

CHAPTER I

INTRODUCTION

1. Introduction

Commercial banks play an important and vital role in modern economic organization. One of the causes of pervasive poverty is lack of proper management of economic resources to cater to the needs of growing population. For proper and efficient utilization of resources, it needs proper plan and strategic development and huge amount of capital, investment is required.

The role of commercial banks in every nation of the world is in pursuit of attaining the goal of rapid economic development. Commercial banks are the heart of the financial system as they hold the deposits of many people, government organization, and business units to take some risk and invest different sector for better return. They make funds available through their lending and investment activities to individual business firms and government units. By doing so, they facilitate flow of both goods and services from the producer to customer and the financial activities of government.

The economic liberalization policy of Nepal government has done much to strengthen the financial sector in Nepal. The financial sector has gained a period of boom since the liberalization. Thirty two commercial banks (since 2012 A.D), eighty seven development bank , seventy nine finance companies, twenty one micro finance development bank, fifteen saving and credit cooperative, forty five NGOs (financial Intermediaries) are operating in the country till mid 2011.

http://www.wikianswers.com/Q/How_many_commercial_bank_are_there_in_nepal on dated 14th June, 2012).

Present study deals with the analysis of risk and return analysis of commercial bank of Nepal. This study covers the introduction and background review of literature, research methodology analysis and interpretation of data and conclusion with appropriate recommendation .

Modern Banking business started in the country just before the Second World War, The year 1994 B.S. marked the beginning of a new era in history of modern banking in Nepal. Nepal Bank Limited, the first commercial bank of the country was established in 1994 B.S. for providing the banking services. However, there was no organized sector of the economy especially for agriculture. Then in 2013 B.S. Nepal Rasta Bank on the central bank of country was established .The central bank plays a significant role in developing country to develop the banking system for the mobilization of resources and using them in the priority areas to match development plan. So Nepal Rastra Bank has been authorized to play monitoring role.

Another Commercial Bank named Rastriya Banijya Bank was established in under the state commercial Bank Act 1965 AD. After the initiation of democracy in 1990 AD, NRB adopted a more liberal attitude in opening commercial bank. It also followed market liberal economic policy for competitive banking to attract private sector as well as foreign investor with their capital, skill and technology in banking business. To achieve all these objectives NRB Act, Commercial Bank Act, Insurance Act and the Act of exchange bill authority are necessary.

Due to the liberal policy in establishing the commercial banks, other commercial banks came into existence during 1990s under the foreign collaboration which includes Nabil Bank Ltd, Himalayan Bank Ltd, Nepal SBI Bank Ltd, Everest Bank Ltd, Nepal Investment Bank Ltd, Bank of Kathmandu Ltd, NCC Bank (formerly Nepal Bank of Ceylon Ltd), Kumari Bank Ltd, Siddhartha Bank Ltd, Laxmi Bank Ltd, Machhapuchhre Banks Ltd and so on. Now, the number of commercial banks in Nepal has reached to 32 and some prepare for opening their service.

1.1 Background of the Study

It is the world of competition. Due to the globalization, World change in to a small village. There is high competition in every sector of business. Investor invest huge amount of money in business to get high return from their investment. But the returns from the investment cannot think without the risk factor. Investment in its broadest sense means the sacrifice of the current rupees and resources for the sake of future is uncertain, there is always chance that the return will be either more or less than anticipated.

Investment are generally made in two types of assets ;(land, building, plant and machinery) and financial assets (stock, preferred stock, bond, t-bills). Real assets investment is generally less liquid than financial investment. Return on real assets investment is frequently more difficult to measure than financial. But, here concerned only financial investment especially with common stock investment. Investment purchases financial assets such as share of stock or bond because they desire to increase their wealth, i.e. earn a rate of return on their investment. But the future is dark and uncertain; investors do not know that what rate of return their investment will realize. Therefore every investment will include some degree of risk.

Investment is the employment of funds with the aim of achieving additional income or growth in value. Mainly investment involves long-term commitment and waiting for reward, but due to the uncertainty future. So investors can't get positive return without risk in every investment .So "Risk and Return" is the fundamental part of the investment decision. In financial management, we assume that individual base their decision on what they expect to happen and their assessment of how likely it is that actually occurs will be close to what the expected to happen, when evaluating potential investment in financial assets, these two dimension of the decision making is called " Risk and Return".

Risk

Risk refers to the chance that some unfavourable event will occur. It is also chance of happening loss due to uncertainty. Risk is defined as the variability of the period. In other words it the chance of happenings something beyond the expectation is known as risk.

Risk is the fact of the life, which are products of uncertainty and magnitudes depend upon degree of variability in certain cash flow. Risk in fact is an indication of change of losing investment value. Our normal life and business are always concern with uncertain risk of loss. It is also the variability between the actual return and expected return. Greater the variability higher the risk and lower the variability lower the risk. But in some extent risk can be manage through the creation portfolio of securities. It is a statistical measure of the variability of a set of observation. The symbol δ^2 pronounced "Sigma Square". It measure total risk.

Return

Return is the reward of undertaking the investment. It is the motivating force in the investment process. Return help to classify the investment opportunity. Returns on common stock investment consist of two components. The first one is periodic cash receipt. (Either dividend or interest); this is known as ordinary gain or investment, and another is the appreciation (or depreciation) in the price of assets and this is commonly known as capital gain or loss. Therefore people say that total return on investment means sum of ordinary gain and capital gain or loss.

i.e., Total return = capital gain or loss \pm ordinary loss

1.2 Statement of the Problem

Nepal is least developing country. Most of the people of Nepal still lie below in poverty line. Most of the people do not have enough ideas of investment and they do not have enough money to investment. Now a day's growths of corporate sector are increase in fast speed. Many more banks and financial institution provide modern banking service to their client at city as well as remote area. According to recent information (2012) of Nepal Rasta Bank thirty two commercial banks are opened already and so many in processes.

Such financial institutions collect scattered money. So, people change their habit and started to investment some parts of earning. In the same way, those who want to invest also are poorly educated. So lack of ideas, information, and knowledge is a great problem faced by individual investors who are being exploited by financial institution and their

market intermediaries to such an extent that in common stock is great hazardous. Recent trend shows that the general people are interested to invest their small money on the common stock of financial institutions like commercial banks; even they haven't sufficient knowledge about investment, market status, and situation. Due to this, many investors are scared to invest in stock. This is the main problem that does not allow gearing up the capital market of the nation. The investors are responsible to make rational investment decision. To avoid this rational analytical knowledge is essential. The investor's attitude and perception also plays vital role in rational decision regarding whether the investment should be made or not. In Nepalese context, the concept of capital market began with the set up of "Nepal stock exchange" former known as "security exchange centre" in 1976. This is only stock market in Nepal. In spite of considerable development of stock market there is lot more to be done for the development of stock market in Nepal. Many investors are still afraid to invest in securities because inadequate knowledge and limited information flow in this field and most investors are exploited from market intermediaries. Very few people analyze risk and return associated with the stock some people feel that there is more risk and some feel that there is more return in such investment than real one. In between 2006 A.D to 2008 A.D, Activities of stock broker bring the good changes in stock market which attract general public for investment on it. But after that various factor like political factor, scarcity of money laundering, attraction in housing business etc again make the stock market transaction down. Therefore this study is directed to resolve the following specific issues.

- What are the factors affecting the investment decision of commercial banks?
- How the factors affecting risk of the securities of commercial banks?
- What are the factors of getting higher return through risk?
- Does the systematic risk position in relation to total risk?
- Does the risk and return of commercial bank vary significantly?
- Would portfolio construction within the selected commercial banks be profitable?
- What is the relationship between the return of stock and liquidity position of commercial banks?
- Whether the return of stock and leverage of commercial bank have correlated each other?

1.3 Objective of the Study

The main aim of the study is to explore the risk associated with common stock investment and other variable that helps to decide about the stock and investment in commercial banks. Following are the specific objective of this study.

- To evaluate the risk and return of common stock investment.
- To calculate the risk and return of the common stock and their portfolio.
- To analyze the volatility of different stock and other relevant variable that should be consider while deciding investment in stock.
- To identify the correlation between return of commercial banks and market rate of return.

1.4 Significance of the Study

Common stock is the well popular financial assets. Investment in stock plays vital role in the national economy. Capital market plays a crucial role in mobilizing fund channeling this financial resource for the country. This research study will give the reliable information about Nepalese stock market and contribute in the analytical power of the investors. In our Nepalese context, there are very few studies are conduct and no specific magazines and article on the topic. So the study will be the more significant for the exploring and increasing stock investment. This study target is to explore and stock investment. It is known that invest by imaginary unreal study gives by analyzing risk and return of (selective) Nepalese commercial banks and related other companies. So this study beneficial and fit all those persons who are directly or indirectly related to Nepalese capital market and also helpful to researchers in the area of financial investment.

1.5 Limitation of the Study

Everything has two aspects i.e. positive and negative aspects. This study risk and return also has some limitation.

- The study aims to fulfilling the partial requirement of Master Degree of Business studies.
- The finding of this study depends upon the data and information of five years time horizon from 2006 to 2011 A.D.
- The study based on only three selected Nepalese commercial banks.
- This study is heavily based on only secondary data, published by commercial banks for their stake holders, so the validity of result depend upon the accuracy of the data supply.
- The study is constrained by time and resources.

1.6 Organization of the Study

This study has been organized into five chapters. Each is developed to some aspect of the study. Chapter first deals with the subject matter of the study consisting introduction, development of the banking system in Nepal, statement of the problem, objective of the study, significance of the study, limitation of the study and chapter plan of the study. Chapter second deals review of literature. It includes a discussion on the conceptual framework, review of books, previous dissertation papers and articles, publications and policy documents. Chapter third explains the research methodology used to evaluate, which deals the hypothesis to be tested, research design, sources of data, statistical tools financial tools. Chapter fourth deals with presentation and analysis of relevant data and information through a definite course of methodology. Ultimately, chapter fifth states summary, conclusion & recommendation of the study.

CHAPTER II

REVIEW OF LITERATURE

2.1 Conceptual Framework

The introduction part of this study has been presented in the first chapter. In this chapter, an attempt has been made to review the various relevant literatures in relation to support the study to receive some ideas for developing a research design. Several research works has been conduct in various aspects of commercial banks for instance financial performance, dividend policy, investment policy, credit management, resource mobilization etc. Here researcher trying to attempt, some basic literature on the risk and return are reviewed.

The concern of the study is to focus on risk and return has got the great concentrations in financial mgmt.; so most of the books bear some paragraph of the issue. This chapter reviews some basic academic course, books and post thesis related studies. This study follows the scientific research method. So, it does not ignored to the past study, data and information. But unfortunately, so far nominal research has been performed in this topic in Nepal. Our stock market is emerging state and unable to provide the necessary information concerning to this study. Some of academic books of financial management, some master degree thesis, business journals based on Nepal as well as others country through internet surfing is also review.

2.2 Common Stock

Common stock is ownership security. Common stock financing is a long-term source of financing of any organization. It is the first source of term in any type of companies or Organization “Stock is the ownership interest of corporation each share of stock is fraction of the right and privilege that belongs to the ownership of a business”. A stock certificate is evidence that of fractional ownership, it is tangible evidence.

Common stocks are representing equity, or an ownership position in a corporation. Common stockholders of a corporation are its residual owners. Their claim to income and assets comes after creditors and preference shareholder have been paid in full. As a result, a stockholder return on investment is less certain than the return to lender or to a preferred stock can be authorized with or without par value.

The par value of the stock is merely stated figure in the corporate charter and is of little economy significance accompany should not issue stock at a price less than par value because stockholders who brought stock for less than par value would be liable to creditors for the difference between the below par value." (Van Horne, James C, 1997:31) but in case of Nepal as per the provision of Nepal company act 2057, no common stock are allowed to issue without par value.

2.2.1 Return on Common Stock

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

- I. Cash dividend
- II. Capital gain(loss)

If current price of a share is P_0 , the expected price at the end of a year is P_1 and the expected dividend per share is dividend 1, the rate of return that investors expects from this share over the next year is defined as expected dividend per share dividend 1 plus the expected price appreciation per share ($P_1 - P_0$) all divided by the price at the start of the year P_0 which can be shown in the form of:

$$R = \frac{\text{Div}_1 + P_1 - P_0}{P_0}$$

The return form holding an investment over some period, say a year is simply any cash payments received due to ownership, plus the change in market price. Thus, the return comes from two sources: income and price appreciation.

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

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

Where,

R= Actual/Expected return

T= Particular time period

D_t = Dividend received during the year t

P_t = Stock price at time period t.

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

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

(The term in the numerator of above equation represent 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”. (Barly & Myers, 1994:84)

2.2.2 The Risk on Common Stock

Most people view risk is just describes as 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 products more than one outcome in future. 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 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 expected. If we should consider investment risk from this perspective, then we can defined risk as the chance of receiving an actual return

other than expected, which simply means, there is variability in the returns of outcomes from the investments.

Therefore, investment risk can be measured by the variability of the investments returns. However, we can defined more precisely, and it is useful to do so (Weston 1995: 182-183)

2.3 Return

Return is the motivating force for the investment. It is also the key method available to investor in comparing the alternative investment. Major propose of investment is 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 return they are:

2.3.1 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, or six month or on year. This rate of return is measured as follows:

$$R = \frac{\text{Ending Wealth} - \text{Begining Wealth}}{\text{Begining Wealth (Or Purachse price)}}$$

An investor can obtained two kind 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 $p_t - p_{t-1}$
2. Regular return or income earned from cash dividend or coupon interest payments represented by C_t .

The sum of these two sources of income or loss equals to 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 invested.

$$r_t = \frac{\text{Price of Change} + \text{Cash flow (if any)}}{\text{Price at beginning of the period}}$$

$$r_t = \frac{(p_t - p_{t-1}) + c_t}{p_{t-1}}$$

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 received during the t period (Francis, 1998:11)

2.3.2 Realized Rate of Return

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.

Symbolically,

$$\text{Realized rate of return, } R = \frac{P_t - P_{t-1} + D_1}{P_{t-1}}$$

Where,

R = Realized (actual) rate of return on common stock

D_1 = Cash dividend received at time 1

P_t = Price of stock at a time t

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

2.3.3 Expected Return

It is the rate of return that is expected to be realized in the 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 investor to find the investment acceptable (Cheney & Moses, 1993:34), it is calculated as follows:

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

Where, R_j = Rate of return on stock j.
 n = No. of years.
 Σ = 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. (Francises, 1998:11)

2.4 Risk

Risk is defined as the variability of the return of a period. Risks define most generally is the probability of occurrence of unfavourable outcome. Risk has different meaning in different context. In our context to measure developed from the probability distribution have been used as initial measure of risk and return (T.Fred Weston and Eugene Brgham). Risk arises in uncertain environment. So, it is the part of uncertainty. Risk and uncertainly rate an integral part of investment decision. Risk can be defined as the situation where the possible consequence of the decision that is to be taken is known. Uncertainty is generally, defined as to apply to situation where the probability can not be estimated. However risk and uncertainty are used interchangeably. Total risk can be defined in two parts.

i.e. Total risk (σ_j) = systematic risk + unsystematic risk

Where, systematic risk = $\sigma_j \rho_{jm}$

Unsystematic risk = $\sigma_j (1 - \rho_{jm})$

Where, σ_j = Standard deviation of security j and Market

ρ_{jm} = Correlation between the return of security j and m

(Van Horn and Wachowicz, 1995:94)

2.4.1 Measurement of Risk

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

- Variance (σ^2)
- Standard deviation (σ)
- Coefficient of variation

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 and it's calculated as follows;

$$\text{S.D. } (\sigma) = \sqrt{\text{variance}} = \sqrt{\sigma^2}$$

$$\text{Variance } (\sigma^2) = \frac{\sum [R - E(R)]^2}{n}$$

Or

$$\text{Variance } (\sigma^2) = \sum [R - E(R)]^2 \times p$$

Where,

R = Rate of return,

E(R) = Expected rate of return

N = No of observation or years

P= probability

Coefficient of variation (C.V), it means the risk on per unit of return.

Coefficient of variation (C.V) is calculated as follows;

$$\therefore \text{C.V.} = \frac{\sigma}{E(R)}$$

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

2.4.2 Process of Risk Management

- Establishing the context
- Identification
- Assessment
- Potential risk treatments
- Create a risk – management plan
- Implementation
- Review and evaluation of the plan

2.4.3 Relationship between the Risk and Return

The relationship between risk and return is described by investor's perception about risk and their demand for compensation. No investor will take invest risky assets unless he is assured or adequate compensation for the assumption of risk. Therefore, it is the investors required risk premium that established a link between risk and return. There is the positive trade – off between the risk and return. Higher the risk, higher the return and lower the risk, lower the return.

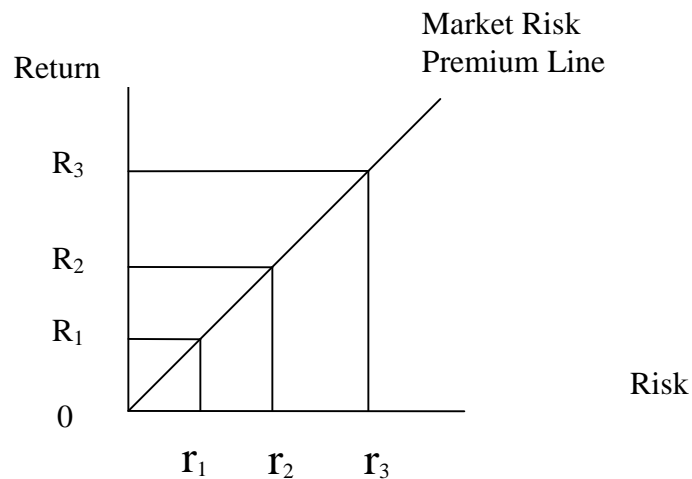


Figure2:1 Relationship between Risk & Return

The figure represents a higher premium for higher risk in a linear fashion indicating premium or R3 for r3 degree or risk, R2 for r2 and so on backed by the assumption of linear relationship, the risk premium increases, or decreases in proportion to a change in level or risk.

2.5 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 the single security is completely different from the riskless 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 it is held in a portfolio.

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 the returns on two securities.

The standard deviation of a portfolio is given by:

$$p = \sqrt{\left[\sum_{i=1}^n \sum_{j=1}^n w_i w_j \text{Cov}_{ij} \right]}$$

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

N = Number of security included in a portfolio †

† p = Portfolio standard deviation

The above equation can be simplified in case of two assets portfolio as below;

$$\sigma_p = \sqrt{W_i^2 \sigma_i^2 + W_j^2 \sigma_j^2 + 2W_i W_j \text{Cov}_{ij}}$$

The co- variance of portfolio is calculated as follows;

$$\text{Cov}_{ij} = \sum [P_s \{R_i - E(R_i)\} \{R_j - E(R_j)\}]$$

If we know the correlation coefficient (r_{ij}), then we apply the following relationship for calculating co-variance.

$$\text{Cov}_{ij} = r_{ij} \sigma_i \sigma_j$$

Where, $r_{ij} = \frac{\text{Cov}_{ij}}{\sigma_i \sigma_j}$

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, to some extent can the risk be reduced? This depends on the number of securities included into a portfolio. As depicted in figure 2.2, the total portfolio risk measured by its standard deviation, declines as more & more securities are added to portfolio.

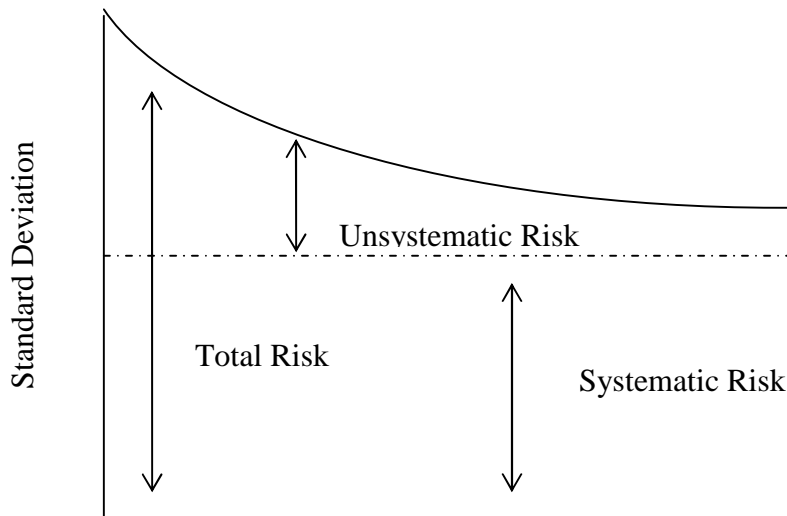


Figure: 2.2 Impact of Number of securities on portfolio Risk

2.6 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. Investments rarely place their entire wealth into a single assets or investment. Rather they construct a portfolio or group of investment, 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 consist of all the securities trading on the market. However, an 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 Markowitz 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 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 assets return to beta from highest to lowest, the ranking represents the desirability of any securities inclusion in a portfolio. The number of securities related depends on a unique cut off rate such that all securities with a higher ratio of an access return will be included and all securities with lower rate excluded.

2.7 Expected Return of Portfolio

It is the weighted average rate of return of an individual security. The expected portfolio return is calculated as follows:

$$E(R_p) = \sum_{i=1}^n W_i E(R_i)$$

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

That's why total risk can be classified into two parts: diversifiable (unsystematic) and non-diversifiable (systematic) risk. Hence,

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

Diversifiable risk refers to the risk related only to the individual firm. It arises out of strikes, production lost and other activates unique to an individual firm. This event occurs independently to any firm. Therefore, diversifiable risk can be eliminated forming a portfolio. Non diversifiable risks are the result of the general states of the economy, monetary and fiscal policy, inflation, which affects the entire firm's equally. So, this can not be diversified by forming a portfolio.

Thus, a well-diversified portfolio has only the non-diversifiable portion of total risk. Therefore, only the non-diversifiable risk contributed by a security to the riskiness of portfolio in which the security is included.

2.8 Capital Market Line (CML)

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.

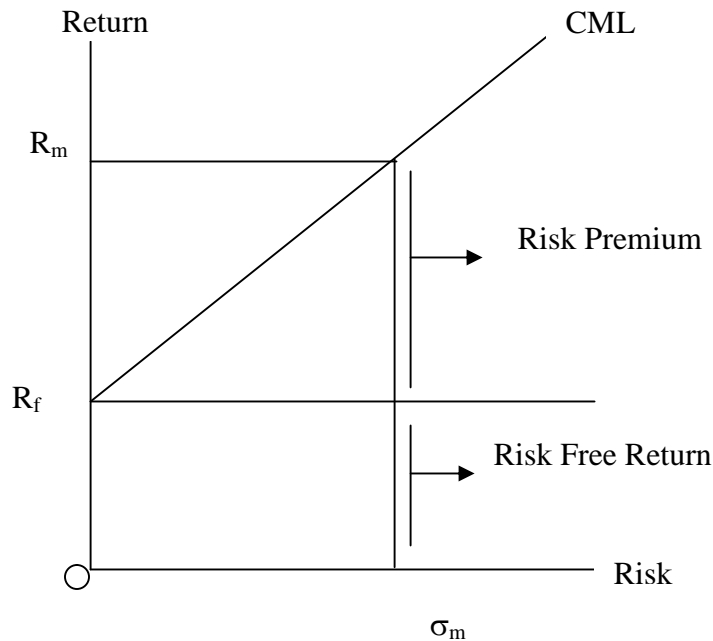


Figure 2.3: Capital Market Line

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 portfolio

R_f = Risk free rate

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

σ_p = Standard deviation on market portfolio

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

$$\text{Slope of CML} = \frac{[E(R_m) - R_f]}{\sigma_m}$$

2.9 Capital Assets Pricing Model (CAPM) and Security Market Line (SML)

William F. Sharpe has presented his famous magnum of 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 assumes 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 (β) factor for a security. Beta is the relative measure of systematic risk of given security relative to 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).

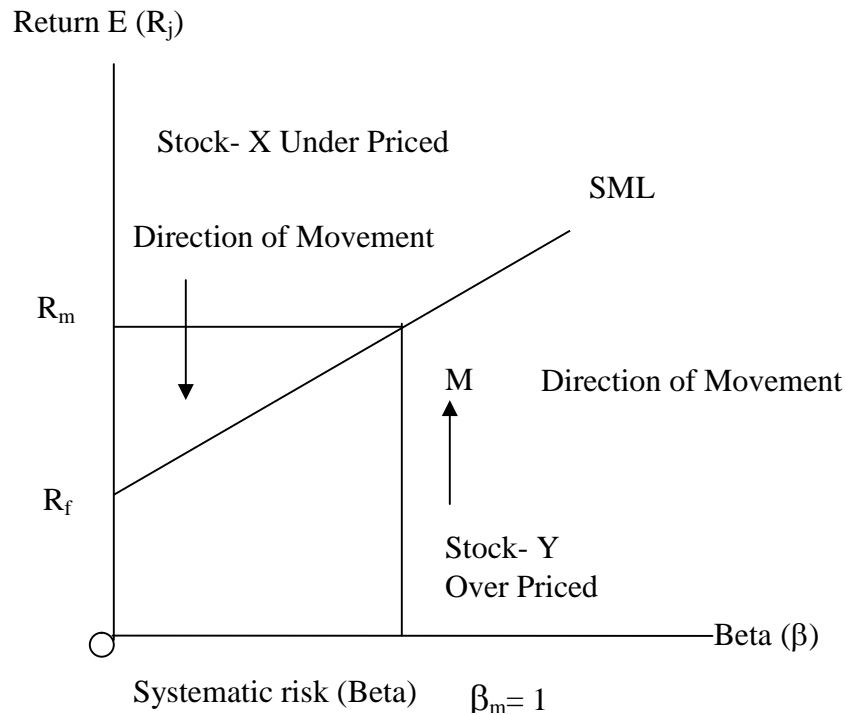


Figure 2.4: Security Market Line

Above figure clarifies that stock X is under priced related to security market line while stock Y is overpriced. As a result stock X is expected to provide a rate of return greater than required best on its systematic risk. In contrast, stock Y is expected to provide a lower return than that required to compensate for its systematic risk in best investors seeing the opportunity for the superior return by investing on stock X, will rush to buy. This action would drive the price up and the expected return comes down, how long would this continue? It would continue until the market price was seen that the expected return would now lie on the SML. In the case of stock Y, investors holding this stock will start to sell it, recognizing that they could obtain a higher return for same amount of systematic risk with other stocks. This selling pressure would drive Y's market price down and its expected return goes up until the expected return match on the SML. When the expected return for these two stocks returns to SML, market equilibrium will again prevail.

The above figure showing the security market line (SML), explained by the CAPM is as follows;

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

Where,

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

R_f = Risk free rate of return

n = No. of securities in a portfolio

$E(R_m)$ = 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 the market return to the variance of the market return. Beta is an index of systematic risk. Higher value of beta shows the higher systematic risk and lower value of beta shows the lower systematic risk.

It can be calculated as follows:
$$b_i = \frac{\text{Cov}_{im}}{\sigma_m^2}$$

Where,

B_i = Beta of stock i

COV_{im} = Co-variance between the return of stock of & market return (m)

σ_m^2 = Variance of the market return

Alternatively the value of beta calculated as follows;

$$b_i = \frac{\sigma_i \times r_{im}}{\sigma_m}$$

Where,

b_i = Beta of stock i

σ_i = Standard deviation of market return.

r_{im} = Correlation between the stock i and market

σ_m = Standard deviation of market return

2.10 Review of Related Books

There are two books reviewed by Kent Hargis, (Goldman, Shacha and Co.) in the journal of finance, 1999 was presented in the section of book review. The books are: Emerging markets research, strategies and benchmarks by Michale Kepler and Martin Lenher Chicago Irwin Professional publishing, 1997. Emerging Markets portfolios: Diversification and Hedging strategies. Edited by Mart Michale Papaioannou and George Testekos; Irwin Professional Publishing, 1997. "In recent year, we have seen and explosion of research into the opportunities and risk of investing in emerging equity markets, stimulated in part by the growing exposures of U.S and European investor to their markets, but also following the rapid raise and fall of returns on the assets class, here we consider more books in this growing portfolio. Both analyze the structural characteristic of the market and issues related to asset allocation but they have different emphasis.

In emerging markets: Research, strategies and Benchmarks, Keppler and Lechner focus on examine the performance of specific investment strategy. In emerging markets portfolios : diversification and hedging strategies , Papaioannou and Tsetsekos focus more on regulatory issue and derivatives instruments in emerging market, following a number of chapter on the risk characteristic and potential diversification opportunities and in emerging markets. There books will be of greater interest to policy makers or a more academically inclined audience. Kepler and Lechers' book is divided in four parts: opportunity and risk of investing emerging markets, investment strategies, assets allocation and investment vehicles, and a summary of markets characteristics in twenty five emerging markets investing by Park and Van Agtamael (1993), Stanley (1995), Price (1994) and George (1994), which examined the case investing and emerging markets, different investment and structural characteristic of the market.

Kepler and Lechner provide a good description of recent trends and structural characteristics, though they do not distinguish themselves from the rest of literature. Park and Van Agtamael(1993), although not as current, still provide a more detailed examination of structural characteristics of the market, Posner (1998) is stronger in

presenting investment vehicles such as American depositary receipts (ADR), mutual funds, and Bonds, and Barry, Peavy, and Rodriguez (1997) examine in depth the risk and diversification benefits. Malkiel and Mai (1998) are targeted more toward retail investors and is the most accessible book for introducing novice investor to emerging markets. So what is the value of added by Keppler and Lehner? The second section of the book on investment strategies is the most interesting and useful, with Keppler and Lehner systemically explore a large number of investment strategies. Second the presentation format, comparing emerging market investment strategies with previously published work by the authors e.g. Keppler and Trub (1993) in the developed markets effective. For example analysis of the small country effect in the emerging markets is presented following discussion of the small country effect in developed markets. Third, the authors examine a wide range of measure of portfolio risk addition standard deviation, which have not being analyze in other work. Such measures include the probability and expectation of monthly loss, average loss, number losing months and lowest monthly return. The Keppler ration is introduced as an alternative to the sharp ration, replacing the standard deviation by the expectation to the monthly loss. In many cases, the standard risk measure such as standard deviation are not shown to be misleading when the compared to these others measure. Even though it is well known that emerging market returns are not normally distributed (Bekaert 1998), the comparing of various risks measure helps the practitioner to understand more effectively how this impact portfolio allocation decision. These measure complement the extensive analysis of country risk measures, such as institutional investor credit ratings, reviewed in Erb, Harvey, and Viskanta (1997).

The other three sections of the book provide a useful introduction and reference to the markets and are similar in content to other such as Park and Van Agtamael (1993). The first section (Chapter 1 and 2) begins by discussion board trend in the market capitalization, trading volume, and new issues. After receiving the historical growth experience across regions, the authors give and in- depth discussion in to why emerging markets have grown faster that developed markets in the past, and they offer projections for the future. Among the factors analyzed are the liberation of the capital markets,

reduced debts servicing burden, expanding global trade, and improving education and infrastructure. Although higher growth rates have been achieved, the risks of investing in these markets are also greater. Keppler and Lechner explore risks caused by political instability and corruption, high levels of foreign debt, commodity prices and short –term speculators. The causes of higher cash flow and greater risks are then analyzed in the context of the risk and return characteristics of the markets; followed by a discussion the different emerging markets benchmarks.

The chapter also discusses the role of policymakers in encouraging market development and concluded that the role of government is to provide a legal structure and promote policies that allow market forces to work. Recent institutional reforms and liberalization efforts should help to promote their development.

These two books provide a useful complement to the existing literature. That provide investors with valuable tools for investment strategies in emerging markets, and they provided policymakers with a frame work from analyzing the benefits and costs of developing derivatives markets and using market based techniques for managing risk in emerging markets.

2.11 Review of Journals

Like books, there is not so much advanced and research based journals in the field of finance in Nepal. There are very limited numbers of journals available in the subject of managements and further hard to find any article in the risk and return analysis in common stock investment. However, these days information highway or the internet has become to the most easily accessible mediums to gain information in any subject matter. So, some related website and foreign well-known journals, which is spread out all over the world are taken into consideration. Although article published recently in this journals are based on the foreign stock market, it can give the sound conceptual framework and recent worldwide development on this research topic.

The journal of finance published bimonthly by American finance for many decades is taken into account. An article entitled "Local Return actors and Turnover in Emerging Stocks Markets" by Greet Rouwenhorst, published in its August 1999 volume is reviewed here.

"There is growing empirical evidence that multiple factors are cross-sectionals correlated with average returns in the United States. Measured over long time periods, small stocks earn higher average returns than large stocks (Bang.1981). Fama French (1992) and Lakon Ishock, Shleifer, and Vishny (1994) so that values/ stocks with high book to market (B/M), earning to price (E/P) ; on cash flow to price (C/P) outperform growth stocks with low B/M, E/P or C/P; moreover, stock with high return over the past three month to one year continue to outperform stocks with poor prior performance (Jagdesh and Titman;1993). The evidence that beta is also compensated for in average returns is weaker (Fama and French (1992), Kothari, Shakken and Stoan, (1995).

The interpretation of the evidence is strangely debated. Some believe that the premiums are a compensation for pervasive risk factor; others attribute them to firm characteristics or inefficiency in the way market incorporate information in to prices. Yet others average that survivorship or date snooping may bias the premiums.

This paper examines the sources of return vitiations in emerging stock markets. From the perspective of collecting independent samples, emerging markets countries are particularly interesting because to their relative isolation from the capital markets of others countries. Compared to develop markets, the correlation between most emerging markets and other stocks markets has historically been low (Harvey: 1995); and until recently many emerging countries restricted investments by foreign investors. Interestingly, Bekaert and Harvey (1995) find that despite the recent trend towards abolition of these markets have actually become more segmented form old capital markets. A large portion of the equity capital of emerging economies is held by local investor who are likely to evaluate their portfolios in light of local economy and markets condition.

On the above background Rouwenhorst attempts to answer two sets of questions. "The first set of three questions concerns the existence of expected return premiums; (i) do the factors that explain expected returns differences in developed equity markets also describe the cross section of expected returns of emerging market firms? (ii) Are the returns factors in emerging markets primarily local or they having global components as well? (iii) How does the emerging markets evidence contribute to the international evidence from developed markets that similar returns factors are present in markets around the world?

The second set of question of the paper includes (IV) is there a cross sectional relationship between liquidity and average returns emerging markets? (V) Are the return factors in emerging markets cross sectional correlated with liquidity? About the date Rouwenhort stated that; as of April 1997 the Emerging Market database (EMDB) of the IFC contains data on more than 2200 firms form 31 emerging markets, but not all are included in the sample. Eleven countries are excluded because of insufficient return histories, which leave 1705 firms in the 20 countries that the IFC tracks for at list seven years. For some firms monthly closing process and dividends are available dating back to 1975. Starting at various points during 1980s the IFC expanded its reporting to include monthly time series for price-to- book ratios, price-earning ratios, market capitalization, Trading volume, and number of days per months that a stock in traded.

Total returns are calculated as the sum of the dividend return and price appreciation, prices sealed by a capital adjustment factor, which the IFC computes to correct for price effect associated with stock splits, stock dividend, and right issues. Many emerging markets have firms with multiple classes of shares carrying different ownership restrictions. Firms with multiple share classes are treated as a single values- weighted portfolio of the outstanding equity securities.

In this paper Rouwenhorst has made detailed analysis of the data and interpreted the result in each section. At last, he has concluded his finding as follows.

"The first conclusion is that the return factors in emerging markets are qualitatively similar to those in developed markets; small stocks out perform growth stocks and emerging markets stocks exhibit momentum. There is no evidence that local market betas re-associated with average returns. The low correlation between the country return factors suggested that the premiums have a strong local character.

Furthermore, global exposures cannot explain the average factor returns of emerging markets. There is little evidence that the correlation between those local factor portfolios has increase, which suggests that the factors responsible for the increase of emerging market country correlation are separate from those that drive the differences between expected return within these markets. A Bayesian 0 premium in developed and emerging markets how that, on less one has strong prior beliefs to the contrary, the empirical evidence favours the hypothesis that size, momentum, and value strategies are compensated for in expected returns around the world. Finally, the paper documents their relationship between expected returns and share turnover, and examines the turnover characteristics of the local returns and factor portfolios. That is no evidence of a relation between expected returns and turnover, in emerging markets. However, beta, size, momentum, and value are prohibitively cross-sectional correlated with turnover in emerging markets. This suggests that the return premiums do not simply reflect a compensation for liquidity."

This study by Rouwenhort does not consider the analysis of single security. It has been analyzed the return factors in worldwide stock markets. However, it concentrates in the various emerging stock markets; hence that article contributes in the area of risk and return analysis in common stock investment.

2.12 Review of Articles

In this regard there are very few articles published in Nepal under this subsection. However views expressed by different person in their articles regarding risk and return of common stock of commercial banks are presented over viewed here in the topic.

Paradhan, (1999) expressed his viewed in relation with subject to certain extent with the topic. "Stock market behaviour on a small capital markets a case in Nepal." Pradhan has summarized the following findings.

- Dividend per share and market price per share was positively correlated.
- There are positive relationship between dividend payout and liquidity.
- Higher the earning on the stocks. Larger the proportion of dividend per share to market price per share.

Shrestha (2059B.S.) expressed his view in relation with subject to certain extent with the topic" Shareholder democracy and General meeting feedback portfolio Analysis" Sherstha's findings are as follows.

- Top level decision often by process the interest of shareholders.
- The annual general meeting has become a plant- form for shareholders to express their opinion and grievance in front of the management and board of directors.

Many general meetings feedback reveals no serious response to the feelings of shareholders. Thus, it reflects unwillingness of the management and board of to change their traditionally held activities towards shareholders. Ojha (2000) in his research paper, "Financial performance, and common stock pricing" concludes that "An investment in common stock of a corporate firms neither ensures annual return nor ensure the return of principle. Therefore investment in common stock is very sensitivity on the ground of the risk. Dividend to common stockholder is paid only in the firm makes an operating profit after tax and preference dividend. The company can return the principle in case of its liquidation only to extent of the residual assets after stratifying to all of its creditors and preferential shareholders. Besides them this investor have to sacrifice the return on their investment in common stock which could be earned investing fund else in the next best opportunity.

Study focused on the financial performance. Where the financial activities involve decision regarding.

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

Further Ojha added that the stock price in Nepal determined more by other factors rather than the financial performance of the concerned company.

Shrestha, (2055:67) Deputy Chief Officer of Nepal Rastra Bank, Banking operation department, has given a short glimpse on the "Portfolio Management in Commercial Bank, theory and practice". Shrestha has highlighted the following issues in the articles. The portfolio Management becomes very important both for individuals as well as institutional investors. Investors would like to select a best mix of investment assets subject to the following aspects:

- Higher return which is comparable with alternative opportunities available according to the risk class of investors.
- Good Liquidity with adequate safety of investment.
- Certain capital gains.
- Maximum tax concession.
- Flexible investment.
- Economic, efficient and effective investment mix.
- In view of above aspects, following strategies are adopted.
- Do not hold any single security i.e. try to have a portfolio of different securities.
- Do not put all the eggs in one basket i.e. have a diversified investment (making investment in different sectors)
- Chose such a portfolio of securities, which ensures maximum return with minimum risk or lower of return but with added objectives of maximization.

However, Shrestha has also presented the following approaches to be added for designing a good portfolio and its investment.

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

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

Shrestha, (2057:79) in his article “Commercial Banks Comparative Performance Evaluation” concluded that the Joint Venture Banks are new operationally more efficient, having superior performance while comparing with local banks that are operating in Nepal. Better performance of joint venture banks is due to their sophisticated technology, modern banking method and skill. Their better performance is also due to the government’s branching policy in rural areas. Local banks are efficient and expertise in rural sectors but having number of deficiencies. Thus, local banks are facing growing constraints of socio-economic, political system on one hand spectrum and that of the issues and challenge of joint venture banks commanding significant banking business on other spectrum.

A study on “How theories of Financial Intermediation of Corporate Risk-Management Influence Bank Risk-Taking Behaviour”. This paper has based on the relation for the risk taking and risk management behaviour from a both corporate finance and banking

perspective. That data set covers the period from 1986-94, 1986-90 and 1991-94 but overall time of the study is 9 year period. In this study, the research scholar has used mathematical tools that are the model beta, standard deviation, total risk (systematic and unsystematic risk), and interest rate risk. The main objective of the study is to examine the relation for risk taking and risk management behaviour for both corporate financial and a banking perspective. After combining the theoretical insights from the corporate finance and banking literatures related to hedging and risk taking the paper reviewed empirical tests based on these theories to determine which of these theories are best supportive by the data.

Management incentives appear to be must consistently supported rational for the describing how bank manage risk. In particular, moderate/high levels of equity ownership reduce bank risk while positive amount of stock option grants increase bank risk-taking behaviour. The empirical tests of theory of corporate risk management need to consider individual subcomponents of total risk and the bank ability to trade these risks in a component financial market. Various researchers have analyzed the class of stochastic volatility diffusions for assets returns to encompass poison jumps of time varying intensity. Any reasonably descriptive continuous – time index returns must allow for discrete jumps as well as stochastic volatility with a pronounced negative relationship between return and volatility innovations. They also tend that dominant empirical characteristics of the return process appear to be priced by the option market. Their analysis indicates a general correspondence between the evidence extracted from daily equity and the stylized features of the corresponding options market prices. They conclude that much assets and derivative pricing theory is based on diffusions models for primary securities. Yet, there are very few estimates of satisfactory continuous time models for equity returns. The objectives of the paper is to identify a class of jump - diffusions that are successful in approximating the S&P 500 returns dynamics and therefore should constitute an adequate basis for continuous time assets pricing applications. They also explore alternative models both within and outside of the popular fine class. Estimation is performed by careful implementation of the EMM that provides powerful model diagnostic and specification tests. Finally, they explore the relationship

between their estimated models and option prices. They contrast those of their parameter estimates that are invariant to adjustments for volatility and jump risk to those reported in the option literature, and provide a qualitative comparison of the pricing implications of their estimate system and the stylized evidence from actual option data. They find that every variant of their stochastic volatility diffusions without jumps fails to jointly accommodate the prominent characteristics of the daily S&P 500 returns. Further, every specification that does not incorporate a strong negative correlation between return innovations and diffusion volatility fails as well. In contrast, two versions of our SVJDS that incorporate discrete jumps and stochastic volatility, with return innovations and diffusion volatility strongly and negatively correlated, accommodate the main features of the daily S&P 500 returns. This is true not only of the models estimated on subsamples. The models therefore appear to be structurally stable. Finally, they find that those parameter estimates that are invariant to adjustments for volatility and jump risk generally are similar to those reported in the option literature and they documented that small risk premium suffices to produce pronounced patterns in Black and Scholes option implied volatilities markets. Thus, the main characteristics of the stock price process by option data independently identified as highly significant components of the underlying S and P 500 returns dynamics.

Mahat, (2004:6) has published an article regarding "Efficient Banking" in the Kathmandu Post Daily" on April 28 2004. He writes, after the restoration of democracy, Nepal has adopted more liberal and open economic policies. The open and liberal policy of the government in the financial sector has helped in establishing many banks and financial institutions in the country. These banks have contributed towards introduction of new technology, new banking systems and efficient service delivery in the country.

Banking industry was booming until recent past. But, the recent economic slowdown they started affecting the performance of commercial banks. The principle of survival of the fittest will hold well under such a scenario. Therefore, a bank has to increase efficiency to win the competition. The efficiency of banks can be measured using different parameters. The concept of productivity and profitability can be applied while evaluating efficiency

of banks. The term productivity refers to the relationship between the quantity of inputs and outputs. If more output can be produced from the same inputs or the same outputs can be produced from fewer inputs, it is said that productivity has increased. As the government banks are at distress, these banks are left out for evaluation. Similarly, Siddhartha bank, Laxmi Bank and Kumari Bank are late entrants in the industry and are in the process of increasing business volume to achieve economies of scale, therefore, figures of these banks also may lead to misinterpretation. SCBL and HBL are well ahead in terms of other income to interest income ratio. On the other hand LUBL, MBL, NCCB and NSBI have poor other income to interest income ratio. Banks with higher ratio can be considered efficient, but also vulnerable in the sense that a reduction in other income will hit the profitability. Interest expenses to interest income ratio reflects the efficiency in the use of funds. SCBL could be considered the most efficient bank under this parameter while LUBL is the most efficient bank. LUBL and MBL stand efficient as they have higher operating profit to total income ratio. The operating profit to total income ratio helps in assessing whether banks are doing the right internally.

The analysis of operational efficiency of banks will help to understand the extent of vulnerability of banks under the changed scenario and in deciding whom to bank upon. This may also help the inefficient banks to upgrade their efficiency and be winner in the situation developing due to slowdown in the economy. The regulators should also be concerned on the fact that the banks with unfavourable ratios may bring catastrophe in the banking industry.

Akhigbe & Whyte (2004: 435-446) in their research paper, "The Gram-Leach-Bliley Act" of 1999: Risk implications for the Financial Service Industry have focused on risk implication of banking and private sectors. The research paper has included many other studies some of the studies find that expansion into banking activities can affect of events that permitted only limited entry by banks into nonbanking activities. The study is conducted on systematic, unsystematic and total risk, such risk are calculated by using statistical tools i.e. variance and standard deviation, T-statistical and signed rank which is recently by Aminud, Delong and Saunder in 2002. The study has included 340 banks for

the sample size than they partition two sub- samples: 46 large banks and 294 small banks. The major finding of the study is that evidence of a significant decline in systematic risk for the banks securities firm and insurance companies but a significant increase in total and unsystematic risk for the banks and insurance companies. The study has included five years period data. The study also found that bank and insurance companies are less risk than other securities business. If security wants to decline in risk, security firm can be explained by their ability to diversify into less risky banking and insurance activities. The research paper result suggests that regulators should carefully monitor and supervise banking activities in new era of financial modernization to mitigate adverse effects from the increase in risk.

Kadariya, (2012) has published an article regarding, “Investor Awareness and Investment on Equity in Nepalese Capital Market” in Banking Journal, Volume 2 (Issue1). Nepalese financial sector has been growing rapidly so does the growth of capital market, which is dominated by the financial sector. The rapid growth of capital market has raised the question of sustainable development of this sector. For the long term growth, it has some preconditions: the stakeholder’s literacy and awareness level, the access to information, and ability to analyze them for the financial decision making. The study find that the equity investor are aware and their level of awareness is high compare to needed level, aware equity investor have more chance of holding high volume of equity investment and there is problem on access to information for equity investors in secondary market.

In this study, investor awareness and its relationship with investment decision in equity and investors access to market information were examined. Investor awareness is crucial for the investment decision making and sustainable growth of capital market. In other word, there is positive correlation between awareness and level of investment. Investors are keen to get market information timely and sufficiently to make a profitable investment. Nepalese capital market is characterized with limited sources of information. The rational fact is that information but the study shows that there is problem on access to information for equity investors in secondary market.

The investor awareness level is found to be affected by the related work experience understanding of investment environment, learning expectation and access to market

information. Equity investors in secondary market are not satisfied with the available source of information and efforts of information disseminating mechanism.

Mainali, (2012) has published an article regarding, “Problems and Prospects of Stock Market in Nepal. This study aims to examine the problems and prospects of stock market in Nepal. Correlation and regression analysis are used to analyse the secondary data and cbi-square test is performed to analyse survey responses. Various measures of stock market development indicate that the stock market in Nepal is creeping and unable to show significant positive impact in the economy. Minimum participation of real sector and high concentration ratio, especially banking sector dominance indicate that the stock market is risky and illiquid. The finding based on primary data suggest that coordination among authorities and political stability are necessary for the sustainable development of stock market in Nepal.

The major conclusion of this study is that stock market development is unable to show significant positive impact on the national economy. Nepalese stock market is characterized by small number of listed companies, low market capitalization ratio, low value trade ratio, low turnover ratio, high volatility high concentration, illiquid and risky market. The result of primary data analysis indicate that the poor co-ordination among SEBON, NEPSE, NRB and Insurance Board; insufficient information of stock market; unavailability of CSD services; poor institutional strengthening of SEBON; low instrument diversification; Mal-practices on stock transaction; frequent changes on policies; poor attention of government for its development are the major problems of Nepalese stock market. Furthermore, the survey results underscore the importance of political stability in the development of stock market in Nepal.

Pant, (2012) has published an article regarding “Lunar effects in Nepalese Stock Markets in SEBON Journal Issue 5”. This paper uses the NEPSE return data during mid July 1997 to mid July 2010 to explore the daily stock return variations due to calendar effect. With an application of linear models, evidence of lunar calendar effect especially lower rate during Aswin Krishna Pakchha are documented. These pre-Dashain period lower stock return are clearly traceable with Nepalese culture and festive preparation

pattern. Nepalese stock market transaction are literally depend on festival of our country. In this article stock return is calculated for Sukla Pakchhas and Krishna Sukla Pakchhas on lunar year. In a lunar calendar, we have 24 Pakchhas where the return on Aswin Sukla Pakchhas periods are significantly lower than that of other Pakchhas. Despite having weak indicators of second half, the results are in similar line. Strong and statistically positive and more for other Pakchhas than the Aswin sukla Pakchhas.

It can be traced with Nepalese culture and festival celebration pattern as follows.

- Nepalese major festival “Dashain” is observed during Aswin Sukla Pakchhas. Aswin Krishna Pakchhas is pre- Dashain 15 days period. These 15 days periods are called “Shorha Sharddha” (Sixteen days devoted to remember and pray the late fore fathers).
- Nepalese spent relatively more to celebrate “Dashain”. The investors are not aloof from this social phenomenon. Hence many investors sell their holdings to provide funds for the celebration of up-coming “Dashain”. This results into supply pressure in the stock market and hereby reduction in the stock market

There is an evidence of existence of seasonal pattern in stock returns. At the pre-Dashain period a significant decrease in stock return is observed. This study considered only lunar effect, there may be other calendar effects as well. There are different Tithis in Lunar calendar, i.e, Ekadashi, Duadashi. A study considering the Tithi effect may be fruitful in showing lunar calendar effect.

2.13 Review of Thesis

Prior to this thesis study some students have conducted the various aspects of risk and returns of the common stock have done several research works in this study only relevant subject matter are reviewed, which are as follows.

Acharaya, (2000) in his thesis paper "An analysis of risk and return associations with common stock investment of joint venture banks in Nepal" conclude that generally average investors are risk averse. They prefer to investment 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 assets 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 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."

Khatiwada, (1999) in his thesis paper "A study on securities investment in Nepal" concludes that, "leaving some exceptional cases apart, almost all the companies experienced that market share price going down by less than fifty percent in 1999. Even the banking group could not spare the share price going down more specifically: the year 1999 was a disheartening period for the stock price. It is because, almost all the companies share price during the year were own even in some cases below the face value."

Through the study conducted by did not focus the analysis of individual security and the view point of investors. It explores some dimension to further research in this aspect.

Another thesis review here is of Prasain (2009) which is also related to study. The main objective of study is to analyze the risk and return of common stock, the study is focused on the common stock of listed insurance companies are taken in to consideration to analyze the risk and return of common stock investment. With the aim of providing help to this study, sound methodology has been used for the analysis of the collected information. Both financial and statistical tools have been used for analysis. Tables, graphs, and diagrams are used to make the finding simple and easy to understand.

These studies primarily depend on the secondary data collected from Nepal stock exchange, NRB and the financial records of the studied company. Major conclusions derived from her study are as follows.

- Stocks have greater risk than other form of securities hence investors must be prepared to face the ups and downs of stock market.
- The size of different sector in the market is in increasing order as banking man and pro, finance and insurance, others hotels and trading respectively.
- About return she had conclude return is the changes in the initial value plus and catch distribution in addition to the initial value.
- Since beta of all study companies is greater than one it indicates that share is more risky of volatile than the market.
- Among the selected companies stock of most are under prices. (Prasain, 2009: 69-73)

Bhatta, (2005) in his thesis paper, "Assessment of the performance of listed companies in Nepal " Concludes that "A highly significant between risk and returns character of the company. Investors expect is not efficient one. So the stock price doesn't contain all the information relating to market and company itself. Neither investor analyzes the overall relevant information of the stock exchanges try to disseminate the information. So, the market return and risk both may not show high priced stocks".

Joshi, (2008) has conducted a study entitled "Risk and Return Analysis of common stock of five listed Commercial Banks." The major objectives of the study are to calculate and analyze the risk and return of banking sector, to evaluate common stock of listed commercial banks and to analyze whether the common stock of commercial banks are correctly priced or not etc.

The major findings of his study are summarized below:

- Regarding the market capitalization of selected companies, SCBL has the maximum market capitalization and NBBL has the minimum market capitalization.

- Regarding the market capitalization of the inter industry, Banking sector has 65%, Insurance & Finance has 14%, Manufacturing & Processing sector has 13%, Hotel sector has 7%, Trading sector has 1% and Other sector has negotiable proportion of share in over all market capitalization.

Joshi further concludes that the considering return, the return of SCBL is maximum (i.e.73.30%) but its risk also maximum but if risk is taken into account for consideration, NIBL has the minimum risk of 43.82%. In industry wise analysis, the expected return of finance and insurance has a maximum expected return (i.e. 27.70%), while other sector has a minimum expected return (i.e.16.61%). If the risk is assessed in term of C.V., Banking sector has minimum C.V. like 1.66, which indicates that it is better to invest on the shares of banking sector.

Theme of Joshi's study is summarized as below:

- As analyzing the Coefficient of variation, he suggests that the banking industry is the best one for investment. Similarly, while analyzing individual securities, SCBL is the best for investment due to highest return and lowest C.V.
- Based on the findings and conclusion of the study, it is recommended to the investor that if they wish to generate higher return, then they should bear higher risk and invest in the shares of SCBL. But if they are risk averters and they want to invest in single assets, then they can invest in the share of NIBL or HBL because these two stocks have lower risk than that of portfolio risk.
- Portfolio analysis shows that the portfolio investment can reduce risk significantly. Thus, portfolio investment is recommended to receive high return at minimum risk.

Mainali, (2009) has performed another study entitled "Risk and Return Analysis on common stock investment". In this study performed an analysis of risk and return on common stock investment with special reference to banking industry. In this study, the main objective of the study is to determine whether the shares of selected commercial banks are over-priced, under-priced or correctly valued by analyzing the risk and return. Others objectives of the study are evaluate the common stock, to analyze the risk and

return and to provide relevant suggestion to concerned authority based on analysis of data. His major findings on his study are given below in details:

- Among the selected commercial banks, he writes that the SCBNL has highest (i.e.32%) market capitalization which indicates that the size of the stock market of SCBNL is greater one.
- Regarding the expected rate of return among the selected commercial banks, the highest expected rate of return of SBI is 19.9% and lowest expected return on common stock of NBBL is -27.99%. So, it indicates that the investment in SBI will earn best return.
- Among the selected banks, the highest C.V. on common stock of NABIL is 12.23 and lowest C.V. common stock of SCBNL is 3.0191. It indicates NABIL stock is more risky and SCBNL stock is less risky than other. Similarly, beta coefficient of SBI is highest (i.e.3.30) and the NIBL has lowest beta coefficient (i.e.0.5831). So, it means C.S. of SBI is most aggressive stock and C.S. of NIBL is most defensive stock than other.
- At the last, he writes at major finding of his study that the correlation between NIBL and SBI is in negative. It indicates making portfolio investment in these two stocks will

Bhattarai, (2010) has made “Risk, Return & Portfolio Analysis of Common Stock of Insurance Companies”. The major objectives of the study are as follows:

- To focus on analysis of price movement of individual insurance companies,
- To analyze and evaluate the insurance companies in terms of their risk and return.
- It will also focus on the analysis of portfolio that can be constructed by bringing together the risk and return of all insurance companies included in this study.

Nepalese investors are facing various aforementioned problems in setting their investment policies, evaluating financial assets, constructing portfolio and revising and analyzing their portfolio performance. The key objectives of the study revolve around the subject of finding out risk minimizing tools and techniques in relation to certain financial as well as other constraints.

Major findings of his study are given below:

Stock markets being one of the prominent sources of economic development, ultimately, its potential investors are biggest assets. The target of this study is to explore and increase stock investment. Modern security analysis emphasizes the risk return analysis rather than price and dividend estimates. And, the risk and return estimate is dependent upon the share price and the dividend stream. The investors are investing in shares by trial and error approach.

Though there were above mentioned studies in the context of Nepal, it has now become necessary to find out whether their findings are still valid. Pradhan's study was based on 55 observations only covering the financial data up to 1990. Many changes have taken place in and outside Nepal after 1990. Like other countries, Nepal has also followed a policy of liberalization, privatization and globalization. Many more companies have also come up after 1990. Considering all these facts, it is necessary to carry out a fresh study in Nepal.

Pandey, (2011) has under taken a study entitled "Risk & Return on Common Stock Investment of commercial banks, with reference to six commercial banks." Among various objectives of his study, some majors basic objectives of his research are to analyze, whether the common stock of commercial banks are correctly priced or not, by analyzing the required rate of return and to study systematic and unsystematic risk associated with securities of the commercials banks.

Majors finding of his study are given below:

- Among the six commercials banks, NABIL bank has highest expected rate of return on common stock (i.e.14.03%) and NIB bank has negative expected rate of return o common stock (i.e.-3.9698%). Similarly, the common stock of BOKL is most risky asset, which has highest standard deviation (i.e.52.15%) and HBL's stock is less risky due to lowest standard deviation (i.e.19.49%).
- Regarding the market capitalization of six selected companies, SCBNL has the maximum market capitalization (i.e.31.36%) and the market capitalization of BOKL is low by 7.11%.
- Considering the different investment sectors, the expected return of other sector is maximum by 34.53% and the processing sector has very low expected return (-12.076%). Similarly, considering coefficient of variation of different sectors, the

trading sector has maximum by 18.49 units, which indicate that to earn 1 unit of return, the investor has to bear 10.49 units of risk. The coefficient of variation on manufacturing & processing is – 3.1349 and –3.28 (negative) respectively.

- On the basis of required rate of return and expected rate of return, the study shows that RRR of NIBL, NABIL, SCBNL, HBL, EBL & BOKL is 0.0175, -0.0677, -0.0174, 0.0099, -0.0526, and –0.0903 respectively. The ERR of NIBL, NABIL, SCBNL, HBL, and BOKL is –0.0396, 0.1403, 0.2264, 0.1158, 0.1312 and 0.0021 respectively. As his study shows that the common stock of NIBL is overpriced and rest of all's common stocks are under priced. At the end of study, it's recommended that before making investment decision, the investor should visit and discussion with investment Companies, with export and researchers because sharing experience, idea and view of export will provide greater help and also advice that the investors need to diversify their investment to reduce risk. Proper construction of portfolio never takes any considerable loss.

2.14 Research Gap

This research work is difference then past research work on similar topic of “Risk and Return analysis of common stock investment in Nepal”. In previous study, there are few companies on same topic of several commercial banks, companies and hotels by the researcher. There is found a poor analysis of risk and return. The previous researcher used the NEPSE index, but this study finds out conclusion using industry index i.e. banking index which is a sub index. Banking index calculated based on listed commercial banks. Some researcher use only statistical tools and technique and researcher only analyzes about portfolio. They don't give any suggestion for creation of optimal portfolio.

This research is done in three joint venture commercial banks among the 32 commercial banks, which are listed in Nepal Stock Exchange. The study takes five year from 2006/07 to 2010/11 which is not included by the past researcher. The main gap of this thesis is that gives an idea about how to create an optimal portfolio to invest in common stock, which helps the Investors minimize the risk and maximized the return.

Market is decreasing day by day, investors are suffering to invest in the secondary market and few companies are trade in the NEPSE on daily market, how risk and return to selecting common stock? This study is also based on financial as well as statistical tool and techniques to provide the meaningful analysis and interpretation with taken as similar rank commercial bank to identify the level of risk and return from investment on common stock. So, this study gives more reliable and accurate conclusion than past research.

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a technique used for conducting research. It provides various methods for the collection, presentation, interpretation and analysis of data. For this, various financial and statistical tools are used to analyze the data and Conclude to the finding.

3.1 Research Design

Research design is the plan; structure and strategy of investigation conceived so as to obtain answers to research question and to control variances to achieve of the study, description, and analytical research design have been used.

The analytical as well as descriptive research design has been included in the present study. For the analytical purpose the annual reports, financial and other relevant material of the selected organization also studied. The study is based on recent historical data which covers five years periods from 2007 to 2011 A.D. It deals with the common stock investment in joint venture bank on the basis of available information. As the title suggest it is more analytical and empirical and less descriptive.

3.2 Source and Procedure of Data Collection

Mainly the study is conducted on the basis of secondary data. The data relating to the investment, stock price, annual, half yearly and quarterly reports and others are directly obtained with concerned banks.

The supplementary data and information are collected from number of institution and regulating authorities like NRB, Security Exchange Board, Nepal Stock exchange ltd. Ministry of Finance and National Planning Commission etc.

All the secondary data are compiled, processed, and tabulated in the time series as per the need and objectives. In order to judge the reliability of data provided by the banks and other sources, they were compiled with the annual reports' of auditor. Formal and informal talks to the concerned head of the department of the banks were also helpful to obtain the additional information of the related problem. Similarly, various data and information are collected from the economic journals, periodicals, bulletins, magazines and other published reports and documents from various sources.

3.3 Population and Sample

There are 210 companies are listed in NEPSE. Now, 32 commercial banks are operating in Nepal; only 25 commercial banks are listed in NEPSE (2012). For this study three listed commercial banks have been selected for samples.

Name of sample banks are as follows:

1. Everest Bank Limited (EBL)
2. Kumari Bank Limited (KBL)
3. Nepal Investment Bank Limited (NIBL)

Note:(See Appendices I for more details)

3.4 Method of Analysis

To achieve the objectives of the study, various financial and statistical tools have been used in this study. The analysis of data will be done according to pattern of data available. Because of limited time and resources, simple analytical statistical tools such as graph, percentage, Karl Pearson's co-efficient of correlation, and the method of least square are adopted in this study. Similarly, some strong accounting tools such as ratio analysis and trend analysis have also been used for financial analysis.

The various calculated result obtained through financial accounting and statistical tools tabulated under different heading. Then they are compared with each other interpret the results.

3.5 Financial Tools

3.5.1 Percentage

Percentage is used to measure the changing position of different amounts. The differences show the actual impacts of this sector; the given formula is used to find out the annual percent change.

$$\text{Annual Percentage Change} = \frac{\text{Amount of This Year} - \text{Amount of Last Year}}{\text{Amount of Last Year}}$$

3.5.2 Market Price of Stock

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. However average price could be used as market price. It is also complicated to collect the day's price of five year period. So it is appropriate to use closing price as a market price.

3.5.3 Earning Per Share

Earning refers to the net income after taxes. It can be obtained by dividing net income by common stock outstanding. Symbolically it is represented as:

$$\text{EPS (Earning per share)} = \frac{\text{Net income after taxes}}{\text{Number of common stock outstanding}}$$

3.5.4 Dividend

Common stockholder are rewarded through dividend. Dividend refers to a portion of earning, which distributed to shareholder as the form return of their investment in share capital by the decision of board of director. It is usually distributed from retained earning. It is useful in the computation of realized rate of return.

Symbolically,

$$\text{Dividend per share} = \frac{\text{Total amount of dividend paid}}{\text{No of common stocks outstanding}}$$

It can be given in the form of cash or shares. Mainly the company declares the dividend in cash. But if the company declares stock dividend or bonus share it is difficult to obtain the amount that has been gained by the shareholders. In this case, they get extra number of shares as dividend and simultaneously the price of the stock declines as a result of the increased number of stocks. To get a real amount of dividends, there is no any formula. So the model has been developed considering practical as well as theoretical aspects. The models are as follows:

Total dividend amount = Cash dividend + stock dividend % x Next year's MPS

Symbolically,

$$D_T = D_C + \frac{SD}{SE} \times P_S$$

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

3.5.5 Expected Rate of Return on Common Stock (\bar{R}_j)

The expected rate of return is simply the arithmetic mean of the past year return. This is an average rate of return on common stock.

Symbolically,

$$\bar{R}_j = \frac{\sum R_j}{n}$$

Where, \bar{R}_j = Expected rate of return on stock j
 n = No of years that the return is taken
 \sum = Sign of summation

3.5.6 Return of Common Stock Investment (R)

Return is the income received on an investment. This is the annual realized return received on an investment and any change in market price. Usually it is expressed in a percentage of the beginning price of the investment. It is also used for to calculate single period rate of return of stock.

Symbolically,

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

Where, R = Actual rate of return on common stock
 D_t = Cash dividend received at time t
 P_t = Price of stock at a time t
 P_{t-1} = Price of stock at time (t-1)

3.6 Statistical Tools

Some important statistical tools are used to achieve the objective of this study. In this study, statistical tools as correlation coefficient analysis standard deviation, coefficient of variance have been used. The basic analysis can be written in point below:

3.6.1 Standard Deviation (†)

Standard deviation is basically measure of variability of return. It is a statistical tool and it is widely used to measure the risk for holding a single assets. It is also the square root of variance. If standard deviation represents the higher dispersion on return, is more risky and vice versa.

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

Where, σ_j = Standard deviation of return on stock during time period.
 R_j = Holding period return of stock

3.6.2 Coefficient of Variance (C.V)

It is a relative measure of risk. It is defined as the standard dividend divided by the mean of expected return. It is used to standardize the risk per unit of return i.e. measure the risk per rupee. The coefficient of variation should be used to compare investment when both the standard deviations and the expected values differ. If a company with a low C.V. has less risk per rupee than a company with a high C.V.

$$C.V = \frac{\sigma_j}{R_j}$$

3.6.3 Portfolio Return (\bar{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.

Symbolically,

$$\bar{R}_p = W_A \cdot \bar{R}_A + W_B \cdot \bar{R}_B + \dots + W_n \bar{R}_n$$

Where, \bar{R}_p = Expected return on portfolio

\bar{R}_A = Expected return of assets A

\bar{R}_B = Expected return of assets B

W_A = Weight of assets A

W_B = Weight of assets B

$W_A + W_B$ = Weight of investment on assets = 1

3.6.4 Portfolio Risk (σ_p)

The risk of portfolio is measure in terms of variance or standard deviation. It is the function of the proportions invested in the components. The riskiness of the components and correlation of returns on the components securities.

The portfolio risk or standard deviation in case of two assets is given below.

$$\sigma_p = \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2W_A W_B \text{Cov}(AB)}$$

Where,

σ_p = Portfolio risk

W_A = the proportion of the portfolio developed by security A

W_B = the proportion of portfolio developed by security B

Cov_{AB} = the covariance of return of the security A and B

3.6.5 Portfolio Beta (σ_p)

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

$$\sigma_p = \sqrt{\sum_{j=1}^n W_j \beta_j}$$

Where, σ_p = Portfolio of beta coefficient

W_j = Proportion of the portfolio

β_j = Portfolio of beta coefficient

3.6.6 Beta Coefficient (β_j)

Beta coefficient is an indicator of systematic risk. It measures the sensitivity of stocks return with respect to the market return.

$$\beta_j = \frac{\text{Cov}(R_j, R_m)}{\sigma_m^2}$$

Where, $\text{Cov}(R_j, R_m)$ = Covariance of the return of security j and the market portfolio.

3.6.7 Correlation Coefficient (ρ_{xy})

Correlation measures the degree of two securities move together. It is the statically measure of the relationship between series of number representing data of any kind, from to rest scores.

If two series move in same direction they are positively correlates and if they move in opposite direction, they are negatively correlate. Correlation coefficient value ranges from -1.0 to +1.0.

Symbolically,

$$\rho_{xy} = \frac{\text{Cov}(R_x R_y)}{\sigma_x \sigma_y}$$

3.6.8 Required Rate of Return

It is the amount, which an investor wants if he makes an investment. Without this amount an investor is not likely to invest his fund. It is always greater than risk free rate of return. This rate helps to decide whether the stock is under priced or overpriced. So it make easy to take decision about the securities. Under priced assets are purchased and over priced assets must be sold.

Symbolically,

$$R_j = R_f + (\bar{R}_m - R_f) S_j$$

Where,

\bar{R}_j = Required rate of return on security j

R_f = Risk free rate of return

\bar{R}_m = Expected rate on market

S_j = Beta coefficient on security j

3.6.9 Total Risk

Total risk or total variation of the rate of return for an individual security or portfolio is measured by the standard deviation or variance of the rate of return. According to the CAPM total risk of an asset can be divided into two parts. They are diversifiable and undiversifiable risk.

Diversifiable risk is the portion of the total risk that can be diversified away. It is also called unsystematic risk or avoidable risk or non market risk. This type of risk differs from one company another.

It caused by events particulars to the firm. But, undiversifiable risk is the portion of the total risk of an individual security caused by a market factors that simultaneously affect the prices of all securities. It can't be diversified away. It is also called market risk or unavoidable risk or systematic risk or beta risk. It stems from factors, which systematically affect all firms, such as war, inflation, recession, high interest rates, depressions, and long term change in the consumption in the economy.

Total risk = Systematic risk + Unsystematic risk

$$= \sigma_i^2 = \sigma_m^2 + \sigma_{ei}^2$$

Where,

Systematic risk = Undiversifiable risk

Unsystematic risk = Diversifiable risk

σ_i^2 = Variance of i^{th} assets

σ_m^2 = Market variance

σ_{ei}^2 = Unsystematic risk or residual Variance

β_i = Beta or systematic risk index of i^{th} assets.

3.6.10 Tools for Testing Hypothesis

$$t = \frac{\sum (\bar{X} - u)}{\frac{s}{\sqrt{n}}}$$

Where,

\bar{X} = Arithmetic mean of sample statistic

u = Arithmetic mean of population parameter

s = Estimates standard deviation of population parameter which is given as

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

(If deviation is taken from actual mean)

$$s = \sqrt{\frac{1}{n-1} \left[\sum d^2 - \left\{ \sum \frac{d}{n} \right\}^2 \right]}$$

(If deviation is taken from assumed mean)

Where,

$D = X - A$ (A is assumed mean)

n = Sample size

"Test of significance of difference mean" is applied for hypothesis testing

Note: In case of expected return, (\bar{R}_j) has been used in form of $E(R_j)$, because only historical data use in our study. And in case of hypothesis, t-test has been adopted sample size is less than thirty.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

In this chapter, the analysis part is presented in details. It is the main body of the study. This chapter includes analysis of data collected of data and their presentation. Detail data of MPS, EPS, Dividend of each banks, and P/E ratio of selected banks as well as and NEPSE index of each industry is presented and their interpretation analysis is done. Different table and diagrams are drawn to make simple and easy understandable to the study.

4.1 Analysis of Individual Commercial Bank

In this chapter, selected companies are analyzed separately. All together there are 32 commercial banks. Out of them three commercial banks are taken as sample.

4.1.1 Everest Bank Limited (EBL)

Everest Bank Limited was established in 1993 and started its operation in 1994, with the joint venture of Punjab National Bank Limited (Holding 20%equity in the bank), in India. The bank is providing customer-friendly services through its Branch Network. All the branches of the bank are connected through Any Branch Banking System (ABBS), which enables customers for operational transactions from any branches. The bank has been conferred with “Bank of the Year 2006, Nepal” by the banker, a publication of financial times, London. The main objective of bank is to carry out commercial banking activities under the commercial bank act 1974. It was listed in NEPSE in 1995. With an aim to help Nepalese citizens working abroad, the bank has entered into arrangements with banks and finance companies in different countries, which enable quick remittance of funds by the Nepalese citizens in countries like UAE, Kuwait, Bahrain, Qatar, Saudi Arabia, Malaysia, Singapore and U K. Bank has set up its representative offices at New Delhi (India) to support Nepalese citizen remitting money and advising banking related services. For its

excellence in banking services, it was recently awarded the “Best Bank Award 2011” amongst all banks in India by the leading corporate magazine, Business India. The bank is providing customer friendly service through a network of 45 branches of Network and 55 ATM (Automatic Teller Machine).

(<http://everestbankltd.com/main/> on dated 14th June, 2012).

4.1.1.1 MPS, Dividend, and EPS Data of EBL

Market price, dividend records, and EPS of common stock of EBL are shown in table 4.1. MPS and EPS movement is shown in the figure 4.1. Closing price is taken into account for the purpose of calculating realized return for the years. The total dividend includes cash as well as stock (Bonus) dividend.

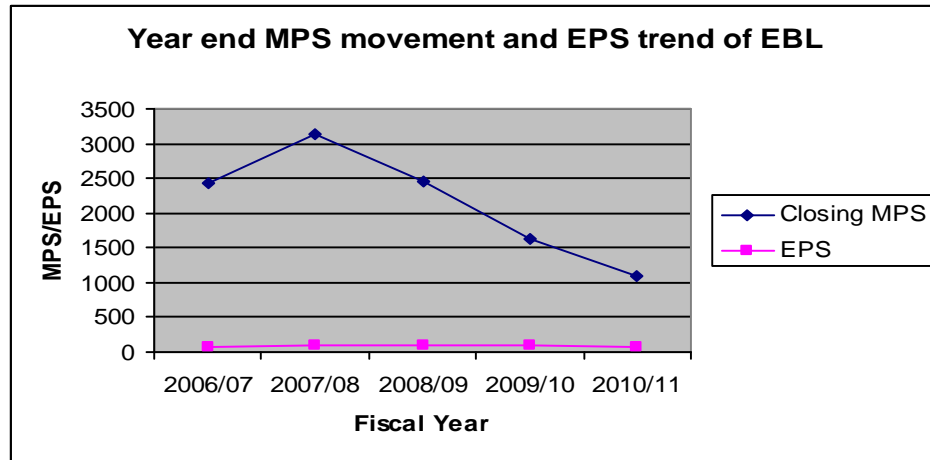
Table 4.1

MPS, Dividend, and EPS Data of EBL

Fiscal Year	Closing MPS	DPS	Total Dividend	EPs	P.E. Ratio
2006/07	2430	10	739	78.42	30.99
2007/08	3132	20	959.60	91.82	34.11
2008/09	2455	30	766.50	99.99	24.55
2009/10	1630	30	519	100.16	16.27
2010/11	1094	50	159.4	83.18	13.15

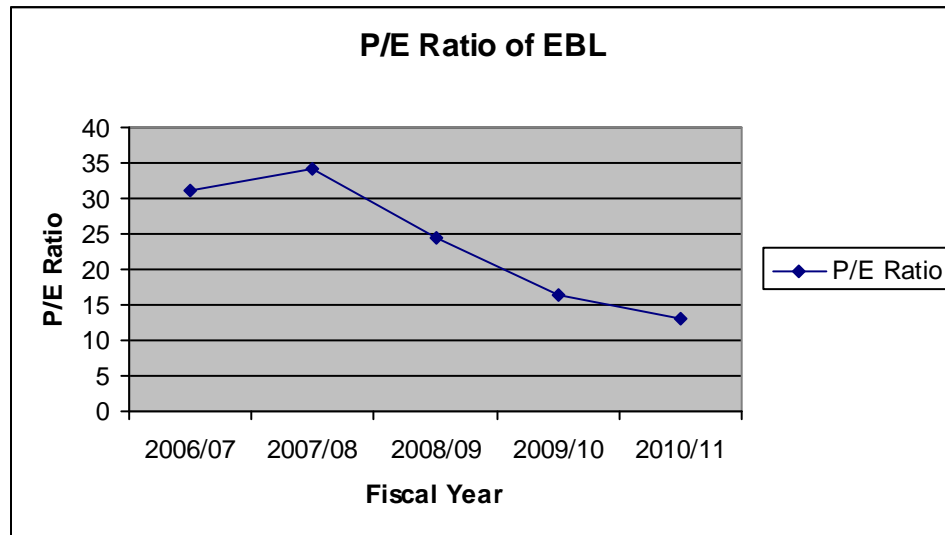
(<http://everestbankltd.com/doc/annualreport/EBL%20AR%20Eng%20068%20for%20Net.pdf> on dated 14th June, 2012).

Figure 4.1



(Source: Appendices III).

Figure 4.2



(Source: Appendices III).

The above table and diagrams shows that the closing MPS of EBL is increasing from year 2006/07 to 2007/08 from Rs. 2430 to Rs. 3132 then it has decreased in the year 2008/09, 2009/10 and 2010/11 at Rs. 2455 Rs 1630 and Rs 1094. As a whole we can see that the MPS of EBL is in decreasing trend beside the year 2007/08.

Dividend of EBL is slightly changes in different year. EBL has provided highest total dividend per share Rs.269 in 2008/09. And EBL has provided lowest dividend per share Rs.112 in the year 2006/07.

Similarly EPS also shows increasing trend in the different year. However it has slight decrease in year 20010/11. It has greatest EPS in the year 2009/10 i.e. Rs.100.16 and lowest EPS in the year 2006/07 i.e. 78.42. But P/E ratio of EBL is going decreasing trend. It is highest 34.11 in year 2007/08 and lowest at 13.15 in 2010/11.

Table 4.2

Realized Return(R), Expected Return (\bar{R}), Standard Deviation (σ) and Coefficient Variation (C.V) of EBL

Fiscal Year	Closing MPS	Total Dividend	$R = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$	$R - \bar{R}$	$(R - \bar{R})^2$	Remark
2005/06	1379					Base year
2006/07	2430	739	1.29	-0.359	0.13	
2007/08	3132	959.60	0.68	-0.969	0.94	
2008/09	2455	766.50	0.029	-1.62	2.62	
2009/10	1630	519	-0.12	-1.769	3.13	
2010/11	1094	159.4	-0.23	-1.879	3.53	
Total			$\sum R = 1.649$		10.35	

(Source: From Appendices IV).

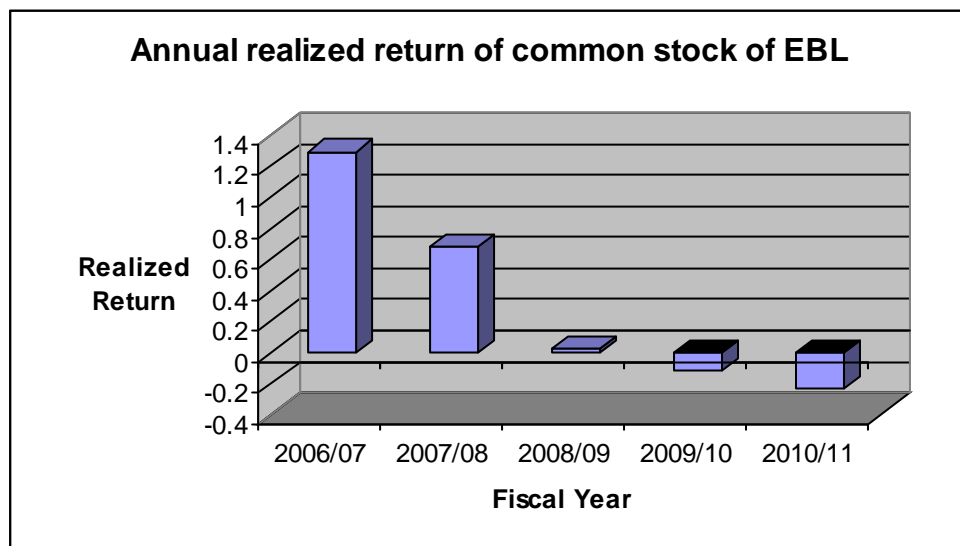
We have,

$$\begin{aligned}
 \text{Expected Return } (\bar{R}) &= \frac{\sum R}{n} \\
 &= \frac{1.649}{5} \\
 &= 0.3298 \text{ or } 32.98\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Variance } (s^2) &= \frac{\sum (R - \bar{R})^2}{n - 1} \\
 &= \frac{10.35}{4} \\
 &= 2.5875 \\
 \text{Standard Deviation } (\sigma) &= \sqrt{s^2} \\
 &= \sqrt{2.5875} \\
 &= 1.608 \\
 \text{Coefficient of Variation} &= \frac{\sigma}{\bar{R}} \\
 &= \frac{1.608}{0.3298} \\
 &= 4.87
 \end{aligned}$$

The above table shows realized return, expected return, standard deviation and coefficient of variation of EBL. The realized return and expected return of EBL is 1.649 and 32.98%. Where as its standard deviation and C.V. is 1.608 and 4.87 respectively. This means that for earning one extra unit of return from the share of EBL investors have to bear 4.87 unit of risk.

Figure 4.3



(Source: Appendices III).

4.1.2 Kumari Bank Limited (KBL)

Kumari Bank limited, come into existence as the fifteenth commercial Bank of Nepal by standing its banking operations from April 03, 2001 with an objective of providing competitive and modern banking service in Nepalese financial markets. The bank has paid up capital of Rs 1,186,099,200.00 of which 70% is contributed from promoters and remaining from public and its authorised capital is Rs.1, 600,000,000.00 KBL has been providing wide range of modern banking service through twenty nine points of representations located in various urban and semi urban part of the country, twenty outside and nine inside the valleys. The bank is pioneer in providing some of the latest and lucrative banking service like SMS- Banking E- Banking service (Including 33 ATM) in Nepal. Now the bank has been providing 365 days banking facilities extended banking hours till 7 pm in the evening, utility bill payment service, inward and outward remittance service, online remit service and various other banking services.

(<http://www.kumaribank.com/News/welcome-to-kumari-bank.html> on dated 14th June, 2012).

4.1.2.1 MPS, Dividend and EPS Data of KBL

Market price, dividend records, and EPS of common stock of KBL are shown in table 4.3. MPS and EPS movement is shown in the figure 4.5. MPS of KBL is increasing trend from the fiscal year 2006/07 to 2007/08. But the figure shows that MPS is decreased in year 2008/09 to 2010/11.

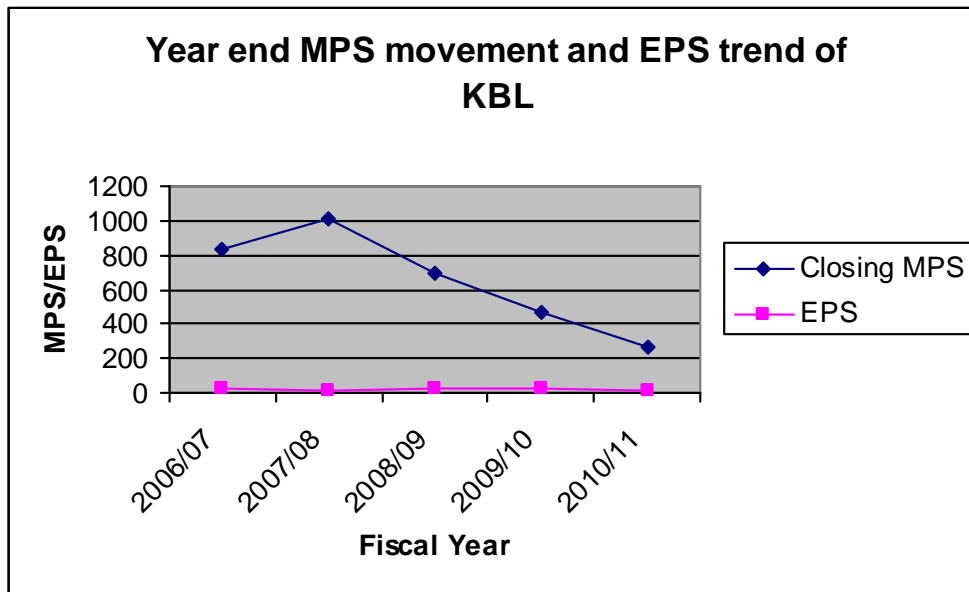
Table 4.3

MPS, Dividend and EPS Data of KBL

Fiscal Year	Closing MPS	DPS	Total Dividend	EPS	P.E. Ratio
2005/06	443	1.05		16.59	26.71
2006/07	830	1.05	175.77	22.70	36.56
2007/08	1005	0.53	106.36	16.35	61.47
2008/09	700	0.55	74.61	22.04	31.76
2009/10	468	12	68.16	24.24	19.31
2010/11	266	0.44	22.89	15.67	16.98

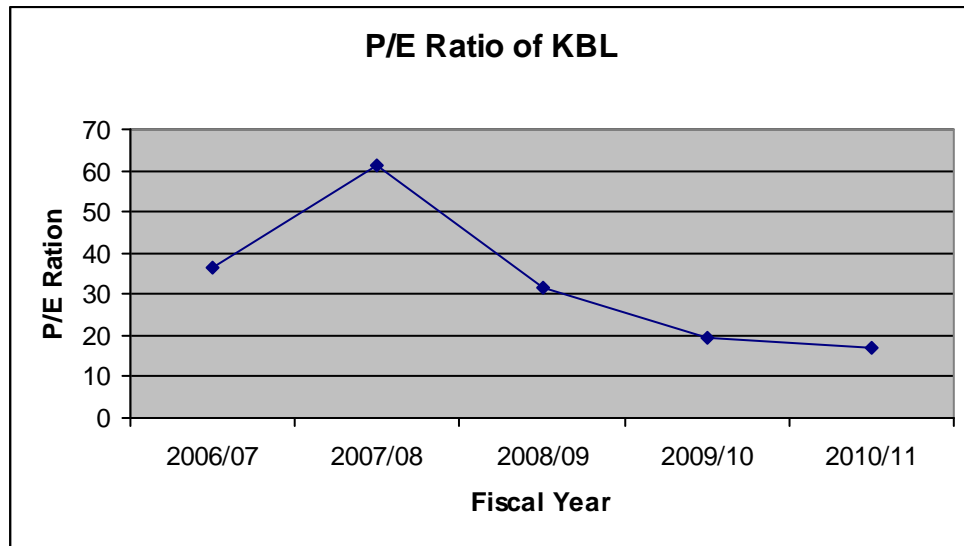
(http://www.kumaribank.com/Reports/11th_Annual_Report%28English%29.pdf on dated 14th June, 2012).

Figure 4.4



(Source: Appendices III).

Figure 4.5



(Source: Appendices III).

The above table and diagrams shows that the closing MPS of KBL is increasing from year 2006/07 to 2007/08 from Rs.830 to Rs.1005 then it has decreased in the year 2008/09 to year 2010/11 at Rs.700 to Rs266. As a whole we can see that the MPS of KBL is in decreasing trend expect the year 2007/08.

Dividend of KBL is slightly changes in different year. KBL has provided highest dividend in 2009/10. And KBL has provided lowest dividend in the year 2010/11.

Similarly EPS shows fluctuating in the different year. It has greatest EPS in the year 2009/10 i.e. Rs.24.24 and lowest EPS in the year 2010/11 i.e. 15.67. P/E ratio of KBL also shows the fluctuating trend in different year. It is highest 61.47 in year 2007/08 and lowest at 16.98 in 2010/11.

Table 4.4**Realized Return(R), Expected Return (\bar{R}), Standard Deviation (\dagger) and Coefficient Variation (C.V) of KBL**

Fiscal Year	Closing MPS	Total Dividend	$R = \frac{P_t - P_{t-1} + D_1}{P_{t-1}}$	$R - \bar{R}$	$(R - \bar{R})^2$	Remark
2005/06	443		-	-	-	Base Year
2006/07	830	175.77	1.27	0.51	0.26	
2007/08	1005	106.36	0.339	-0.43	0.18	
2008/09	700	74.61	-0.229	-0.99	0.99	
2009/10	468	68.16	-0.234	-1.00	1.00	
2010/11	266	22.89	-0.382	-1.15	1.31	
Total			$\Sigma R = 0.764$		3.74	

(Source: From Appendices IV).

We have,

$$\begin{aligned} \text{Expected Return } (\bar{R}) &= \frac{\sum R}{n} \\ &= \frac{0.764}{5} \\ &= 0.1528 \text{ or } 15.28\% \end{aligned}$$

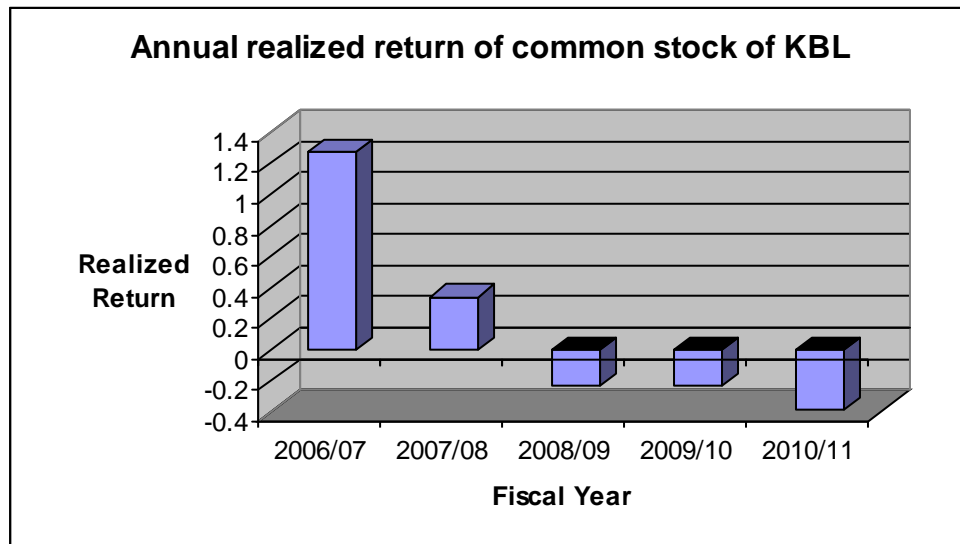
$$\begin{aligned} \text{Variance } (s^2) &= \frac{\sum (R - \bar{R})^2}{n - 1} \\ &= \frac{3.74}{4} \\ &= 0.935 \end{aligned}$$

$$\begin{aligned} \text{Standard Deviation } (\dagger) &= \sqrt{s^2} \\ &= \sqrt{0.935} \\ &= 0.966 \end{aligned}$$

$$\begin{aligned}
 \text{Coefficient of Variation} &= \frac{\sigma}{R} \\
 &= \frac{0.966}{0.1528} \\
 &= 6.32
 \end{aligned}$$

The above table shows realized return, expected return, standard deviation and coefficient of variation of KBL. The realized return and expected return of KBL is 0.764 and 15.28%. Where as it standard deviation and C.V. is 0.966 and 6.32 respectively. This means that for earning one extra unit of return from the share of KBL investors have to bear 6.32 unit of risk.

Figure 4.6



(Source: Appendices III).

4.1.3 Nepal Investment Bank Limited (NIBL)

Previously Nepal Indosuez Bank Limited was established in 1986 as a joint venture between Nepal and French partners. The French partner (Holding 50% of capital of NIBL) was credit Agricole Indosuez, a subsidiary of one the largest banking group in the world. With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% shareholding of Credit Agricole Indosuez in Nepal Indosuez Bank Ltd.

The name of the bank has been changed to Nepal Investment Bank Ltd. Upon approval of bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office with the new shareholding structure. The bank has paid of capital of Rs.2,407,068,900.00 of which 50% is contributed from group of companies, 15% is contributed from Rastriya Banijaya Bank, Rastriya Beema Sansthan holding the same percentage of Rastriya Banijaya Bank and remaining 20% being held by the general public (which means that NIBL is a company listed in the Nepal stock exchange). The bank is providing customer friendly service through a network of 41 branches of Network.

(http://www.nibl.com.np/index.php?option=com_content&view=article&id=1&Itemid=9 on dated 14th June, 2012).

4.1.3.1 MPS, Dividend and EPS Data of NIBL

Market price, dividend records, and EPS of common stock of NIBL are shown in table 4.5. MPS and EPS movement is shown in the figure 4.7. MPS of NIBL is increasing trend from the fiscal year 2006/07 to 2007/08. But the figure shows that MPS is decreased in year 2008/09 to Rs.1388 from Rs.2450 in 2007/08. NIBL has provided highest total dividend per share Rs.208 in 2007/08.

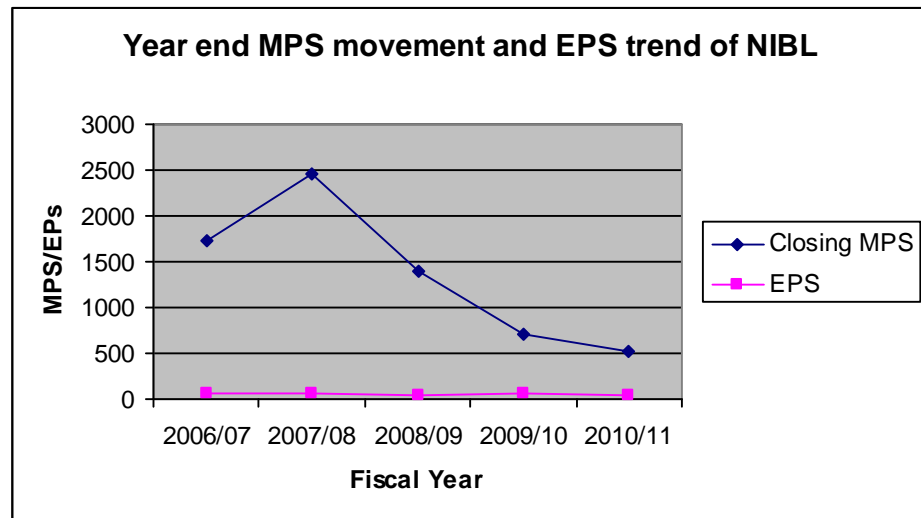
Table 4.5

MPS, Dividend and EPS Data of NIBL

Fiscal Year	Closing MPS	DPS	Total Dividend	EPS	P.E. Ratio
2005/06	1260				
2006/07	1729	5	523.7	62.57	27.63
2007/08	2450	7.5	1007.84	57.87	42.33
2008/09	1388	20	297.60	37.42	37.10
2009/10	705	25	201.25	52.55	13.42
2010/11	515	25	282.50	48.84	10.54

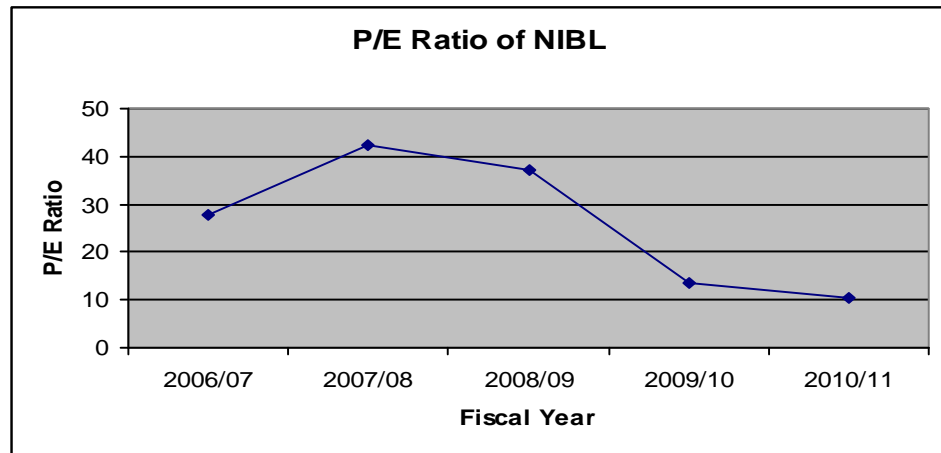
(http://www.nibl.com.np/images/AnnualReport/NIBL_Annua_%20Report_2010-2011.pdf on dated 14th June, 2012).

Figure 4.7



(Source: Appendices III).

Figure 4.8



(Source: Appendices III).

The above table and diagrams shows that the closing MPS of NIBL is increasing from year 2006/07 to 2007/08 from Rs. 1729 to Rs. 2450 then it has decreased in the year 2008/09 to 2010/11 at Rs. 1388 to Rs 515 respectively. As a whole we can see that the MPS of NIBL is in decreasing trend beside the year 2007/08.

Dividend of NIBL is slightly changes in different year. NIBL has provided highest dividend in 2010/11. And NIBL has provided lowest dividend in the year 2008/09.

Similarly EPS shows fluctuating in the different year. It has greatest EPS in the year 2006/07 i.e. Rs.62.57 and lowest EPS in the year 2008/09 i.e. 37.42. Highest P/E ratio of NIBL 42.33 in year 2007/08 and lowest at 10.54 in 2010/11.

Table 4.6**Realized Return(R), Expected Return (\bar{R}), Standard Deviation (\dagger) and Coefficient Variation (C.V) of NIBL**

Fiscal Year	Closing MPS	Total Dividend	$R = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$	$R - \bar{R}$	$(R - \bar{R})^2$	Remark
2005/06	1260		-	-	-	Base year
2006/07	1729	523.7	0.79	-0.47	0.2229	
2007/08	2450	1007.84	1	-0.26	0.0676	
2008/09	1388	297.6	-0.31	-1.57	2.4712	
2009/10	705	201.25	-0.35	-1.61	2.5827	
2010/11	515	282.5	-0.13	-1.13	1.2742	
Total			$\Sigma R = 1.26$		6.62	

(Source: From Appendices IV).

We have,

$$\begin{aligned} \text{Expected Return } (\bar{R}) &= \frac{\sum R}{n} \\ &= \frac{1.26}{5} \\ &= 0.252 \text{ or } 25.20\% \end{aligned}$$

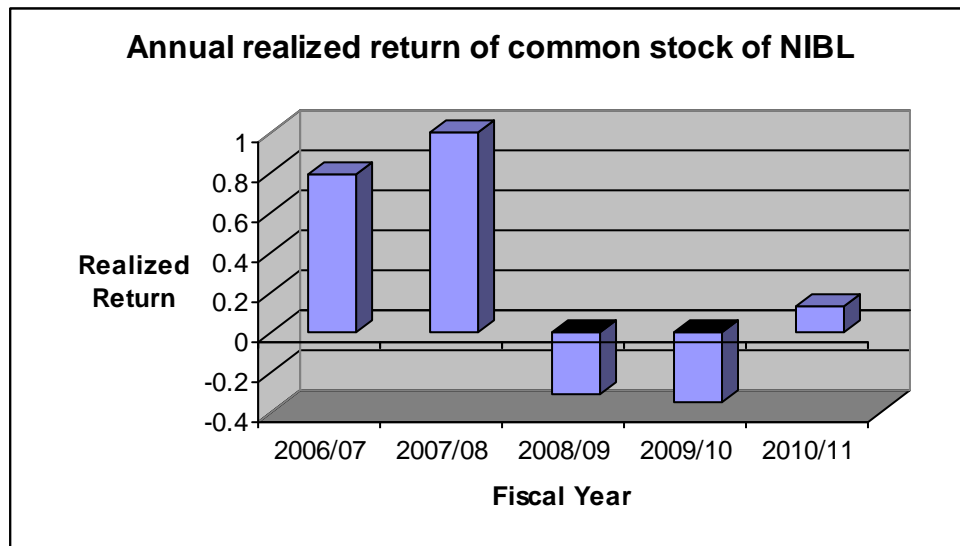
$$\begin{aligned} \text{Variance } (s^2) &= \frac{\sum (R - \bar{R})^2}{n-1} \\ &= \frac{6.62}{4} \\ &= 1.655 \end{aligned}$$

$$\begin{aligned} \text{Standard Deviation } (\dagger) &= \sqrt{s^2} \\ &= \sqrt{1.655} \\ &= 1.29 \end{aligned}$$

$$\begin{aligned} \text{Coefficient of Variation} &= \frac{\dagger}{R} \\ &= \frac{1.29}{0.252} \\ &= 5.12 \end{aligned}$$

The above table shows realized return, expected return, standard deviation and coefficient of variation of NIBL. The realized return and expected return of NIBL 1.26 and 25.2%. Where as it standard deviation and C.V. is 1.29 and 5.12 respectively. This means that for earning one extra unit of return from the share of NIBL investors have to bear 5.12 unit of risk.

Figure 4.9



(Source: Appendices III).

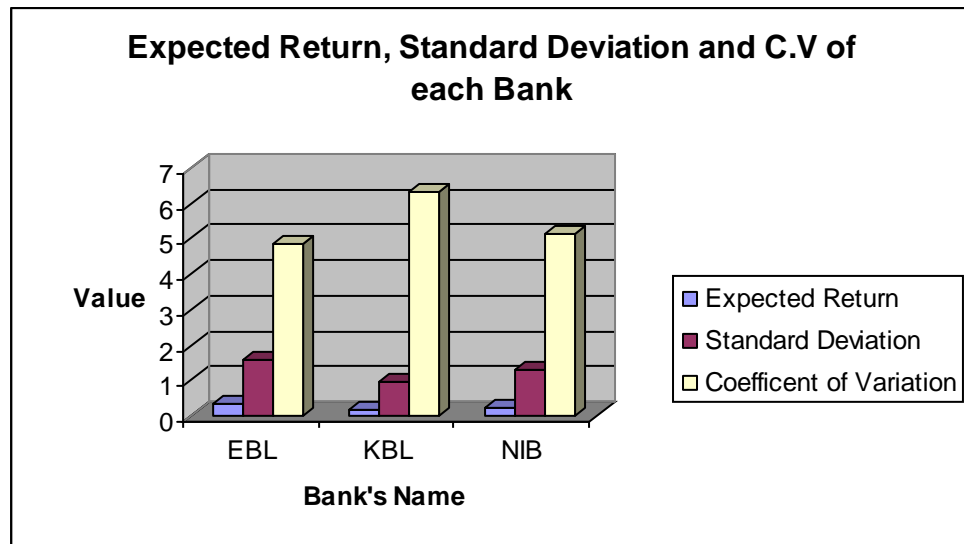
4.2 Analysis of Inter- Bank Comparison

Table 4.7

Name of Bank	Expected Return	Standard Deviation	Coefficient of Variation	Remarks
Everest Bank Ltd	0.3298	1.608	4.87	Highest in terms of risk & return.
Kumari Bank Ltd	0.1528	0.966	6.32	Highest C.V
Nepal Investment Bank Ltd	0.252	1.29	5.12	

Figure 4.10

Expected Return, Standard Deviation and C.V. of Each Banks



(Source: Appendices III).

The above table and multiple bar-diagrams show the expected return, standard deviation and coefficient of variation of three commercial banks of this study. From the above table, it has been shown that EBL enjoys the greater return than others banks but at the

same time EBL has highest risk. So we can say that the evidence “Higher the risk, higher the return”. If we consider coefficient of variation (C.V.), that risk on per unit of return of KBL is 6.32, which is highest compare with others. Investor of NIBL must bear 5.12 risk to get a unit of return. Where as C.V. of EBL is lowest than others. To take an investment decision on single assets common stock, coefficient of variation (C.V.) is the most appropriate basis. So, rational investors should invest on common stock of EBL. But here more interestingly on the basis of risk and return EBL’s stock also best than others.

4.2.1 Market Capitalization of three Commercial Banks

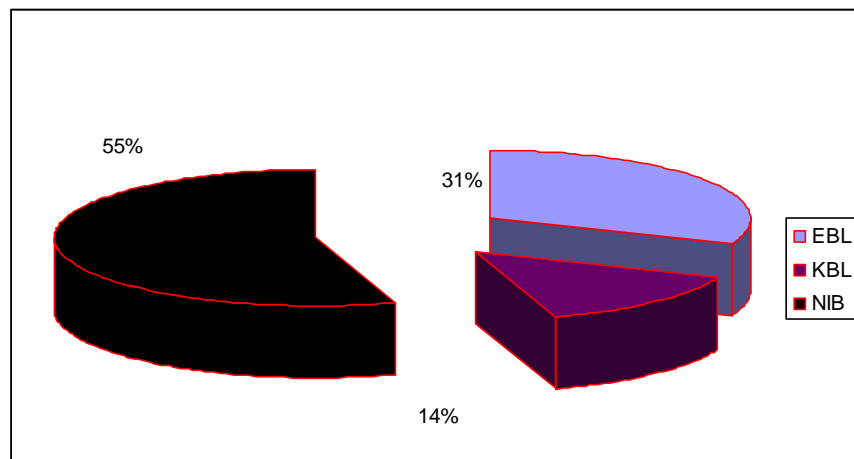
Table 4.8

Market Capitalization of three Commercial Banks at F/Y 2010/2011

Name of the Bank	NEPSE Code	NEPSE Code No.	Market capitalization	Percentage
Everest Bank Ltd.	EBL	108	6988690000	31
Kumari Bank Ltd.	KBL	113	3154330000	14
Nepal Invested Bank Ltd.	NIBL	103	12396400000	55
Total			22539420000	100.00

(<http://www.nepalstock.com/reports/annual.php> on dated 14th June, 2012).

Figure 4.11



(Source: Appendices III).

On the market capitalization of selected commercial banks, we can say that NIBL is the biggest commercial banks and KBL is the smallest commercial banks. NIBL covers 55% of total market where as EBL and KBL covers only 31% and 18% of total market respectively.

4.3 Analysis of Industry wise Comparison

Here, the main entire sectors which are listed in NEPSE are compared in order to make in order to our study simple. The market capitalization of different sector with five fiscal year data are presented and shown in the given table.

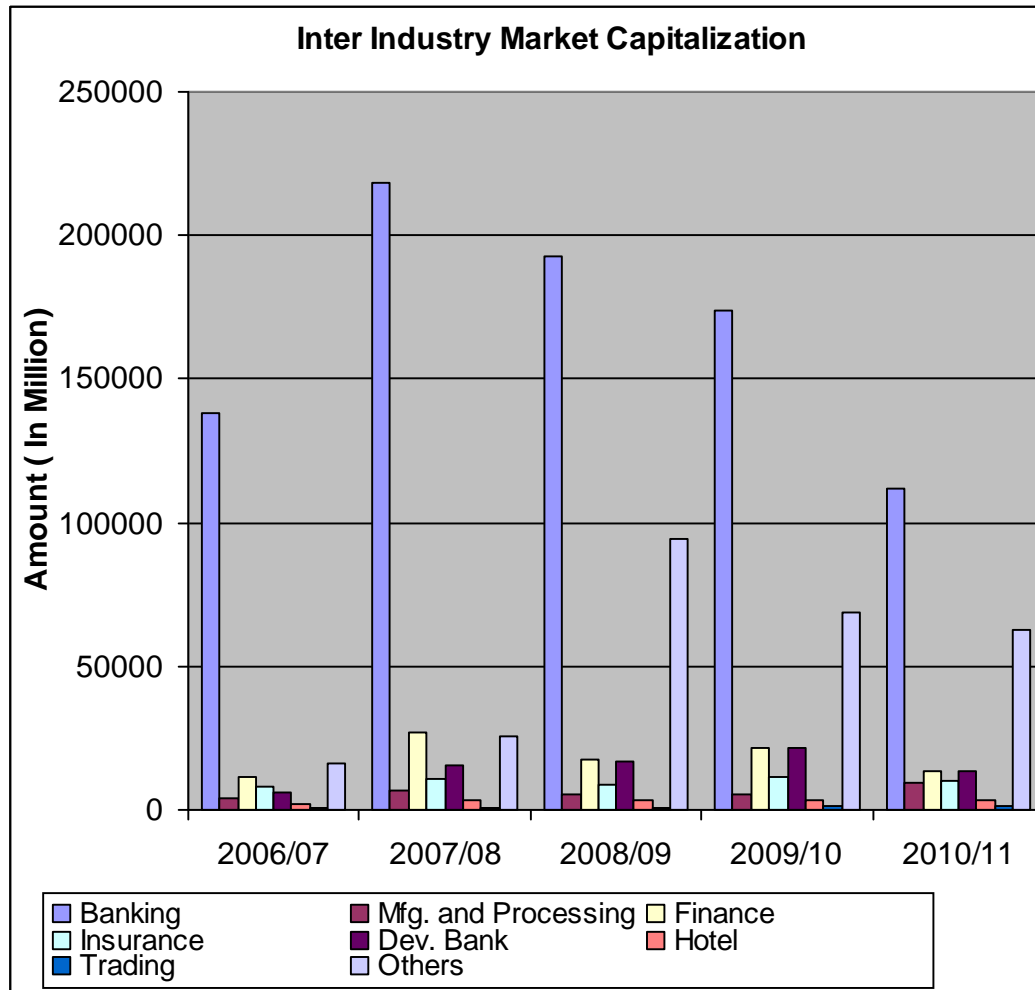
Table 4.9

Analysis of Market Capitalization of Different Sector

Year	Banking	Mfg. and Processing	Finance	Insurance	Dev. Bank	Hotel	Trading	Others
2006/07	138086.43	3760.28	11491.4	7959.78	5980.8	1935.59	787.40	16503.02
2007/08	218264.19	6576.18	27113.59	10897.16	15619.36	3484.13	686.73	25863.26
2008/09	192611.17	5224.58	17342.23	8640.23	16648.39	3346.41	980.7	94350
2009/10	174097.45	5491.21	21834.23	11285.39	21458.39	3521.89	1599.41	69000
2010/11	111938.05	9577.84	13756.06	9937.18	13210.54	3040.64	1380.74	62850

(<http://www.nepalstock.com/reports/annual.php> on dated 14th June, 2012).

Figure 4.12



(Source: Appendices III).

4.4 Overall NEPSE Index

NEPSE index follows the value weighted formula where market capitalization is the basis for calculating index. This index is calculated by considering all listed shares including that of promoter shares of all listed companies at NEPSE.

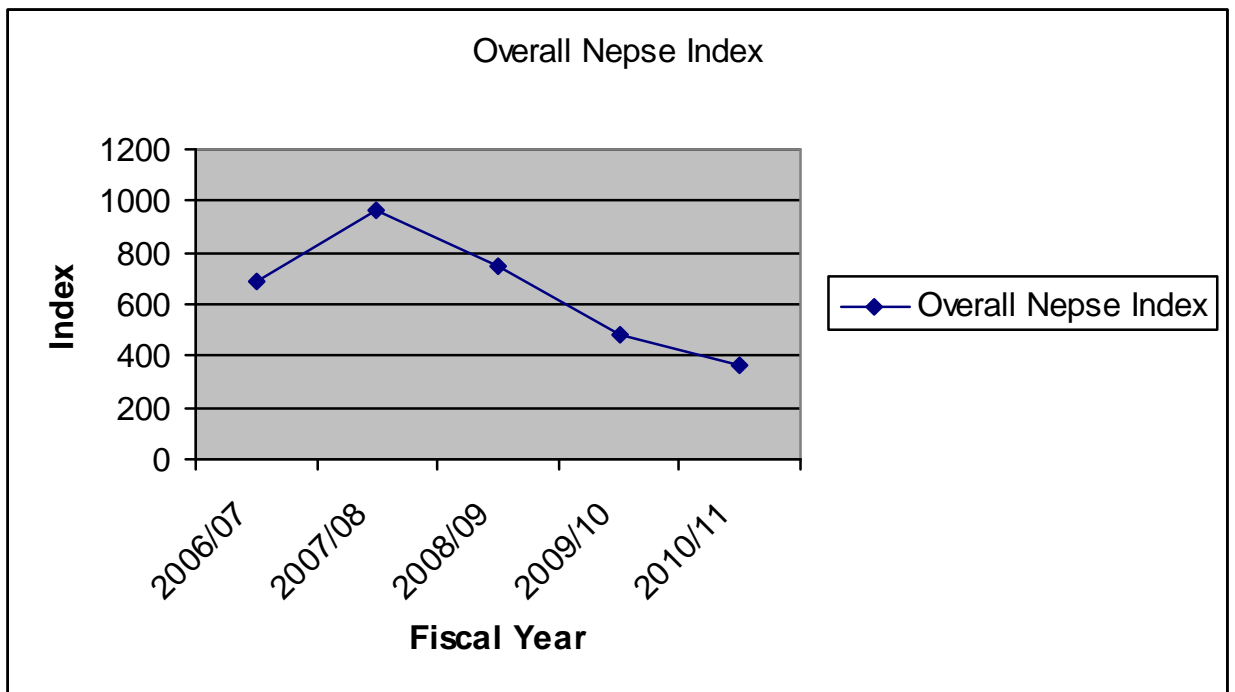
Table 4.10

Overall NEPSE Index

Fiscal Year	Overall NEPSE Index
2006/07	683.95
2007/08	96.36
2008/09	749.10
2009/10	477.73
2010/11	362.85

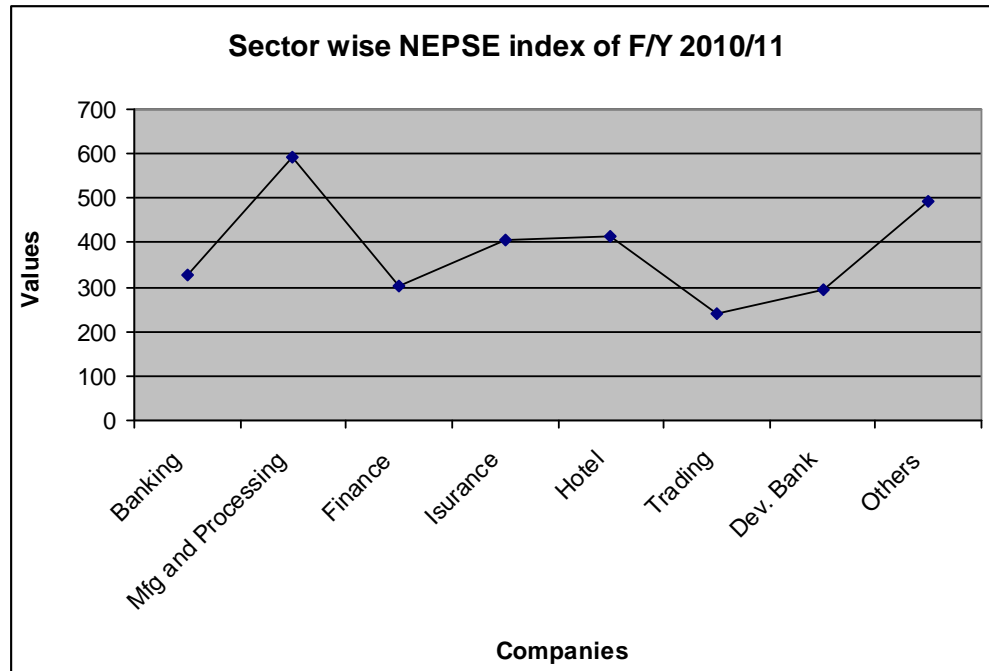
(<http://www.nepalstock.com/reports/annual.php> on dated 14th June, 2012).

Figure 4.13



(Source: Appendices III).

Figure 4.14



(Source: Appendices III).

4.5 Analysis of Inter Industry Comparison on the Basis of End Price

Table 4.11

Analysis of Inter Industry Comparison on the Basis of End Price

Year	Banking	Mfg. and Processing	Finance	Insurance	Hotel	Trading	Dev. Bank	Others
2006/07	789.21	348.63	471.82	612.46	251.47	155.33	339.66	818.12
2007/08	985.65	423.66	1152.74	817.25	370.88	204.8	1285.89	768.26
2008/09	780.87	434.32	697.61	656.41	367.42	295.83	772.56	738.99
2009/10	456.93	427.89	397.38	548.52	400.26	282.08	478.53	540.48
2010/11	328.70	591.52	303.78	407.14	412.59	241.97	294.15	492.31

(<http://www.nepalstock.com/reports/annual.php> on dated 14th June, 2012).

As per the above table, the indicator shows that, there was a slight increase in the figure until the year 2007/08. The reason behind to only a slight increase is the political and economic instability condition of Nepal. But after the April revolution of 2005; the index of each sector's is increase highly than the previous years. However after the mid 2008 many sector's indicator are falls gradually. The reasons behind is the worldwide financial crises, internal problem of peace process, conflict over the hole terai zone and poor security system of whole country etc.

The calculative value of each sector's expected return (\bar{X}), standard deviation (σ), and coefficient of variation (C.V.) is in shown in the next table for comparative study.

4.6 Industry Wise ERR, S.D. and C.V

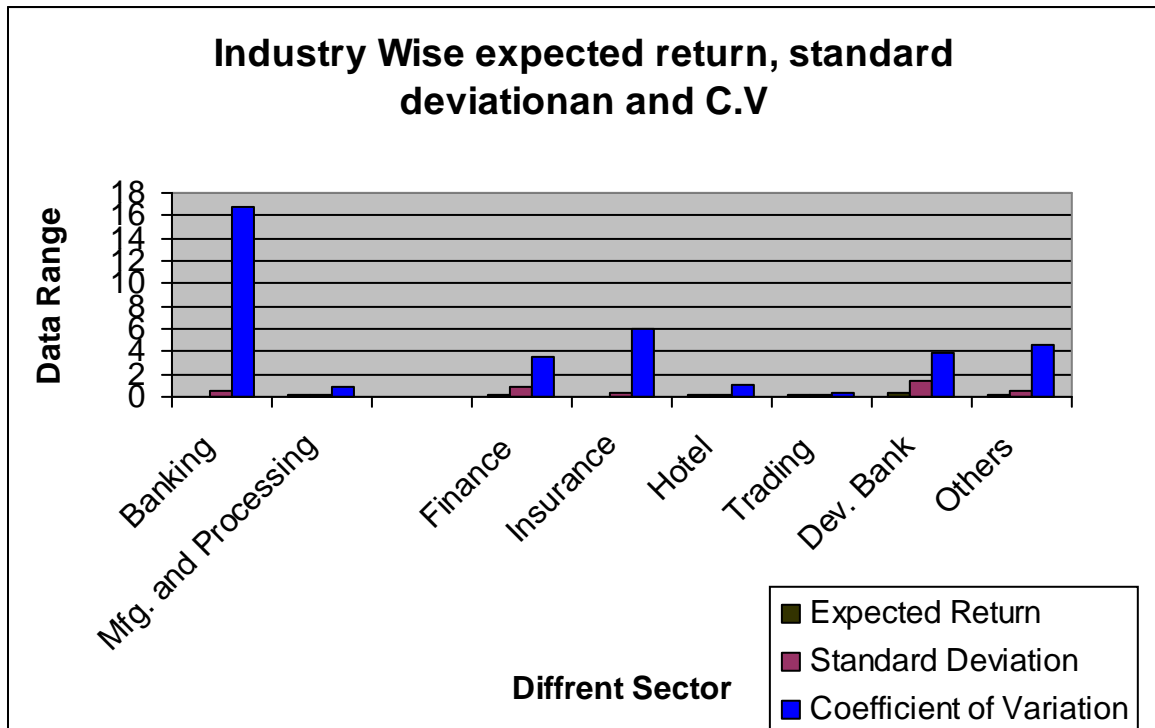
Table 4.12

Industry wise Expected Return, standard Deviation and Coefficient of Variation

S.N	Industry	Expected Return	S.D	C.V	Remark
1	Banking	0.0299	0.5	16.72	
2	Mfg & Processing	0.1532	0.14	0.91	
3	Finance	0.2375	0.84	3.54	
4	Insurance	0.0644	0.39	6.06	
5	Hotel	0.1954	0.22	1.13	
6	Trading	0.1247	0.24	0.38	
7	Dev. Bank	0.3549	1.38	3.9	
8	Others	0.1077	0.5	4.64	

(Source: Appendices IV).

Figure 4.15



(Source: Appendices II).

From the above table we can clearly say that the highest return is development bank sector and lowest return is Banking sector. In the same way the highest risk is development bank sector and lowest risk is manufacturing and processing sector. The hotel, finance and development bank sector's risk and return has not more interval. According to above table we can say that most suitable sector for the investment as its C.V. is trading sector. It has C.V.0.38 which is minimum as compared with other sector.

4.7 Comparison and analysis of Market and its Return

Nepal stock exchange (NEPSE) established in 1883 is the only one only one stock market of Nepal and it represent overall market movement. NEPSE is non-profit organization under security exchange act of Nepal.

NEPSE prepare overall daily NEPSE index based on the market capitalization of all listed securities. Realized return, Standard deviation and coefficient of variance of market index are shown in the following table 4.13, NEPSE index movement and market return movement are shown in figure 4.16 and figure 4.17.

Table 4.13

RRR, ERR, SD and C.V. of Market:

Year	Market Index (MI)	$R_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2005/06	386.83			
2006/07	683.95	0.7681	0.698	0.4869
2007/08	963.36	0.4085	0.338	0.1144
2008/09	749.10	-0.2224	-0.293	0.0857
2009/10	477.73	-0.3623	-0.433	0.1871
2010/11	362.85	-0.2405	-0.311	0.0966
Total(Σ)		0.3515		0.9707

(Source: Appendices II).

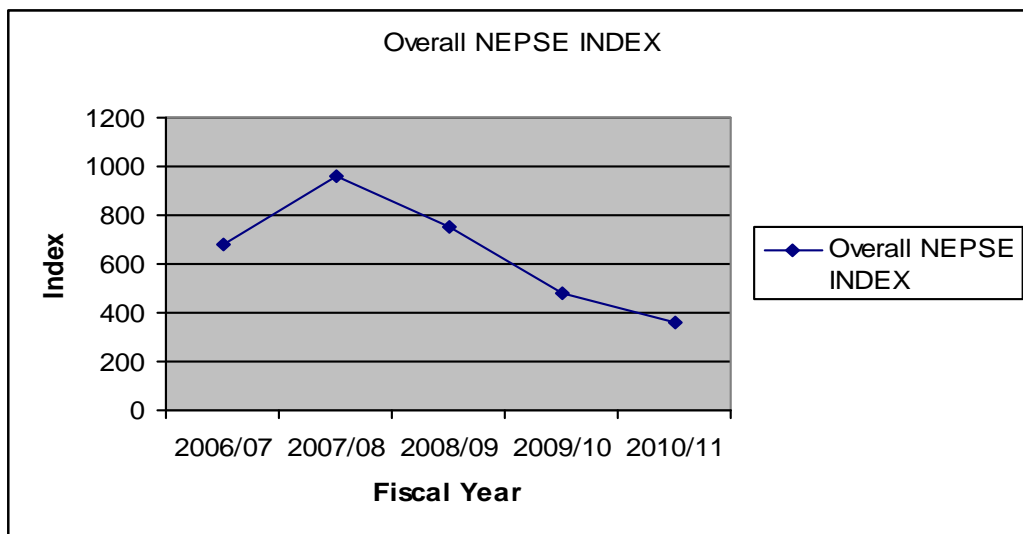
$$\begin{aligned} \text{Expected return } \bar{R} &= \frac{\sum R}{n} \\ &= \frac{0.3515}{5} \\ &= 0.0703 \end{aligned}$$

$$\begin{aligned} \text{Standard deviation } \dagger &= \sqrt{\frac{\sum (R - \bar{R})^2}{n-1}} \\ &= \sqrt{\frac{0.9707}{4}} \\ &= \sqrt{0.24} \\ &= 0.49 \end{aligned}$$

$$\begin{aligned} \text{Coefficients of Variation (C.V)} &= \frac{\dagger}{R} \\ &= \frac{0.49}{0.0703} \\ &= 6.97 \end{aligned}$$

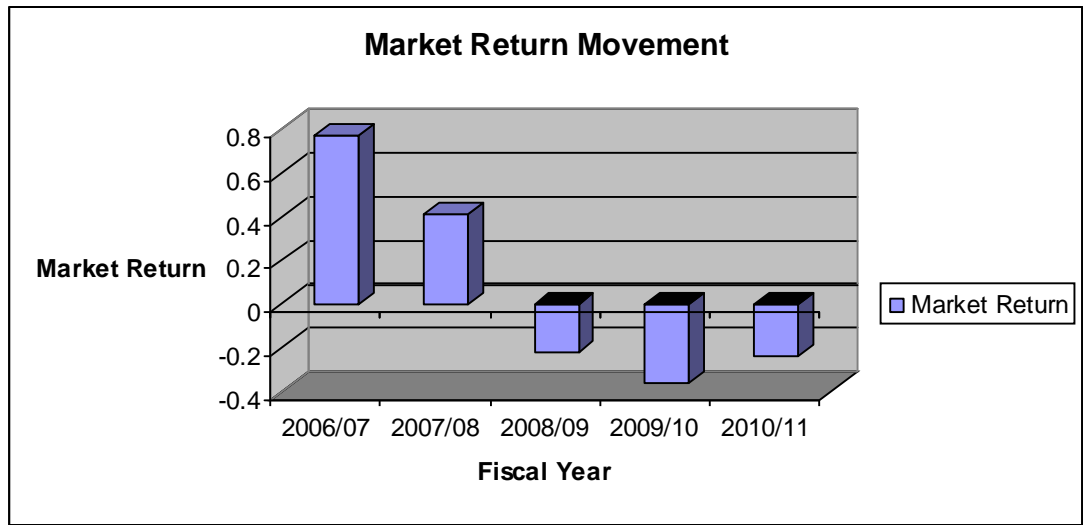
From the above calculation we can find the market return as 7.03%, risk is 49% and C.V. is 6.97.

Figure 4.16
NEPSE Index Movement



(Source: Appendices III).

Figure 4.17
Market Return Movement



(Source: Appendices III).

4.8 Correlation

Correlation measures the degree of two securities move together. It is the static measure of the relationship between series of number representing data of any kind, from to rest scores.

If two series move in same direction they are positively correlates and if they move in opposite direction, they are negatively correlate. Correlation coefficient value ranges from -1.0 to +1.0.

Symbolically,

$$r_{ij} = \frac{\text{Cov}(R_i, R_j)}{\sigma_i \sigma_j}$$

Now the correlation of EBL's common stock to another commercial bank's common stock is shown in following table.

Table 4.14**Correlation of EBL's C.S with Other Banks C.S**

S.N.	Commercial banks	Correlation (r)
1	EBL and KBL	0.74
2	EBL and NIBL	0.76

(Source: From Table 4.23 & 4.24).

As per the above table, the correlation of the EBL and NIBL is highly positive (0.76) which is greater than the correlation of EBL and KBL (0.74). It means that the correlation of EBL's with other commercial bank is positive but degree of relationship is different.

4.9 Systematic and Unsystematic Risk and its Proportion

Systematic risk is the part of total risk and it can not be diversified through the creation of portfolio. This risk creates from the systematic factors or market factors or macro economic factors like inflation, GDP and market interest rate etc. It equally affects to the all company's common stock. However, unsystematic in diversifiable risk and can be minimized through the creation of portfolio. This risk creates from micro economic factors or unique factors to a company like inefficiency, strikes sales policy, and others internal policy of organization.

The proportion of systematic and unsystematic risk indicates the percentage of systematic risk created from systematic or market factors and percentage of unsystematic risk created from company related factors.

Table 4.15**Systematic and Unsystematic Risk and its Proportion**

Stock	Systematic Risk	Unsystematic Risk	Proportion of Systematic Risk	Proportion of Unsystematic risk
EBL	1.29	1.2975	0.35	0.90
KBL	1.33	-0.395	0.36	-0.28
NIBL	1.12	0.535	0.29	0.38

(Source: Appendices II).

The above table shows the systematic and unsystematic risk and its proportion of different commercial bank's common stock. The proportion of systematic risk of C.S of EBL is higher than other bank i.e. 97.02%. This means it indicate that out of total risk on stock of EBL's 97.02% is un-diversifiable risk and created from systematic factors or market factors and the remaining 2.98% is diversifiable risk created from company related factors as well as the proportion of systematic risk of stock of NIBL is lower i.e. 76.47% . This mean that the remaining 23.53% risk is diversifiable risk created from the company related factors.

4.10 Test of Hypothesis- I

This Hypothesis I is based on the text of significance between two sample independent sample means (t-test)

Null hypothesis (H₀): $\mu_1 = \mu_2$ i.e. there is no significance difference between portfolio return of common stock of commercial banks and overall return of the market portfolio. In others words, average return of the shares of commercial banks is equal to market portfolio return.

Alternative hypothesis (H₁): $\mu_1 \neq \mu_2$ i.e. there is significance difference between portfolio return of common stock of commercial banks and overall return of the market portfolio. In others words, average return of the shares of commercial banks is not equal to market portfolio return.

Under the H₀ test statistics, (t) is

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} \sim t_{n_1+n_2-2}$$

i.e. the test statistic t follows t-distribution with n_1+n_2-2

Degree of freedom.

Where,

\bar{X}_1 = Average return of portfolio of banking sector (R_b) = 0.0299 (Refer Table 4.12)

\bar{X}_2 = Average return of portfolio of market (R_m) = 0.0703 (Refer Table 4.13)

Where,

$n_1 = n_2 =$ Number of observation = 5

$S^2 =$ Estimated Standard deviation of population

$$\begin{aligned} S^2 &= \frac{n_1 s_1 + n_2 s_2}{n_1 + n_2 - 2} \\ &= \frac{5 \times 0.5 + 5 \times 0.49}{8} \\ &= 0.6187 \end{aligned}$$

$S_1 =$ Standard deviation of banking sector portfolio = 0.5 (Refer Table 4.12)

$S_2 =$ Standard deviation of market = 0.49 (Refer Table 4.13)

$$\begin{aligned} \text{Hence, } t &= \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} \sim t_{n_1+n_2-2} = 8 \\ &= \frac{0.0299 - 0.0703}{\sqrt{0.6187 \left(\frac{1}{5} + \frac{1}{5} \right)}} \\ &= \frac{-0.04}{0.5} \\ &= -0.08 \\ \therefore |t| &= 0.08 \end{aligned}$$

Degree of Freedom = $n_1+n_2-2=5+5-2=8$ Level of significance (α) = 0.05 or 5%
(Commonly assume)

Critical value: The tabulated value of t for two tailed test at 5% level of significance and for 8 degree of freedom (d.f.) is 2.306.

Decision: Since calculated value of t is less than tabulated value of t, the null hypothesis H_0 is accepted. It means there is no significance difference between portfolio return of common stock of commercial banks and overall return of the market portfolio.

4.10.1 Analysis of Market Sensitivity

Market sensitivity of stock is the systematic risk that is measured by its beta coefficient. Systematic risk is the risk that can not be reduced by diversification. Higher the beta represent the greater sensitivity and higher reaction to the market movement and lower the beta represent lower sensitivity and lower reaction to the market movement. Greater beta means higher risk and return. It measures the responsiveness of a security movement in the market portfolio.

Depending upon the volatile of the risk of the stock return relative to market return for an individual stock, bet could be less than, more than or equal to 1.

$$B_j = \frac{\text{COV}(R_j, R_m)}{\sigma_m^2}$$

Where,

R_j, R_m = Correlation between market return and stock (say stock j) return.

Hence,

$$B_j = \frac{\text{COV}(R_j, R_m)}{\sigma_m^2}$$

$$\text{COV}(R_j, R_m) = \frac{\sum (R_j - \bar{R}_j)(R_m - \bar{R}_m)}{n-1}$$

The calculation of beta coefficient in the common stock of selected commercial banks has shown in below:

Table 4.16**Calculation of Beta Coefficient of the Common Stock of EBL**

Year	$(R_i - \bar{R}_i)$	$(R_m - \bar{R}_m)$	$(R_i - \bar{R}_i) (R_m - \bar{R}_m)$
2006/07	-0.359	0.698	-0.25
2007/08	-0.969	0.338	-0.33
2008/09	-1.62	-0.293	0.47
2009/10	-1.769	-0.433	0.76
2010/11	-1.879	-0.311	0.58
Total			$\sum[(R_i - \bar{R}_i) (R_m - \bar{R}_m)]$ = 1.23

(Source: Appendices II).

Now,

$$\begin{aligned} \text{COV}(R_j R_m) &= \frac{\sum (R_j - \bar{R}_j)(R_m - \bar{R}_m)}{n-1} \\ &= \frac{1.23}{4} \\ &= 0.31 \end{aligned}$$

Again,

$$\begin{aligned} B_j &= \frac{\text{COV}(R_j R_m)}{\sigma_m^2} \\ &= \frac{0.31}{(0.49)^2} \\ B_j &= 1.29 \end{aligned}$$

Table 4.17**Calculation of Beta Coefficient of the Common Stock of KBL**

Year	$(R_i - \bar{R}_i)$	$(R_m - \bar{R}_m)$	$(R_i - \bar{R}_i) (R_m - \bar{R}_m)$
2006/07	0.51	0.698	0.36
2007/08	-0.43	0.338	-0.15
2008/09	-0.99	-0.293	0.29
2009/10	-1.00	-0.433	0.43
2010/11	-1.15	-0.311	0.36
Total			$\Sigma[(R_i - \bar{R}_i) (R_m - \bar{R}_m)] = 1.29$

(Source: Appendices II).

Now,

$$\begin{aligned} \text{COV}(R_j R_m) &= \frac{\sum (R_j - \bar{R}_j)(R_m - \bar{R}_m)}{n-1} \\ &= \frac{1.29}{4} \\ &= 0.32 \end{aligned}$$

Again,

$$\begin{aligned} B_j &= \frac{\text{COV}(R_j R_m)}{\sigma_m^2} \\ &= \frac{0.32}{(0.49)^2} \\ B_j &= 1.33 \end{aligned}$$

Table 4.18**Calculation of Beta Coefficient of the Common Stock of NIBL**

Year	$(R_i - \bar{R}_i)$	$(R_m - \bar{R}_m)$	$(R_i - \bar{R}_i) (R_m - \bar{R}_m)$
2006/07	-0.47	0.698	-0.33
2007/08	-0.26	0.338	-0.08
2008/09	-1.57	-0.293	0.46
2009/10	-1.61	-0.433	0.69
2010/11	-1.13	-0.311	.35
Total			$\Sigma[(R_i - \bar{R}_i) (R_m - \bar{R}_m)] = 1.09$

(Source: AppendicesII).

Now,

$$\begin{aligned} \text{COV}(R_j, R_m) &= \frac{\sum (R_j - \bar{R}_j)(R_m - \bar{R}_m)}{n - 1} \\ &= \frac{1.09}{4} \\ &= 0.27 \end{aligned}$$

Again,

$$\begin{aligned} B_j &= \frac{\text{COV}(R_j, R_m)}{\sigma_m^2} \\ &= \frac{0.27}{(0.49)^2} \\ B_j &= 1.12 \end{aligned}$$

Table 4.19**Beta Coefficient of Selected three Commercial Banks**

S.N	Bank's Name	Beta Coefficient
1.	EBL	1.29
2.	KBL	1.33
3.	NIBL	1.12

Table 4.20**Required Rate of Return, Expected Return and Price Evaluation of Selected Commercial Banks.**

S.N	Banks	Beta(B_j)	Risk free Return (R_f)	Required rate of return	Exp. Return	Price situation
1	EBL	1.29	0.0600	0.073287	0.3298	Under priced
2	KBL	1.33	0.0600	0.073699	0.1528	Under priced
3	NIBL	1.12	0.0600	0.071536	0.252	Under priced

Where,

Required rate of return = $R_f + (R_m - R_f)B_j$ (Source from Investment Book)

Risk free return = 0.06 (Source: NRB, Treasury bill)

Expected market return = 0.0703(Refer table :4.13)

Table 4.21**Calculation of Weighted Beta of three Commercial Banks**

Bank's Name	Beta(B_j)	Market capitalization	Weight(W_j)	W_jB_j
EBL	1.29	6988690000	0.31	0.3999
KBL	1.33	3154330000	0.14	0.1862
NIBL	1.12	12396400000	0.55	0.616
Total		22539420000	1.000	1.2021

(<http://www.nepalstock.com/reports/annual.php> on dated 14th June, 2012).

Table 4.22

Calculation of Estimated Population Standard Deviation of Beta

Bank's Name	Beta(B _j)	(B _j - \bar{B}_j)	(B _j - \bar{B}_j) ²
EBL	1.29	0.04	0.0016
KBL	1.33	0.08	0.0064
NIBL	1.12	-0.13	0.0169
Total	3.74		0.0249

(Source: appendices II).

Here,

$$\bar{B}_j = \frac{\sum B_j}{\text{No of Sample}} = \frac{3.74}{3} = 1.25$$

$$\text{Variance of beta } (t_B^2) = \frac{\sum (B_j - \bar{B}_j)^2}{n-1} = \frac{0.0249}{3-1} = 0.01245$$

$$\text{Estimated variance of population } (t_B^2) = \frac{n}{n-1} \times 0.01245$$

$$= \frac{3}{3-1} \times 0.01245 = 0.01867$$

$$\text{So, } S = \sqrt{0.01867} = 0.14$$

Test of Hypothesis –II

This hypothesis is based on the test of significance for portfolio beta (t-test).

Null hypothesis: H₀: ~ = 1 i.e. there is no significance difference between the portfolio beta of banking sector and the market portfolio beta. In other words, average beta of banking sector is equal to 1.

Alternative hypothesis: H₁: ~ ≠ 1 i.e. there is significance difference between the portfolio beta of banking sector and the market portfolio beta. In other words, average beta of banking sector is not equal to 1.

Under the H_0 test statistics, (t) is

$$t = \frac{\bar{X} - \mu}{\frac{s}{\sqrt{n}}}$$

Where $\bar{X} = 1.25$ weighted average of the beta of banking sector and it is estimated that these 3 commercial banks represent the whole commercial banking sector.

(Refer: Table 4.22)

$\mu = 1$

$N = 3$ (No of samples)

$S =$ Unbiased estimate of population standard deviation of market portfolio.

$$\begin{aligned} t &= \frac{\bar{X} - \mu}{\frac{s}{\sqrt{n}}} \\ &= \frac{1.25 - 1}{\frac{0.13}{\sqrt{3}}} \\ &= \frac{0.25}{0.075} \\ &= 3.33 \end{aligned}$$

Degree of Freedom = $n - 1 = 2$

Level of significance (α) = 0.05 or 5% (Commonly assume)

Critical Value: The tabulated value of t at $\alpha = 0.05$ and 2 d.f. for a two tailed test is 4.303 i.e. $t_{0.05,2} = 4.303$

Decision: Since calculated value of t is less than tabulated value of t, the null hypothesis (H_0) is accepted and hence the alternative hypothesis (H_1) is rejected. It means that there is no significance difference between the portfolio beta of banking sector and the market portfolio beta.

4.10.2 Portfolio Analysis

Portfolio indicates the combination of more than one asset with different characteristics. The idea of portfolio is relevant when taking decision about the investment. Portfolio theory was proposed by Harry M. Markowitz which gives the concept of the diversification helps the investors attain a higher level of expected utility than with any other risk reduction technique. In a very simple way we can understand it is keeping all eggs in the single basket. By diversifying total fund in different securities the risk of individual security can be reduced without losing considerable return. The main aim of portfolio is reduction of unsystematic risk from which investors can take more benefit by making efficient portfolio.

The expected return of a portfolio is simply a weighted average of the expected return of the securities comprising that portfolio. The weights are equal to the proportion of total funds invested in each security. While the portfolio expected return is a straight forward weighted average returns in the individual security's standard deviation.

To take weighted average of individual security deviation would be ignore the relationship, or correlation between the returns of the two securities. This correlation however has no effect on the portfolio's expected return. This Correlation between securities returns complicates our calculation of portfolio standard deviation by forcing us to calculate the co variance between returns for every possible pair wise combination of securities in the portfolio. But this dark could be mathematical complication contains a silver lining correlation between securities provided for the possibilities without reducing potential returns. (Van Horne, 1997:96)

4.10.3 Analysis of Risk Diversification

The analysis is based on two assets portfolio and the tools for analysis are already mentioned in research methodology. It is already stated that correlation between the return of the two securities plays a vital role in risk reduction by portfolio construction. The negative relationship between two returns is acceptable in portfolio return. If the correlation is perfectly negative (-1), then the combination of securities reduces unsystematic risk to zero. If correlation is perfectly positive or equal to 1, then the

portfolio can not reduce any part of risk. Now we analyze the portfolio risk and return of EBL's with others two commercial banks.

Here the portfolio of the common stock of EBL and KBL is made. Let us suppose the return on common stock of EBL as stock A and stock of KBL as stock B.

Table 4.23

Correlation and Covariance of stock A and Stock B (EBL and KBL)

Fiscal Year	$(R_A - \bar{R}_A)$	$(R_B - \bar{R}_B)$	$(R_A - \bar{R}_A) (R_B - \bar{R}_B)$
2006/07	-0.359	0.51	-0.183
2007/08	-0.969	-0.43	0.417
2008/09	-1.62	-0.99	1.603
2009/10	-1.769	-1.00	1.769
2010/11	-1.879	-1.15	2.160
Total			$(R_A - \bar{R}_A) (R_B - \bar{R}_B) = 5.766$

$(R_A - \bar{R}_A)$ = (From table No. 4.2).

$(R_B - \bar{R}_B)$ = (From table No. 4.4).

$$\text{COV}(R_A, R_B) = \frac{\sum (R_A - \bar{R}_A)(R_B - \bar{R}_B)}{n}$$

$$= \frac{5.766}{5}$$

$$\text{COV}(R_A, R_B) = 1.1532$$

For maximizing the risk of weight of stock A in the portfolio is given as:

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

Where,

W_A = Optimal weight to invest on EBL

W_B = Optimal weight to invest on KBL

σ_A^2 = Variance of EBL (taken from table 4.2)

σ_B^2 = Variance of KBL (taken from table 4.4)

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

$$= \frac{0.935 - 1.1532}{2.5875 + 0.935 - 2 \times 1.1532}$$

$$W_A = -0.18$$

$$W_B = 1 - (-0.18)$$

$$W_B = 1.18$$

As above

$$\rho_{AB} = \frac{\text{COV}(R_A, R_B)}{\sigma_A \sigma_B}$$

$$= \frac{1.1532}{1.608 \times 0.966}$$

$$\rho_{AB} = 0.74$$

Here,

Again, calculations of Portfolio return

$$\bar{R}_p = (W_A \bar{R}_A + W_B \bar{R}_B)$$

$$= -0.18 \times 0.3298 + 1.18 \times 0.1528$$

$$= -0.0593 + 0.18$$

$$\bar{R}_p = 0.12$$

\bar{R}_A = Expected return of A (From table 4.2)

\bar{R}_B = Expected return of B (From table 4.4)

Portfolio return is combination of two or more securities of or assets and portfolio return is simple weighted average of the individual stock return.

Calculation of Portfolio risk:

$$\sigma_p = \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2 \text{COV}_{AB} W_A W_B}$$

$$= \sqrt{(-0.18)^2 \times 2.5875 + (1.18)^2 \times 0.935 + 2 \times 1.1532 \times (-0.18) \times 1.18}$$

$$= \sqrt{0.89}$$

$$\sigma_p = 0.94$$

Again,

The portfolio of the common stock of EBL and NIBL is made. Let us suppose the return on common stock of EBL as stock A and stock of NIBL as stock B.

Table 4.24

Correlation and Covariance of stock A and Stock B (EBL and NIBL)

Fiscal Year	$(R_A - \bar{R}_A)$	$(R_B - \bar{R}_B)$	$(R_A - \bar{R}_A)(R_B - \bar{R}_B)$
2006/07	-0.359	-0.47	0.1687
2007/08	-0.969	-0.26	0.2519
2008/09	-1.62	-1.57	2.5434
2009/10	-1.769	-1.61	2.8481
2010/11	-1.879	-1.13	2.1233
Total			$(R_A - \bar{R}_A)(R_B - \bar{R}_B) = 7.94$

$$(R_A - \bar{R}_A) = (\text{From table No. 4.2}).$$

$$(R_B - \bar{R}_B) = (\text{From table No. 4.6}).$$

$$\begin{aligned} \text{COV}(R_A, R_B) &= \frac{\sum (R_A - \bar{R}_A)(R_B - \bar{R}_B)}{n} \\ &= \frac{7.94}{5} \end{aligned}$$

$$\text{COV}(R_A, R_B) = 1.588$$

For maximizing the risk of weight of stock A in the portfolio is given as:

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

Where,

W_A = Optimal weight to invest on EBL

W_B = Optimal weight to invest on NIBL

σ_A^2 = Variance of EBL (taken from table 4.2)

σ_B^2 = Variance of NIBL (taken from table 4.6)

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

$$= \frac{1.6547 - 1.588}{2.5875 + 1.6547 - 2 \times 1.588}$$

$$W_A = 0.05$$

$$W_B = 1 - 0.05$$

$$W_B = 0.95$$

As above

$$\rho_{AB} = \frac{\text{COV}(R_A, R_B)}{\sigma_A \sigma_B}$$

$$= \frac{1.588}{1.608 \times 1.29}$$

$$\rho_{AB} = 0.76$$

Here

Again, calculations of Portfolio return

$$\bar{R}_p = (W_A \bar{R}_A + W_B \bar{R}_B)$$

$$= 0.05 \times 0.3298 + 0.95 \times -0.252$$

$$\bar{R}_p = 0.25$$

\bar{R}_A = Expected return of A (From table 4.2)

\bar{R}_B = Expected return of B (From table 4.6)

Portfolio return is combination of two or more securities of or assets and portfolio return is simple weighted average of the individual stock return.

Calculation of Portfolio risk:

$$\sigma_p = \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2 \text{COV}_{AB} W_A W_B}$$

$$= \sqrt{(0.05)^2 \times 2.5875 + (0.95)^2 \times 1.6547 + 2 \times 1.588 \times 0.05 \times 0.95}$$

$$= \sqrt{1.65}$$

$$\sigma_p = 1.28$$

4.11 Major Findings

In this research, data have been basically obtained by the due secondary sources. The analysis is performed with the help of financial tools and statistical tools. In the financial tools, percentage, market price of stock, earning per share, dividend, expected return on common stock and return of common stock investment analysis has been using to analysis the financial activities of commercial banks and in statistical tools standard deviation, coefficient of variation, portfolio return, portfolio risk, portfolio beta, correlation co-efficient and required rate of return analysis has been used. Testing of hypothesis also conduct in this study. This chapter focuses on the major findings, which are derived from the analysis of selected commercial banks with applying five-year data from the 2006/07 to 2010/11.

The major findings of the financial analysis and statistical analysis are:

- All the securities of selected commercial banks are risky in general and most of the investors are attracted to the common stock security because of its higher expected return.
- On the basis of market capitalization size of NIBL is biggest one and KBL is the smallest.
- The expected return on common stock of EBL is maximum i.e. 32.98%, which is high rate of return. Similarly, the expected rate of return of common stock of NIBL is 25.2% which is also highest than expected rate of return of KBL i.e. 15.28%. On the basis of sector wise comparison, the expected return of development banking sector is found higher i.e. 35.49% and that of Banking sector is found only 2.99%.
- The S.D of EBL is higher i.e 1.608 and that of KBL is lower i.e. 0.966. So KBL C.S. is low risky. The S.D. of NIBL is 1.29. According to sector wise comparison, the S.D. of developing banking sector is found higher i.e. 1.38 and that of manufacturing sector is found lower i.e. 0.14.

- S.D. is not only the single measure of risk, C.V. is also measure the risk and is known as a relation measures of risk. Minimum C.V. is best for investment in single securities. EBL can be taken as the best for investment as per minimum C.V. (4.87) and EBL also best according to expected return and standard deviation. So as a whole EBL is the best for investment purpose.
- In the context of market sensitivity, the return of C.S. of KBL is found highly sensitive to the market during the study period. It is because that it has highest beta i.e. 1.33 which is greater than 1. Similarly, the C.S. of EBL and NIBL are also positive beta i.e. 1.29 and 1.12 respectively. Since the beta coefficient of KBL, EBL & NIBL is greater than 1 which indicate that the stock of all three C.S. are more risky or volatile than market.
- In case of first hypothesis testing, calculated value is less than the tabulated value. So null hypothesis is accepted. It means there is no significance difference between portfolio return of common stock of commercial banking sector and overall return of the market portfolio.
- The second hypothesis is based on the test of significance for portfolio beta in this cases null hypothesis is accepted. It means that portfolio beta of banking sector is equal to 1.
- By evaluating the pricing situation for C.S. of three commercial banks, it has been found that all common stock's expected rate of return is higher than required rate of return. So, all the banks stock price is found undervalued.
- The portfolio analysis indicates that forming portfolio can reduce the risk. We have constructed portfolio between EBL and KBL and EBL and NIBL that found their correlation coefficient is positively correlated so such portfolio is not beneficial for investment.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study is concerned with risk and return analysis. Risk and Return, a new and complex concept and it is also foundation of modern investment. It is getting considerable attention in financial management. Financial ratios have been used for centuries as a rule of thumb to aid in understanding trade-off between risk and return but they only scratch the surface.

Risk and return analysis is not only complex but also interesting subject matter to know the idea of modern investment system. Here, risk is defined as the variability of the returns over the period. The greater variability of the returns, the riskier is the investment. Likewise return is the future rupee or reward gained by the sacrifice of current rupees. Return includes both current income and capital gains or losses that arise due to the increase or decrease on price of the security.

People's participation in the security investment and its dynamic trading plays a vital role in the overall economic development of a nation. The investment environment detects the availability of investment opportunities. The central focus of this study in the risk and return trade off and the relationship between the risk and return is described by investor perception about risk and their demand for compensation. No investor will like to invest in risky assets unless s/he is assured of adequate compensation for the acceptance of risk, hence risk plays the vital role in the analysis of investment. Investor often asks about the total risk they will be assuming in an investment and like to know if the risk premium provided is enough. Higher risk will command higher premium and the trade-off between the two assumes a linear relationship between risk and risk premium.

Since the main objective of the study is to analyze risk and return while analyzing the risk and return of the common stock in the Nepalese market, the study is focused on the common stock of commercial banks. Three commercial banks are taken into consideration to analyze the risk and return. While analyzing risk and return brief review

of related studies has been performed sound methodology has been used to analyze data and tables graphs and diagrams are used to make the finding simple and present data in easy form. Secondary data are collected from Nepal stock exchange, Nepal Rasta Bank, SEBON, and financial records of studied companies. Finding of analysis are summarized and conclusion are drawn as follows.

5.2 Conclusion

The research shows that the Nepalese investor has less knowledge of stock market and may be mis-guided about the risk. Even Nepalese investor has also lack of proper knowledge and adequate information about the stock market. This study enables investor to put the returns they can expect and the risk they may take into better perspective. Overall evidence from the data presentation and analysis lead to the conclusion that ' Risk and Return ' of common stock of commercial banks is not in good condition. It means there is no good return according to risk of investment in common stock of commercial banks. When risk and return is compared in commercial banks, EBL is regarded as the most risky security as we know that higher the risk higher the return. EBL and NIBL's expected return is the highest which ultimate the standard deviation (risk) is also highest than KBL. And when risk and return is compared to different industries, the development banking sector is best as per highest expected return with higher degree of risk and from the view point of C.V. trading sector is the best as it has least C.V. Where as manufacturing and processing sectors has minimum return and risk.

Comparison between RRR and ERR helps us to identify whether the stock is under priced or over priced among the selected commercial bank stock all stock price is under priced so it isn't appropriate to purchase. The correlation coefficient between EBL and KBL and EBL and NIBL that found their positively correlated so such portfolio is not beneficial for investment however expected return of all the selected banks are positive. In case of hypothesis testing calculate values is less than the tabulated value so the null hypothesis is accepted i.e. there is no significance difference between the portfolio risk and return of common stock of commercial banking sector and market portfolio.

5.3 Recommendations

Mainly this study is conducted to analyze risk and return for the investor's point of view and this study is made for the partial fulfilment of M.B.S. level. However, this study may be helpful for the individual investors and others who want to know something about financial investment. The following recommendations are prescribed on the basis of data analysis, conclusion and major findings of the study.

- Irrespective to return, EBL and NIBL's common stock should be preferred, although there is high risk.
- Standard deviation is not only risk measurement tools. Minimum coefficient of variation is best for single security. So the investor who want to invest in single security, EBL can taken as the best for investment as per minimum C.V.
- Generally most of the Nepalese investors think that investment on stock market is beneficial all the time. But it is not in reality, there are various factors affecting the stock market which may increase or decrease the price of stock. So before investing on stock of any companies investor need to have general knowledge about stock market and market trend.
- Before reaching to any decision for investing any stock market assessment of personal risk attitude and requirement will always be useful. Normally investors focus their mind on return only but before thinking about higher return, they also need to think about risk associated with return.
- The companies themselves are also responsible for increasing or decreasing the unsystematic risk which is badly hits the business and profit. So proper and efficient management is essential for progress of any organization.
- The activities of stock market should not centralize only in capital city. So the brokers should be encouraged to generate their business from outside the Kathmandu valley and they should suggest the investors to make suitable portfolios.
- NEPSE should initiate to develop different programmes for private investors such as investors meeting and seminars in different subject like trading, rules and regulations, new financial information and so on.

- Financial information must be published regularly so that the investors can know about the changes that take place. For this also NEPSE should enforce all listed companies to publish financial in a timely manner.
- Government also needs to play an active role in the mobilization of the stock market as the economic condition of the country heavily depends on the policy of government. Government needs to make policies for facilitating the industries and increasing investing opportunities.

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Appendice I			
LIST OF			
BANK			
S.No	Name of Bank	Operation Date (A.D)	Head Office
1	Nepal Bank Ltd	15-Nov-1937	Kathmandu
2	Rastriya Banijya Bank Ltd	23-Jan-1966	kathmandu
3	Agriculture Development Bank Ltd	2-Jan-1968	Kathmandu
4	Nabil Bank Ltd	16-Jul-1984	Kathmandu
5	Nepal Investment Bank Ltd	27-Feb-1986	Kathmandu
6	Standard Chartered Bank Nepal Ltd	30-Jan-1987	Kathmandu
7	Himalayan Bank Ltd	18-Jan-1993	Kathmandu
8	Nepal SBI Bank Ltd	7-Jul-1993	Kathmandu
9	Nepal Bangladesh Bank Ltd	5-Jun-1994	Kathmandu
10	Everest Bank Ltd	18-Oct-1994	Kathmandu
11	Bank of Kathmandu Ltd	12-Mar-1995	Kathmandu
12	Nepal Credit and Commerce Bank Ltd	14-Oct-1996	Siddharthanagar, Rupandehi
13	Lumbini Bank Ltd	17-Jul-1998	Narayangadh, Chitwan
14	Nepal Industrial & Commercial Bank Ltd	21-Jul-1998	Biratnagar, kaski
15	Machhapuchhre Bank Ltd	3-Oct-2000	Pokhara, Kaski
16	Kumari Bank Ltd	3-Apr-2001	Kathmandu
17	Laxmi Bank Ltd	3-Apr-2002	Birgunj, Parsa
18	Siddhartha Bank Ltd	24-Dec-2002	Kathmandu
19	Global Bank Ltd	2-Jan-2007	Birgunj, Parsa
20	Citizens bank International Ltd	21-Jun-2007	Kathmandu
21	Prime commercial Bank Ltd	24-Sep-2007	Kathmandu
22	sunrise Bank Ltd	12-Oct-2007	Kathmandu
23	Bank of Asia Nepal Ltd	12-Oct-2007	Kathmandu
24	Grand Bank Limited	25-May-2008	Kamaladi, Kathmandu
25	NMB Bank Ltd	5-Jun-2008	Babarmahal, Kathmandu
26	kist Bank Ltd	7-May-2009	Anamnagar, Kathmandu
27	Janata Bank Nepal Ltd	5-Apr-2010	New Baneshor, Kathmandu
28	mega Bank Nepal Ltd	23-Jul-2010	kantipath, kathmandu
29	Commerz & Trust Bank Nepal Ltd	20-Sep-2010	Kamaladi, Kathmandu
30	Civil Bank ltd	26-Nov-2010	Kamaladi, Kathmandu
31	Century Commercial Bank Ltd	10-Mar-2011	Putalisadak , Kathmandu
32	Sanima Bank Ltd	15-Feb-2012	Naxal, kathamandu

Appendices II

Calculation of Total Dividend of EBL, KBL & NIBL.

Table 4.1

Total Dividend of EBL

Fiscal Year	Closing MPS	Cash Dividend	Stock Dividend %	Total Dividend
2006/07	2430	10	30	739
2007/08	3132	20	30	959.60
2008/09	2455	30	30	766.50
2009/10	1630	30	30	519
2010/11	1094	50	10	159.4

Table 4.3

Total Dividend of KBL

Fiscal Year	Closing MPS	Cash Dividend	Stock Dividend %	Total Dividend
2005/06	443	1.05		Based Year
2006/07	830	1.05	175.77	175.77
2007/08	1005	0.53	106.36	106.36
2008/09	700	0.55	74.61	74.61
2009/10	468	12	68.16	68.16
2010/11	266	0.44	22.89	22.89

Table 4.5

Total Dividend of NIBL

Fiscal Year	Closing MPS	Cash Dividend	Stock Dividend %	Total Dividend
2005/06	1260			Based Year
2006/07	1729	5	30	523.7
2007/08	2450	7.5	40.83	1007.84
2008/09	1388	20	20	297.6
2009/10	705	25	25	201.25
2010/11	515	25	50	282.5

Table 4.13

RRR, ERR, SD and C.V. of Market:

Year	Market Index (MI)	$R_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2005/06	386.83			
2006/07	683.95	0.7681	0.698	0.4869
2007/08	963.36	0.4085	0.338	0.1144
2008/09	749.10	-0.2224	-0.293	0.0857

2009/10	477.73	-0.3623	-0.433	0.1871
2010/11	362.85	-0.2405	-0.311	0.0966
Total(Σ)		0.3515		0.9707

$$\begin{aligned} \text{Expected return } \bar{R} &= \frac{\sum R}{n} \\ &= \frac{0.3515}{5} \\ &= 0.0703 \end{aligned}$$

$$\begin{aligned} \text{Standard deviation } \dagger &= \sqrt{\frac{\sum (R - \bar{R})^2}{n - 1}} \\ &= \sqrt{\frac{0.9707}{4}} \\ &= \sqrt{0.24} \\ &= 0.49 \end{aligned}$$

$$\begin{aligned} \text{Coefficients of variation c.v} &= \frac{\dagger}{\bar{R}} \\ &= \frac{0.49}{0.0703} \\ &= 6.97 \end{aligned}$$

Table 4.16

Calculation of beta coefficient of the common stock of EBL

Year	$(R_i - \bar{R}_i)$	$(R_m - \bar{R}_m)$	$(R_i - \bar{R}_i) (R_m - \bar{R}_m)$
2006/07	-0.359	0.698	-0.25
2007/08	-0.969	0.338	-0.33
2008/09	-1.62	-0.293	0.47
2009/10	-1.769	-0.433	0.76
2010/11	-1.879	-0.311	0.58
Total			$\Sigma[(R_i - \bar{R}_i) (R_m - \bar{R}_m)]$ = 1.23

Table 4.17

Calculation of beta coefficient of the common stock of KBL

Year	$(R_i - \bar{R}_i)$	$(R_m - \bar{R}_m)$	$(R_i - \bar{R}_i) (R_m - \bar{R}_m)$
2006/07	0.51	0.698	0.36
2007/08	-0.43	0.338	-0.15

2008/09	-0.99	-0.293	0.29
2009/10	-1.00	-0.433	0.43
2010/11	-1.15	-0.311	0.36
Total			$\sum[(R_i - \bar{R}_i)(R_m - \bar{R}_m)] = 1.29$

Table 4.18

Calculation of beta coefficient of the common stock of NIBL

Year	$(R_i - \bar{R}_i)$	$(R_m - \bar{R}_m)$	$(R_i - \bar{R}_i)(R_m - \bar{R}_m)$
2006/07	-0.47	0.698	-0.33
2007/08	-0.26	0.338	-0.08
2008/09	-1.57	-0.293	0.46
2009/10	-1.61	-0.433	0.69
2010/11	-1.13	-0.311	.35
Total			$\sum[(R_i - \bar{R}_i)(R_m - \bar{R}_m)] = 1.09$

Table 4.22

Calculation of estimated population standard deviation of beta

Bank's Name	Beta(B_j)	$(B_j - \bar{B}_j)$	$(B_j - \bar{B}_j)^2$
EBL	1.29	0.04	0.0016
KBL	1.33	0.08	0.0064

NIBL	1.12	-0.13	0.0169
Total	3.74		0.0249

Table 4.15

Systematic and unsystematic risk and its proportion

Stock	Systematic Risk	Unsystematic Risk	Proportion of Systematic Risk	Proportion of Unsystematic risk
EBL	1.29	1.2975	0.35	0.90
KBL	1.33	-0.395	0.36	-0.28
NIBL	1.12	0.535	0.29	0.38

For EBL:

TOTAL RISK = SYSTEMATIC RISK + UNSYSTEMATIC RISK

WHERE, TOTAL RISK = σ^2 (Variance of EBL'S stock)

Beta Coefficient= Systematic Risk

2.5875= 1.29 + unsystematic risk

Unsystematic risk=2.5875-1.29

Unsystematic risk = 1.2975

For KBL

Unsystematic Risk = 0.935-1.33

Unsystematic risk = -.395

For NIBL

Unsystematic Risk = 1.655-1.12

Unsystematic risk = 0.535

**EXPECTED RETURN STANDARD DEVIATION AND COEFFICIENT OF
VARAIATION OF INTER INDUSTRY**

Fiscal Yr	Banking						
2005/06	437.49	A=Y1-Y0	B=A/Y0	Rj	C=B-Rj	D = C*C	
2006/07	789.21	351.72	0.8039	0.0299	0.7740	0.5992	
2007/08	985.65	196.44	0.2489	0.0299	0.2190	0.0480	
2008/09	780.65	-205	-0.2080	0.0299	-0.2379	0.0566	
2009/10	456.93	-323.72	-0.4147	0.0299	-0.4446	0.1977	
2010/11	328.7	-128.23	-0.2806	0.0299	-0.3105	0.0964	
	Total		0.1496			0.9978	
	EXPECTED RETURN		0.0299				
	VARIANCE			0.25			
	STANDARD DEVIATION			0.5			
	CO- VAIRANCE			16.71587			

Table 4.2

**Realized Return(R), Expected Return (\bar{R}), Standard Deviation (\dagger) and Coefficient
Variation (C.V) of EBL**

Fiscal Year	Closing MPS	Total Dividend	$R = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$	$R - \bar{R}$	$(R - \bar{R})^2$	Remark
2005/06	1379					Base year
2006/07	2430	739	1.29	-0.359	0.13	
2007/08	3132	959.60	0.68	-0.969	0.94	
2008/09	2455	766.50	0.029	-1.62	2.62	
2009/10	1630	519	-0.12	-1.769	3.13	
2010/11	1094	159.4	-0.23	-1.879	3.53	
Total			$\sum R = 1.649$		10.35	

$$\begin{aligned} \text{Expected Return } (\bar{R}) &= \frac{\sum R}{n} \\ &= \frac{1.649}{5} \\ &= 0.3298 \text{ or } 32.98\% \end{aligned}$$

$$\begin{aligned} \text{Variance } (s^2) &= \frac{\sum (R - \bar{R})^2}{n - 1} \\ &= \frac{10.35}{4} \\ &= 2.5875 \end{aligned}$$

$$\begin{aligned} \text{Standard Deviation } (\sigma) &= \sqrt{s^2} \\ &= \sqrt{2.5875} \\ &= 1.608 \end{aligned}$$

$$\begin{aligned} \text{Coefficient of Variation} &= \frac{\sigma}{\bar{R}} \\ &= \frac{1.608}{0.3298} \\ &= 4.87 \end{aligned}$$

Table 4.4**Realized Return(R), Expected Return (\bar{R}), Standard Deviation (\dagger) and Coefficient Variation (C.V) of KBL**

Fiscal Year	Closing MPS	Total Dividend	$R = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$	$R - \bar{R}$	$(R - \bar{R})^2$	Remark
2005/06	443		-	-	-	Base Year
2006/07	830	175.77	1.27	0.51	0.26	
2007/08	1005	106.36	0.339	-0.43	0.18	
2008/09	700	74.61	-0.229	-0.99	0.99	
2009/10	468	68.16	-0.234	-1.00	1.00	
2010/11	266	22.89	-0.382	-1.15	1.31	
Total			$\Sigma R = 0.764$		3.74	

$$\text{Expected Return } (\bar{R}) = \frac{\sum R}{n}$$

$$= \frac{0.764}{5}$$

$$= 0.1528 \text{ or } 15.28\%$$

$$\text{Variance } (s^2) = \frac{\sum (R - \bar{R})^2}{n - 1}$$

$$= \frac{3.74}{4}$$

$$= 0.935$$

$$\text{Standard Deviation } (\dagger) = \sqrt{s^2}$$

$$= \sqrt{0.935}$$

$$= 0.966$$

$$\text{Coefficient of Variation} = \frac{\dagger}{\bar{R}}$$

$$= \frac{0.966}{0.1528}$$

$$= 6.32$$

Table 4.6

Realized Return(R), Expected Return (\bar{R}), Standard Deviation (\dagger) and Coefficient Variation (C.V) of NIBL

Fiscal Year	Closing MPS	Total Dividend	$R = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$	$R - \bar{R}$	$(R - \bar{R})^2$	Remark
2005/06	1260		-	-	-	Base year
2006/07	1729	523.7	0.79	-0.47	0.2229	
2007/08	2450	1007.84	1	-0.26	0.0676	
2008/09	1388	297.6	-0.31	-1.57	2.4712	
2009/10	705	201.25	-0.35	-1.61	2.5827	
2010/11	515	282.5	-0.13	-1.13	1.2742	
Total			$\Sigma R = 1.26$		6.62	

$$\text{Expected Return } (\bar{R}) = \frac{\sum R}{n}$$

$$= \frac{1.26}{5}$$

$$= 0.252 \text{ or } 25.20\%$$

$$\text{Variance } (s^2) = \frac{\sum (R - \bar{R})^2}{n - 1}$$

$$= \frac{6.62}{4}$$

$$= 1.655$$

$$\text{Standard Deviation } (\dagger) = \sqrt{s^2}$$

$$= \sqrt{1.655}$$

$$= 1.29$$

$$\begin{aligned}\text{Coefficient of Variation} &= \frac{\dagger}{R} \\ &= \frac{1.29}{0.252} \\ &= 5.12\end{aligned}$$