RISK AND RETURN ANALYSIS ON COMMON STOCK INVESTMENT OF COMMERCIAL BANK OF NEPAL

(with reference to BOK and EBL)

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RECOMMENDATION

This is to certify that the thesis

Submitted By:

NITESH JUNG THAPA

Entitled

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(With Reference of BOK and EBL)

Has been prepared as approved by this department in the prescribed format of Faculty of Management. This thesis if forwarded for examination.

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VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis presented

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And found the thesis of be the original work of the student written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for the degree of Master of Business Studies (M.B.S)

VIVA-VOCE COMMITTEE

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Shanker Dev Campus

DECLARATION

I hereby declare that the work reported in thesis entitled **"Risk and Return Analysis on Common Stock Investment of Commercial Bank of Nepal (With Reference of BOK and EBL)"** submitted of office of Dean, Faculty of Management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement of masters of business studies (M.B.S.) under the guidance of Mr. Kishor Maharjan Associate Professor of Shanker Dev Campus, Tribhuvan University.

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ABBREVIATIONS

CAPM	:	Capital Assets Pricing Model
CS	:	Common Stock
CV	:	Coefficient of Variance
DPS	:	Dividend per Share
EBL	:	Everest Bank Limited
EPS	:	Earning Per Share
FY	:	Fiscal Year
BOK	:	Bank of Kathmandu
HPR	:	Holding Period Return
MPS	:	Market Price per Share
NEPSE	:	Nepal Stock Exchange
PE	:	Price Earning
SD	:	Standard Deviation
SEBON	:	Security Board of Nepal
SML	:	Security Market Line
TU	:	Tribhuvan University

CHAPTER-I

INTRODUTION

1.1 Background of the Study

Investment in its simplest form means employing money to generate more money in future. It is the sacrifice of current rupees for future rupees. The sacrifice takes place in the present and is certain. But the reward comes later and is an uncertain. Return is the primary motive of investment, but it always entails some degree of risk. Buying common stocks, bonds, deposited money into bank account, buying a piece of land, gold or silver are some example of investment. All these examples involve sacrifice of current rupees in expectation of future return. Hence, they are investment. The main objective of investment is to maximize the wealth of an investor.

Investment can be made on real assets or financial asset. Investment on real assets is known as real investment and investment on financial assets is known as financial investment. Real investment means investment on real assets like land buildings, factory etc. financial investment means on financial asset like share, debentures, and convertibles etc.

The term risk and return is closely associated with investment. Investment simply means sacrificing current funds for future returns, bearing certain risk. The investment may be on fixed assets like land, building or precious metals and collectibles or something else. But here as a student of finance, I have focused the term investment as sacrificing current fund on financial assets like shares, debenture, warrants, convertibles etc for the long term return.

Investors invest their fund on the securities of certain companies for the long run future returns. The return is defined as the reward for bearing the risk. Return is the most important outcome from an investment. It measures the investor's rate of wealth accumulation i.e. increase or decrease per period. Risk is defined as the occurrence of unfavorable outcomes, which is ever harmful for the business. Risk is inseparable from return. It ever creates uncertainty. Some of the factors that create investment

uncertainty such as interest rate risk, purchasing power risk, bull-bear market risk, management risk and so on.

Thus, risk is virtually every decision. Assessing risk and incorporating the same in the final decision is an integral part of financial analysis. The objectives in decision making are not to eliminate or valid risk often it may be neither feasible nor necessary to do so. But to properly assets it and determine whether it is worth bearing.

Investor generally does not invest their money in the only on risky asset. The investor should invest their' money in portfolio of many assets. It will help to the investor to minimize the risk. Therefore, an investor is concerned with the portfolio risk, which is the sum of the relevant risk of individual assets included in portfolio. The relevant risk of an asset is defined as the portion of its total risk that changes proportionately with market risk. Some stocks are riskier than other and even in years when the overall money into one stock goes down. Therefore, putting all your money into one stock is extremely risky. The single best weapon against risk is diversification.

The concept of financial institution in Nepal was introduced when the first commercial bank, Nepal bank limited was established in 1937.A. D. It was established under special banking act 1936 having elementary function of commercial bank. Later in, 1955, A.D. The central bank Nepal Rastra Bank was established with an objective of supervising, protecting and directing the function of commercial banking activities. Another commercial bank fully owned by Nepal Government names as Rastriya Banijya Bank got established in 1966. The establishment of joint venture bank gave a new horizon to the financial sector of the country. Since 1984 JV banks were established under company act and their shares were listed in Nepal stock exchange limited (NEPSE). The focus of the study is that commercial bank whose share listed in NEPSE.

Banking sector is the most dynamic part of economy, which collects unused funds and mobilizes in needed areas. It is the heart trade, commerce industry. In Nepalese context, commercial banks have comparatively good performance among the public limited companies. Because most of the banks are counted within the top ten positions among the listed companies on the basis of amount traded, number of transaction,

market capitalization etc. Most of the banks are established with collaboration of foreign well-known banks. As a public limited company, Nepal Bank Limited (NBL) is only one Nepalese commercial bank, which is listed in NEPSE. Besides this oldest bank there are eight other joints venture banks, which are listed in NEPSE. Besides these, a government bank, Rastriya Banijya Bank, also plays a vital role in banking sector. In Nepal altogether there are 31 commercial banks.

The nature of bank fund and its payment depends upon day to day operation. Therefore, its operation of fund raising and investment of funds are of short-term nature. As long-term investments are associated with higher risk, banks are confined to make short-term investment only. The significant of commercial banks is greater in countries, of comparatively lower level of economic development. The shares of commercial banks in the net issues of all financial institution are much higher in such countries in the ones with higher stage of economic development.

In Nepal foreign joint venture banks perform better than Nepalese ones do. Because they have higher management efficiency and they can manage risk properly. Specifically, Nepalese banks have a high degree of internal firm specific risk. At the same time they have to bear more social obligation and government intervention than foreign banks. However, Nepalese bank has high potentialities to increase their performance by changing their risk attitude and by improving their internal management.

Risk is related to future and future is uncertain. But risk is manageable rather than uncertain. Company - specific risk (earning variability) and companies ability to service its debt burden are intimately related to the particular characteristics of the business in which the company operators. Moreover, they are affected by economic condition-apart management's ability to generate satisfactory operating performance.
A systematic, investment process should be followed to win the stock market. Investment process describes how an investor should go about making decision with regard to what marketable to invest in, how extensive the investment should be, and when the investment should be made. A five step procedure for making decision forms the basis of investment process.

a. Set the investment policy

b. Perform security analysis

c. Construct a portfolio

d. Revise the portfolio

e. Evaluate the performance of the portfolio

1.2 Focus of the Study

Investment decision depends upon two factors i.e. risk and return. The return is defined as the reward for bearing the risk. Return is the most important outcome from an investment. Return from stock can be of holding period return, return from speculation or from short sell, capital gain and dividend gain etc. But return to investor is ever followed by risk, which is known as the occurrence of unfavorable outcomes and is ever harmful for the business. Many times, investor blindly invest their money with the hope of getting good return in their investment able fimds but due to the many reasons they lose their hard earning while investment made without analyzing the risk and return involved in the stocks. Other hand the increasing number of the bank and financial institution has created a competitive environment in financial sectors. Those, to get the maximum return from a minimum level of risk, the investor should diversify its investment by the means of portfolio creation with analysis the risk and return. So, our main focus of the study is to Measure and analysis the financial performance of commercial Banks, their risk & return, and portfolio creation etc. to make sound investment decision.

1.3 Statement of the Problems

Investors should make rational investment decision. For this purpose, knowledge for analysis of common stock is essential Investor's attitude and perceptions are also considerable for rational investment decision. Many investors are manipulated and exploited by the financial institution and other market intermediaries since they are unknown about norms of security market. Not only general public but also the university graduates and post graduates cannot analyze risk and return while making stock investment decision.

In the context of Nepal investors are also facing the problems of lack of the institutions to provide adequate information about the investment options.

After the emergence of NEPSE in 1993 A.D. these type of problem somehow has been solved, but another problem to the Nepalese people is they feel more risk in stock investment than as its real risk, it keeps them in dilemma, whether they should invest in stock or not and this all conditions makes them to not utilize their funds as a result investors are not benefited nor the national economy as well.

Further, theory says that the stock price in market is guided by the intrinsic value which is calculated by aid of company's result of financial performance such as dividend, required rate of return and growth. In the efficient market condition stock price is equal to the intrinsic value since the buyer and the seller are fully aware of the facts and figures of the company. Therefore one can say that market price and financial performance are con-elated but condition here is totally different from that. Courage and faith are intermediate factor to invest in common stock because there are several questions, which may be arising in the mind of the individual investors at the time of the investment.

More specifically the research problems are:

- How can one make higher return through lower risk?
- How do they know about the magnitude of risk?
- How can investor diversify the risk?
- What are the criteria for evaluation that the common stock they are holding will give them favorable return?

1.4 Objectives of the Study

The main objectives of the study are to assess the risk and return on common stock investment of listed commercial bank. The specific objectives of the study will be as follows:

- To evaluate common stock of selected commercial banks in terms of risk and return
- To identify whether stock of the selected bank is overpriced, under priced and equilibrium price.
- To identified optimum portfolio of the banks.
- To analyze the diversifiable and un-diversifiable risk of the selected banks.

- To study the risk and return of the sampled commercial banks and also analyze their coefficient of variation
- To provided the valuable suggestion about the risk and return on stock the commercial banks that could be the deciding factor for the investor in their investment.

1.5 Significance of the Study

This study will give information about Nepalese capital market by analyzing risk and return and will definitely contribute to increase the analytical power of the investors in capital market. The study will be beneficial for all the persons who are directly or indirectly related to the Nepalese capital market.

This research has attempted to analyze the market share of samples companies with references to their financial indicators and risk in common stock investment, which may probably provide real pictures of samples companies, to both the outstanding and potential investors in order to take proper investment decision. Similarly, this piece of task may work as guide for future research and concerned persons.

Further this research will attempt to clarify concrete picture of different aspects of risk and return which will be beneficial to the investor for taking right investment decision. The study will be maximum significant for exploring and increasing stock investment. It will also provide little contribution to Nepalese stock market development.

This study is not only to fulfill MBS level courage of T.U., but also to provide some knowledge about the Nepalese stock market along with providing ideas to minimize the risk on stock investment.

From the viewpoint of investors, the analysis of risk and return is significant management decisions which influence the shareholder risk and return. Consequently, the risk and return analysis influences the market price of stock, by making it at an appropriate level. Apart from this study will be a matter of interest for academicians, students, researchers, teachers or persons, practicing in the field of finance.

1.6 Limitation of the Study

As every research has its own limitation, the study is not far from it. Some limitations of the study as follow:

1. Data published from various sources differ from the figure published by NEPSE and respective commercial banks. However, in this study respective banks published annual repeats data is makes into accounts as the basis sources of data.
2. The study covers a period of five fiscal years which will be processed for during conclusion.
3. Analysis is mostly based on the structural and financial tools are divided in the context of an efficient market condition.
4. Among the various commercial banks in Nepal the study is only concerned on two commercial bank. (BOK and EBL)

1.7 Organization of the Study

This study is organized into five chapters:

Chapter One: The first chapter is introduction chapter. It is consists of general background, statement of the problems, objective of the study, significant off the study, limitation of the study and organization of the study.

Chapter Two: The second chapter deals with the review of literature which consist of the conceptual frame-work of the study

Chapter Three: This chapter is concerned with the research methodology used this study. It consists of research design, source of data collection, population sample and method of analysis.

Chapter Four: This chapter contains presentation and analysis of the data.

Chapter Five: The fifth chapter is associated with the summary conclusion and recommendations.

CHAPTER TWO

REVIEW OF LITERATURE

It is very important to study the materials on the topic of research and that is called review of literature. Review of literature deals with the theoretical aspect of the topic on risk and return on common stock investment in more detail and descriptive manner. This chapter helps to take adequate feedback to broaden the information base and inputs to my study. In this chapter inputs are reviewed as follows. Review of Literature includes the following topics:

2.1 Conceptual/ Theoretical Review

Various books relating to theoretical aspects of portfolio management and risk and return are taken into consideration. In this research risk and return has been taken as special tool to analyze the rate of return that the investment gives.

In Nepalese, context the major share trading companies are the financial institutions mainly the commercial banks. Besides, the trading prices of these banks shares are also the highest. But though the share price of various banks can be observed different, this variety in the market price of shares depends upon the risk of investment and the return the investors get from their investments.

Risk taker investors like to invest on the more risky banks only considering the return they get, whereas security seeking investors like to invest on those banks shares, which are less risky in terms of the return. Moderate types of investors would like to invest in the medium risk and medium return. So, the main focus is given on risk and return.

2.1.1 Return

Return is the motivating force in the investment process that is the reward for undertaking the investment. Some investor seek near term cash inflows and gives less value to more distant return such an investor might purchase the stock of other firm that pays a large cash dividends. Other investors are concerned primarily with growth. They would seek project that offer the promise of long term, higher than average of sales, earning and capital appreciation.

“An investor is ready to sacrifice his present consumption for the future return or reward. Investment can be made in various securities. Therefore motivation for the investment is the return. The return is difference between the terminal wealth (what an investor received) and initial wealth (what an investor invest). The invested wealth of investor may be increase or decrease or remains the same in the future. If the terminal wealth is greater then the initial wealth there is positive return from the investment. If the terminal wealth is less than the initial wealth there is negative return from the investment if terminal wealth is equal to initial wealth there is zero return. Investor always wants to higher return other things being the same” (Manandhar et.al., 2063:42).

Return is the motivating force for the investment. It is also the key method available to investor in comparing the alternative investment. Major purpose of investment is to get a return or income on the funds invested. This rate of return concept is important because it measured the speed at which investor’s wealth increases or decreases. The rate of return either can express in terms of rupees or %.

Rupees return is the absolute measure. However % return is the relative measure which is more useful for the investment decision. Total return combines both capital gain and the dividend. There are different types of returns they are:

1. Holding Period Return

The rate of return which is earned from the investment of common stock during the holding period is known as holding period return. Holding period may be one day one week, one month six month or one year. This rate of return is measured as follows:

$$R\ X \frac{\text{Ending Price} - \text{Beqening Price}}{\text{Beqening Price (or Purchase Price)}}$$

An investor can obtained two kinds of income from an investment in a share of stock or a bond.

1. Income from price appreciation (or losses from price depreciation), some times called capital gains (or losses). This quantity is denoted as pt – pt -1

2. Regular return or income earned from cash dividend or coupon interest payments represented by Ct.

The sum of these two sources of income (or loss) equals to the change in the invested wealth during any given holding period. The single percentage rate of return formula can be restated in an appropriate form for almost any investment.

$$R\ X \frac{(P_t - P_{t-1})\ \Gamma\ C_t}{P_{t-1}}$$

Where,

P_t = Market Price at the end of the period etc.

P_{t-1} = Price at the beginning of the period t-1

C_t = Cash flow income receive during the t period (Francis, 1998:11)

2. Realized Rate of Return

A realized return is the past return. It is the return that was or could have been earned. The rate of return which is already realized in the past period is known as realized rate of return. It is the fact return, return that was earned or it is historical return.

2.1.2 Expected Return

An expected return is the return from an assets that investors expect they will earn over some future period. It is predicted return, subject to uncertainty, and may or may not occur. It is the rate of return that is expected to be realized in future. For this, rates of return in the past are used. So it is arithmetic average of returns realized in the past. The expected rate of return must be greater or equals to the required rate of return for the investors to find the investment acceptable (Cheney& Moses, 1993:34), it is calculated as follows:

$$\frac{\sum_{t=1}^{n} R_j}{n}$$

Where,

R_j = Rate of Return on Stock j.

N = No. of Years

$\sum$ = Summation

Investment decisions are based on expectations about future. The expected rate of return for any assets is the weighted average rate or return using the probability or each rate of return as the weight. The expected rate of return is calculated by summing the products of the rate of return and their respective probabilities (Francis, 1998: 11).

2.1.3 Risk

Risk can be defined as the variability of possible return around the expected return of an investment. For some investment this variability can be quite small. Each investor has his or her own attitude about risk and how much he/she can tolerate. Since investment alternative have different types of risk associate with them. The investors must determine which combination of alternatives matches his or her particular risk tolerances.

Risk is a complicated subject and needs to be properly analyzed. The relationship between risk and return is described by investor perception about risk and their demand for compensation. Generally, investors are mostly interested in the project yielding higher returns in less risk. Therefore, it is the investors required risk premium that establish a link between risk and return. In a market dominated by rational investor higher risk will command by rational investor's higher risk will be commanded by rational premium and the trade-off between the two assumed linear relationships between risk and risk premium. "the observe difference in both the levels and variability of the rates of return across. Securities are indicative of the underlying risk and return relation in the market" (Loric, Dodd and Kimpton, 1985:87)

Risk defines most generally is the probability of the occurrence of unfavourable outcomes. But risk had different meaning in the different context in our context; two measure developments from the probability distribution have been used as initial measure of return and risk. There are the mean and the standard deviation of the probability distribution (Weston and Brigham, 1982:55). There are many ways to measure risk. The following three models are commonly used.

Beta Coefficient

This is mathematical value that measures the risk of one asset in terms of its effects on the risk of a group of assets, as would be the concern for an investor holding stocks and bonds. It is derived mathematically so that high beta indicates a high level of risk whereas a low beta represents a low level of risk. Mathematically, it is denotes by "β_j".

Standard Deviation

Standard deviation is a statistical measure of the variability of a distribution around it's mean. The S.D. is the measurement of risk of the deviation of return from their mean value. The main advantage of S.D. is that the uncertainties of the return can be summarized into a single, easily calculated number. On the other hand, the main disadvantage of S.D. is that it considers possible return above the expected value to be risky as return below the expected value. The greater the S.D., the greater the risk of the investment. S.D. measure the degree of risk of common stock.

Subjected Estimates

A subjective risk measure occurs when qualitative rather than quantitative estimates are used to measure dispersion. As an example: an analyst may estimate that a proposal offers a "low" level of risk. This means that, in the analyst's view–the dispersion of return will not be very wide. Similarly, a "high" risk level will accompany a project whose forecast return may very a great deal. With the overall definition of risk as dispersion of return, there are two components of risk may be identified.

1. Business Risk

Business risk may be defined as the chance that the firm will not have ability to complete successfully with the assets that it purchases. For an example: the firm may acquire a machine that may not operate properly, that may not produce stable products or that may face other operating or market difficulties that causes losses. Any operational problems are grouped as business risk.

2. Financial Risk

This is the chance that an investment will not generate sufficient cash flows either to cover interest payment on money borrowed to finance it or principal repayment on debt or to provide profits to the firm.

2.1.3.1 Sources of Risk

Every investment involves uncertainty that make future investment returns risky. Sources of uncertainty that contribute to investment risk are as follows:
(Source: Jack Clark, 1997:308)

Interest Rate Risk

Interest rate risk is defined as the potential variability of return caused by changes in the market interest rates. In more general terms, if market interest rate rise, then investment values and market prices will fall, and vice versa. This interest rate risk affects the prices of bonds, stocks, real estate gold, puts, calls, futures contracts and other investment a swell.

Purchasing Power Risk

Purchasing power risk is the variability of return and investor suffers because of inflation. Economists measure the rate of inflation by using a price index. The consumer price index (CPI) is a popular price index in the United States. The percentage change in the CPI is widely followed measure, of the rate of inflation.

Bull-Bear Market Risk

The various market forces make securities price upward and downward. The upward trend of market price (Bull Market) and downward trend of market price (Bear Market) create a long lasting source of investment at risk.

Management Risk

Management risk is defined as the variability of return caused by decision made by a firm's management and board of directors. Though many top executives earn princely salaries, occupy luxurious offices, and wield enormous power within their organizations, they are mortal and capable of making mistake or a poor decision. Furthermore, errors made by business managers can harm those who have invested in their firms. Forecasting management errors is difficult work that may not be worth the effort and, as a result, imparts needlessly skeptical outlook. Agency theory provides investors with an opportunity to replace skepticism with the informed insight as they endeavor to analyze subjective management risk.

Default Risk

Default risk is that portion of investments total risks that results from changes in the financial integrity of the investment. It is related to the probability that some or all of the initial investment will not be returned.

Liquidity Risk

Liquidity risk is associated with uncertainty created by the inability to sell the investment quickly or cash. The return variability will increase if price discount and sales commission are to be given in order to liquidate assets in time. The less the liquidity, the greater will be the risk. So, two factors price and time are associated with liquidity

Call-Ability Risk

Some securities are issued with a call provision i.e. a company may call back the securities issued before their maturity. The call ability risk is portion of a securities total variability of return that derives from the possibility that the issue may be called.

Convertibility Risk

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

Political Risk

Political risk is the portion of assets' total variability of return caused by changes in the political environment (domestic and international as well as internal changes of the company). The current Nepalese political environment has made a significant impact on the investment to increase losses.

Industry Risk

An industry may be viewed as a group of companies that complete with each other to market a homogeneous product. Industry risk is that portion of an investment total variability of return caused by events that affect the products and firms that make up an industry. The stage of the industry's life cycle, international tariffs and/or quotas on the products produced by an industry related taxes industry wide labor union problems environmental restriction, raw materials availability and similar factors interact and affect all the firm sin an industry simultaneously. As a result of these commonalties, the prices of the securities issued by competing firms tend to rise and fall together. The uncertainties discussed above are the major sources of investment risk, but by no means do they make up and exhaustive test. If all the uncertainties could be listed, they would add up to total risk or total variability of returns.

2.1.3.2 Types of Risk

Total risk or total variation of the rate or return for an individual security or portfolio is measured by the standard deviation or variance of the rate of return. According to Capital Asset Pricing Model (CAPM), total risk can be divided into two parts i.e. systematic risk and unsystematic risk.

Systematic Risk

It is the also called non-diversifiable 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 portion of risk is non-diversifiable and cannot be reduced. The systematic risk is rewarded in the form of risk premium. Sometimes, systematic risk is called market risk. Systematic risk affects almost all assets in the economy, at least to some degree, whereas systematic risk affects at most a small number of assets. The principle of diversification has an important implication to a

diversified investor, only systematic risk matters. It follows that in deciding whether or not buy a particular individual asset, a diversified investor will only concerned with that asset's systematic risk. This is a key observation and it allows us to say great deal about the risks and returns on individual asset, in particular, it is the basis for a famous relationship between risk and return called the security market line. To develop the SML, we introduce the equally famous Beta coefficient one of the measurement unit of modern finance. Beta coefficient and SML are the key concepts because to get supply us with at least part of the answer to the question of how to go about determining the required return on an investment.

Unsystematic Risks

The unsystematic risk is non market factors related. In other word, it arises from the project specific factors for example inefficiency of management failure in new product in production, employee strikes, lawsuits and any other event that is unique to the company. It is inherent individual companies or projects. This portion of risk is diversifiable and it is possible to reduce or eliminate through diversification of the investments. It is called unique or asset specific risk.

2.1.3.3 Measurement of Risk

There are different types or the statistical tools which we can used to measure the financial risk are as follows;

- Standard Deviation (σ)
- Variance (σ^2)
- Coefficient of Variation (C.V.)

Standard Deviation (S.D) and coefficient of variation is generally used to measure the risk. The square root of the variance is known as standard deviation (S.d). S.D is calculated as follows:

$$\text{Standard Deviation } (\exists) \; X\sqrt{\text{Variance}} \; X\sqrt{\exists^2}$$

Where,

$$\text{Variance } (\exists^2) \; X\frac{R \; ZE(R)^2}{n}$$

R = Rate of Return

Σ(R) = Expected Rate of Return

n = No. of Observation on years

P = Probability

Coefficient of variation (C.V), it measure the risk on per unit of return. Coefficient of variation (C.V) is calculated as follows:

$$\text{Coefficient of variation(C.V.)} \; X \frac{\exists}{E(R)}$$

Since, higher the value of variances, S.D and C.V shows higher risk.

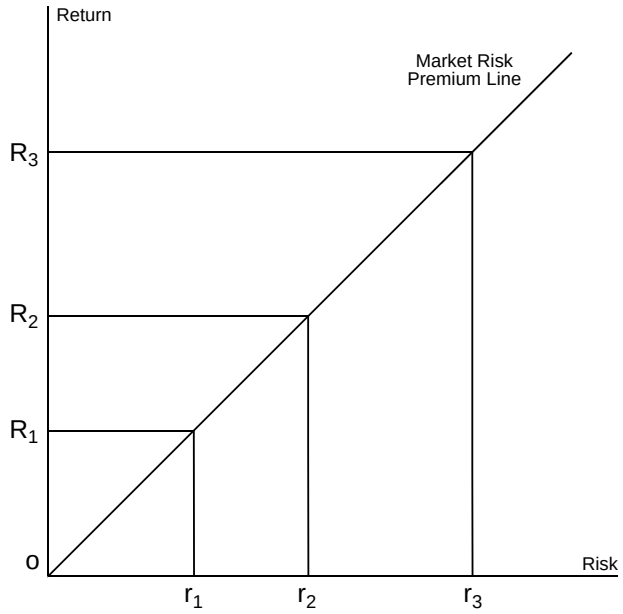
2.1.4 Relationship between the Risk and Return

The expected return from any investment proposal will be linked in fundamental relationship to the degree of risk in the proposal. Generally, there is a positive relationship between rate of return and risk. It means an investor can usually attain more return by selecting dominant assets that involve more risk. While it is not always true that a riskier asset will pay a higher average rate of return, it is usually.

The reason is that investors are risk averse. As a result, high risk asset must offer investors are 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 less return when investments promising higher returns in the same level of risk class are readily available. The relationship between risk and return is described by investor's perception about risk and their demand for compensation. No. investor will take invest in risky assets unless he is assured or adequate compensation for the assumption of risk. Therefore, it is the investors required risk premium that establishes a link between risk and return. There is the positive trade–off between the risk & return. Higher the risk, higher the return and lower the risk lower the return.

Figure 2.1

Relationship between Risk and Return



The figure represent a higher premium for higher risk in a linear fashion indicating a premium or R3 for r3 degree or risk, R2 for r2 and so on bucked by the assumption of linear relationship, the risk premium increase or decrease in proportion to a change in level or risk.

2.1.5 Portfolio Risk

The riskiness of a portfolio is measured by its standard deviation. But unlike expected return it is not the weighted average of the standard deviation of individual securities included in a portfolio. It is because a fundamental idea implied behind portfolio theory is that riskiness of a single security is completely different from the riskiness of that security held in portfolio. So it is possible for a given security to be quite risk when held in isolation, but not very risky if it is held in a portfolio (Rana, 2000: 120).

The portfolio risk depends not only on the riskiness of the individual security included into portfolio but also on the relationship among those securities. Correlation measure the degree of relationship in which direction two securities move together. The numerical value of correlation ranges from + 1.0 to – 1.0. If two securities tend to move in the same direction, they are positively correlated. If it is negative the securities move in opposite directions. Thus when the return for one security decreases, the return for the other increases the magnitude of the correlation coefficient indicates the degree of relationship between the returns on two securities (Rana, 2000: 190–191).

The standard deviation of a portfolio is given by:

$$\exists_P X \sqrt{\sum_{i X 1}^{n} \sum_{j X 1}^{n} w_i w_j \, cov_{ij}}$$

Where,

w_i = Proportion (weight) of investment in security i.

w_j = Proportion (weight) of investment in security j.

cov_{ij} = Co-variance of the returns between security I and j.

n = number of security included in a portfolio

σ_P = Portfolio standard deviation.

The above equation can be simplified an case of two assets portfolio as below:

$$\exists_P X \sqrt{w_i^{\,2} \exists_i^{\,2} \Gamma w_j 2 \exists_j^{\,2} \Gamma 2 w_i \, cov_{ij}}$$

The co-variance of portfolio is calculated as follows:

$Cov_{ij} = \Sigma P_i R_i - E(R_i)\, R_j - E(R_j)$

If we known the correlation coefficient then we apply following relationship for calculating co-variance.

$Cov_{ij} = r_{ij} \sigma_i \sigma_j$

$$r_{ij} X \frac{Cov_{ij}}{\exists_i \exists_j}$$

In practice, it is unusual to find the firms or securities with extreme correlation (i.e.+1 or -1). The correlation does not approach exactly +1 or -1, but ranges between these two extremes, therefore the risk can be reduced but not totally eliminated by forming a portfolio.

2.1.6 Portfolio Analysis

A portfolio is the combination of two or more than two units with different characteristics. An investment portfolio refers to the investment in two or more assets such as Stocks/Bonds etc. Investors rarely place their entire wealth into a single assets or investment. Rather they construct a portfolio or group of investments, therefore it is needed to extend analysis of risk and return to include portfolio. Portfolio is formed mainly for the reason of minimizing risk on investment in aggregate. It helps to earn the same return at the less amount of risk.

The return on the security could be regarded as being linearly related to a single index like the market index. Therefore, the market index should be consist of all the securities trading on the market. However, a popular average can be treated as a surrogate for the market index. Acceptance of the idea of a market index, Sharpe argued, would obviate the need for calculating the thousand of covariance between individual securities could be attributed to movements in a single underlying factor being measured by the market index. The simplification of the maskowitz model has come to be known as the market model or simple index model (SIM).

The desirability of any securities is direct related to its excess between to beta ratio. Where the average return is the expected return on the securities, risk less rate of interest is the return on a risk less assets, the beta is the expected change in the rate of return on security associated with a one percent change in the market return. If securities are rank by access return to beta from highest to lowest, the ranking represents the desirability of any securities inclusion in a portfolio. The no. of securities related depends on a unique cut off rate such that all securities with higher ratio of an access return will be included and all securities with lower rate excluded. (Bhalla, 2004: 590-601).

2.1.7 Expected Return of Portfolio

Expected return of the portfolio is 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. The expected return of portfolio is calculated as follows:

$$E(R_P) X \sum_{iXl}^{n} w_i E(R_i)$$

Where,

$E(R_P)$ = Expected portfolio return

i = Security

n = No. of securities in a portfolio

$E(R_i)$ = Expected return on stock i

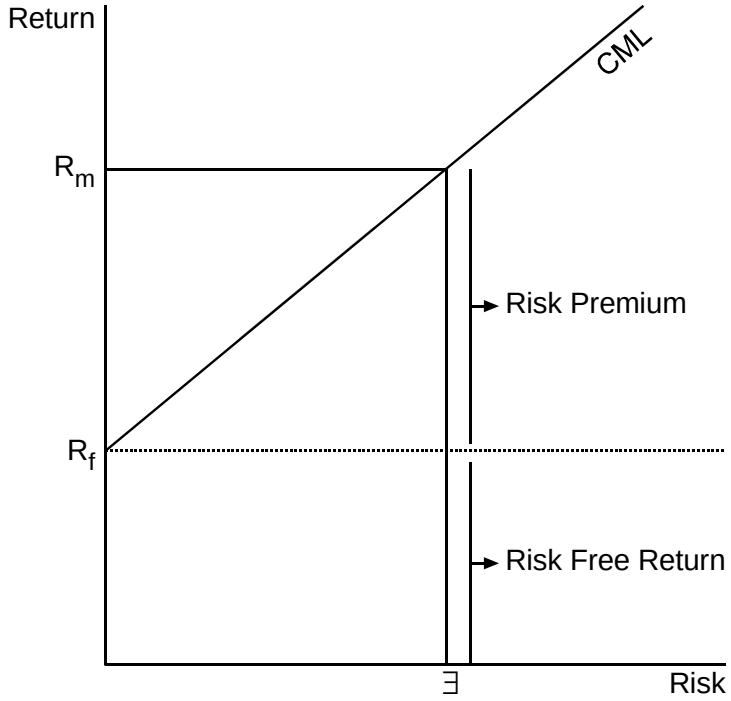
W_i = Weight of stock i

2.1.8 Capital Market Line (CML)

Capital market line (CML) represent the equilibrium relationship between the expected return and the standard deviation of efficient portfolios. The separation theorem of J. Tobin (1985) states that portfolio consist of risk-free assets and assets on the market portfolio. A rational investor will select an optimal portfolio on the capital market line (CML) which maximizes investor's preference. Capital market line (CML) represents the equilibrium relationship between the expected return and the standard deviation of efficient portfolios. The line of efficient portfolios is called efficient frontier. The efficient frontier that can be constructed without borrowing or landing is convex towards the Y axis in risk return space. However, if borrowing and lending opportunities are included in the analysis, a linear of investment opportunities are called the Capital market line (CML).

Figure 2.2

Capital Market Line



The equation for the capital market line (CML) can be expressed as;

$$E(R_P) = R_f + \frac{E(R_m) - R_f}{\sigma_m} \times \sigma_P$$

Where,

$E(R_P)$ = Expected return on a portfolio

R_f = Risk free rate

$E(R_m)$ = Expected return on a market portfolio

σ_P = Standard deviation of market portfolio

The slope of CML shows an extra return over the risk free rate of return;

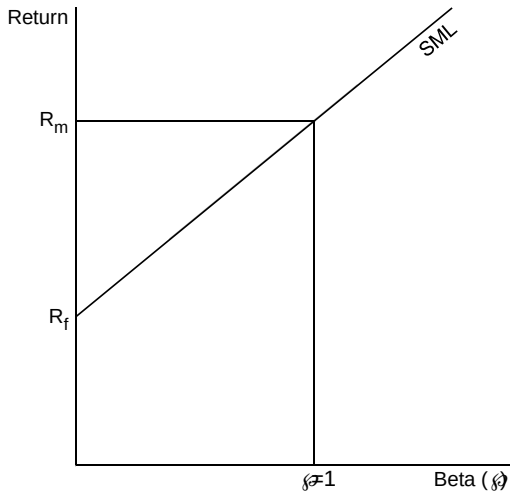
$$\text{Slop of CLM } X \frac{E(R_m) - R_f}{\exists_m}$$

2.1.9 Capital Asset Pricing Model (CAPM)

William F. Sharpe has presented his famous magnum opus capital assets pricing model in 1961. The CAPM was developed from portfolio theory as a more practical means of enabling investors to establish the rate of return, which they require from their investment. The model is based upon the concept of risk being analyzed between "systematic" and unsystematic risk". It is assumed that investors are widely diversified and therefore, investors can ignore the unsystematic (specific) risk, as it would be removed by a wide level of diversification. The measure of systematic risk relating to security can be measured by calculating the beta (B) factor for a security. Beta is the relative measure of systematic risk of a given security relative to the risk of the market portfolio. If beta, measuring only the systematic risk is substituted for total risk in capital market line diagram depicted above, the relationship between the return and beta is now called security market line (SML).

Figure 2.3

Security Market Line



The below equation showing the security market line (SML), explained by the CAPM is as follows:

Equation of SML = $E(R_i) = R_f + [E(R_m) - R_f] b_i$

Where,

$E(R_i)$ = Required rate of return on stock i.

R_f = Risk free rate of return

$E(R_m)$ = Expected rate of return on market portfolio.

b_i = Beta or systematic risk index of stock i.

The concept of beta is the ratio of covariance of stock return and market return to the variance of the market return. Beta is an index of systematic risk. Higher the value of beta shows the higher systematic risk and lower value of beta shows the lower systematic risk. It can be calculated as follows:

$$bi\ X\frac{Cov_{im}}{\exists_2 m}$$

Where,

b_i = Standard deviation of stock i.

Cov_{im} = Co-variance between the return of stock of and market return (m).

$\sigma_2 m$ = Variance of the market return.

Alternatively, the value of beta is calculated as follows:

$$bi\ X\frac{\exists i \mid \uparrow_{im}}{\exists m}$$

Where,

b_i = Standard deviation of stock i.

γ_{im} = Correlation between the return.

σm = standard deviation of market return.

2.1.10 Investment

In general sense, investment means to pay out money to get more but in the broadest sense, investment a present commitment for the future benefits. While the commitment takes place with certainty, the future benefits are shrouded in uncertainty. The uncertainty creates risk to investors and they desire to minimize return by minimizing such risk. Therefore, taking decision about proper investment is

crucial to the investor and it requires a specific investment decision process, analysis of securities, identification of overpriced, under priced securities, making appropriate investment strategies as well as construction of efficient portfolio. Investment is concerned with the management of an investor's wealth, which are the sum of current income and the present value of all future income. The term investment is conceptualized as income, saving or other collected fund. It covers wide range of activities. T is commonly known fact that an investment is possible only when there are adequate saving. Therefore both saving and investment are interrelated. Investment is an exchange of financial claim stocks and bonds etc. investment if the employment of funds with the rim of achieving additional income or growth in value it involves the commitment of resources that have been saved or pot away from current consumption in the hope that some benefit will occur in future. Investment involves long term commitment and waiting for a reward.

"Investment is a commitment of funds made in the expectation of some positive rate or return. If the investment is property undertaken the return will be comminute with the risk the investor assumes". Return risk and time are the elements of investment (Fisher and Jordan, 1995:104).

2.1.11 Common Stock

Common stock represents equity, or an ownership position in a corporation. It is a residual claim, in the sense that creditors and preferred stockholders must be paid as scheduled before common stockholders are, in principal, entitled to any value remaining after all other claims have been satisfied. The great advantage of the corporate form of organization is the limited liability of its owners. Common stocks are generally 'full paid and non-assessable'; meaning that common stockholder may lose their initial investment but not more than that. That is if the corporation fails to meet its obligations, the stockholders cannot be forced to give the corporation the funds that are needed to pay off the obligations. However, such failure will result in the stockholders having lost an amount equal to the price previously paid to buy the shares.

Common stock holders of a corporation are its residual owners, their claim to income and asset comes after creditors and preference share holders have been paid in full. As

a result, a stockholders return on investment is less certain than the return to lender or to preference stock holder. On the other hand, the share of the common stock can be authorized either with or without per value. The par value of the stock is merely a stated figure in the corporate character and is of little economic significance. A company should not issue stock at a price less than par value because stock holders who bought stock for less than par value would be liable to creditors for the difference between the below pre price they paid and the par value (Van Horne, 1997:98).

But in Nepal, as per the provision of Nepal Company Act 2057, no common stocks are allowed to issue without par value. The par value must be either Rs. 10 or Rs. 100. Common stock has one important investment characteristics and is important speculative characteristics. Their investment value and average market price tend to increase regularly but persistently over the decreases as their net worth builds through the reinvestment of undistributed earning. However, most of the time common stocks are subject to irrational and excessive price fluctuation in both directions, as most people to speculate or gamble i.e. give way to hope fear and greed.

2.1.11.1 Return on Common Stock

The cash payoffs to owners of common stocks are of two kinds:

i. Cash Dividend

ii. Capital Gain (Loss)

If current price of share is Po, the expected price at the end of a year is P_1 and that expected dividend per share is Div1, the rate of return that investors expect from this share over the next year is defined as the expected dividend per share Div_1 plus the expected price appreciation per share (P_1-P_0), all dividend by the price at the start of the year Po which can be shown in the form of;

$$R\ X\frac{Div_1\ \Gamma\ P_1\ ZP_0}{P_0}$$

For common stock, we may define single period return as;

$$R\ X\frac{D_t\ \Gamma\ (P_t\ ZP_t\ Z1)}{P_{tZ1}}$$

Where,

R = Actual/expected return

T = Particulars time period in the past (future)

D_t = Dividend received during the year t

P_t = Stocks price at time period t

P_{t-1} = Stocks price at time period t-1

The above mentioned formula can be used to find out both actual single period returns (when based on historical data) as well as expected single period (when based on future expected dividends and prices).

(The term in the numerator of above equation represents the capital gain or loss during period.)

"Holding period return measure mentioned above is useful with an investment horizon of one year or less. For longer periods, it is better to calculate rate of return as an investment yield. The yield calculation is present value-based and this considers the time value of money" (Barely and Myers, 1994:84).

2.1.11.2 The Risk on Common Stock

"Most people view risk in the manner we just described a chance of loss. In reality, risk occurs when we cannot be certain about the outcome of a particular activity or event, so we are not sure what will occur in the future. Consequently, risk result from the fact that an action such is investing can produce more than one outcome in future. To illustrate the risks of financial assets, suppose someone has a large amount of money to invest for one year. Someone could buy a Treasury security that ha an expected return equal to 8 percent. The rate of return expected from this investment can be determined quite precisely, because the chances of the government defaulting of treasury securities is negligible; the outcome essentially is guaranteed, which means this is a risk-free investment. On the other hand, someone could buy the common stock of a newly formed company that has developed technology to extract petroleum from the mountains in South America ha yet to be proven economically feasible, so it is not known what returns the common stockholders will receive in the future. Experts who have analyzed the common stock of the company have determined that the expected or average long-run, return for such an investment is 30

percent; each year, the investment could yield a positive return as high a 900 percent, but there is also the possibility that the company will not survive, in which can the entire investment will be lost. Here the return investors receive each year cannot be determined precisely because more than one outcome is possible-this is a risky investment. Because of significant danger of actually earning considerably less than the expected return, investors probably would consider the stock to be quite risky. But there is also very good chance the actual return will be greater than expected, which, of course is an outcome we gladly accept. So, when we think of investment risk, along with the chance of actually receiving more than expected, we should consider the chance of actually receiving more than expected. If we should consider investment risk form this perspective, than we can define risk as the chance of receiving an actual return other than expected, which simply means, there is variability in the returns or outcomes from the investment. Therefore, investment risk can be measured by the variability of the investments returns. However, we can define risk more precisely, and it is useful to do so" (Weston and other, 1995:182-183).

2.2 Review of Other Independences Studies in Nepal Related Studies

An article published in business age by Pokharel (1999) *"Stock Market doing Pretty Weir* is reviewed here.

In this article he has that the investment on the shares of manufacturing and processing was more attractive than of the banks. He found that the share of individual companies showed very good performance from October 1998 to 1999. NEPSE index showed upward trend for all the shares in this period. He gave following reasons behind the appreciation of share price.

- Companies have rewarded shareholders.
- Reduction of interest rate of money market.
- Healthy speculation and loan has made the market interesting by providing loan to the stock investors their share as collateral.
- Investors are appearing more rational in their investment decision.

Finally, the concludes that the capital market needs more infrastructure investment than institution investment once the required infrastructure can facilitate the market,

the size of the market could be made even bigger by introducing new instruments such as government bonds.

Next here is an article published in business age magazine by Ghimire (2001) *"Nepal Share Market and Investors Prospect"*. In this study he has pointed out some important trends our capital market. He has concluded that the Nepalese share price is decreasing because of many unbalanced factors. The major reason behind the movement in the index is the domination of the banking sector script in the Nepalese stock market transactions. Mismanagement practices cannot help the growth of share market. The general public has invested recklessly. They just believe what one broker or the investor says about scrip. One of the prime motives for the investment is to earn return on it. Finally he concludes that the general investors should be alert and aware of the situation. They must receive the financial information before they make investment and act rationally.

Similarly, Poudel (2001) also carried out another study in a topic *of "Investing in shares of Return and Risk elements"*. The study was based on the data collected for eight banks from mid July 2,001. The main objectives of the study was to determine whether the shares of commercial banks in Nepal are over or under priced by analyzing risk and return characteristics of the individual share.

Poudel summarized the following finding:

- Most of the individual share's appeared to be defensive as beta coefficients were les that on low data shares were less volatile than market as a whole. Only the return of share of Bank of Kammandu had beta coefficient of greater than one, indicating that the share was more risky than the market.
- Nepal Arab Bank Ltd., Nepal Indosuez Bank Ltd., Himalayan Bank Ltd. Had higher expected equilibrium return than expected rate or return. And standard Chartered Bank Ltd., Nepal SBI Bank Ltd., Nepal Bangladesh Bank Ltd., Bank of Kathmandu Ltd. Had lower equilibrium return than expected rate or return.
- From this study we get Nepal Arab Bank Ltd., Nepal Indosuez Bank Ltd. and Himalayan Bank Ltd. was overpriced and other were under priced.

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2.3 Review from Journals

In the field of finance in Nepal it is very difficult to get advanced and research based journal. There are very limited numbers of journals' available in the subject of management and it is also hard to find any article in the subject matter of finance. Almost no articles about the risk and return analysis on common stock investment are found. Hence some foreign well known recently published journals of finance has been reviewed here. However, it helps to build the conceptual framework on this topic.

The journal of finance, published by American Finance Association for many decades is taken into account. In its recent volume of August 1999, an article *"Local Return factors and Turnover in Emerging Stock Markets"* by K Greet Rouwenhast. This paper examines the sources of return variation in emerging stock markets. Compared to the developed markets the correlation between most emerging market and stock market has been historically low and until recently many emerging country restricted investment by foreign investor.

He attempts two set of question to answer. The first set of three questions concern the existence of expected return premiums, (i) Do the factors that explain expected return difference in developed equity markets also describe the cross section or expected returns of emerging market firms? (ii) Are the returns factors in Emerging markets primarily local or they have global components as well? (iii) How does the emerging

market evidence contribute to the international evidence form developed markets that similar return factors are present in markets around the world? The set of questions of the paper include, (iv) is there a cross sectional relation between liquidity and average, returns in emerging markets? Are the return factors in emerging markets cross sectional correlated with liquidity?

Total returns are calculated in the sum of the dividend return and price appreciation using prices scaled by a capital adjustment factor, which the IFC computers to correct for price effects associated with stock splits, stock dividends and rights issues. Many emerging market have firms with multiple share assess are treated as a single value weighted portfolio of the outstanding equity securities (Rouwenhorst, 1999:1442-1443).

In this proper Roowenhorst has been made detail analysis of the data and he interprets the result in each section. Lastly, he has concluded his findings as "The first conclusion is that the return factors in emerging markets are qualitatively similar to those in developed markets: Small stocks outperform growth stocks and emerging market stocks exhibit momentums. There is no evidence that local market betas are associated with average returns. The low correlation between the country return factors suggest that the premium have a strong local character. Furthermore, global exposure cannot explain the average factor returns of merging market. This is little evidence that the correlation between the local factor portfolios have increase, which suggests that the factors responsible for the increase of emerging market country correlation are separated from those drives the difference between expected return within these markets. A Bayesian analysis of Premiums in developed and emerging markets shows that unless one has strong prior belief to the contrary. The empirical evidence favors the hypotheses that size, momentum and values strategies are compensated for in expected returns around the world. Finally, the paper documents the relationship between expected returns and share turnover and examines the turnover characteristics of the local factors portfolios. There is no evidence of relation between expected returns and turnover, in emerging markets. However, beta, size momentum and value are positively cross sectionally correlated with turnover in emerging markets. This suggests that return premium do not simply reflect a compensation for liquidity (Rouwenhorst, 1999:1462).

After reviewing an article entitled American Association of Individual Investors, Investing basis reveals importance to understand how personal circumstance affect investment decision. (If these factors make no difference we could simply publish one suggested portfolio for everyone to follow). Investment profile is the beginning of the asset allocation process, which consists of dividing portfolio among the major asset categories of stocks, bonds and cash. The asset allocation decision will have a far more effect on portfolio return.

Make allocation decision with the major categories. For instance stock portfolio can be divided among large capitalization stock, small capitalization stocks and international stocks. Once these decisions are reached, you will be ready to make selection among the various investment options. Lastly, once you have set up your investment portfolio you must monitor it, making changes when appropriate.

Every investor wants the highest assured return possible. Both as we have seen, returns are not certain and different investors have varying degree of uncertainty that they are willing accept.

In order to reduce overall risk, it is the best to follow diversification of assets that are not related. "The technical term for this is not putting all your eggs in one basket". In that way if u trip, you won't break all the eggs. The creation of a portfolio' by combining two assets that behave exactly the same way cannot reduce the portfolio's overall risk below the risk of the least risky asset.

Fluctuations expose you to wide uncertainty in your overall returns and even to the risk of permanent loss of principal. CAPM is an effective model in finance but it is not far off from argument. It has also got it good points as well as bad points.

It tells us where to invest, how to invest and what discount rate to use for project cash flows. Not only that, it is a disarmingly simple model. The expected return of a security depends upon a simple statistics. The relationship between risk and return is linear. Calculation of portfolio risk trivial at the sometime, the CAPM is revolutionary. It tells us that the variance of a project is not a factor in determining the

appropriate risk adjusted rate. It turns financial research from Toll-up-your sleeves fundamental analysis into a ' statistical problem. In short, the CAPM turned Wall Street on its head.

2.4 Review of Thesis

The risk and return is not a new concept for financial analysis in Nepal. It is slow growing capital market. However, few studies are made regarding this topic. Some studies related to the topic of risk and return has been conducted for the fulfillment of master degrees in T.U. The only relevant subject matters are reviewed in these studies which are as follows.

Sapkota (2001) in his dissertation entitled on "*Risk and Return Analysis in Common Stock Investment*" had focused to analyze the risk and return of the common stock in Nepalese stock market. This study is concentrated on the common stock of commercial bands. Mr. Sapkota found that the banking sector is the biggest one in terms of market capitalization an turnovers. Expected return on the common stock of Nepal Bank Ltd is maximum (i.e. 66.99%) and common stock of Nepal SBI Bank Ltd. is found minimum. Common stock of NBL is the most risky and common stock of Nepal SBI is the most risky and common stock of Nepal SBI is least risky. He has concluded that common stock of Nepal Bangladesh Bank is the best one for investment. On the other hand, portfolio return between the common stock of Nepal Grindlays Bank and Nepal SBL is 26.66 percent but portfolio standard deviation is only 14.97 percent, which is less than single stocks standard deviation.

In addition, he also recommended reducing the risk; investors should diversity this fund proper construction of portfolio never creates any considerable less. Private investors should try and work out their attitude towards the risk of various investment and HMG needs to manage the trading of government securities in NEPSE.

Acharya (2002) in his thesis paper *"An analysis of risk and return associates with common stock investment of joint venture banks in Nepal"* concluded that generally average inventors are risk averse. They prefer to invest on such investment, which provided higher return at the given level of risk. It is widely known that investment on portfolio generates higher and constants return as compared to single assets. The

reason is that the lower return on one asset off set the higher return from other assets. It is obvious that investor can avoid risk by adopting portfolio but the situation in Nepal is different. The evidence shows that most of the investors prefer to invest in single security rather than portfolio. Concept of portfolio should be developed in their mind.

In addition Acharya added, "stock market investment is not easy. Naturally it is very risk job because return on stock investment is not swell. Chance of heavy loss and gain are fifty. It is more risk in short term than long term so investor must prepare their mentality accordingly.

Joshi (2004) has conducted a research *on "Risk and Return Analysis of Common Stock of Five Listed Commercial Banks."* The main objective of the scholar's study was to assess the risk associated with return on common stock investment of the basis of selected tools. For the study, the researcher is used five years data 1998-2002. He has used arithmetic mean to calculate the return, standard deviation and coefficient of variations, which are used to measure unsystematic risk and beta coefficient. The measurement explains sensitivity or volatility of the stock with market and individual banks. Correlation is a statistical tool i.e. is used to measure relationship between risk and return. The researcher also used t-test to calculate hypothesis. The major findings of his study are that banking sector has the expected return is 21.77 percent, risk is 36.1 percent and CV is 1.66, similarly finance and insurance sector has 21.77 percent and 1.66, hotel sectors has 10.16 percent, 72.4 percent, 7.123, trading sectors has 6.68 percent, 80.68 percent, 11.76, other sectors has -16.61 percent, 50.45 percent and 3.037. Market expected return of 10.2 percent and risk of 39.57 percent, CV of 3.88. SCB has maximum market capitalization and NBBL has the minimum market capitalization. Market capitalization as well as NEPSE index has heavily influenced by banking sector. If investors wish to generate higher return then they should bear higher risk and invest in the share of SCBL and if they are risk averters and they want to invest in single assets. They can invest in the share of NBL or HBL because these two stocks have lower risk that of portfolio risk.

Neupane (2008) in his thesis paper "*Risk and Return Analysis of Common Stock Investment* of listed commercial banks" concluded that all the commercial banks are

very much risky with fluctuated rate of return. He pointed out that findings of the different banks beta coefficient of all the banks are very much volatile except EBL stock. His study shows that all commercial banks under study required rate of return is less than expected rate of return, so all stocks are underpriced. It shows that all the banks have stock with good investment opportunity. It is also concluded that NIBL and EBL is higher portfolio return and HBL and EBL is lower portfolio risk

Moreover, he concluded that NIBL and EBL have higher portfolio return and HBL and EBL have lower portfolio risk. It shows that EBL has high proportion of unsystematic risk i.e. 77.18% and HBL has high proportion of systematic risk i.e. 97.49% which cannot be minimized from internal factor. Common stock of EBL is best among these bank.

Shakya (2009) has conducted a research in the topic *"Risk and Return Analysis of the Commercial Banks"*. With special reference to 6 Commercial Banks is also relevant to this study. The time period covered by this research was five year. The data and other necessary information were collected by using secondary data. The specific objectives of this thesis are as follow:

- To study the risk and return of the samples commercial banks (6 out of 27 banks) and also analyze their coefficient of variance. ::
- To perform the comparative analysis of the risk and return on the common stocks as the selected banks.
- To find out how sensitive the stock price of the selected commercial banks and the banking sector as whole with that of the NEPSE.
- To provide the valuable suggestion about the risk and return on stock of the commercial banks that could be the deciding factor for the investor in their investment.

In this research he has pointed various finding some remarkable findings are as follows.

- Shares of commercial banking sector are more lucrative for the investor to invest. It is safer for the Nepalese investor to invest in this sector.

- The covariance and beta coefficient of commercial banking sector with that of the market are also good enough for the general investor to invest in this sector.
- Among the commercial banking sector too, investor should invest in shares of EBL as their coefficient of variation are good than other sampled commercial banks. However NABIL, NIBL and BOK are more risky at the present time to invest in its share than other selected banks.

  Analysis of personal risk, attitude, needs and requirements will be helpful before making an investment in stock market, investor should make several discussion with stock holder before reaching at the decision. Investor should make then-decision on the basis of reliable information rather than the imagination and romers.

Sapkota (2010) on "Risk and Return Analysis and Optimal Portfoilio Creation of Common Stock Investment (With References to SBI, NABIL, BOK, NIC, EBL ,and SCBL)". The main and basic objectives of the study are to find out the condition of risk and return analysis of common stock investment and suggestion how to create a portfolio among the selected commercial banks. The main objectives of the study are as follows:

- To analyze risk and return of investment in common stock of commercial bank.
- To determine relation of each bank with the industry index.
- To explain portion of systematic risk and unsystematic risk from the total risk.
- To evaluate common stock price under CAPM method.
- To analyze how to create optimal portfolio combination using selected commercial banks.
- To shows the current market movement, banking index movement and selected commercial banks price movement in trend line.

Major findings of the study are as follows:

- BOK's common Stock is yielding the highest Expected rate of return with 87.42%. Whereas it is the Lowest 57.40% in case of EBL. The other banks

rate of return are 80.13%, 76.29%, 73.58% and 72.84% of NABIL, NIC SCBL and SBI respectively.

- NABIL's Common Stock consists of the highest 81.82% risk, whereas EBL's Stock is least risky as is consist of only 37.17% risk and BOK, SBI, NIC and SCBL risk is 75.87%, 66.89%, 56.42% and 50.38% of respectively.
- Coefficient of Variation Analysis it is resulted that there is highest risk beard by investor in NABIL where for per unit return, risk is 1.02 whereas it is the lowest for EBL.
- All Banks have Unsysytematic risk which Risk can be diversifiable. The highest USR 99.87% at total risk Common Stock of SBI Bank, whereas the Lowest UST for EBL i.e. 42.10.
- BOK's stock is aggressive i.e. market sensitive, to the market changes as evaluated by the highest beta coefficient of 1.25, whereas it is lowest 0.0582 in case of SBI. The other Banks beta are 0.7346, 6968, 0.6932 and 0.5983 at NIC, SCBLK, EBL and NABIL respectively.

2.5 Research Gap

Risk and return is a broad topic in finance and investment. It is a continuous process of analyzing and interpreting the results that are obtained from the research. Investment is a dynamic process and investors required various information regarding the stock market and individual company as soon as possible.

Theses which are reviewed in this chapter also based on risk return analysis of commercial banks are providing relevant information to shareholders and investors and the fact to carry out this thesis is to provide investors real, accurate and updated information as soon as possible

CHAPTER-III

RESEARCH METHODOLOGY

The research methodology is the systematic way of solving research problems. This chapter refers to the overall research processes, which is a researcher conducts during his/her study. It includes research design, sources of data, analytical tools, and procedures of collection and analysis of data. Research is systematic and organizational effort to investigate a specific problem that needs a solution. This process of investigation involves a series of well though out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answer to the problems. This research is on the basis of historical data using both financial and a statistical tool performs detail analysis of different variables. Results are presented in simple way. Detail research methods are described in following headings.

3.1 Research Design

Research Design is purely and simply the framework or plan for a study that guides the collection and analysis of data. Research design is descriptive and core perspective in this study because the historical secondary data has been deployed for analysis. Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research question and control variance. This research is belongs to risk and return analysis so that this research is based on recent historical data, which covers the five years period data F/Y2003/06 to 2009/10. It deals with the common stocks of commercial banks on the basis of available information. As the title of the study suggests, it is more analytical and empirical but less descriptive.

3.2 Population and Sample

Population of the study is all the listed commercial bank of Nepal. But for the study overall a listed common stock has been considered as the population and samples are the common stock of two listed commercial banks. At present 31 commercial banks are operating in Nepal. Among them 27 commercial banks are listed in the NEPSE, among those two commercial banks are taken as sample. They are Everest Bank (EBL) and Bank of Kathmandu (BOK) Limited.

3.3 Sources of Data

All the data are collected from secondary sources. Data related to the market prices of stocks, market prices of stocks, market capitalization, movement of NEPSE index etc. it is taken from the trading report published by NEPSE and the website of Nepal Stock Exchange (i.e.www.nepalstock.com). Annual report of commercial banks and their financial statement are also collected from the respective sample banks. NEPSE periodicals, articles and previous research report etc. has also been considered.

3.4 Data Collection Procedure

The main source of data is secondary data. During the study the data has been taken from Nepal stock Exchange (NEPSE), individual investors and stockbrokers. The main source of data is annual trading report published by NEPSE, securities Board and other concerned listed companies' annual report, journals and Nepal Rastra Bank's annual, Quarterly Publications and others.

3.5 Method of Data Analysis

To achieve the objectives of research, this study has used various financial and statistical tools that are necessary to find out results. The following tools shall analyze the data presented in the study.

Statistical Tools

Test of Hypothesis (T=test)

All the companies listed in the NEPSE Index is population in this study. Which in other words can be said market. The sample is the selected companies. At the sample for the study is less than 30, t=test is the study is less the 30, t-test is the best way for testing the hypothesis.

a. Testing of Hypothesis

The first hypothesis is based on the test of significance for difference of mean (T-test).

Null Hypothesis (H_0)

$\overline{R}_j X \overline{R}_m$ i.e. there is no significant difference between the expected return of selected banks and overall market return.

Alternative Hypothesis (H_1)

$\overline{R}_j \neq \overline{R}_m$ i.e. there is significant difference between the expected return of selected banks and overall market return.

Under the H_0

$$\text{The Statistics (t) is t} = \frac{\overline{R}_j - \overline{R}_m}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where,

Rj Average return of the portfolio of C.S of selected banks.

$\overline{R}_m$ Average return of market.

$$S^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}$$

$n_1 = n_2$= Number of observation.

$S_1 2$ = Variance return of selected banks.

S_2^2 = Variance of market returns.

Test result: if t calculated value is less or equal to tabulated value, the null hypothesis is accepted and vice versa.

Graph

Graph help to show the general trend of the ratios in respect to time period of the analysis year. Every common way of presenting data for two variables, which have a relationship, as in figure or chart or graph is presented.

3.5.1 Market Price of Stock (p)

Market price of stock is the basic variable of the study. Among high, low and closing price, each year closing price has been taken as market price of the stock, which has specific time span of one year and the study has in annual basis. Closing price is used as market price of stock. Due to the variance in price with in a year, it is difficult to predict the market price. Although average price could be used as market price. It is also so complicated to collect the day's price of five year period. On the other hand average of high and low privet is assumed not to be reliable and representative information. Therefore, it is appropriate to use closing price as a market price.

3.5.2 Dividend

Dividend refers to the portion of net income paid out to shareholders. It is paid in cash and/ or stock for making investment and bearing risk. Dividend decision of the firm is another yet crucial area of financial management as it affects shareholders wealth and value of the firm. The percentage of earning paid out in form of cash dividend is known as **dividend payout ratio.** A company may retain some portion of its earning to finance new investment. The percentage of earning retained in the firm is called **retention ratio.** Dividend is reward to the shareholders. It can be given in the form of cash or shares. It the company declares the dividend in cash, there is no difficulty in calculation. But if the company declares stock dividend or bonus share, shareholders get shares as dividend instead of cash. So, there is little difficulty to calculate the exact amount in cash of stock dividend the formula for total dividend amount is considered as follows:

Total Dividend Amount= Cash Dividend + Stock Dividend% × Next Year MPS

Symbolically,

$$D_T \; XD_C \; \Gamma \frac{SD}{SE} \mid P_S$$

Where,

D_T =Total Dividend amount.

D_C = Cash Dividend amount.

SD = Stock Dividend.

SE = Existing stock.

P_S = Next year's Market price of stock.

3.5.3 Return on Common Stock Investment (R)

This is the annual realized return received on an investment and any change in market price, usually expressed in a percentage of the beginning price of the investment.

$R_t = D_t + (P_t – P_{t-1})$

Where,

R_t = Annual realize return on common stock at time t.

D_t = Cash dividend received at time t.

P_t = Price of stock at time t.

P_{t-1} = Price of stock time t-1.

3.5.4 Expected rate of Return on Common Stock $E(R_j)$

One of the major aims of the study is to determine the expected return on the investment in common stock. Generally, this rate is obtained by the arithmetic mean of the part year returns.

$$E(R_j) \text{ or } \overline{R}_j \; X \frac{R_j}{n}$$

Where,

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

n = No of years that the return is taken.

Σ = Sign of Summation.

3.5.5 Standard Deviation

Standard deviation is a statistical measure and is widely used to measure risk from holding a single asset. It is also a statistical measure of the variability of a set of observations. The standard deviation represents a large dispersion of return and is a high risk and vice versa. The symbol is called (σ) sigma. It is the measure the total risk on stock investment.

$$\exists_j \; X \sqrt{\frac{(R_j \; Z \overline{R}_j)^2}{n}}$$

Where,

σ_j = Standard deviation on of return stock j during the time period.

R_j = Return on stock j.

n = number of years that the returns are taken.

3.5.6 Co-efficient of Variation (C.V)

It is the relative measurement of risk with return. It measures the risk per 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:

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

Where,

$C.V._j$ = Co-efficient of variation of stock j.

σ_j = Standard deviation of return on stock j.

R_j = Expected rate of return on stock j.

3.5.7 Portfolio Return (R_P)

A portfolio is a bundle or a combination of individual assets or securities. The return of a portfolio is equals to the weighted average of the returns of individual assets (or securities) in the portfolio with weight being equal to the proportion of investment in each asset.

$$R_P = \sum_{j=1}^{n} W_j R_j$$

Where,

R_P = Portfolio return.

W_j = Proportion of investment in stock j.

R_j = Return on stock j.

n = No of securities included in a portfolio.

j = Stock or security j.

3.5.8 Portfolio Risk (σ_P)

Portfolio risk is measure in terms of variance or standard deviation. The variance (or S.D.) of a portfolio is not simply the weighted average of variance (or S.D.) of individual securities. Portfolio risk doesn't consider only the riskiness of the individual stocks. It is also affected by the association (relationship) of movement of returns of two securities. The portfolio risk (or S.D.) in case of two assets is given below:

$$\sigma_P = \sqrt{\sigma^2_A W^2_A + \sigma^2_B W^2_B + 2 W_A W_B \sigma_A \sigma_B r_{AB}}$$

Where,

σ_P = Portfolio standard deviation.

σ^2_A = Variance of return a stock A.

W_A = Weight of A.

σ^2_B = Variance of return on stock B.

W_B = Weight of B.

σ_A = Standard deviation of stock A.

σ_B = Standard deviation of a stock B.

r_{AB} = Correlation of stock A and stock B.

3.5.9 Risk Minimizing Portfolio

The proportion of investment in two securities included in a portfolio, has the lowest level of risk is known as risk minimizing portfolio. Let's assume there are securities X & Y in a portfolio. We can use the following formula for estimating the optimal weights of securities X & Y:

$$W_X \; X \frac{\exists^2_y \; Z Cov_{xy}}{\exists^2_x \; \Gamma \exists^2_y \; Z 2 Cov_{xy}}$$

And, $W_y = 1 - W_x$

Where,

W_x = Weight of x.

W_y = Weight of y.

σ^2_x = Variance of return on stock y.

σ^2_y = Variance of return on stock x.

Cov_{xy} = Co-variance between the return of stocky x and y.

3.5.10 Required Rate of Return $E(R_j)$

Required rate of return is minimum expected rate of return needed to induce an investor to invest his/her fund. It is always more than risk less rate of return. Normally, when an individual investment is given higher return, i.e. realized rate of return then its required rate of return, this type of investment is known as under priced

investment. Such under priced assets should be purchased. On the other hand, if realized rate or return is less than required rate of return of a particular asset, it is said to be overpriced assets, such assets should be purchased, instead if one is holding such asset, if should be sold immediately. The required rate of return is calculated by using following formula.

$E(R_j) = (R_f) + [(R_m) - R_f] b_j$

Where,

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

R_f = Risk free rate of return.

$E(R_m)$ = Expected market portfolio return.

b_j = Beta coefficient of stock j.

3.5.11 Beta Coefficient (b_j)

Beta coefficient shows the market sensitivity of stock. Higher the beta, greater the sensitivity and reaction to the market movement. Beta coefficient of a particular stock will be less than equal or more than 1, but the beta for market will be always 1.

$$b_j \; X \frac{Cov_{jm}}{\exists^2_m}$$

Where,

b_j = Beta coefficient of stock j.

Cov_{jm} = Co-variance of stock j and market return.

σ^2_m = Variance of the market.

3.5.12 Portfolio Beta (b_p)

Portfolio beta is the weighted average of the beta of individual security. It is calculated as follows:

$$b_p \; X \sum_{jXl}^{n} w_j b_j$$

Where,

b_p = Portfolio beta.

j = Stock j.

n = No. of securities included in a portfolio.

w_j = Weight of proportion of investment in stock j.

b_j = Beta of stock j.

3.5.13 Correlation Coefficient (r_{xy})

Correlation measures the degree of two securities more together. The numerical value of correlation ranges from +1.0 to -1.0. If the sign is positive, the securities tend to move up and down together If two securities more in the some direction, they are positively correlated. If the sign is negative, they are negatively correlated. That means when the returns of one securities is decreases the return of another securities is increases. The magnitude of correlation coefficient indicates the relationship between the return of two assts. the correlation coefficient can be expressed symbolically as follows:

$$r_{xy} \; X \frac{Cov(x, y)}{\exists_x \exists_y}$$

3.5.14 Partitioning of Total Risk in to Systematic and Unsystematic Risk

Total Risk = Systematic Risk + Unsystematic Risk

$\sigma_i^2 = \beta_i^2 \, \sigma^2_m + \sigma^2_{ei}$

Thus, Systematic Risk (SR) = $\beta_i^2 \, \sigma^2_m$

And, Unsystematic Risk = Total Systematic Risk

σ^2_{ei} = Risk – Risk

$= \sigma_i^2 - \beta_i^2 \, \sigma^2_m$

Where,

σ_i^2 = Variance of I assets.

β_i = Beta or systematic risk index of I assets.

σ^2_m = Market variance.

σ^2_{ei} = Unsystematic risk or residual variance.

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

This chapter is the main body of the study, where collected data are presented and analyzed. In this chapter the effort has been made to analyze "Risk and Return" in commercial banks. With the help of various financial and statistical tools, movements of Nepalese stock market of listed commercial banks are tried to evaluate. In this study data of MPS, DPS, EPS, and P/E ratios of selected commercial banks as well as NEPSE index of each industry is presented and their analysis is done. With the help of figures and tables results have been tried to make simple and easy to understand.

4.1 Analysis of Commercial Banks

Among presently 31 commercial banks operating in Nepal, only 27 commercial banks were listed in NEPSE. But in this chapter only two commercial banks were selected and analyzed among total commercial banks. The selected banks are:

a. Bank of Kathmandu Limited (BOK)

b. Everest Bank Limited (EBL)

4.1.1 Bank of Kathmandu Limited (BOK)

Bank of Kathmandu Limited was established in March 1995, in collaboration with the SIAM commercial bank PCC, Thailand under the company Act with the objectives to stimulate the Nepalese economy Act it to newer heights. Out of 50% shares holding the SIAM commercial bank diluted its 25% of holding to the Nepalese citizen in 1998. Current Shareholding pattern of the bank constitutes of promoter holding 41.81% while 58.19% is held by general public. BOK aims to facilitate the nation’s economy and to became more competitive globally. The authorized Capital, Issued Capital and Paid up Capital at the end of fiscal year 2009/10 were, 200,00,00,000, 1,18,21,57,100 and 1,18,21,57,100 respectively. Currently, bank have 37 branches around the country.

4.1.1.1 Analysis of Total Dividend

Table 4.1

MPS, Dividend, EPS and P/E Ratio of BOK

Fiscal Year	Closing MPS	Cash Dividend(Rs)	Stock Dividend (%)	Total Dividend	EPS	P/E Ratio
2005/06	850	18	48	678	43.67	19
2006/07	1375	20	20	490	43.50	32
2007/08	2350	2.11	42.11	770.62	59.94	39
2008/09	1825	7.37	47.37	405.28	54.68	33
2009/10	840	15	30	267	43.08	19

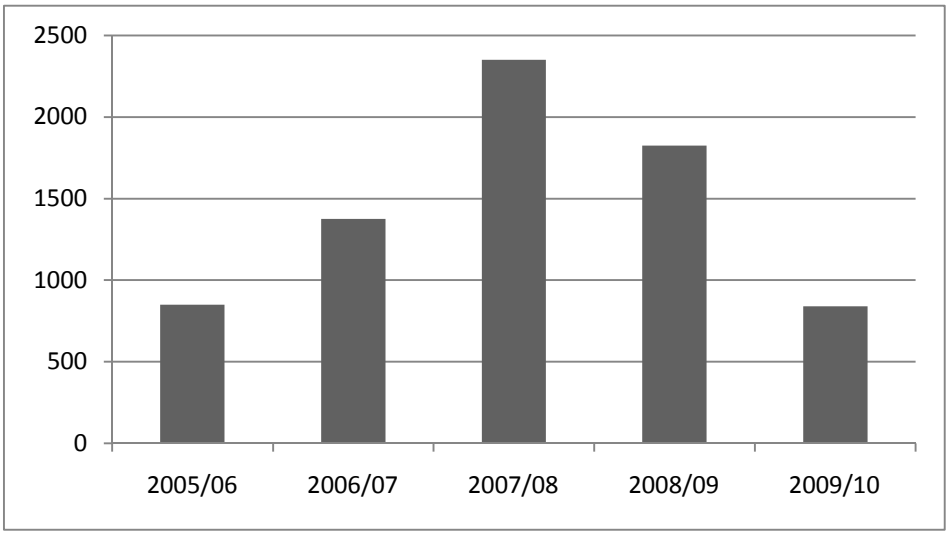
Source: (Annual Report of BOK)

- Value of Stock Dividend = Dividend % × Next year closing MPS.
- Total Dividend = Cash Dividend Per Share + Stock Dividend Per Share
- Value of Stock Dividend of year 2009/10 = Dividend % × Same year MPS

The above table depicts, that there is regular payment of cash and stock dividend by BOK. The highest total dividend is paid in year 2007/08 and lowest is in 2009/10. Moreover, the P/E ratio of BOK is maximum in year 2007/08 and less in year 2005/06. The closing MPS of BOK is maximum of Rs 2350 in year 2007/08 and minimum in year 2009/10 respectively.

Fig 4.1

Price Movement of Common Stock of BOK



The above figure shows, the closing MPS of stock of BOK which is increasing till year 2007/08. The highest MPS is in year 2007/08 and lowest in year 2009/10.

Therefore, the highest dividend is paid in year 2007/08 which is 770.62 and lowest in year 2009/10 i.e. 267. It has highest fluctuating in year 2009/10 at all.

4.1.1.2 Expected Return ($\bar{R}_j$), Standard Deviation ($\exists_j$) and Coefficient of Variation (C.V) of BOK.

Table 4.2

Expected Return, SD and CV of Common Stock of BOK

Fiscal Year	Closing MPS	Total Dividend	$Rj\ X\frac{P_t\ ZP_{tZl}\ \Gamma D_t}{P_t\ Z1}$	$(R_j\ Z\bar{R}_j)$	$(R_j\ Z\bar{R}_j)^2$
2005/06	850	678	2.5535	1.6389	2.6860
2006/07	1375	490	1.1941	0.2795	0.0781
2007/08	2350	770.62	1.2695	0.3549	0.1260
2008/09	1825	405.28	-0.0509	-0.9655	0.9322
2009/10	840	267	-0.3934	-1.308	1.7109
			4.5728		5.5332

Where,

$$\text{Expected Return}\,(\bar{R}j)\ X\frac{R_j}{n}\ X\frac{4.5728}{5}\ X0.9146$$

$$\text{Variance}\,(\sigma_j)^2\ \frac{(R_j\ Z\bar{R}_j)^2}{n\ Z1}\ X\frac{5.5332}{5-1}\ X1.3833$$

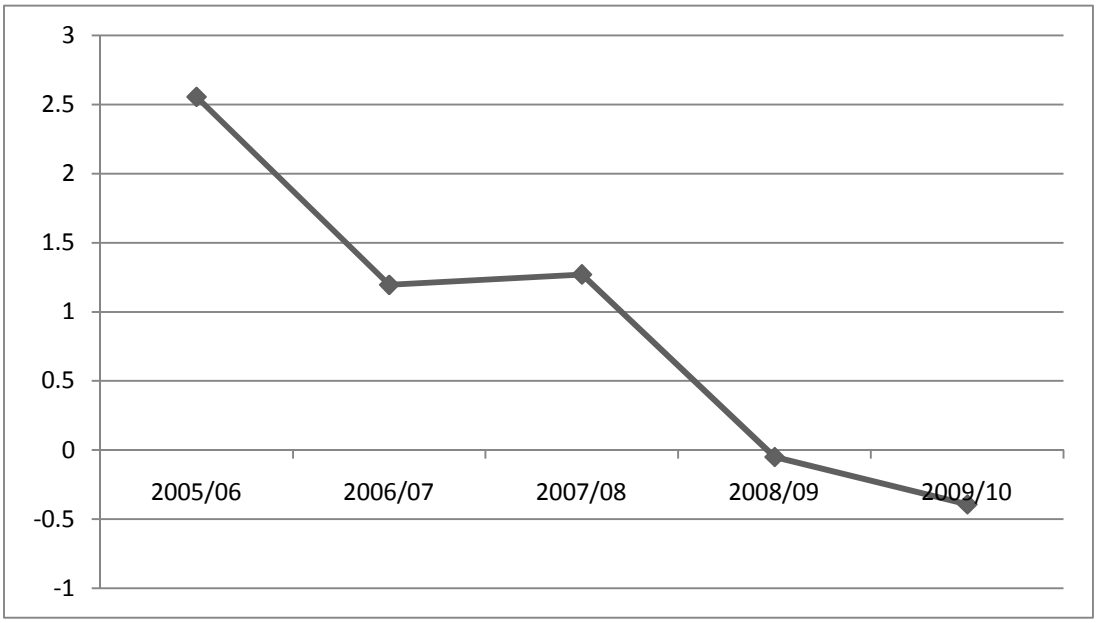
$$\text{Standard Deviation}\,(\sigma_j)\ X\sqrt{\frac{(R_j\ Z\bar{R}_j)^2}{n\ Z1}}\ X\sqrt{\frac{5.5332}{5\ Z1}}\ X1.1761$$

$$\text{Coefficient of Variation}\,(C.V.)\ X\frac{\sigma_j}{\bar{R}_j}\ X\frac{1.1761}{0.9146}\ X1.2859$$

The expected return of BOK is 0.9146 with total risk (standard deviation) of 1.1761. The C.V of BOK is 1.2859 which indicate that to get per unit return 1.2859 risk must be sacrificed. Hence we known that higher CV denote higher risk.

Figure 4.2

Annual Return of Common Stock of BOK



The above line diagram represent the annual return of common stock of BOK. The figure 4.2 shows that there is positive return of BOK till year 2007/08 and negative return from 2008/09 to 2009/10. The highest return is in year 2005/06 i.e. 2.5535 respectively.

4.1.2 Everest Bank Limited (EBL)

Everest Bank Ltd. was established in 1993 as a joint venture Bank with Punjab National Bank Ltd. (India) with the objective of extending professionalized banking services to various section of society in the kingdom of Nepal and there by contribute in the economic development of the country. The bank is providing costumer friendly service through a network of 37 branches. It has authorized capital, issued capital and paid-up capital of Rs. 1,25,00,00,000.00, 1,05,00,00,000.00 and 1,03,04,67,300.00 respectively. The par value of share is Rs 100.00. The bank was listed in NEPSE in 1905 A.D.

4.1.2.1 Analysis of Total Dividend

Table 4.3

MPS, Dividend, EPS and P/E Ratio of EBL

Fiscal Year	Closing MPS	Cash Dividend (%)	Stock Dividend (%)	Total Dividend	EPS	P/E Ratio
2005/06	1379	25	-	25	62.78	22
2006/07	2430	10	30	949.60	78.42	31
2007/08	3132	20	30	756.50	91.82	34.11
2008/09	2455	30	30	519	99.99	24.55
2009/10	1630	30	30	519	100.16	16.27

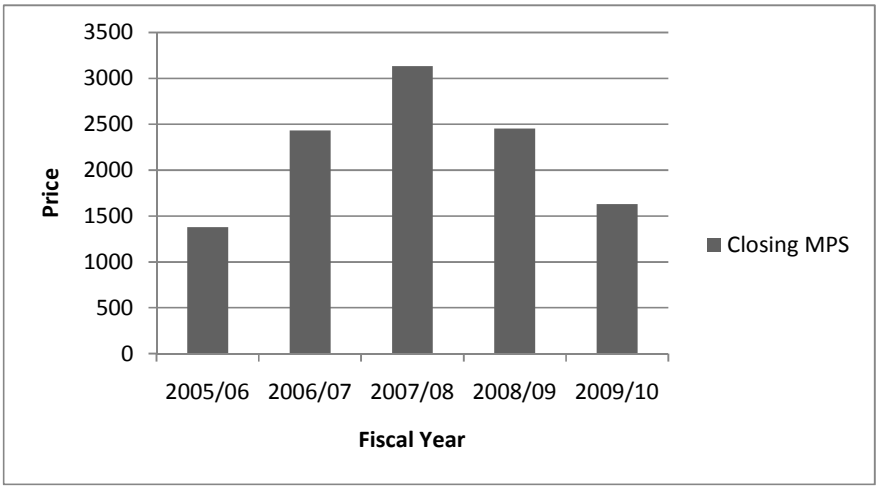
Sources: Annual Report of EBL

- Value of Stock Dividend = Dividend % × Next year closing MPS.
- Total Dividend = cash dividend per share + stock dividend per share.
- Value of Stock, dividend for the year 2009/10 = dividend % × same years MPS.

The table shows that, EBL is paying cash and stock dividend. Highest total dividend is paid in year 2006/07 and lowest is in year 2005/06. P/E ratio of EBL is maximum year 2007/08 and minimum of the year 2009/10. The closing MPS of EBL is maximum of Rs. 3132 in year 2007/08 and minimum of Rs. 1379 in the year 2005/06.

Figure 4.3

Price Movement of the Common stock of EBL



The table 4.3 shows that the closing MPS of stock EBL is increasing during that fiscal year 2004/05 till 2007/08. It is highest fiscal Year 2007/08 and lowest in Fiscal year

2005/06. The total highest dividend in Fiscal year 2006/07, lowest in Fiscal year 2005/06 and fluctuating in the year 2005/06 and 2006/07.

4.1.2.2 Return ($\bar{R}_j$), Standard Deviation ($\exists_j$) and Coefficient of Variation of C.S. of EBL

Table 4.4

Expected Return S.D and C.V of Common Stock of EBL

Fiscal Year	Closing MPS	Total Dividend	$Rj\ X\frac{P_t\ ZP_{tZ1}\ \Gamma D_t}{P_t\ Z1}$	$(R_j\ Z\bar{R}_j)$	$(R_j\ Z\bar{R}_j)^2$
2005/06	1379	25	0.6138	0.1158	0.0134
2006/07	2430	949.60	1.4508	0.9528	0.9078
2007/08	3132	756.50	0.6002	0.1022	0.0104
2008/09	2455	519	-0.0504	-0.5484	0.3007
2009/10	1630	519	-0.1246	-0.6226	0.3876
			$Rj\ X2.4898$		$(Rj\ Z\bar{R}\ j)^2\ X1.6201$

Where,

$$\text{Expected Return}\ (\bar{R}j)\ X\frac{R_j}{n}\ X\frac{2.4898}{5}0.4980$$

$$\text{Variance}\ (\sigma_j)^2\ \frac{(R_j\ Z\bar{R}_j)^2}{n\ Z1}\ X\frac{1.6201}{5\ Z1}\ X0.4050$$

$$\text{Standard Deviation}\ (\sigma_j)\ X\sqrt{\frac{(R_j\ Z\bar{R}_j)^2}{n\ Z1}}\ X\sqrt{\frac{1.6201}{5\ Z1}}\ X0.6364$$

$$\text{Coefficient of Variation}\ (\text{C.V.})\ X\frac{\sigma_j}{\bar{R}_j}X\frac{0.6364}{0.4980}\ X1.2779$$

The expected returnee of EBL is 0.4980 with total risk (measured by S.D.) of 0.6364. The C.V. of EBL is 1.2779 which denotes that to get per unit return 1.2779 risk must be sacrifice. So, higher the C.V. higher will be the risk.

Figure 4.4

Annual Return of Common Stock of EBL

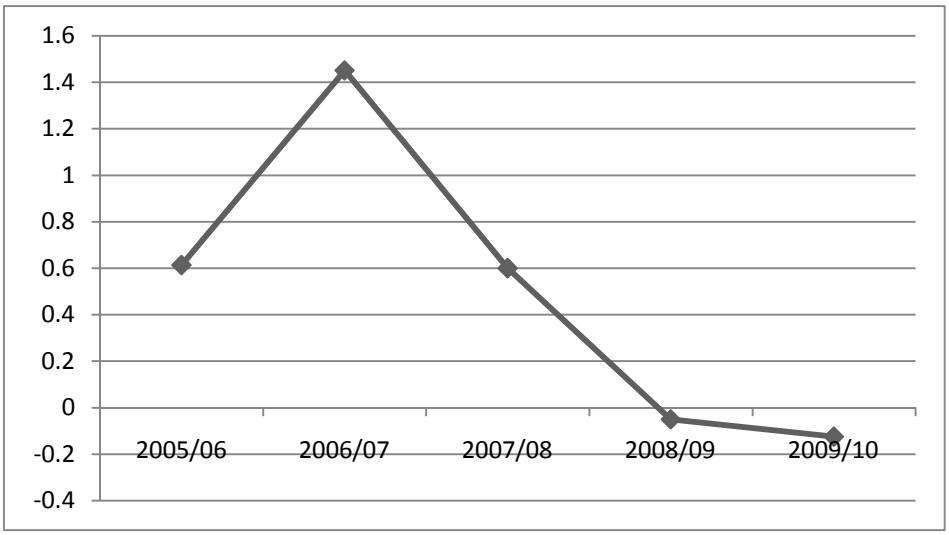


Figure 4.4 shows that the return of EBL is Positive the fiscal year 2005/06 till 2007/08 and negative the fiscal year 2008/09 and 2009/10. There is highest return of 1.4508 in year 2006/07, lowest return of 0.6002 in year 2007/08 and negative return of -0.054, -0.1246 in year 2008/09, 2009/10 respective. There is fluctuation of return.

4.2 Inter Sampled Bank Comparison

According to the result from analysis part, a comparative analysis of return, total risk and risk unit performed here. Expected turn standard deviation of return and coefficient of variation of each bank for the year 2005/06 to 2009/10 are given in the table.

Table 4.5

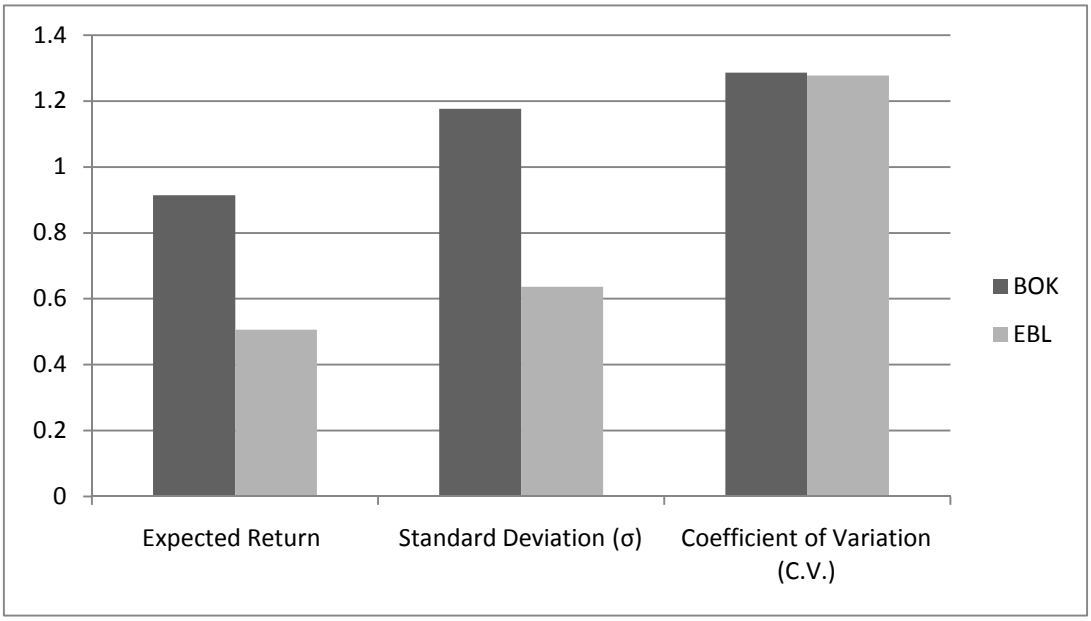
Expected Return, Standard Deviation, Coefficient of Variation of each Bank

Bank	Expected Return $(\bar{R}_j)$	Standard Deviation (σ)	Coefficient of Variation (C.V.)	Remarks		
				Return	Risk	C.V.
BOK	0.9146	1.1761	1.2859	Highest	Highest	Highest
EBL	0.5058	0.6364	1.2779	Lowest	Lowest	Lowest

The above depicts, the overall return and risk of the both banks. The return of BOK is higher i.e. 0.9146 then that of EBL i.e. 0.5058. The total risk measured by standard deviation is observed higher in BOK than EBL. Therefore, the total risk is very high in BOK then EBL. Investment should be done in EBL because it has less C.V. than of BOK.

Figure 4.5

Expected Return, S.D. and C.V. of Sampled Cash Commenced Bank



The above figure depicts, the expected return, standard deviation and coefficient of variation of each individuals bank it is showing the compassion of two banks in terms of risk and return.

4.3 Market Capitalization

On the basis of market capitalization at the end of 2009/10 size of each bank is presented in table 4.6 that EBL has high market capitalization with 10412,77 million then BOK with 9924,31 million among these two companies at 2009/10. So EBL is the biggest and BOK is the smallest company on the basis of market capitalization. The table 4.6 shows that the comparative proportion of the market capitalization of listed two banks.

Table 4.6

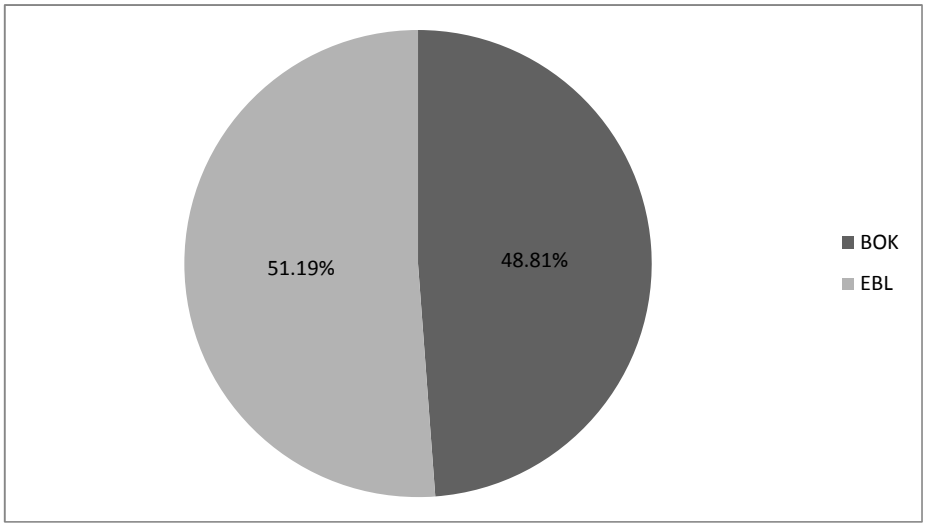
Market Capitalization of Listed Bank at July 15, 2010

Bank	Market Capitalization (in million)	Percentage
BOK	9930,12	48.81
EBL	10412,77	51.19
Total	**20342,89**	**100.00%**

Comparative proportion of market capitalization of listed commercial banks is shown in the given figure:

Figure 4.6

Comparative Proportion of Market Capitalization of Listed Commercial Bank



The above pie-chart shows the market capitalization of two banks BOK and EBL. Although, the EBL has highest market share occupying 51.19% than BOK which has 48.81% respectively.

4.4 Comparison with Market

4.4.1 Market Risk and Return Analysis

Nepal Stock Exchange Ltd. (NEPSE) is only stock market in Nepal overall market movement is represented by market index (i.e. NEPSE Index). The NEPSE index is adjusted and changed continuously which with this NEPSE base market portfolio return it's standard deviation and coefficient of variation is presented below:

Table 4.7

Calculation of Return, SD and CV of Overall Market

Fiscal Year	NEPSE Index	$R_m X \frac{NI_t Z NI_{tZ1}}{NI_{t-1}}$	$(R_m Z \bar{R}_m)$	$(R_m Z \bar{R}_m)^2$
2005/06	386.83	0.3494	0.1611	0.0260
2006/07	683.95	0.7681	0.5798	0.3362
2007/08	963.36	0.4085	0.2202	0.0485
2008/09	749.10	-0.2224	-0.4107	0.1687
2009/10	477.43	-0.3623	-0.5506	0.3032
		$R_m X 0.9413$		$(R_m Z \bar{R}_m)^2 X 0.8826$

Where,

$$\text{Expected Return } (\bar{R}_m) X \frac{R_j}{n} X \frac{0.9413}{5} 0.1883$$

$$\text{Variance } (\sigma_m)^2 \frac{(R_j Z \bar{R}_j)^2}{n Z 1} X \frac{0.8826}{5 Z 1} X 0.22060$$

$$\text{Standard Deviation } (\sigma_m) X \sqrt{\frac{(R_m Z \bar{R}_m)^2}{n Z 1}} X \sqrt{\frac{0.8826}{5-1}} X 0.4697$$

$$\text{Coefficient of Variation (C.V.)} X \frac{\sigma_j}{\bar{R}_m} X \frac{0.4697}{0.1883} X 2.4945$$

The above table shows the return of market in several years. These is highest return of market in the year 2006/07 i.e. 0.7681 there is lowest return of market in the year 2005/06, and there is negative return of market in the year 2008/09, 2009/10 – 0.2224 and – 0.3623 respectively.

The expected return of the market is 0.1883 with the total risk (measured by S.D.) of 0.4697. C.V. of market is 2.4945 which means, 2.4945 risk must by sacrificed to get Per unit market return.

4.4.2 Market Sensitivity Analysis

Market sensitivity of stock is explained by terms of beta coefficient. Beta coefficient can be use for an ordinal ranking of the systematic of asset. Higher the beta represents greater the sensitivity and higher the reaction to the market movement and vice-versa. Percentage of risk that is correlated with market is said to be systematic portion of the risk beta coefficient of systematic risk, which eliminated through the means of diversification.

Table 4.9

Beta Coefficient of the Common Stock of BOK

Fiscal Year	$(R_m Z\overline{R}_m)$	$(R_j Z\overline{R}_j)$	$(R_m Z\overline{R}_m)(R_j Z\overline{R}_j)$
2005/06	0.1611	1.6389	0.2640
2006/07	0.5798	0.2795	0.1621
2007/08	0.2202	0.3549	0.0781
2008/09	-0.4107	-0.9655	0.3965
2009/10	-0.5506	-1.308	0.7202
			$(R_m Z\overline{R}_m)(R_j Z\overline{R}_j) = 1.6209$

We have,

$$\text{Cov}(R_m, R_j)\ X\frac{(R_m Z\overline{R}_m)(R_j Z\overline{R}_j)}{n Z1}\ X\frac{1.6209}{5 Z1}\ X0.4052$$

Again,

$$\wp_j X\frac{\text{Cov}(R_m, R_j)}{\exists_m^{\ 2}}\ X\frac{0.4052}{0.2206}\ X1.8368$$

Where,

$\overline{R}_m$ = Expected Return of Market

$\overline{R}_j$ = Expected Return of Stock BOK

R_m = Return of Market

R_j = Return of Stock BOK

σ_m^2 = Variance of Market

n = Number of Observation

Hence, the beta coefficient of BOK is 1.8368 which is more than 1. Therefore only volatile and aggressive investor can invest in this type of investment. It is a risky investment.

Table 4.9

Beta Coefficient of the Common Stock of EBL

Fiscal Year	$(R_m Z\overline{R}_m)$	$(R_j Z\overline{R}_j)$	$(R_m Z\overline{R}_m)(R_j Z\overline{R}_j)$
2005/06	0.1611	0.1158	0.0187
2006/07	0.5798	0.9528	0.5524
2007/08	0.2202	0.1022	0.0225
2008/09	-0.4107	-0.5484	0.2252
2009/10	-0.5506	-0.6226	0.3428
			$(R_m Z\overline{R}_m)(R_j Z\overline{R}_j) = 1.1616$

We have,

$$\text{Cov}(R_m,R_j)\ X\frac{(R_m Z\overline{R}_m)(R_j Z\overline{R}_j)}{n\ Z1}\ X\frac{1.1616}{5\ Z1}\ X0.2904$$

Again,

$$\wp_j X\frac{\text{Cov}(R_m,R_j)}{\exists_m{}^2}\ X\frac{0.2904}{0.2206}\ X1.3164$$

Where,

n = Number of Observation

$\sigma_m{}^2$ = Variance of Market

R_j = Return of Stock EBL

R_m = Return of Market

$\overline{R}_j$ = Expected Return of Stock EBL

$\overline{R}_m$ = Expected Return of Market

From sensitivity analysis of EBL, the beta coefficient is 1.13164 which is more than 1. The company which has got more than 1 is very much volatile and aggressive investor can purchase this type of investment. From the side of investment it is risky investment.

Table 4.10

Beta Coefficient of Two Bank

Banks	Beta Coefficient	Remarks
BOK	1.8368	Most Aggressive
EBL	1.3677	Least Aggressive

The above table depicts, the beta coefficient of two banks BOK and EBL. In other words, BOK has beta coefficient of 1.8368 which is higher than EBL i.e. 1.3164. Therefore, BOK seems to be aggressive than that of EBL respectively.

4.4.3 Required Rate of Return [E(Rj)], Expected Rate of Return (Rj) and Price Evaluation Analysis

CAPM is model that assumes stock's required rate of return is equal to the risk free rate Plus it's risk premium where risk is measured by the Beta coefficient. Beta coefficient plays a vital role in CAPM approach. If the required rate of return is greater than expected of return, the stock is said to be over priced and investors tend to sell this type of stock. For this analysis the risk free rate of return is needed which is taken from the interest rate of Treasury bill issued by NRB. NRB issued Treasury bill 364 days duration Treasury bill rate of rate is taken as a weighted average Treasury bill rate from economic bulletin (2009/10) Nepal Rastra Bank.

Table 4.11

Required Rate of Return, Expected Return and Price Evaluation

Bank	R_f	$E(R_m)$	Beta (β_j)	$E(R_j)= R_f+[E(R_m)- R_F]\beta_j$	($\overline{R}_j$)	Price Evaluation
BOK	0.0606	0.1883	1.8368	0.2952	0.9146	Under Priced
EBL	0.0606	0.1883	1.3164	0.2287	0.4980	Under Priced

Where,

R_f= Risk free rate of return (0.0606)

E (R_m)= Market rate or return (0.1883)

(R_j)= Expected rate or return

β_j= Beta or individual sample banks.

E(R_j)= Required rate or return or security J.

From the above table we known that expected return is greater than required rate of return so the both banks are underpriced. It shows that all the banks have stock with

good investment opportunity and all the stocks in demand. Since, all the stocks are underpriced and hence investor can gain profit from buying those stock. The stocks are recommended to buy.

4.5 Portfolio Analysis

The expected return of a portfolio is simply a weighted average of the expected returns of the securities comprising that portfolio. The weights are equal to the proportion of total funds invested in each security (the weight must sum to 100%).

So far, we have focused on the risk and return of single investments held in isolation. Previous researches have shown that many Nepalese private investors placed their entire wealth in a single asset or investment .If they construct a portfolio or group of investments, they can reduce unsystematic risk dramatically without losing considerable return. Therefore, a brief analysis of risk and return is extended to portfolio context.

"While the portfolio expected return is a straight forward weighted average of returns on the individual securities, the portfolio standard deviation is not the weighted average of individual security's standard deviations. To take a weighted average of individual security standard deviations would be to ignore the relationship, or correlation between the returns of the two securities. This correlation, however, has no effect on the portfolio's expected return. Correlation between securities returns complicates our calculation of portfolio standard deviation by forcing us to calculate the covariance between returns for every possible pair wise combination of securities in the portfolio. But this dark cloud of mathematical complication contains a silver lining- correlation between securities provides for the possibilities of eliminating some risk without reducing potential returns."

4.5.1 Analysis of Risk Diversification

The analysis is based on two assets portfolio and the tools for analysis are resented in the three chapter (research methodology) here the portfolio of common stock of EBL (say stock A) & HBL (say stocks B) is analyzed.

Table 4.12

Calculation of Covariance between BOK (A) and EBL(B)

Fiscal Year	$(R_A - \bar{R}_A)$	$(R_B - \bar{R}_B)$	$(R_A - \bar{R}_A)(R_B - \bar{R}_B)$
2005/06	1.6389	0.1158	0.1898
2006/07	0.2795	0.9528	0.2663
2007/08	0.3549	0.1022	0.0363
2008/09	-0.9655	-0.5484	0.5295
2009/10	-1.308	-0.6226	0.8144
			$(R_A - \bar{R}_A)(R_B - \bar{R}_B) = 1.8363$

$$Cov(R_A, R_B) = \frac{(R_A - \bar{R}_A)(R_B - \bar{R}_B)}{n - 1} = \frac{1.8363}{5 - 1} = 0.4591$$

Where,

n = Number of Observation

R_A = Return of Stock BOK

R_B = Return of Stock EBL

$\bar{R}_A$ = Expected Return of Stock BOK

$\bar{R}_B$ = Expected Return of Stock EBL

COV (R_A, R_B) = Covariance returns of BOK and EBL

Σ = Summation

Table 4.13

Expected Return and Standard Deviation (S.D.) of BOK and EBL

Bank	S.D. of Stock	Expected Return of Stock
BOK	1.1761	0.9146
EBL	0.6364	0.4980

4.5.1.1 Portfolio of Stock BOK (A) and EBL(B)

$$W_A = \frac{\sigma_B^2 - Cov(R_A, R_B)}{\sigma_A^2 + \sigma_B^2 - 2Cov(R_A, R_B)}$$

$$W_B = 1 - W_A$$

Where,

W_A = Optimal weight to invest in stock of BOK.

W_B = Optimal weight to invest in stock of EBL.

σ_A^2 = Variance of BOK

σ_B^2 = Variance of EBL

$$W_A X \frac{0.4050 Z 0.4591}{1.3833 \Gamma 0.4050 Z 2 \mid 0.4591} X Z 0.0622$$

$W_B = 1 – (-0.0622)$

$= 1.0622$

As we known that the proportion of stock in the portfolio is constructed with -6.22% of BOK and 106.22% of EBL common stock that will minimize risk and ideal proportion in the above proportion, equity shareholders communize risk to maximum return.

Portfolio Return

Portfolio return is the combination of two or more than two securities and portfolio return is simply a weighted average of the expected return on individual stock return.

Expected Return on portfolio $E(R_P) = W_A \times E(R_A) + W_B \times E(R_B)$

$= –0.0609 \times 0.9131 + 1.0609 \times 0.4980$

$= 0.4727$

$= 47.27$

Where,

$E(R_P)$ = Expected return on portfolio stock BOK and EBL

$E(R_A)$ = Expected return of BOK.

$E(R_B)$ = Expected return EBL

Portfolio Risk

Portfolio risk is a faction of the proportions invested in the common stock. It is measured by standard deviation and calculated by using following formula.

$$\exists_P X\sqrt{W_A{}^2 \mid \exists_A{}^2 \Gamma W_B{}^2 \mid \exists_B{}^2 \Gamma 2 COV_{AB} \mid W_A \mid W_B}$$

$$X\sqrt{(Z0.0609)^2 \mid 1.3799 \Gamma (1.0609)2 \mid 0.4050 \Gamma 2 \mid 0.4591 \mid Z0.0609 \mid 1.3799}$$

$$X\sqrt{0.00378 \mid 1.3799 \Gamma 1.255 \mid 0.4050 \Gamma (Z0.0772)}$$

$$X\sqrt{0.0051 \Gamma 0.4558 Z0.0772}$$

$$X\sqrt{0.3837}$$

X0.6194

X61.94

From the above calculation the portfolio return and risk for BOK and EBL are 47.27 and 61.94 respectively.

Table 4.14

Portfolio Risk and Return

Bank	$E(R_P)$	σ_P	Remarks	
			Return	Risk
BOK and EBL	47.27	61.94	Low	High

4.6 Correlation between Banks and Bank And Market

Two variables are correlated when they are related that the change in the value of one variable is accompanied by change in the value of other. Correlation may be positive or negative. If return on two securities is positively correlated then risk cannot be reduced.

Correlation coefficient measures the relationship between two variables in quantitative terms. Correlation coefficient indicated that the return from two securities generally move in the same direction and vice versa.

Table 4.15 shows presented below shows the various consolations between each sample banks.

Table 4.15

Correlation Matrix

Sample	BOK	EBL	Market
BOK	1	0.6134	0.7335

EBL		1	0.9716
Market			1

Sources: Appendix IV, V and VI.

Since, table 4.15 (correlation matrix) has shows the positive correlation between the bank and Market. If correlation between stock it +1, any part of risk cannot be reduced by diversification. On other hand, if correlation between stock are –1 the proper combination of two stocks can be reduces all the risk. In conclusion it can be say that as long as correlation between securities return is negative, construction of portfolio is beneficial.

Among the above correlation combination, combination between BOK and EBL, BOK, EBL and Market is positive correlation because all combination has the correlation near 1.

4.7 Systematic Risk and Unsystematic Risk

4.7.1 Systematic Risk

This is a part of total risk cannot be diversified through creation of portfolio. This risk creates from systematic factor or market factor or macroeconomic factor like inflation, GDP, Interest etc systematic risk can be expressed in formula as:

$$SR\ X\frac{COV(R_m, R_j)}{\exists_m}$$

Where,

SR = Systematic Risk

COV (R_m, R_j) = Covariance Return of Stock with market

σ_m = S.D. of Market

4.7.2 Unsystematic Risk

This is diversifiable risk can be diversified through creation of portfolio. This risk creates from micro economics factor or unique factor to a firm like management efficiency, strikes and production policy etc.

USR = Total Risk – SR

σ_j – SR

Where,

USR = Unsystematic Risk

SR = Systematic Risk

σ_j = S.D. of Stock of Sample Bank

4.7.3 Systematic Risk and Unsystematic Risk of BOK with market

$$SR \text{ X} \frac{COV(R_m, R_j)}{\pm_m} \text{X} \frac{0.4052}{0.4697} \text{X} 0.8627$$

USR = σ_j – SR

= 1.1761-0.8627

= 0.3134

4.7.3.1 Proportion of Systematic and Unsystematic Risk

Proportion of $\text{SR X} \frac{\text{SR}}{\text{TR}} \text{X} \frac{0.8627}{1.1761} \text{X} 0.7335$ or 73.35

Proportion of $\text{USR} = \frac{\text{USR}}{\text{TR}} \text{X} \frac{0.3134}{1.1761} \text{X} 0.2665$ or 26.65

Out of total risk in stock of BOK, 93.35 undiversifiable risk and crate from systematic factor or market factor and the remaining 26.65 diversifiable risk and created from company related factor.

4.7.4 Systematic and Unsystematic Risk of EBL with Market

$$\text{SR X} \frac{\text{COV}(R_m, R_j)}{\exists_m} \frac{0.2904}{0.4697} \text{X} 0.6183$$

USR = σ_j – SR

= 0.6364-0.6183

=0.0181

Where,

COV (R_m, R_j) = Covariance return of EBL with market

σ_j = S.D. of EBL

4.7.4.1 Proportion of Systematic and Unsystematic Risk

$$\text{Proportion of SR} = \frac{SR}{TR} X \frac{0.6183}{0.6364} X 0.9716 \text{or} 97.16$$

$$\text{Proportion of USR} = \frac{USR}{TR} X \frac{0.0181}{0.6364} X 0.0284 \text{or} 2.84$$

Out of total risk in stock of EBL, 97.16% is undiversifiable risk and created from systematic factor or market factor and the remaining 2.84 is diversifiable risk and created from company related factor.

Table 4.16

Proportion of SR and USR

Bank	SR	USR
BOK	73.35%	26.65%
EBL	97.16%	2.84%

4.8 Testing of Hypothesis

The hypothesis is based on the text of significance of mean (t-test) for these returns of selected banks are calculated in following data.

4.8.1 Testing of Hypothesis Expected Return of BOK with Overall Market Return

For BOK

Sample Size (n_1) = 5 year

Expected Return (Rj) = 0.9146

Standard Deviation (S1) = 1.1761

For Market

Sample Size (n_2) = 5 year

Expected Return (R_m) = 0.1883

Standard Deviation (S2) = 0.4697

Null Hypothesis (H_0)

$\overline{R_j} X \overline{R_m}$ i.e. there is no significant difference between the expected return of BOK and overall market return.

Alternative Hypothesis (H_1)

$\overline{R_j} \mid \overline{R_m}$ i.e. there is significant difference between the expected return of BOK and overall market return.

The test statistics (t) is:

$$t = \frac{\overline{R_j} - \overline{R_m}}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where,

$\overline{R_j}$ = Expected return of C.S. of BOK bank = 0.9146

$\overline{R_m}$ = Expected return of market = 0.1883

$n_1 = n_2$ = Number of year in sample = 5

S_2 = Estimated variance of population

$$S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}$$

$$S^2 = \frac{(5 - 1)(1.3833)^2 + (5 - 1)(0.4697)^2}{5 + 5 - 2}$$

$S^2 = 1.0671$

Where,

S_1^2 = Variance of C.S. of BOK Banks

S_2^2 = Variance of Market Return

Hence,

$$t = \frac{0.9146 - 0.1883}{\sqrt{1.0671 \left(\frac{1}{5} + \frac{1}{5}\right)}}$$

$= 1.1117$

Degree of Freedom= $n_1 + n_2 - 2 = 5 + 5 - 2 = 8$

Level of Significant= 5%

The tabulated value at 5% level of significance and 8 degree of freedom is 2.308

Decision

Since the calculated value 't' is less than tabulated value. The null hypothesis (H_0) is accepted at 5% level of significance. Hence we conclude that there is no significance different between the expected return of BOK and overall market return.

4.8.2 Testing of Hypothesis Expected Return of EBL with Overall Market Return

For EBL	**For Market**
Sample Size (n_1) = 5 year	Sample Size ($n_{2)}$ = 5 year
Expected Return ($\overline{R_j}$) = 0.4980	Expected Return ($\overline{R_m}$)= 0.1883
Standard Deviation (S_1) = 0.6364	Standard Deviation(S_2) = 0.4697

Null Hypothesis (H_0)

$\overline{R_j} X \overline{R_m}$ i.e. there is no significance different between the expected return of EBL and overall market return.

Alternative Hypothesis (H_1)

$\overline{R_j} \mid \overline{R_m}$ i.e. there is significance different between the expected return of EBL and overall market return.

The test statistics (t) is:

$$t\, X \frac{\overline{R_j}\, Z \overline{R_m}}{\sqrt{S^2 \frac{1}{n_1} \Gamma \frac{1}{n_2}}}$$

Where,

$\overline{R_j}$ = Expected return of C.S. of EBL bank = 0.4980

$\overline{R_m}$ = Expected return of market = 0.1883

$n_1 = n_2$ = Number of year in sample = 5

S_2 = Estimated variance of population

$$S^2 \text{ X} \frac{(n_1 \text{ Z} 1)S_1^{\ 2} \text{ Γ} (n_2 \text{ Z} 1)S_2^{\ 2}}{n_1 \text{ Γ } n_2 \text{ Z} 2}$$

$$S^2 \text{ X} \frac{(5 \text{ Z} 1)(0.6364)^2 \text{ Γ} (5 \text{ Z} 1)(0.4697)^2}{5 \text{ Γ } 5 \text{ Z} 2}$$

$S^2 = 0.3128$

S_1^2 = Variance of C.S. of EBL Banks

S_2^2 = Variance of Market Return

Hence,

$$t \text{ X} \frac{0.4980 \text{ Z} 0.1813}{\sqrt{0.3128 \ \frac{1}{5} \text{ Γ} \frac{1}{5}}} \text{ X} 0.8954$$

Degree of Freedom = $n_1 + n_2 - 2 = 5 + 5 - 2 = 8$

Level of Significant = 5%

The tabulated value t at 5% level of significance and 8 degree of freedom is 2.308.

Decision

Since the calculated value 't' is less than tabulated value. The null hypothesis (H_0) is accepted at 5% level of significance. Hence we conclude that there is no significance different between the expected return of EBL and overall market return.

4.9 Major Finding of the Study

We know that Nepalese stock market is in effect of openness and liberalization in national economy. But Nepalese individual investors cannot analyze the securities as well as market properly because of the lack of information and poor knowledge about the analysis of securities for investment.

- The return is the income received on a stock investment, which is usually expressed in percentage. Expected return on common stock of BOK is

maximum (91.46%) & similarly expected return of C.S. of EBL is 49.80% respectively.

- Risk is measured in terms of standard deviation. On the basis of SD, common of BOK is more risky since it has S.D. i.e. 1.1761 C.S. of EBL is low S.D. of 0.6364, on other hand we know that C.V. is more rational basis of investment decision, which measures the risk per unit of return. On the basis of C.V., C.S. of EBL is best than BOK banks. EBL has 1.2779 unit of risk per 1 unit of return. But C.S. of BOK has the high risk per unit return i.e. 1.2859.
- Beta coefficient explains the sensitivity or volatility of the stock with market. Higher the beta higher the volatility in the contest, common stock of BOK is most volatile i.e. β 1.8368 and common stock of EBL is least volatile i.e. β 1.3677. We find BOK have more aggressive type of common stock than EBL. EBL with lowest beta among two bank's common stock.
- One of the main significance of beta is in capital asset pricing model (CAPM). Compassion between expected rate of return and required rate of return identify whether the stock is overpriced or under priced. If the required rate of return the stock is overpriced and vice-versa. This study show that all the stock of commercial bank, which are analyzed are under priced. That means their stock value will increase in a near future. All the stocks are in demand. So, investor can buy the common stock of any bank.
- The portfolio risk and return between BOK and EBL is very gap. Portfolio return is 47.27, and portfolio risk 61.94 respectively.
- Since the entire bank has positive correlation so bank doesn't reduce any unsystematic risk. Among them, BOK and EBL have lower correlation, so it can be favorable for the investors.
- Systematic risk cannot be diversified through creation of portfolio. It is occurred due to market factor. Unsystematic risk can be diversified through creation of portfolio. It is occurred due to internal management factor. This study that BOK has high unsystematic risk 26.65% and EBL has low proportion of unsystematic risk i.e. 2.84% and which can be minimized from the internal management. Whereas BOK and EBL has high proportion of systematic risk i.e. 73.35% and 97.16%. This cannot be minimized from the

internal management. C.S. of BOK is best among these bank due to it's highest proportion of unsystematic risk.

- Testing of hypothesis expected return of selected banks with overall market return. These are no significance different between expected return of selected banks and overall market return.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Risk and return is getting considerable attention in financial management central focus of finance is trade off between risk and return and major part stock market had greatest glamour, not only for the professional or institutional investor but also for the individuals or private invest. Development in the field of finance has lead to the application of many new concepts and models to deal with various issues related to financial management.

The relationship between risk and return is described by the investor's perception about risk and their demand for compensation. No investors will like to invest in risky assets unless he/she assured of adequate compensation for the acceptance of risk. Hence, risk plays a central role in the analysis of investment. Investors often ask about an investment and like to known if the risk will command higher premium and the tradeoff between the two assumes a linear relationship between risk and premium.

Common stock is the most risky security and life blood of stock market. Because of higher expected return an investment in common stock of a corporate firm neither ensures an annual return an investment in common stock of a corporate firm neither ensures an annual return nor ensures the return of principle. Therefore, investment in common stock is very sensitive on the ground of its uncertainty nature. Dividends to common stocks holders are only paid if the firm makes profit after tax and preference share dividend. The company can return the principal in case of its liquidation only to the extent of the residual assets after satisfying to all its preference shareholders. Besides this, the investors have to sacrifice the return on their investment in common stock which would be earned investing elsewhere.

Risk and return in getting considerable attention in financial management. The central focus of finance is trade of between risk and return. Development in the field of finance has led to the application of many new concepts and models to deal with various related to financial management.

The relationship between risk and return is described by investor's attitude about risk and their demand for compensation. No investor will like to invest risky asset unless he is assured of adequate compensation for the acceptance of risk. Hence, they invest in those opportunities which have certain degree of risk associated with it. Therefore, risk plays a vital role in the analysis of investment. It can be said that the rate of return on investment is a function of many factors including the real coast of money, inflation risk etc. The investors willingly offer more capital at higher rate of return, whereas users of capital always their readiness to use more capital of lower rate.

The main objective of the study is to analyze the risk and return of commercial banks. Only 31 commercial banks are operation in Nepal. Among the listed commercial banks, only 2 banks BOK and EBL bank are taken as reference to analyze the risk and return. While analyzing the risk and return, research variables and tools namely expected return, required rate of return, standard deviation, coefficient of variance, coefficient of correlation have been used for the analysis and interpretation of the data which are employed in this research as secondary in nature.

5.2 Conclusion

Most of the people consider stock market investment as a investment as a black and that they have unrealistically optimistic expectations about stock market investment or perhaps a fear of the unknown. This study enables investors to put the return they can expect and the risks they may take into the better perspective. We known that Nepalese market is in effect of openness and liberalization in national. But Nepalese investors cannot analyzes the securities as well as market properly because of the lack of information and poor knowledge about the analysis of securities for investment.

The study made on risk and return analysis of common stocks of listed commercial banks is based on primary as well as secondary data from fiscal year 2005/06 to 2009/10. In this study, expected rate of return of BOK bank's stock is highest i.e. 91.46%. Likewise in terms of standard deviation of BOK has the highest risk i.e. 117.61%. But, generally standard deviation is not used to determining risk, as there may be different expected return. Therefore, the coefficient of variance is considered as the best mechanism to measure the risk. On the basis of coefficient of variation,

BOK bank's stock seems to be the most risky with 1.2859. On the other hand, it is found that the required rates of return of all the sampled banks have lower than its expected rate of return. It means that all the sample institutions' stocks are underpriced. Similarly, the study made to analyze the diversifiable and undiversifiable risk reflects that all the samples stock have less systematic risk and such risk cannot be diversified or minimized. More specifically, the investors demand additional reward to compensate such risk. The systematic risk is less than one in all sampled banks so we can say that these stocks are defensive stocks. The relation between EPS and MPS of all the sampled institutions goes positively. Theory suggests that when EPS increases, then MPS should also increases. EBL and HBL banks are able to follow this theory in practically because EPS and MPS of these banks both are increasing in every fiscal year.

5.3 Recommendations

Recommendations are the final output of the whole study. It helps to convey positive information and proper way of improvement to the concerned people and to other invested researcher in the upcoming days. The following are the recommendation based on the basis of research work.

The following are the recommendations based on the above findings, conclusions and analysis of data.

- Investors must consider on the risk factors before making and investment if they want to get maximum benefit from the investment. The coefficient of variation is considered the best tool for relative measurement of risk. On the basis of C.V., BOK bank's stock is the riskiest one for the investment because its CV is 1.2859. Whereas the EBL has lowest CV i.e.1.2779 so, its stock has low risk. Hence, it is recommended that the stock of EBL is the best for investment.
- Beta coefficient measures the sensitivity of the stock with market. Higher the beta greater the volatility. The beta of market should always equal to 1. Stock having beta coefficient more than 1 is more risky than the market. If an investor is aggressive of risk taker, he/she can invest having beta of more than 1. Stock having beta coefficient less than 1 is less risky than the market. Risk

averter investor can invest in that type of common stock. But all the sampled banks have beta coefficient of more than 1 so, it is recommended that the investor could not select any of the bank's stock according to their investment desire.

- The stocks having more systematic risk have high sensitivity as such type of risk cannot be minimized. So, the investors have to consider the adequate compensation for the acceptance of risk. It is clear from the study the systematic risk of BOK's is greater than EBL's stock. Therefore, it is recommended that the investor had better investment in stock, as it is not highly risky.
- The investors have to buy those stocks during the time of under valuation and they have to sell the stocks at the time of overvaluation. It is found from the study that all the banks' stock is undervalued as the required rate of return of all banks are lower than the expected rate of return. So it is recommended to the investors to buy all sample banks' stocks.
- The positive relation between EPS and MPS shows the better performance of the company. So, on the basis of the relation between EPS and MPS, it is recommended that the stock of BOK and EBL bank is better for investment.
- The companies concerned must focus on decreasing systematic and unsystematic risk as it effects their business.
- Financial information must be published regularly so that existing as well as prospective investors are informed about the changes that take place.
- Investors can also evaluate the risk of the concerned companies by its beta. If the beta is greater than 1 it can be concluded that the company is risky. Risk averts investors must invest in companies having bets less than 1 where as risk taker can invest in companies having beta more than 1.
- Banking and financial sector seems to dominate our stock market due to which investors are also focused towards it which needs to be changed and participation of other sector must also be increased for overall development.

- Over the center (OTC) market should be establish so that the securities once de-listed from the NEPSE can be traded in the over the center market. As

result investors donate have to lose liquidity when the stock exchange de- lists the security.

- Financial investment in Nepalese context has still been new phenomenon due to the lack of enough knowledge and awareness about it. So, effective programs in radio/Fm/T.V should be conducted. Small or large types of seminars should be organized to increase awareness among the general people.
- Government needs to amend the rules and a regulations regarding stock market in time to time and make the policies that protects the individuals investor's right. And also to follow up the implementations of rules and regulations and to make sure the objectives are achieved. On that regard, HMG needs to monitors and make active all the implements the rules and regulation strictly otherwise it will be meaningless. The political issue of country is another problem. This effects the economy of the nation adversely. Currently, the industry and share market is in declining trend and it will completely finish if the present political problem follow up.
- The corporate firm should communicate the real financial statements. Value of assets and liabilities should not be manipulated to report the under or over profitability. Every decision of the corporate should be made to maximize the value of the firm and per share.
- NEPSE needs to initiate to develop different programs for private investor's such as investor's meeting and seminars in different subject matters like "Trading Rules and Regulations" etc. It needs to establish efficient and effective information's channel and to provide up to data.

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WEBSITES

www.everestbankltd.com

www.nepalstock.com

www.nrb.com.org

APPENDICIES

Appendix-I

Total Dividend in (Rs.) = Cash Dividend + %of Stock Dividend × Next Year MPS

2005/06	18	+	48%	×	1375	678
2006/07	20	+	20%	×	2350	490
2007/08	2.11	+	42.11%	×	1825	770.62
2008/09	7.37	+	47.37%	×	840	405.28
2009/2010	15	+	30%	×	840	267

Value of stock Dividend for the Year 2009/2010 = Dividend % × Same Year MPS

Appendix-II

Calculation of Total Dividend

Total dividend in (Rs) = Cash Dividend + of Stock Dividend × Next Year MPS

2005/06	**25**	**+**	0%	×	2430	= Rs. 25
2006/07	**10**	**+**	30%	×	3132	= Rs. 949
2007/08	**20**	**+**	30%	×	2455	= Rs. 756.50
2008/09	**30**	**+**	30%	×	1630	= Rs. 519
2009/10	**30**	**+**	30%	×	1630	= Rs. 519