investors who like to bear less risk in term of coefficient of variation should choose NLIC as it has less CV.

➢ Most important thing that an investor must consider is the balance between the risk and return that the investor is comfortable with.

➢ In the contest of Nepal, there is shortage of professional investors as well as information in the Nepalese stock market. Trained personnel, intensive information network and proper management of the transaction are required to uplift the stock market.

➢ Financial information must be regularly published so that existing as well as perspective investors are informed about the changes that take place. For this NEPSE should enforce all the companies to publish financial information in timely manner.

➢ Investors can also evaluate the risk of the concerned company by its beta is greater than one it can be concluded that the company is risky. Risk averter investor must invest in companies having beta less than one whereas risk taker can invest in company having beta more than one.

➢ Flow of information to common investors is to frequent yet. This creates an illusion to them and they suspect of making investment on common stock. So the assess of information should be made easier to common stock investors.

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Rate of Return, Expectation rate of return, S.D. and C.V. of Common Stock of NLIC

FY	Closing Price	Dividend (D)	$R = \dfrac{D_t + (P_t - P_{t-1})}{P_{t-1}}$	$[R - E(R)]$	$[R - E(R)]^2$
2006/07	600	20	-		
2007/08	460	30	-0.1833	-0.3516	0-1236
2008/09	460	0	0	-0.1683	0.0283
2009/10	270	100	-0.1957	-0.3640	0.1325
2010/11	431	0	0.5963	0.4280	0.1832
2011/12	700	0	0.6241	0.4558	0.2078
Total			0.8414		0.6754

Data Source: Table No.4.2 & 4.3

We have,

Expected Return, $E(R) = \dfrac{\sum R}{n} = \dfrac{0.8414}{5} = 0.1683$

Standard Deviation, $(\dagger) = \sqrt{\dfrac{\sum [R - E(R)]^2}{n-1}} = \sqrt{\dfrac{0.6754}{5-1}} = 0.4109$

Variance, $(\dagger^2) = (0.4109)^2 = 0.1688$

Coefficient of Variance, $(C.V.) = \dfrac{\dagger}{E(R)} = \dfrac{0.4109}{0.1683} = 2.4415$

Year wise Expected Rate of Return Data of NLIC

FY	Coded Year	Rate of Return (Y)	Deviation From FY 2008/09 (X)	XY	X^2	Trend Value (Y_{c+})
2006/07	1	-0.1833	-2	0.3666	4	-0.2739
2007/08	2	0	-1	0	1	0.0528
2008/09	3	-0.1957	0	0	0	0.1638
2009/10	4	0.5963	1	0.5963	1	0.3894
2010/11	5	0.6241	2	1.2483	4	0.6105
Total		0.8414	0	2.2112	10	

Data Source: Table No.4.12

We have,

The equation for the trend line, $Y_c = a + bx$

As $\sum X = 0$

$$a = \frac{\sum Y}{n} = \frac{0.8414}{5} = 0.1683$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{2.2112}{10} = 0.2211$$

Here,

Trend line, $Y_C = 0.1683 + 0.2211X$

When, $X = -2$, $Y_C = 0.1683 + 0.2211 (-2) = 0.2739$

When, $X = -1$, $Y_C = 0.1683 + 0.2211 (-1) = 0.0528$

When, $X = 0$, $Y_C = 0.1683 + 0.2211 (0) = 0.1638$

When, $X = 1$, $Y_C = 0.1683 + 0.2211 (1) = 0.3894$

When, $X = 2$, $Y_C = 0.1683 + 0.2211 (2) = 0.6105$

Rate of Return, Expected Return and C.V. of Market

FY	NEPSE Index (NI)	$R_m = \dfrac{NI_t - NI_{t-1}}{NI_{t-1}}$	$[R_m - E(R_m)]$	$[R_m - E(R_m)]^2$
2006/07	348.43	-		
2007/08	227.54	-0.3470	-0.425	0.1620
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2010/11	286.67	0.2911	0.2356	0.0555
2011/12	386.83	0.3494	0.2939	0.0864
Total		0.2777		0.3288

Data Source: NEPSE Annual Report

Expected Return of Market, $E(R_m) = \dfrac{\sum R_m}{n} = \dfrac{0.2777}{5} = 0.0555$

Market Standard Deviation, $(\sigma_m) = \sqrt{\dfrac{[R_m E(R_m)]^2}{n-1}} = \sqrt{\dfrac{0.3288}{5-1}} = 0.2867$

Variance, $(\sigma_m)^2 = (0.2867)^2 = 0.0822$

Coefficient of Variance, $(CV) = \dfrac{\sigma_m}{E(R_m)} = \dfrac{0.2867}{0.0555} = 5.1658$

Table No.4.11 : Beta (β) Coefficient and other Value of NLIC

FY	[R-E(R)]	[R_m-E(R_m)]	[R-E(R)] [R_m-E(R_m)]
2006/07	-0.3516	-0.4025	0.1415
2007/08	-0.1683	-0.1552	0.0261
2008/09	-0.3640	0.0284	-0.0103
2009/10	0.4280	0.2356	0.1008
2010/11	0.4558	0.2933	0.1337
Total		0.2933	0.3918

Data Source: Table No.4.8 & 4.10

$$\text{Cov}\ (R_i R_m) = \frac{\sum [R - E(R)]\ [R_m - E(R_m)]}{n-1} = \frac{0.3918}{5-1} = 0.0980$$

$$\text{Beta coefficient of NLIC}, (\beta) = \frac{Cov(R_i R_m)}{\sigma_m^{\ 2}} = \frac{0.0980}{0.0822} = 1.1922$$

Calculation of systematic risk and unsystematic risk.

We have,

Variance or total risk of NLIC, $(\sigma^2) = 0.1688$

Variance or Market, $(\sigma_m^{\ 2}) = 0.0822$

Total Risk = Systematic risk + Unsystematic risk

$$\sigma^2 = \beta^2 \sigma_m^{\ 2} + e^2$$

Systematic risk $= (1.1922)^2 \times 0.0822$

$= 0.1168$

Unsystematic risk, (e^2) = Total Risk – Systematic risk

$= 0.1688 – 0.1168 \qquad = 0.0520$

ANNEX - 5

Calculation of Required Rate of Return and Price Evaluation by CAPM Model

Sample	R_f	$E(R_m)$	Beta	$E(R_1) =$ $R_f+[E(R_m)-R_f]_i$	$E(R)$	Price Situation
NLIC	2.86%	5.55%	1.1922	6.07	16.83	Under priced

Data Source: Table No………

Where,

$E(R)$ = Expected rate of return   (from table …..)

R_f = Risk free rate of return (0.0286)

$E(R_m)$ = Market rate of return (0.0555)   (from table …..)

= Beta of individual insurance companies (from table …..)

We know that,

Equilibrium rate of return, $E(R_j) = R_f + [E(R_m) - R_f]_i$

$E(R_i)$ of NLIC = 2.86 + [5.55-2.86] × (1.1922) = 6.07%