

A comparative study on

**RISK AND RETURN ANALYSIS ON COMMON STOCK
INVESTMENT BETWEEN KUMARI BANK LTD AND
EVEREST BANK LTD.**

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RECOMMENDATION

This is to certify that the thesis

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Entitled:

**RISK AND RETURN ANALYSIS ON COMMON STOCK
INVESTMENT BETWEEN KUMARI BANK LTD AND
EVEREST BANK LTD.**

*has been prepared as approved by this Department in the prescribed format of
the Faculty of Management. This thesis is forwarded for examination.*

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INVESTMENT BETWEEN KUMARI BANK LTD AND
EVEREST BANK LTD.**

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

Master of Business Studies (MBS)

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DECLARATION

I hereby declare that the work reported in this thesis entitled “**RISK AND RETURN ANALYSIS ON COMMON STOCK INVESTMENT BETWEEN KUMARI BANK LTD AND EVEREST BANK LTD.**” submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of _____ of Thakur Ram Campus, Birgunj.

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Moreover, it is needless to say that to error is human and I am also no exception, so I apologize for any errors and mistakes committed in this research works.

Ujawal Shahi

ABBREVIATIONS

CAPM	:	Capital Assets Pricing Model
CS	:	Common Stock
CV	:	Coefficient of Variance
DPS	:	Dividend per Share
EBL	:	Everest Bank limited
EPS	:	Earning Per Share
FY	:	Fiscal Year
HPR	:	Holding Period Return
i.e	:	That is
KBL	:	Kumari Bank Limited
MPS	:	Market Price per Share
NEPSE	:	Nepal Stock Exchange
NRB	:	Nepal Rastra Bank
P/E Ratio	:	Price Earning Ratio
SD	:	Standard Deviation
SEBON	:	Security Board of Nepal
SML	:	Security Market Line
TU	:	Tribhuvan University

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CHAPTER - I

INTRODUCTION

1.1 Background

Nepal is one of the agriculture dependent countries whose economy status is very weak. More than 75% of the population depends upon the agriculture. Maximum people are still in the rural areas and most of them are deprived from the minimum requirement of human livelihood. Because of the hard life and lack of service, facilities and infrastructures in the rural areas, most of the young people that are considered as the backbone of national development are going for overseas as employment in search of employment.

Poverty is still seen in Nepal to minimize this poverty the non agriculture sector should be given priority. The non agriculture sector can also help in the economic development and the problem of unemployment can be solved to an extent. Hence, for this various factories, industries, financial institution, health and education enterprises should be established. But establishment of such institutions is not sufficient for the economic development. However, these establishment invitations are also necessary for successful operation finance need for each organization. Finance is pivotal for organization if we want to establish any organization, finance is essential. If the financial condition is good, organization obviously will be good. Finance is the art and science of managing money, which is concerned with of process. Institutions, markets and instruction involved in the transfer of money among and between individual, business and government. The proper decisions are also the top management decision related to finance.

The top management decision is based on financial analysis. Financial Analysis is the tool of decision making and covers the acquisition, utilization control and administration of funds. Such type of study and analysis performed through

managerial finance, which is concerned with the duties of the financial manager in the sense firm. “Managerial finance is important in all types of business whether they are public or private, deal with financial service or manufactures. These types of jobs one encounters in managerial finance range from decision regarding plant expansion to choosing what types of securities to issue to finance expansion. Nowadays the field of finance is broad and dynamic. There are various sources leading the sector of economy i.e. bond, stocks. The stock market is one of the leading sectors of economy concerned with finance. Today capital market have primary and secondary markets have been established for stock exchange.

Any investor purchase securities for getting returns. So, returns are the main factor of investment but it involves risk. It can be said that risk and return are the main factors of investment. Return is the reward for waiting and compensation for risk bearing. Researcher has shows that most of the investor is risk averter. So it can be concluded that people invest their belongings in those opportunities where there is higher return with low level of risk. “Risk is define in Webster’s Dictionary as a hazard; pearl; exposure to loss or injury.” So, risk is refers to the chance that some unfavorable event will occur. Risk is the product of uncertainty whose magnitude depends upon the degree of validity in uncertain cash flow. Most people view risk in the manner as just described a chance of loss in reality, risk occurs when the outcomes of particular activity or event cannot be ascertained.

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

investment. All these examples involve sacrifice of current rupees in expectation of future return. Hence, they are investment. The main objective of investment is to maximize the wealth of an investor.

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

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

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

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

Therefore, putting all your money into one stock is extremely risky. The single best weapon against risk is diversification.

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

Banking sector is the most dynamic part of economy, which collects unused funds and mobilizes in needed areas. It is the heart trade, commerce industry. In Nepalese context, commercial banks have comparatively good performance among the public limited companies. Because most of the banks are counted within the top ten positions among the listed companies on the basis of amount traded, number of transaction market capitalization etc. Most of the banks are established with collaboration of foreign well-known banks. As a public limited company, Nepal Bank Limited (NBL) is only one Nepalese commercial bank, which is listed in NEPSE. Besides this oldest bank there are eight other joints venture banks, which are listed in NEPSE. Besides these, a government bank, Rastriya Banijya Bank, also plays a vital role in banking sector. In Nepal altogether there are 32 commercial banks.

In Nepal foreign joint venture banks perform better than Nepalese ones do. Because they have higher management efficiency and they can manage risk

properly. Specifically, Nepalese banks have a high degree of internal firm specific risk. At the same time they have to bear more social obligation and government intervention than foreign banks. However, Nepalese bank has high potentialities to increase their performance by changing their risk attitude and by improving their internal management.

Risk is related to future and future is uncertain. But risk is manageable rather than uncertain. Company - specific risk (earning variability) and companies ability to service its debt burden are intimately related to the particular characteristics of the business in which the company operators. Moreover, they are affected by economic condition-apart management's ability to generate satisfactory operating performance.

A systematic, investment process should be followed to win the stock market. Investment process describes how an investor should go about making decision with regard to what marketable to invest in, how extensive the investment should be, and when the investment should be made. A five step procedure for making decision forms the basis of investment process.

- Set the investment policy
- Perform security analysis
- Construct a portfolio
- Revise the portfolio
- Evaluate the performance of the portfolio

1.2 Focus of the Study

In this study the research has focused on risk and return Analysis on common stock of two commercial banks Everest Bank Limited and Kumari Bank Limited. Risk and Return as earlier noted, are the two fundamental and important considerations in the investment decision making process. The rate of return from a capital investment is a concept that has different meaning to

investors. Some investor may seek near term cash inflow and gives less value to more long-term return. Such a investor might purchase the share of other firms that would pay long-term cash dividends investment (ROI) or Return on Equity (ROE). Rate of return can be described as the relationship between the total realized and the principle amount originally invested. It is usually expected as a percentage rate.

Banking Sectors in Nepal are the dynamics part of national economy. So, if there are insufficiencies of Banking and financial facilities the growth of the economic development becomes very slow. Commercial Banks collect unused fund and mobilize it in needed sectors. It is the heart of trade and commerce. “Commercial Bank Exchange money, accepts deposits, grants loans and performs other commercial bank functions and is not a bank meant for cooperative, agriculture, industrial as per specific function”. The main objectives of a commercial bank are to earn profit by proper mobilization of resources.

1.3 Statement of the Problems

The main problem is that the lack of knowledge and information about stock investment due to which the market intermediaries exploit investors. The interested investors are also afraid to invest in stocks and the investors who are investing in stocks found to invest in single security due to lack of ability to analyze risk and return and low level of knowledge about portfolio investment. So, in Nepal proper information about the stock investments should be provided so that participation of the people in stock investment increases because the dynamic trading of stocks plays an important role in economic development of the nation. To exist securities market their mechanism created to make easy the exchange of securities.” Security market exists in order to bring together buyers and sellers of securities meaning their mechanism is

created to facilitate the exchange of financial assets.” It runs by information so proper information has to be provided to the interested person.

The risk and return theory (the portfolio and capital market theory) suggest that an investor always wants to have highest possible rate of return on investment at the lowest level of risk. In other word, the investor who is seeking a higher return has to assume a higher level of risk so; this shows that there is a positive correlation between risk and return. Higher the expected return, they would be the chance of occurring substantial loss. However, there seems to be no sufficient empirical evidence available to support this theoretical proposition.

The study “Risk and Return analysis” occupies an important place in the theory of finance. Lack of Knowledge about risk and return is the main cause of manipulation by the financial institutions of stockholders to the investors. Investor’s attitude and perception towards stock investment is not good in Nepalese stock market. So, they feel more risk in stock investment than as it’s real risk. The academicians also cannot analyze risk and return properly about the corporate, its financial position and about the stock market because investor are the main bases for any company and stockholders. Investors are the primary source of revenue as a customer for the stockholder and financial intermediaries. But in Nepal, there are no any separate institutions providing adequate information to investor about the stock market. It seems necessary to establish separate entity, which may accelerate the stock investment and market efficiency.

To invest in stock one should know what the accurate price of the stocks is for this the theoretical knowledge as well as market condition should be clearly about the determinants of stock prices. According to the theory of stock price, stock price in market guided by the intrinsic value, which is calculated with the inputs-dividend, required rate of return of investors and growth in dividends,

the stock prices are assumed to remain in security market line. And if it is not so, they strive towards this line and come to the equilibrium. If the expected rate of return from stock and required rate of return if investors are not equal in such case the price of stock may be overpriced or underpriced. Hence, the location of expected rate of return may lie above or below the security market line. The stocks firstly traded in the primary market by the investors and stockholders. Since, common stock does not guarantee of return a proper analysis of risk and return should be performed to the prevailing market atmosphere. There seems to be no sufficient empirical evidence available to support this theoretical position more specifically, the research problems are listed below:-

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

1.4 Objectives of the Study

The main objectives of the study are to analyze the risk and return of common stock investment listed companies i.e. commercial banks. The specific objectives of the present study are as follows:

- To identify whether stock of selected bank is overpriced, underpriced and equilibrium price.
- To identify optimum portfolio of the banks.
- To analyze the diversifiable and un-diversifiable risk of the selected banks.
- To study the risk and return of the sampled commercial banks and also analyze their coefficient of variation.

- To provide the valuable suggestion about the risk and return on the commercial banks that could be the deciding factor for the investor in their investment.

1.5 Significance of the Study

This research study will give the reliable information about Nepalese stock market and may contribute in the analytical power of the investors. In Nepalese context, very few studies are made and there are no specific magazines and articles on the topic. So the study will be more significant for the exploring and increasing stock investment. The main significance of the study is as follows:

- This study will provide some knowledge about the Nepalese stock market development along with providing ideas to minimize the risk on stock investment.
- The study will give clear conception over the investment. They will be able to distinct the right investment among all the investment opportunities.
- This study will be beneficial for the entire person who is directly and indirectly related to Nepalese stock market.
- The study will be a matter of interest for academicians, students and investors.

1.6 Limitation of the Study

Every study has its own limitations. This study is also not an exception. Mainly, this study is made for the partial fulfillment of M.B.S. level.

- Data published from various sources differ from the figure published by NEPSE and respective commercial banks. However, in this study respective bank published annual reports data to makes into accounts as the basis sources of data.

- The study covers a period of five fiscal years which will be processed during conclusion.
- Analysis is mostly based on the structural and financial tools are divided in the context of an efficient market condition.
- Among the various commercial banks in Nepal the study is only concerned on two commercial bank (Kumari Bank Limited and Everest Bank Limited).
- Time and resources put constraints for the study

1.7 Organization of the Study

This study is organized into five chapters:

- The first chapter is the introduction chapter. It consists of general background, statement of problems, objectives of the study, significant of the study, limitation of the study and organization of the study.
- The second chapter deals with review of Literature which consists of the conceptual frame-work of the study.
- The research methodology is concerned with the research design, sources of data collection, population sample and method of analysis.
- The presentation and Data Analysis contains presentation and analysis of data.
- The last chapter include summary of whole study, conclusion and recommendation are made.

CHAPTER - II

REVIEW OF LITERATURE

Review of Literature is the chapter where researcher reviews the books, journals, magazine or any other types of studies which are related his/her field of the study. Research is a continuous process is never ends. The purpose of reviewing the literature is to develop some expertise in one's are to see what new contributions can be made and to receive some ideas for developing a research design. Thus, the previous studies cannot be ignored because they provide the foundation to the present study. The continuity in research is ensured by linking the present study with the past research studies.

The concerned of the study is focus on common stock investment and it's impact on individual risk and return. Risk and Return analysis of the stock in the present days has been the focus point in the capital market is in relation with portfolio management on particular. In the investment process, risk and return aspects and the formation of an optimal portfolio are the major two tasks. The basic essential of the modern portfolio theory are to avoid to risk and to calculate the risk premium that investors need for involving in the risky investment. Eventually the analysis help and investor quantity their trade off between risk and return. Capital market is the venue of resources allocation and the source of capital accumulation. There are many theories regarding capital market that explains and help predict market behavior.

In this chapter, some Nepalese and foreign books, journals and magazines reviewed which are related to the topic risk and return and also thesis of seniors related to the study is reviewed below:

2.1 Conceptual/ Theoretical Review

Various writers have defined the theoretical aspect of risk and return in various ways which are taken into consideration in this chapter and main focus has given to the implication of risk and return trade off in the investment common stock.

2.1.1 Return

Return is the motivating force in the investment process that is the reward for undertaking the investment. Some investor seek near term cash inflows and gives less value to more distant return such an investor might purchase the stock of other firm that pays a large cash dividends. Other investors are concerned primarily with growth. They would seek project that offer the promise of long term, higher than average of sales, earning and capital appreciation. “The return from an investment is the realizable cash flow earned by its owner during a given period of time. Typically if it is expressed as percentage of beginning of period value of the investment.

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

Return is the motivating force for the investment. It is also the key method available to investor in comparing the alternative investment. Major purpose of investment is to get a return or income on the funds invested. This rate of return

concept is important because it measured the speed at which investor's wealth increases or decreases. The rate of return either can express in terms of rupees or %.

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

Holding Period Return

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

$$R = \frac{\text{Ending Price} - \text{Beginning Price}}{\text{Beginning Price (or Purchase Price)}}$$

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

- Income from price appreciation (or losses from price depreciation), some times called capital gains (or losses). This quantity is denoted as $P_t - P_{t-1}$
- 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 the change in the invested wealth during any given holding period. The single percentage rate of return formula can be restated in an appropriate form for almost any investment.

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

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

Realized Rate of Return

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

2.1.2 Expected Return

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

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

Where,

R_j = Rate of Return on Stock j.

N = No. of Years

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 (Francis, 1998: 11).

2.1.3 Risk

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

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

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

that risk was sugar and salt of life. “Instead of measuring risk was the probability of number of different possible outcomes, the measure of risk should somehow estimate the extent to which the actual outcome is likely to divergence of actual return from an expected return” (Alexander et al., 1982:151). Investment risk is related the probability of earning a return from an less than the expected return the great chance of low or negative returns, the riskier the investment. However, we can define risk more precisely if is useful to do so.

Beta Coefficient

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

Standard Deviation

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

Subjected Estimates

A subjective risk measure occurs when qualitative rather than quantitative estimates are used to measure dispersion. As an example: an analyst may estimate that a proposal offers a "low" level of risk. This means that, in the

analyst's view—the dispersion of return will not be very wide. Similarly, a "high" risk level will accompany a project whose forecast return may vary a great deal. With the overall definition of risk as dispersion of return, there are two components of risk that may be identified.

Business Risk

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

Financial Risk

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

2.1.3.1 Sources of Risk

Every investment involves uncertainty that makes future investment returns risky. Sources of uncertainty that contribute to investment risk are as follows: (Francis, 1997:308)

Interest Rate Risk

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

Purchasing Power Risk

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

Bull-Bear Market Risk

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

Management Risk

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

Default Risk

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

Liquidity Risk

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

Call-Ability Risk

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

Convertibility Risk

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

Political Risk

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

Industry Risk

An industry may be viewed as a group of companies that compete with each other to market a homogeneous product. Industry risk is that portion of an investment total variability of return caused by events that affect the products and firms that make up an industry. The stage of the industry's life cycle, international tariffs and/or quotas on the products produced by an industry

related taxes industry wide labor union problems environmental restriction, raw materials availability and similar factors interact and affect all the firm sin an industry simultaneously. As a result of these commonalties, the prices of the securities issued by competing firms tend to rise and fall together. The uncertainties discussed above are the major sources of investment risk, but by no means do they make up and exhaustive test. If all the uncertainties could be listed, they would add up to total risk or total variability of returns.

2.1.3.2 Types of Risk

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

Systematic Risk

It is the also called non-diversifiable risk. The systematic risk is market related. In other words, it arises from the changes in the economy and market condition. For example, high inflation, recession, impact of political factors, wars, depression, long-term changes, etc, which are beyond the control of company management. It affects all the firms in the market. The portion of risk is non-diversifiable and cannot be reduced. The systematic risk is rewarded in the form of risk premium. Sometimes, systematic risk is called market risk. Systematic risk affects almost all assets in the economy, at least to some degree, whereas systematic risk affects at most a small number of assets. The principle of diversification has an important implication to a diversified investor, only systematic risk matters. It follows that in deciding whether or not buy a particular individual asset, a diversified investor will only concerned with that asset's systematic risk. This is a key observation and it allows us to say great deal about the risks and returns on individual asset, in particular, it is the basis for a famous relationship between risk and return called the security

market line. To develop the SML, we introduce the equally famous Beta coefficient one of the measurement unit of modern finance. Beta coefficient and SML are the key concepts because to get supply us with at least part of the answer to the question of how to go about determining the required return on an investment.

Unsystematic Risks

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

2.1.3.3 Measurement of Risk

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

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

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

(S.d). S.D is calculated as follows:

$$\text{StandardDeviation } (\sigma) = \sqrt{\text{Variance}} = \sqrt{\sigma^2}$$

Where,

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

R = Rate of Return

$\Sigma(R)$ = Expected Rate of Return

n = No. of Observation on years

P = Probability

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

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

$$\text{Coefficient of variation (C.V.)} = \frac{\sigma}{E(R)}$$

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

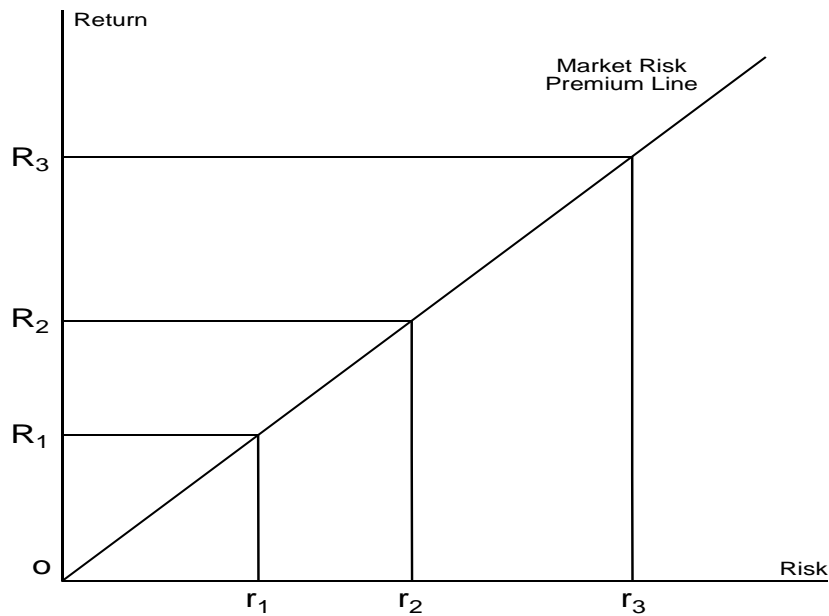
2.1.4 Relationship between the Risk and Return

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

The reason is that investors are risk averse. As a result, high risk asset must offer investors are high return to induce them to make the riskier investment normally; investors are likely to prefer more return and less risk. It means investors will not choose an investment that guarantee less return when investments promising higher returns in the same level of risk class are readily available. The relationship between risk and return is described by investor's perception about risk and their demand for compensation. No. investor will take invest in risky assets unless he is assured or adequate compensation for the assumption of risk. Therefore, it is the investors required risk premium that

establishes a link between risk and return. There is the positive trade-off between the risk & return. Higher the risk, higher the return and lower the risk lower the return.

Figure 2.1
Relationship between Risk and Return



The figure represent a higher premium for higher risk in a linear fashion indicating a premium or R_3 for r_3 degree or risk, R_2 for r_2 and so on backed by the assumption of linear relationship, the risk premium increase or decrease in proportion to a change in level or risk.

2.1.5 Portfolio Risk

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

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

The standard deviation of a portfolio is given by:

$$\sigma_P = \sqrt{\sum_{i=1}^n \sum_{j=1}^n w_i w_j \text{cov}_{ij}}$$

Where,

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

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

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

n = number of security included in a portfolio

σ_P = Portfolio standard deviation.

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

$$\sigma_P = \sqrt{w_i^2 \sigma_i^2 + w_j^2 \sigma_j^2 + 2w_i w_j \text{cov}_{ij}}$$

The co-variance of portfolio is calculated as follows:

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

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

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

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

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 the risk can be reduced but not totally eliminated by forming a portfolio.

2.1.6 Portfolio Analysis

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

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

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

2.1.7 Expected Return of Portfolio

Expected return of the portfolio is the weighted average expected returns of assets included in the portfolio. Where the weights are the proportion of investment initially made in each asset included in the portfolio. The expected return of portfolio is calculated as follows:

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

Where,

$E(R_p)$ = Expected portfolio return

i = Security

n = No. of securities in a portfolio

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

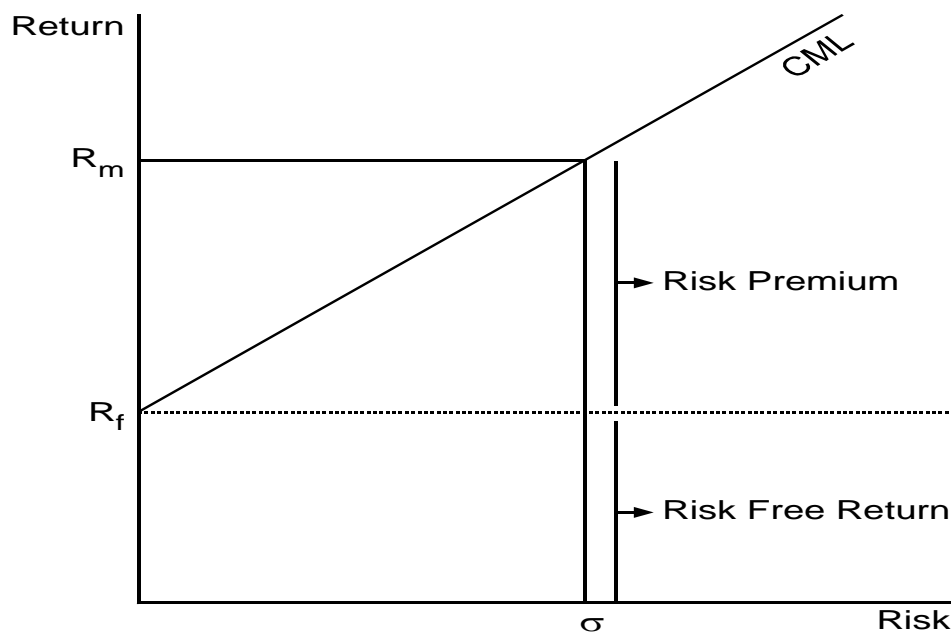
W_i = Weight of stock i

2.1.8 Capital Market Line (CML)

Capital market line (CML) represents the equilibrium relationship between the expected return and the standard deviation of efficient portfolios. The separation theorem of J. Tobin (1985) states that portfolio consist of risk-free assets and assets on the market portfolio. A rational investor will select an optimal portfolio on the capital market line (CML) which maximizes investor's

preference. Capital market line (CML) represents the equilibrium relationship between the expected return and the standard deviation of efficient portfolios. The line of efficient portfolios is called efficient frontier. The efficient frontier that can be constructed without borrowing or lending is convex towards the Y axis in risk return space. However, if borrowing and lending opportunities are included in the analysis, a linear of investment opportunities are called the Capital market line (CML).

Figure 2.2
Capital Market Line



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

$$E(R_p) = R_f + \frac{E(R_m) - R_f}{\sigma_m} \times \sigma_p$$

Where,

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

R_f = Risk free rate

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

σ_p = Standard deviation of market portfolio

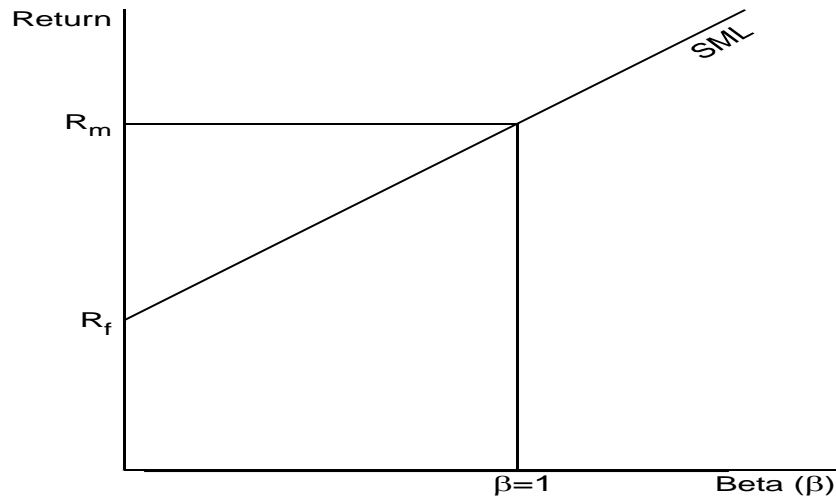
The slope of CML shows an extra return over the risk free rate of return;

$$\text{Slop of CLM} = \frac{E(R_m) - R_f}{\sigma_m}$$

2.1.9 Capital Asset Pricing Model (CAPM)

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

Figure 2.3
Security Market Line



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

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

Where,

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

R_f = Risk free rate of return

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

b_i = Beta or systematic risk index of stock i.

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

$$b_i = \frac{\text{Cov}_{im}}{\sigma_m^2}$$

Where,

b_i = Standard deviation of stock i.

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

σ_m = Variance of the market return.

Alternatively, the value of beta is calculated as follows:

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

Where,

b_i = Standard deviation of stock i.

γ_{im} = Correlation between the return.

σ_m = standard deviation of market return.

2.1.10 Investment

In general sense, investment means to pay out money to get more but in the broadest sense, investment a present commitment for the future benefits. While the commitment takes place with certainty, the future benefits are shrouded in uncertainty. The uncertainty creates risk to investors and they desire to minimize return by minimizing such risk. Therefore, taking decision about proper investment is crucial to the investor and it requires a specific investment decision process, analysis of securities, identification of overpriced, under priced securities, making appropriate investment strategies as well as construction of efficient portfolio. Investment is concerned with the management of an investor's wealth, which are the sum of current income and the present value of all future income. The term investment is conceptualized as income, saving or other collected fund. It covers wide range of activities. T is commonly known fact that an investment is possible only when there are adequate saving. Therefore both saving and investment are interrelated. Investment is an exchange of financial claim stocks and bonds etc. investment if the employment of funds with the rim of achieving additional income or growth in value it involves the commitment of resources that have been saved

or put away from current consumption in the hope that some benefit will occur in future. Investment involves long term commitment and waiting for a reward.

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

2.1.11 Common Stock

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

Common stock holders of a corporation are its residual owners, their claim to income and asset comes after creditors and preference share holders have been paid in full. As a result, a stockholders return on investment is less certain than the return to lender or to preference stock holder. On the other hand, the share of the common stock can be authorized either with or without per value. The par value of the stock is merely a stated figure in the corporate character and is of little economic significance. A company should not issue stock at a price less than par value because stock holders who bought stock for less than par

value would be liable to creditors for the difference between the below price they paid and the par value (Van Horne, 1997:98).

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

2.1.11.1 Return on Common Stock

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

- Cash Dividend
- Capital Gain (Loss)

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

$$R = \frac{Div_1 + P_1 - P_0}{P_0}$$

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 = Particulars time period in the past (future)

D_t = Dividend received during the year t

P_t = Stocks price at time period t

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

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

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

"Holding period return measure mentioned above is useful with an investment horizon of one year or less. For longer periods, it is better to calculate rate of return as an investment yield. The yield calculation is present value-based and this considers the time value of money" (Brealey and Stewart, 1991).

2.1.11.2 The Risk on Common Stock

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

petroleum from the mountains in South America has yet to be proven economically feasible, so it is not known what returns the common stockholders will receive in the future. Experts who have analyzed the common stock of the company have determined that the expected or average long-run, return for such an investment is 30 percent; each year, the investment could yield a positive return as high as 900 percent, but there is also the possibility that the company will not survive, in which case the entire investment will be lost. Here the return investors receive each year cannot be determined precisely because more than one outcome is possible-this is a risky investment. Because of significant danger of actually earning considerably less than the expected return, investors probably would consider the stock to be quite risky. But there is also very good chance the actual return will be greater than expected, which, of course is an outcome we gladly accept. So, when we think of investment risk, along with the chance of actually receiving more than expected, we should consider the chance of actually receiving less than expected. If we should consider investment risk from this perspective, then we can define risk as the chance of receiving an actual return other than expected, which simply means, there is variability in the returns or outcomes from the investment. Therefore, investment risk can be measured by the variability of the investment's returns. However, we can define risk more precisely, and it is useful to do so"(Weston and Copeland, 2000:182).

2.2 Review of Other Independence Studies in Nepal Related Studies

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

In this article he has that the investment on the shares of manufacturing and processing was more attractive than of the banks. He found that the share of individual companies showed very good performance from October 1998 to

1999. NEPSE index showed upward trend for all the shares in this period. He gave following reasons behind the appreciation of share price.

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

Finally, he concludes that the capital market needs more infrastructure investment than institution investment once the required infrastructure can facilitate the market, the size of the market could be made even bigger by introducing new instruments such as government bonds.

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

Similarly, Poudel (2001) also carried out another study in a topic of "*Investing in shares of Return and Risk elements*". The study was based on the data collected for eight banks from mid July 2,001. The main objectives of the study

was to determine whether the shares of commercial banks in Nepal are over or under priced by analyzing risk and return characteristics of the individual share. Poudel summarized the following finding:

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

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

2.3 Reviews from Journals

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

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

He attempts two set of question to answer. The first set of three questions concern the existence of expected return premiums, (i) Do the factors that explain expected return difference in developed equity markets also describe the cross section or expected returns of emerging market firms? (ii) Are the returns factors in Emerging markets primarily local or they have global components as well? (iii) How does the emerging market evidence contribute to the international evidence form developed markets that similar return factors are present in markets around the world? The set of questions of the paper include, (iv) is there a cross sectional relation between liquidity and average, returns in emerging markets? Are the return factors in emerging markets cross sectional correlated with liquidity?

Total returns are calculated in the sum of the dividend return and price appreciation using prices scaled by a capital adjustment factor, which the IFC

computers to correct for price effects associated with stock splits, stock dividends and rights issues. Many emerging market have firms with multiple share assess are treated as a single value weighted portfolio of the outstanding equity securities (Rouwenhorst, 1999:1442-1443).

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

After reviewing an article entitled American Association of Individual Investors, Investing basis reveals importance to understand how personal

circumstance affect investment decision. (If these factors make no difference we could simply publish one suggested portfolio for everyone to follow). Investment profile is the beginning of the asset allocation process, which consists of dividing portfolio among the major asset categories of stocks, bonds and cash. The asset allocation decision will have a far more effect on portfolio return.

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

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

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

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

It tells us where to invest, how to invest and what discount rate to use for project cash flows. Not only that, it is a disarmingly simple model. The expected return of a security depends upon a simple statistics. The relationship between risk and return is linear. Calculation of portfolio risk trivial at the sometime, the CAPM is revolutionary. It tells us that the variance of a project is not a factor in determining the appropriate risk adjusted rate. It turns financial research from Toll-up-your sleeves fundamental analysis into a ' statistical problem. In short, the CAPM turned Wall Street on its head.

2.4 Review of Thesis

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

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

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

Acharya (2002) in his thesis paper *“An analysis of risk and return associates with common stock investment of joint venture banks in Nepal”* concluded that generally average inventors are risk averse. They prefer to invest on such investment, which provided higher return at the given level of risk. It is widely known that investment on portfolio generates higher and constants return as compared to single assets. The reason is that the lower return on one asset off set the higher return from other assets. It is obvious that investor can avoid risk by adopting portfolio but the situation in Nepal is different. The evidence shows that most of the investors prefer to invest in single security rather than portfolio. Concept of portfolio should be developed in their mind.

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

Joshi (2004) has conducted a research on *“Risk and Return Analysis of Common Stock of Five Listed Commercial Banks.”* The main objective of the scholar’s study was to assess the risk associated with return on common stock investment of the basis of selected tools. For the study, the researcher is used five years data 1998-2002. He has used arithmetic mean to calculate the return, standard deviation and coefficient of variations, which are used to measure unsystematic risk and beta coefficient. The measurement explains sensitivity or volatility of the stock with market and individual banks. Correlation is a

statistical tool i.e. is used to measure relationship between risk and return. The researcher also used t-test to calculate hypothesis. The major findings of his study are that banking sector has the expected return is 21.77 percent, risk is 36.1 percent and CV is 1.66, similarly finance and insurance sector has 21.77 percent and 1.66, hotel sectors has 10.16 percent, 72.4 percent, 7.123, trading sectors has 6.68 percent, 80.68 percent, 11.76, other sectors has -16.61 percent, 50.45 percent and 3.037. Market expected return of 10.2 percent and risk of 39.57 percent, CV of 3.88. SCB has maximum market capitalization and NBBL has the minimum market capitalization. Market capitalization as well as NEPSE index has heavily influenced by banking sector. If investors wish to generate higher return then they should bear higher risk and invest in the share of SCBL and if they are risk averters and they want to invest in single assets. They can invest in the share of NBL or HBL because these two stocks have lower risk that of portfolio risk.

Neupane (2008) in his thesis paper “*Risk and Return Analysis of Common Stock Investment of listed commercial banks*” concluded that all the commercial banks are very much risky with fluctuated rate of return. He pointed out that findings of the different banks beta coefficient of all the banks are very much volatile except EBL stock. His study shows that all commercial banks under study required rate of return is less than expected rate of return, so all stocks are underpriced. It shows that all the banks have stock with good investment opportunity. It is also concluded that NIBL and EBL is higher portfolio return and HBL and EBL is lower portfolio risk

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

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

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

In this Research he has Pointed Various Finding Some Remarkable Findings are as Follows:

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

Analysis of personal risk, attitude, needs and requirements will be helpful before making an investment in stock market, investor should make several

discussion with stock holder before reaching at the decision. Investor should make then-decision on the basis of reliable information rather than the imagination and romers.

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

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

Major Findings of the Study are as Follows:

- BOK's common Stock is yielding the highest Expected rate of return with 87.42%. Whereas it is the Lowest 57.40% in case of EBL. The other banks rate of return are 80.13%, 76.29%, 73.58% and 72.84% of NABIL, NIC SCBL and SBI respectively.
- NABIL's Common Stock consists of the highest 81.82% risk, whereas EBL's Stock is least risky as is consist of only 37.17% risk and BOK, SBI, NIC and SCBL risk is 75.87%, 66.89%, 56.42% and 50.38% of respectively.
- Coefficient of Variation Analysis it is resulted that there is highest risk beard by investor in NABIL where for per unit return, risk is 1.02 whereas it is the lowest for EBL.
- All Banks have Unsystematic risk which Risk can be diversifiable. The highest USR 99.87% at total risk Common Stock of SBI Bank, whereas the Lowest UST for EBL i.e. 42.10.
- BOK's stock is aggressive i.e. market sensitive, to the market changes as evaluated by the highest beta coefficient of 1.25, whereas it is lowest 0.0582 in case of SBI. The other Banks beta are 0.7346, 6968, 0.6932 and 0.5983 at NIC, SCBLK, EBL and NABIL respectively.

Thapa (2011) on "*Risk and Return Analysis on common Stock investment of Commercial bank of Nepal (With reference to BOK and NBL)*". The main objectives of the study are to find out the condition of risk and return analysis of common stock investment and suggestion how to create a portfolio among thr selected commercial banks. The main objectives of the study are as follows:

- To evaluate common stock of the selected commercial banks in terms of rosk and return.
- To identify whether stock of the selected bank is overpriced, underpriced and equilibrium price.

- To identify optimum portfolio of the banks.
- To analyze the diversifiable and undiversifiable risk of the selected banks.
- To study the risk and return of the sampled commercial banks and also analyze their coefficient of variation.
- To provide the valuable suggestion about the risk and return on stock of the commercial banks that could be the deciding factor for the investor in their investment.

Major Finding of the Study are as Follows:

- The return is the income received on a stock investment, which is usually expressed in percentage. Expected return on common stock of BOK is maximum (91.46%) & similarly expected return of C.S. of EBL is 49.80% respectively.
- Risk is measured in terms of standard deviation. On the basis of SD, common of BOK is more risky since it has S.D. i.e. 1.1761 C.S. of EBL is low S.D. of 0.6364, on other hand we know that C.V. is more rational basis of investment decision, which measures the risk per unit of return. On the basis of C.V., C.S. of EBL is best than BOK banks. EBL has 1.2779 unit of risk per 1 unit of return. But C.S. of BOK has the high risk per unit return i.e. 1.2859.
- Beta coefficient explains the sensitivity or volatility of the stock with market. Higher the beta higher the volatility in the context, common stock of BOK is most volatile i.e. β 1.8368 and common stock of EBL is least volatile i.e. β 1.3677. We find BOK has more aggressive type of common stock than EBL. EBL with lowest beta among two bank's common stock.
- One of the main significance of beta is in capital asset pricing model (CAPM). Comparison between expected rate of return and required rate of return identify whether the stock is overpriced or under priced. If the required rate of return the stock is overpriced and vice-versa. This study

show that all the stock of commercial bank, which are analyzed are under priced. That means their stock value will increase in a near future. All the stocks are in demand. So, investor can buy the common stock of any bank.

- The portfolio risk and return between BOK and EBL is very gap. Portfolio return is 47.27, and portfolio risk 61.94 respectively.
- Since the entire bank has positive correlation so bank doesn't reduce any unsystematic risk. Among them, BOK and EBL have lower correlation, so it can be favorable for the investors.
- Systematic risk cannot be diversified through creation of portfolio. It is occurred due to market factor. Unsystematic risk can be diversified through creation of portfolio. It is occurred due to internal management factor. This study that BOK has high unsystematic risk 26.65% and EBL has low proportion of unsystematic risk i.e. 2.84% and which can be minimized from the internal management. Whereas BOK and EBL have high proportion of systematic risk i.e. 73.35% and 97.16%. This cannot be minimized from the internal management. C.S. of BOK is best among these bank due to it's highest proportion of unsystematic risk.
- Testing of hypothesis expected return of selected banks with overall market return. These are no significance different between expected return of selected banks and overall market return.

2.5 Research Gap

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

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

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Introduction

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

3.2 Research Design

Research Design is purely and simply the framework or plan for a study that guides the collection and analysis of data.

The research is based on the recent historical data, so simply it is a historical research. It covers the data from the fiscal year 2007 to 2011. It deals with the common stocks of commercial banks on the basis of available information. For the portfolio analysis, other company's common stocks are also taken into account. As the title of the study suggest, it is more analytical and empirical and less descriptive. Mostly secondary data is used the research design that are taken from their sources.

3.3 Population and Sample

Population of the study is all the listed commercial bank of Nepal. But for the study overall a listed common stock has been considered as the population and samples are the common stock of two listed commercial banks. At present 32 commercial banks are operating in Nepal among those two commercial banks are taken as sample. They are Kumari Bank Limited (KBL) and Everest Bank Limited (EBL)

3.4 Sources of Data

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

3.5 Data Collection Procedure

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

The collected procedure is summarized below:

- Financial documents provided by the companies.
- Trading report published by Nepal Stock Exchange Limited.
- Related Website.
- Material published in papers and magazines.
- Other related books and booklets.
- Other primary data also help for the research that are taken from direct visited the different banks.

3.6 Method of Data Analysis

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

Statistical Tools

Test of Hypothesis (T-test)

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

Testing of Hypothesis

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

Null Hypothesis (H_0)

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

Alternative Hypothesis (H_1)

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

Under the H_0

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

Where,

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

\bar{R}_m Average return of market

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

$n_1 = n_2 =$ Number of observation.

$S_1^2 =$ Variance return of selected banks.

$S_2^2 =$ Variance of market returns.

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

Graph

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

3.6.1 Market Price of Stock (P)

Market price of stock is the basic variable of the study. Among high, low and closing price, each year closing price has been taken as market price of the stock, which has specific time span of one year and the study has in annual basis. Closing price is used as market price of stock. Due to the variance in price within a year, it is difficult to predict the market price. Although average price could be used as market price. It is also so complicated to collect the day's price of five year period. On the other hand average of high and low

privet is assumed not to be reliable and representative information. Therefore, it is appropriate to use closing price as a market price.

3.6.2 Dividend

Dividend is relevant during the computation of rate of return, which is a reward to the shareholder for their investment. If a company declares only the cash dividend, there are no problems to take the dividend amount. But if the company declares stock dividend (Bonus Share), it is difficult to obtain the amount that really shareholders has gained. In this case they get extra number of share as dividend and simultaneously price of stock declines as a result of increased number of stokes. To get real amount of dividend there are no any model (Formula). So, there is little difficulty to calculate the exact amount in cash of stock dividend the formula for total dividend amount is considered as follows:

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

Symbolically,

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

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.

3.6.3 Return on Common Stock Investment (R)

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

$$R_t = D_t + (P_t - P_{t-1})$$

Where,

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

D_t = Cash dividend received at time t.

P_t = Price of stock at time t.

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

3.6.4 Expected Rate of Return on Common Stock $E(R_j)$

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

$$E(R_j) \text{ or } \bar{R}_j = \frac{\sum R_j}{n}$$

Where,

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

n = No of years that the return is taken.

Σ = Sign of Summation.

3.6.5 Standard Deviation

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

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

Where,

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

R_j = Return on stock j.

n = number of years that the returns are taken.

3.6.6 Co-efficient of Variation (C.V)

It is the relative measurement of risk with return. It measures the risk per unit of return. It provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same. The higher coefficient of variation, higher the risk. It is calculated as:

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

Where,

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

σ_j = Standard deviation of return on stock j.

R_j = Expected rate of return on stock j.

3.6.7 Portfolio Return (R_P)

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

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

Where,

- R_P = Portfolio return.
- W_j = Proportion of investment in stock j.
- R_j = Return on stock j.
- n = No of securities included in a portfolio.
- j = Stock or security j.

3.6.8 Portfolio Risk (σ_P)

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

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

Where,

- σ_P = Portfolio standard deviation.
- σ_A^2 = Variance of return a stock A.
- W_A = Weight of A.
- σ_B^2 = Variance of return on stock B.
- W_B = Weight of B.
- σ_A = Standard deviation of stock A.
- σ_B = Standard deviation of a stock B.
- r_{AB} = Correlation of stock A and stock B.

3.6.9 Risk Minimizing Portfolio

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

$$W_x = \frac{\sigma_y^2 - \text{Cov}_{xy}}{\sigma_x^2 + \sigma_y^2 - 2\text{Cov}_{xy}}$$

And, $W_y = 1 - W_x$

Where,

W_x = Weight of x.

W_y = Weight of y.

σ_x^2 = Variance of return on stock y.

σ_y^2 = Variance of return on stock x.

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

3.6.10 Required Rate of Return $E(R_j)$

Required rate of return is minimum expected rate of return needed to induce an investor to invest his/her fund. It is always more than risk less rate of return. Normally, when an individual investment is given higher return, i.e. realized rate of return then its required rate of return, this type of investment is known as under priced investment. Such under priced assets should be purchased. On the other hand, if realized rate or return is less than required rate of return of a particular asset, it is said to be overpriced assets, such assets should be purchased, instead if one is holding such asset, it should be sold immediately. The required rate of return is calculated by using following formula.

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

Where,

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

R_f = Risk free rate of return.

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

b_j = Beta coefficient of stock j.

3.6.11 Beta Coefficient (b_j)

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

$$b_j = \frac{\text{Cov}_{jm}}{\sigma_m^2}$$

Where,

b_j = Beta coefficient of stock j.

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

σ_m^2 = Variance of the market.

3.6.12 Portfolio Beta (b_p)

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

$$b_p = \sum_{j=1}^n w_j b_j$$

Where,

b_p = Portfolio beta

j = Stock j

n = No. of securities included in a portfolio

w_j = Weight of proportion of investment in stock j

b_j = Beta of stock j

3.6.13 Correlation Coefficient (r_{xy})

Correlation measures the degree of two securities move together. The numerical value of correlation ranges from +1.0 to -1.0. If the sign is positive, the securities tend to move up and down together. If two securities move in the same direction, they are positively correlated. If the sign is negative, they are negatively correlated. That means when the returns of one security is decreases the return of another security is increases. The magnitude of

correlation coefficient indicates the relationship between the return of two assets. the correlation coefficient can be expressed symbolically as follows:

$$r_{xy} = \frac{\text{Cov}(x, y)}{\sigma_x \sigma_y}$$

Where,

σ_x and σ_y are the standard deviations of returns for assets x and y and r_{xy} is the correlation coefficient for assets x and y.

There are various cases of correlation and risk condition which are presented below:

Perfectly Positive Correlation ($r_{xy}=+1$)

Return on two perfectly positive correlated stocks would move up and down together and a portfolio of two such stocks would be exactly as risky as the individual stocks. Thus diversification cannot reduce risk if the portfolio consists of perfectly positive correlated stocks. Partitioning of Total Risk into Systematic and Unsystematic Risk.

Perfectly Negative Correlation ($r_{xy}=-1$)

Returns on two perfectly negative correlated stocks would move perfectly together but in exactly opposite directions. In this condition, risk can be completely eliminated. Perfectly negative correlation almost never found in the real world.

No Relation between Returns ($r_{xy}=0$)

When the correlation between two stocks is exactly zero there is no relationship between the returns they are independent of each other. In this condition, some risk can be reduced.

Intermediate Risk ($r_{xy}= +0.5$)

Most of the stocks are positively correlated but not perfectly. On average their returns on two stocks would lie on the range of +0.4 and – 0.7 under this

condition, combining stocks into portfolio reduces risk but not eliminate it completely.

3.6.14 Partitioning of Total Risk into Systematic and Unsystematic Risk

Total Risk = Systematic Risk + Unsystematic Risk

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

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

And, Unsystematic Risk = Total Systematic Risk

$$\begin{aligned}\sigma_{ei}^2 &= \text{Risk} - \text{Risk} \\ &= \sigma_i^2 - \beta_i^2 \sigma_m^2\end{aligned}$$

Where,

σ_i^2 = Variance of I assets.

β_i = Beta or systematic risk index of I assets.

σ_m^2 = Market variance.

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

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

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

4.1 Analysis of Commercial Banks

Among presently 32 commercial banks operating in Nepal, only 26 commercial banks were listed in NEPSE. But in this chapter only two commercial banks were selected and analyzed among total commercial banks. The selected banks are:

- Kumari bank Limited (KBL)
- Everest Bank Limited (EBL)

4.1.1 Kumari Bank Limited (KBL)

Kumari Bank Limited is a well established commercial bank. It's promoters represent a group of highly reputed Nepalese managed by experienced and dynamic professionals, Kumari Bank's competitive banking services have become a hall- mark amongst its ever increasing customer base. Its mission is to deliver innovative products and service to our customers, use these innovative products to achieve financial inclusion, and do so by exemplifying good corporate governance, proactive risk management practices, and superior corporate social responsibility. It has currently 29 branches operating all over

the Nepal. It has authorized Capital, Issued Capital and Paid up Capital of 2,000,000,000, 16,038,00,000 and 16,038,00,000 respectively.

4.1.1.1 Analysis of Total Dividend

Table 4.1
MPS, Dividend, EPS and P/E Ratio of KBL

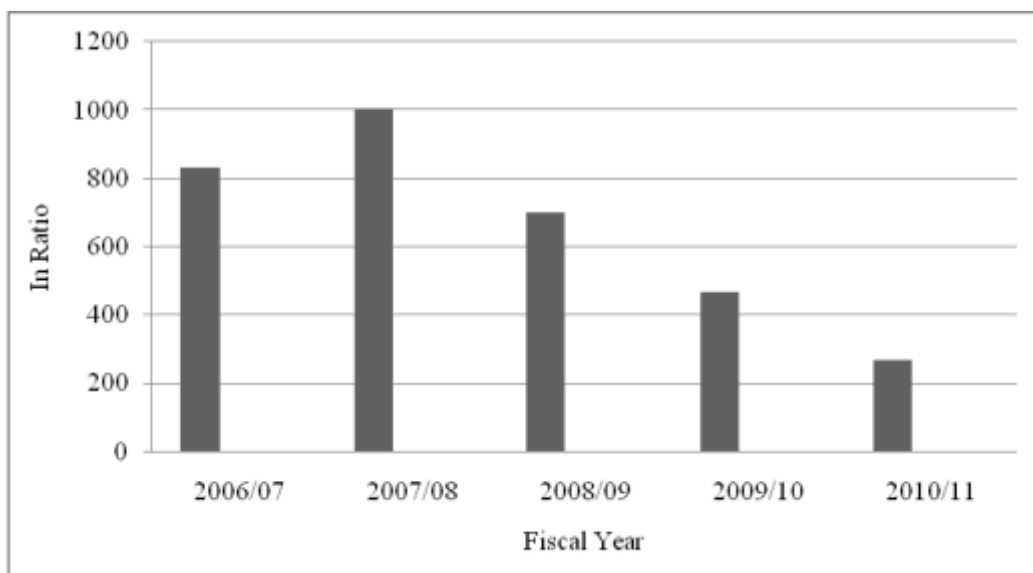
Fiscal Year	Closing MPS	Cash Dividend(Rs)	Stock Dividend (%)	Total Dividend	EPS	P/E Ratio
2006/07	830	1.05	21.05	212.6025	22.70	36.56
2007/08	1005	0.53	10.53	74.24	16.35	61.47
2008/09	700	0.55	10.58	50.0644	22.04	31.76
2009/10	468	12.00	12.00	43.92	24.24	19.31
2010/11	266	0.44	8.44	224.944	15.67	16.98

Source: Annual Report of KBL

- Value of Stock Dividend = Dividend % × Next year closing MPS.
- Total Dividend = Cash Dividend Per Share + Stock Dividend Per Share
- Value of Stock Dividend of year 2010/11 = Dividend % × Same year MPS

The above table depicts, that there is regular payment of cash and stock dividend by KBL. The highest total dividend is paid in year 2010/11 and lowest is in 2009/10. Moreover, the P/E ratio of KBL is maximum in year 2007/08 and less in year 2010/11 The closing MPS of KBL is maximum of Rs 1005 in year 2007/08 and minimum of Rs 266 in year 2010/11 respectively.

Figure 4.1
Price Movement of Common Stock of KBL



The above figure shows, the closing MPS of stock of KBL which is increasing till year 2007/08. The highest MPS is in year 2007/08 and lowest in year 2010/11. Therefore, the highest dividend is paid in year 2006/07 which is 212.6025 and lowest in year 2009/10 i.e. 43.92. It has highest fluctuating in year 2010/11 at all.

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

Table 4.2

Expected Return, SD and CV of Common Stock of KBL

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{P_t - P_{t-1} + D_t}{P_t - 1}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2006/07	830	212.60	1.3535	1.1174	1.2486
2007/08	1005	74.24	0.003	0.0642	0.0041
2008/09	700	50.06	-0.2537	-0.4898	0.2399
2009/10	468	43.92	-0.2687	-0.5048	0.2548

0					
2010/11	266	224.94	0.0490	-0.1871	0.0350
1			1.1804		1.7824

Where,

$$\text{ExpectedReturn}(\bar{R}_j) = \frac{\sum R_j}{n} = \frac{1.1804}{5} = 0.2361$$

$$\text{Variance}(\sigma_j)^2 = \frac{\sum (R_j - \bar{R}_j)^2}{n-1} = \frac{1.7824}{5-1} = 0.4456$$

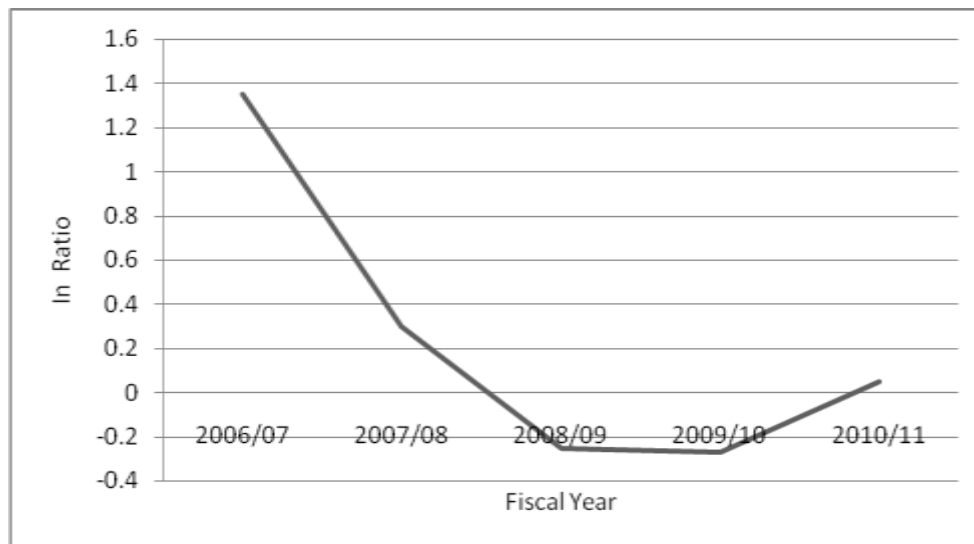
$$\text{StandardDeviation}(\sigma_j) = \sqrt{\frac{\sum (R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{1.7824}{5-1}} = 0.6675$$

$$\text{Coefficient of Variation (C.V.)} = \frac{\sigma_j}{R_j} = \frac{0.6675}{0.2361} = 2.8272$$

The expected return of KBL is 0.2361 with total risk (measured by S.D) of 0.6675. The CV of KBL is 2.8272 which denote that to get per unit return 2.8272 risk must be sacrificed. So, higher the CV higher will be the risk.

Figure 4.2

Annual Return of Common Stock of KBL



The above line figure represents the annual return of common stock of KBL. The figure 4.2 shows that there is positive return of KBL from year 2006/07 to

2007/08 and negative return from 2008/09 to 2009/10. The highest return is in the year 2006/07 i.e 1.3535 respectively.

4.1.2 Everest Bank Limited (EBL)

Everest Bank Ltd. was established in 1994 as a joint venture Bank with Punjab National Bank Ltd. (India) with the objective of extending professionalized banking services to various section of society in the kingdom of Nepal and there by contribute in the economic development of the country. The bank is providing costumer friendly service through a network of 48 branches. It has authorized capital, issued capital and paid-up capital of Rs. 2,000,000,000, 1,281,406,500 and 1,751,126,000 respectively. The par value of share is Rs 100.00. The bank was listed in NEPSE in 1905 A.D.

4.1.2.1 Analysis of Total Dividend

Table 4.3

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

Fiscal Year	Closing MPS	Cash Dividend (%)	Stock Dividend (%)	Total Dividend	EPS	P/E Ratio
2006/07	2430	10	30	949.6	78.39	31
2007/08	3132	20	30	756.5	91.82	34.11
2008/09	2455	30	30	519	100	24.55
2009/10	1630	30	30	358.2	100.18	16.27
2010/11	1094	50	10	159.4	83.19	13.15

Sources: Annual Report of EBL

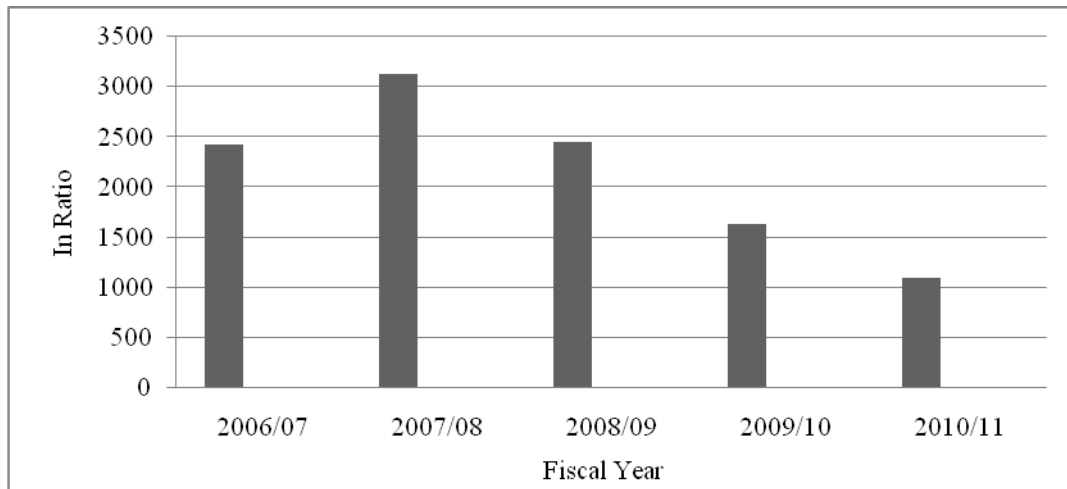
- Value of Stock Dividend = Dividend % × Next Year Closing MPS.
- Total Dividend = Cash Dividend Per Share + Stock Dividend Per Share
- Value of Stock, Dividend for the year 2010/11 = Dividend % × Same Years MPS.

The table shows that, EBL is paying cash and stock dividend. Highest total dividend is paid in the year 2006/07 that is 949.6 and lowest in the year 2010/11. P/E ratio of EBL is maximum in the year 2008/09 and minimum in

the year 2010/11. The closing MPS of EBL is maximum of Rs 3132 in year 2007/08 and minimum of Rs. 1094 in the year 2010/11 respectively.

Figure 4.3

Price Movement of the Common Stock of EBL



The table 4.3 shows that the closing MPS of stock EBL is increasing during that fiscal year 2006/07 till 2007/08. It is highest fiscal Year 2007/08 and lowest in Fiscal year 2010/11. The total highest dividend in Fiscal year 2006/07, lowest in Fiscal year 2010/11.

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

Table 4.4

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

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2006/07	2430	949.6	1.4508	1.1349	1.2879
2007/08	3132	756.5	0.6002	0.2843	0.0808
2008/09	2455	519	-0.0504	-0.3663	0.1342
2009/10	1630	358.2	-0.1901	-0.506	0.2560
2010/11	1094	159.4	-0.2310	-0.5469	0.2991
			1.5795		2.058

Where,

$$\text{ExpectedReturn}(\bar{R}_j) = \frac{\sum R_j}{n} = \frac{1.5795}{5} = 0.3159$$

$$\text{Variance}(\sigma_j)^2 = \frac{\sum (R_j - \bar{R}_j)^2}{n-1} = \frac{2.058}{5-1} = 0.5145$$

$$\text{StandardDeviation}(\sigma_j) = \sqrt{\frac{\sum (R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{2.058}{5-1}} = 0.7173$$

$$\text{Coefficient of Variation (C.V.)} = \frac{\sigma_j}{\bar{R}_j} = \frac{0.7173}{0.3159} = 2.2707$$

The expected return of EBL is 0.3159 with total risk (measured by S.D.) of 0.7173. The C.V. of EBL is 2.2707 which denotes that to get per unit return 2.2707 risk must be sacrificed. So, higher the C.V. higher will be the risk.

Figure 4.4

Annual Return of Common Stock of EBL

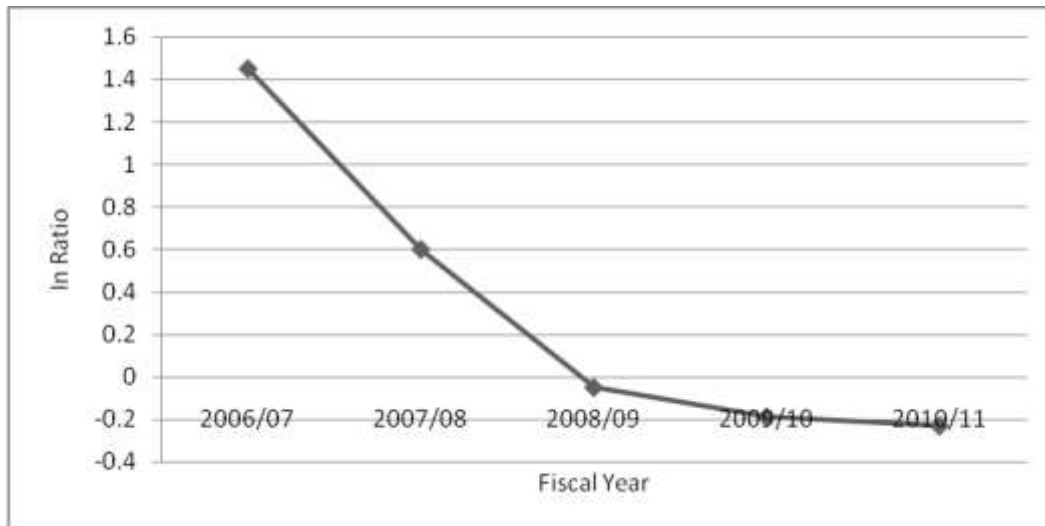


Figure 4.4 shows that the return of EBL is Positive in the fiscal year 2006/07 and 2007/08 and negative the fiscal year 2008/09, 2009/10 and 2010/11. There is highest return of 1.4508 in year 2006/07, lowest return of 0.6002 in year 2007/08 and negative return of -0.054, -0.1901 and -0.2310 in year 2008/09, 2009/10 and 2010/11 respectively. There is fluctuation of return.

4.2 Inter Sampled Bank Comparison

According to the result from analysis part, a comparative analysis of return, total risk and risk unit performed here. Expected turn standard deviation of return and coefficient of variation of each bank for the year 2006/07 to 2010/11 are given in the table.

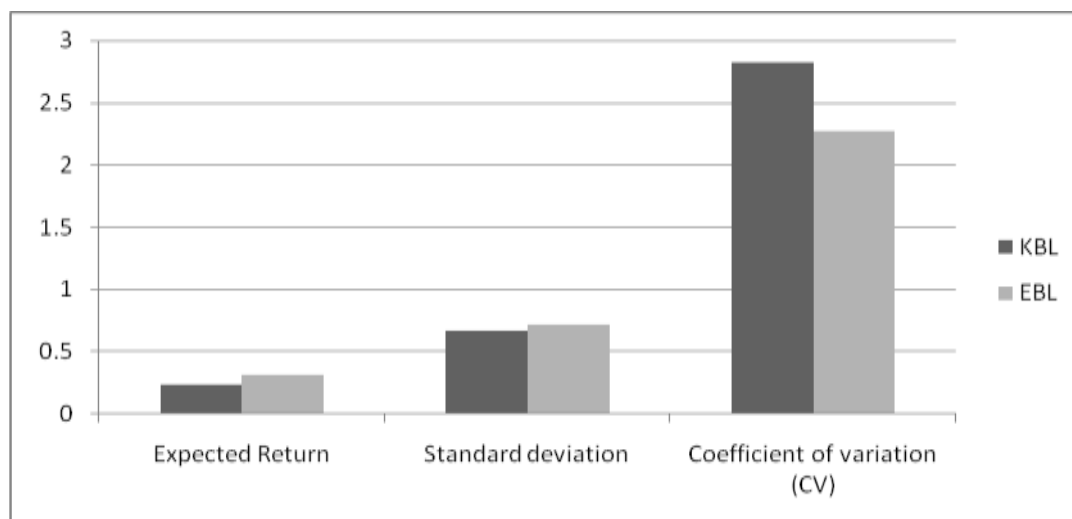
Table 4.5

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

Bank	Expected Return (\bar{R}_j)	Standard Deviation (σ)	Coefficient of Variation (C.V.)	Remarks		
				Return	Risk	C.V.
KBL	0.2361	0.6675	2.8272	Lowest	Lowest	Highest
EBL	0.3159	0.7173	2.2707	Highest	Highest	Lowest

The above depicts, the overall return and risk of the both banks. The return of EBL is higher i.e. 0.3159 then that of KBL i.e. 0.2361. The total risk measured by standard deviation is observed higher in EBL than KBL. Therefore, the total risk is very high in KBL then EBL. Investment should be done in EBL because it has less C.V. than of KBL.

Figure 4.5
Expected Return, S.D. and C.V. of Sampled Cash Commenced Bank



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

4.3 Market Capitalization

On the basis of market capitalization at the end of 2010/11 size of each bank is presented in table 4.6 that KBL has high market capitalization with 3154.33 million then EBL with 6988.69 million among these two companies at 2010/11. So EBL is the biggest and KBL is the smallest company on the basis of market capitalization. The table 4.6 shows that the comparative proportion of the market capitalization of listed two banks.

Table 4.6

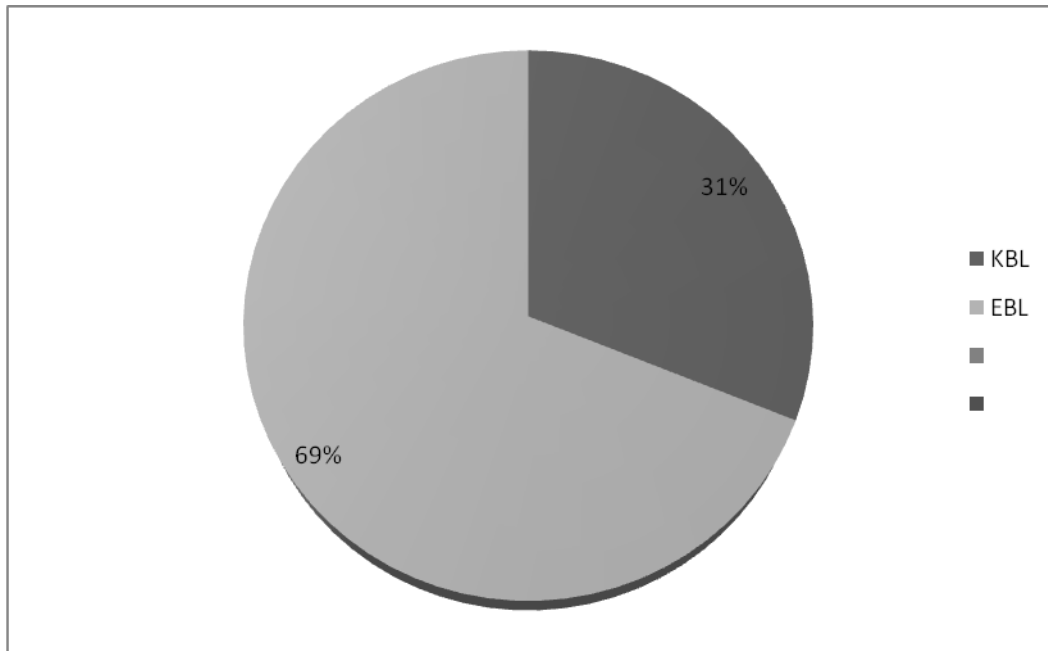
Market Capitalization of Listed Bank at May 15, 2011

Bank	Market Capitalization	Percentage
KBL	3154.33	31.10
EBL	6988.69	68.90
Total	10,143.02	100.00%

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

Figure 4.6

Comparative Proportion of Market Capitalization of Listed Commercial Bank



4.4 Comparison with Market

4.4.1 Market Risk and Return Analysis

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

Table 4.7

Calculation of Return, SD and CV of Overall Market

Fiscal Year	NEPSE Index	$R_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2006/07	683.95	0.7681	0.6978	0.4869
2007/08	963.36	0.4085	0.3382	0.1144
2008/09	749.10	-0.2224	-0.2927	0.0857
2009/10	477.43	-0.3627	-0.433	0.1875
2010/11	362.9	-0.2399	-0.3102	0.0962
		0.3516		0.9707

Where,

$$\text{ExpectedReturn}(\bar{R}_m) = \frac{\sum R_j}{n} = \frac{0.3516}{5} = 0.0703$$

$$\text{Variance}(\sigma_m)^2 = \frac{\sum (R_j - \bar{R}_j)^2}{n-1} = \frac{0.9707}{5-1} = 0.2427$$

$$\text{StandardDeviation}(\sigma_m) = \sqrt{\frac{\sum (R_m - \bar{R}_m)^2}{n-1}} = \sqrt{\frac{0.9707}{5-1}} = 0.4926$$

$$\text{Coefficient of Variation (C.V.)} = \frac{\sigma_j}{R_m} = \frac{0.4926}{0.0703} = 7.0071$$

The above table shows the return of market in several years. There is the highest return in market in the year 2006/07 i.e. 0.7681 there is lowest return of market in year 2007/08. The expected return of the market is 0.0703 with the total risk (measured by S.D) of 0.4926. CV of market is 7.0071 which means 7.0071 risk must be sacrificed to get per unit market return.

4.4.2 Market Sensitivity Analysis

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

said to be systematic portion of the risk beta coefficient of systematic risk, which eliminated through the means of diversification.

Table 4.8

Beta Coefficient of the Common Stock of KBL

Fiscal Year	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m) (R_j - \bar{R}_j)$
2006/07	0.6978	1.1174	0.7797
2007/08	0.3382	0.0642	0.0217
2008/09	-0.2927	-0.4898	0.1434
2009/10	-0.433	-0.5048	0.2185
2010/11	-0.3102	-0.1871	0.0580
			1.2213

We have,

$$Cov(R_m, R_j) = \frac{\sum(R_m - \bar{R}_m)(R_j - \bar{R}_j)}{n-1} = \frac{1.2213}{5-1} = 0.3053$$

Again,

$$\beta_j = \frac{Cov(R_m, R_j)}{\sigma_m^2} = \frac{0.3053}{0.2427} = 1.2579$$

Where,

\bar{R}_m = Expected Return of Market

\bar{R}_j = Expected Return of Stock KBL

R_m = Return of Market

R_j = Return of Stock KBL

σ_m^2 = Variance of Market

n = Number of Observation

Hence, the beta coefficient of KBL is 1.2579 which is greater than 1 therefore, only risk taker investor can invest in this type of investment. It is a risky investment.

Table 4.9

Beta Coefficient of the Common Stock of EBL

Fiscal Year	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m) (R_j - \bar{R}_j)$
2006/07	0.6978	1.1349	0.7919
2007/08	0.3382	0.2843	0.0962
2008/09	-0.2927	-0.3663	0.1072
2009/10	-0.433	-0.506	0.2191
2010/11	-0.3102	-0.5469	0.1696
			1.384

We have,

$$\text{Cov}(R_m, R_j) = \frac{\sum(R_m - \bar{R}_m)(R_j - \bar{R}_j)}{n-1} = \frac{1.384}{5-1} = 0.346$$

Again,

$$\beta_j = \frac{\text{Cov}(R_m, R_j)}{\sigma_m^2} = \frac{0.346}{0.2427} = 1.4256$$

Where,

n = Number of Observation

σ_m^2 = Variance of Market

R_j = Return of Stock EBL

R_m = Return of Market

\bar{R}_j = Expected Return of Stock EBL

\bar{R}_m = Expected Return of Market

Hence, the beta coefficient of EBL is 1.4256 which is more than 1. The company which has got more than 1 is very much volatile and aggressive investors can purchase this type of investment. From the side of investment, it is risky investment.

Table 4.10

Beta Coefficient of Two Bank

Banks	Beta Coefficient	Remarks
KBL	1.2579	Least Aggressive
EBL	1.4256	Most Aggressive

The above table depicts the beta coefficient of two banks KBL and EBL. In other words, KBL has beta coefficient of 1.2579 which is lower than EBL i.e. 1.4256. Therefore, EBL seems to be aggressive than that of KBL respectively.

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

CAPM is model that assumes stock's required rate of return is equal to the risk free rate Plus it's risk premium where risk is measured by the Beta coefficient. Beta coefficient plays a vital role in CAPM approach. If the required rate of return is greater than expected of return, the stock is said to be over priced and investors tend to sell this type of stock. For this analysis the risk free rate of return is needed which is taken from the interest rate of Treasury bill issued by NRB. NRB issued Treasury bill 364 days duration Treasury bill rate of rate is taken as a weighted average Treasury bill rate from economic bulletin (2010/11) Nepal Rastra Bank.

Table 4.11

Required Rate of Return, Expected Return and Price Evaluation

Bank	R _f	E(R _m)	Beta (β _j)	E(R _j)= R _f + [E(R _m)- R _f]β _j	(R̄ _j)	Price Evaluation
KBL	0.0785	0.0703	1.2579	0.0669	0.2361	Under Priced
EBL	0.0785	0.0703	1.4256	0.0647	0.3159	Under Priced

Where,

R_f= Risk free rate of return (0.0785)

E (R_m)= Market rate or return (0.0703)

(R_j)= Expected rate or return

β_j= Beta or individual sample banks.

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

From the above table we known that expected return is greater than required rate of return so the both banks are underpriced. It shows that all the banks have stock with good investment opportunity and all the stocks in demand.

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

4.5 Portfolio Analysis

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

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

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

4.5.1 Analysis of Risk Diversification

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

Table 4.12

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

Fiscal Year	$(R_A - \bar{R}_A)$	$(R_B - \bar{R}_B)$	$(R_A - \bar{R}_A) (R_B - \bar{R}_B)$
2006/07	1.1174	1.1349	1.2681
2007/08	0.0642	0.2843	0.0183
2008/09	-0.4898	-0.3663	0.1794
2009/10	-0.5048	-0.506	0.2554
2010/11	-0.1871	-0.5469	0.1023
			1.8235

$$\text{Cov}(R_A, R_B) = \frac{\sum(R_A - \bar{R}_A)(R_B - \bar{R}_B)}{n - 1} = \frac{1.8235}{5 - 1} = 0.4559$$

Where,

n = Number of Observation

R_A = Return of Stock KBL

R_B = Return of Stock EBL

\bar{R}_A = Expected Return of Stock KBL

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

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

Σ = Summation

Table 4.13

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

Bank	S.D. of Stock	Expected Return of Stock
KBL	0.6675	0.2361
EBL	0.7173	0.3159

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

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

$$W_B = 1 - W_A$$

Where,

W_A = Optimal weight to invest in stock of KBL.

W_B = Optimal weight to invest in stock of EBL.

σ_A^2 = Variance of KBL

σ_B^2 = Variance of EBL

$$W_A = \frac{0.5145 - 0.4559}{0.4456 + 0.5145 - 2 \times 0.4559} = 1.2133$$

$$W_B = 1 - 1.2133$$

$$= -0.2133$$

As we know that the proportion of stock in the portfolio is constructed with 1.2133 of KBL and -0.2133 of EBL common stock that will minimize risk and ideal proportion in the above proportion, equity shareholders communize risk to maximum return.

Portfolio Return

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

$$\begin{aligned} \text{Expected Return on portfolio E } (R_P) &= W_A \times E(R_A) + W_B \times E(R_B) \\ &= 1.2133 \times 0.2361 + (-0.2133) \times 0.3159 \\ &= 0.2865 - 0.0674 \\ &= 0.2194 \text{ or } 21.94\% \end{aligned}$$

Where,

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

$E(R_A)$ = Expected return of KBL

$E(R_B)$ = Expected return EBL

Portfolio Risk

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

$$\begin{aligned}\sigma_P &= \sqrt{W_A^2 \times \sigma_A^2 + W_B^2 \times \sigma_B^2 + 2COV_{AB} \times W_A \times W_B} \\ &= \sqrt{(1.2133)} \\ &= \sqrt{0.00378 \times 1.3799 + 1.255 \times 0.4050 + (-0.0772)} \\ &= \sqrt{0.0051 + 0.4558 - 0.0772} \\ &= \sqrt{0.3837} \\ &= 0.6194 \\ &= 61.94\end{aligned}$$

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

Table 4.14
Portfolio Risk and Return

Bank	$E(R_P)$	σ_P	Remarks	
			Return	Risk
KBL and EBL	21.94	62.98	Low	High

4.6 Correlation between Banks and Market

Two variables are correlated when they are related that the change in the value of one variable is accompanied by change in the value of other. Correlation

may be positive or negative. If return on two securities is positively correlated then risk cannot be reduced.

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

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

Table 4.15
Correlation Matrix

Sample	KBL	EBL	Market
KBL	1	0.9522	0.9288
EBL		1	0.9793
Market			1

Sources: Appendix IV, V and VI.

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

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

4.7 Systematic Risk and Unsystematic Risk

4.7.1 Systematic Risk

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

$$SR = \frac{COV(R_m, R_j)}{\sigma_m}$$

Where,

SR = Systematic Risk

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

σ_m = S.D. of Market

4.7.2 Unsystematic Risk

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

USR = Total Risk – SR

$$\sigma_j - SR$$

Where,

USR = Unsystematic Risk

SR = Systematic Risk

σ_j = S.D. of Stock of Sample Bank

4.7.3 Systematic Risk and Unsystematic Risk of KBL with market

$$SR = \frac{COV(R_m, R_j)}{\sigma_m} = \frac{0.3054}{0.4926} = 0.6199$$

$$USR = \sigma_j - SR$$

$$= 0.6675 - 0.6199$$

$$= 0.0476$$

4.7.3.1 Proportion of Systematic and Unsystematic Risk

$$\text{Proportion of SR} = \frac{SR}{TR} = \frac{0.6199}{0.6675} = 0.9287 \text{ or } 92.87\%$$

$$\text{Proportion of USR} = \frac{USR}{TR} = \frac{0.0476}{0.6675} = 0.0713 \text{ or } 7.13\%$$

Out of total risk in stock of KBL, 92.87 undiversifiable risk and crate from systematic factor or market factor and the remaining 7.13 diversifiable risk and created from company related factor.

4.7.4 Systematic and Unsystematic Risk of EBL with Market

$$SR = \frac{COV(R_m, R_j)}{\sigma_m} = \frac{0.346}{0.4926} = 0.7024$$

$$\begin{aligned} USR &= \sigma_j - SR \\ &= 0.7173 - 0.7024 \\ &= 0.0149 \end{aligned}$$

Where,

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

σ_j = S.D. of EBL

4.7.4.1 Proportion of Systematic and Unsystematic Risk

$$\text{Proportion of SR} = \frac{SR}{TR} = \frac{0.7024}{0.7173} = 0.9792 \text{ or } 97.92\%$$

$$\text{Proportion of USR} = \frac{USR}{TR} = \frac{0.0149}{0.7173} = 0.0208 \text{ or } 2.08\%$$

Out of total risk in stock of EBL, 97.92% is undiversifiable risk and created from systematic factor or market factor and the remaining 2.08 is diversifiable risk and created from company related factor.

Table 4.16

Proportion of SR and USR

Bank	SR	USR
-------------	-----------	------------

KBL	92.87%	7.13%
EBL	97.92%	2.08%

4.8 Testing of Hypothesis

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

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

For KBL

Sample Size (n_1) = 5 year

Expected Return (R_j) = 0.2361

Standard Deviation (S_1) = 0.6675

For Market

Sample Size (n_2) = 5 year

Expected Return (R_m) = 0.0703

Standard Deviation (S_2) = 0.4926

Null Hypothesis (H_0)

$\bar{R}_j = \bar{R}_m$ i.e. there is no significant difference between the expected return of KBL and overall market return.

Alternative Hypothesis (H_1)

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

The test statistics (t) is:

$$t = \frac{\bar{R}_j - \bar{R}_m}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

\bar{R}_j = Expected return of C.S. of KBL bank = 0.2361

\bar{R}_m = Expected return of market = 0.0703

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

$S_2 =$ Estimated variance of population

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

$$S^2 = \frac{(5 - 1)(0.6675)^2 + (5 - 1)(0.4926)^2}{5 + 5 - 1}$$

$$S^2 = 0.3442$$

Where,

$S_1^2 =$ Variance of C.S. of KBL Banks

$S_2^2 =$ Variance of Market Return

Hence,

$$t = \frac{0.2361 - 0.0703}{0.3442 \left(\frac{1}{5} + \frac{1}{5} \right)} = 0.4468$$

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

Level of Significant = 5%

The tabulated value at 5% level of significance and 8 degree of freedom is 2.306

Decision

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

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

For EBLSample Size (n_1) = 5 yearExpected Return (\bar{R}_j) = 0.3159Standard Deviation (S_1) = 0.7173**For Market**Sample Size (n_2) = 5 yearExpected Return (\bar{R}_m) = 0.0703Standard Deviation(S_2) = 0.4926**Null Hypothesis (H_0)**

$\bar{R}_j = \bar{R}_m$ i.e. there is no significance different between the expected return of EBL and overall market return.

Alternative Hypothesis (H_1)

$\bar{R}_j \neq \bar{R}_m$ i.e. there is significance different between the expected return of EBL and overall market return.

The test statistics (t) is:

$$t = \frac{\bar{R}_j - \bar{R}_m}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

\bar{R}_j = Expected return of C.S. of EBL bank = 0.3159

\bar{R}_m = Expected return of market = 0.0703

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

S_2 = Estimated variance of population

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

$$S^2 = \frac{(5 - 1)(0.7173)^2 + (5 - 1)(0.4926)^2}{5 + 5 - 1}$$

$$S^2 = 0.3786$$

$S_1^2 = \text{Variance of C.S. of EBL Banks}$

$S_2^2 = \text{Variance of Market Return}$

Hence,

$$t = \frac{0.3159 - 0.0703}{0.3786 \left(\frac{1}{5} + \frac{1}{5} \right)}$$

$$= 0.6310$$

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

Level of Significant = 5%

The tabulated value t at 5% level of significance and 8 degree of freedom is 2.306.

Decision

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

4.9 Major Finding of the Study

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

- The return is the income received on a stock investment, which is usually expressed in percentage. Expected return on common stock of EBL is maximum (3159%) & similarly expected return of C.S. of KBL is 23.61% respectively.

- Risk is measured in terms of standard deviation. On the basis of SD, common of EBL is more risky since it has S.D. i.e. 0.7173 C.S. of KBL is low S.D. of 0.6675 on other hand we know that C.V. is more rational basis of investment decision, which measures the risk per unit of return. On the basis of C.V., C.S. of EBL is best than KBL banks. EBL has 0.2707 unit of risk per 1 unit of return. But C.S. of KBL has the high risk per unit return i.e. 2.8272.
- Beta coefficient explains the sensitivity or volatility of the stock with market. Higher the beta higher the volatility in the contest, common stock of EBL is most volatile i.e. β 1.4256 and common stock of KBL is least volatile i.e. β 1.2579. We find EBL have more aggressive type of common stock than KBL. KBL with lowest beta among two bank's common stock.
- One of the main significance of beta is in capital asset pricing model (CAPM). Comparison between expected rate of return and required rate of return identify whether the stock is overpriced or under priced. If the required rate of return the stock is overpriced and vice-versa. This study show that all the stock of commercial bank, which are analyzed are under priced. That means their stock value will increase in a near future. All the stocks are in demand. So, investor can buy the common stock of any bank.
- The portfolio risk and return between KBL and EBL is very gap. Portfolio return is 21.94, and portfolio risk 62.98 respectively.
- Since the entire bank has positive correlation so bank doesn't reduce any unsystematic risk. Among them, KBL and EBL have lower correlation, so it can be favorable for the investors.
- Systematic risk cannot be diversified through creation of portfolio. It is occurred due to market factor. Unsystematic risk can be diversified through creation of portfolio. It is occurred due to internal management factor. This study that KBL has high unsystematic risk 7.13% and EBL has low proportion of unsystematic risk i.e. 2.08% and which can be

minimized from the internal management. Whereas KBL and EBL has high proportion of systematic risk i.e. 97.87% and 97.92%. This cannot be minimized from the internal management. C.S. of KBL is best among these bank due to it's highest proportion of unsystematic risk.

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

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

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

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

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

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

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

The main objective of the study is to analyze the risk and return of commercial banks. Only 32 commercial banks are operation in Nepal. Among the listed commercial banks, only 2 banks KBL and EBL bank are taken as reference to analyze the risk and return. While analyzing the risk and return, research variables and tools namely expected return, required rate of return, standard deviation, coefficient of variance, coefficient of correlation have been used for the analysis and interpretation of the data which are employed in this research as secondary in nature.

5.2 Conclusion

Most of the people consider stock market investment as a investment as a black and that they have unrealistically optimistic expectations about stock market investment or perhaps a fear of the unknown. This study enables investors to put the return they can expect and the risks they may take into the better perspective. We knew that Nepalese market is in effect of openness and

liberalization in national. But Nepalese investors cannot analyze the securities as well as market properly because of the lack of information and poor knowledge about the analysis of securities for investment.

The study made on risk and return analysis of common stocks of listed commercial banks is based on primary as well as secondary data from fiscal year 2006/07 to 2010/11. In this study, expected rate of return of EBL bank's stock is highest i.e. 31.59%. Likewise in terms of standard deviation of EBL has the highest risk i.e. 71.73%. But, generally standard deviation is not used to determining risk, as there may be different expected return. Therefore, the coefficient of variance is considered as the best mechanism to measure the risk. On the basis of coefficient of variation, KBL bank's stock seems to be the most risky with 2.8272. On the other hand, it is found that the required rates of return of all the sampled banks have lower than its expected rate of return. It means that all the sample institutions' stocks are underpriced. Similarly, the study made to analyze the diversifiable and undiversifiable risk reflects that all the samples stock have less systematic risk and such risk cannot be diversified or minimized. More specifically, the investors demand additional reward to compensate such risk. The systematic risk is less than one in all sampled banks so we can say that these stocks are defensive stocks. The relation between EPS and MPS of all the sampled institutions goes positively. Theory suggests that when EPS increases, then MPS should also increases. EBL and KBL banks are able to follow this theory in practically because EPS and MPS of these banks both are increasing in every fiscal year.

5.3 Recommendations

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

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

- Investors must consider on the risk factors before making and investment if they want to get maximum benefit from the investment. The coefficient of variation is considered the best tool for relative measurement of risk. On the basis of C.V., KBL bank's stock is the riskiest one for the investment because its CV is 2.8272. Whereas the EBL has lowest CV i.e.2.2707 so, its stock has low risk. Hence, it is recommended that the stock of EBL is the best for investment.
- Beta coefficient measures the sensitivity of the stock with market. Higher the beta greater the volatility. The beta of market should always equal to 1. Stock having beta coefficient more than 1 is more risky than the market. If an investor is aggressive of risk taker, he/she can invest having beta of more than 1. Stock having beta coefficient less than 1 is less risky than the market. Risk averter investor can invest in that type of common stock. But all the sampled banks have beta coefficient of more than 1 so, it is recommended that the investor could not select any of the bank's stock according to their investment desire.
- The stocks having more systematic risk have high sensitivity as such type of risk cannot be minimized. So, the investors have to consider the adequate compensation for the acceptance of risk. It is clear from the study the systematic risk of EBL's is greater than KBL stock. Therefore, it is recommended that the investor had better investment in stock, as it is not highly risky.
- The investors have to buy those stocks during the time of under valuation and they have to sell the stocks at the time of overvaluation. It is found from the study that all the banks' stock is undervalued as the required rate of return of all banks are lower than the expected rate of return. So it is recommended to the investors to buy all sample banks' stocks.

- The positive relation between EPS and MPS shows the better performance of the company. So, on the basis of the relation between EPS and MPS, it is recommended that the stock of KBL and EBL bank is better for investment.
- The companies concerned must focus on decreasing systematic and unsystematic risk as it effects their business.
- Financial information must be published regularly so that existing as well as prospective investors are informed about the changes that take place.
- Investors can also evaluate the risk of the concerned companies by its beta. If the beta is greater than 1 it can be concluded that the company is risky. Risk averts investors must invest in companies having bets less than 1 where as risk taker can invest in companies having beta more than 1.
- Banking and financial sector seems to dominate our stock market due to which investors are also focused towards it which needs to be changed and participation of other sector must also be increased for overall development.
- Over the center (OTC) market should be establish so that the securities once de-listed from the NEPSE can be traded in the over the center market. As result investors donate have to lose liquidity when the stock exchange de- lists the security.
- Financial investment in Nepalese context has still been new phenomenon due to the lack of enough knowledge and awareness about it. So, effective programs in radio/Fm/T.V should be conducted. Small or large types of seminars should be organized to increase awareness among the general people.
- Government needs to amend the rules and a regulations regarding stock market in time to time and make the policies that protects the individual's investor's right. And also to follow up the implementations of rules and regulations and to make sure the objectives are achieved. On that regard, HMG needs to monitors and make active all the implements the rules and

regulation strictly otherwise it will be meaningless. The political issue of country is another problem. This affects the economy of the nation adversely.

Currently, the industry and share market is in declining trend and it will completely finish if the present political problem follow up.

- The corporate firm should communicate the real financial statements. Value of assets and liabilities should not be manipulated to report the under or over profitability. Every decision of the corporate should be made to maximize the value of the firm and per share.
- NEPSE needs to initiate to develop different programs for private investors such as investor's meeting and seminars in different subject matters like "Trading Rules and Regulations" etc. It needs to establish efficient and effective information's channel and to provide up to data.

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Websites:

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www.kblbankltd.com

www.nepalstock.com

www.nrb.com.org

APPENDICES

Appendix - I

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

2006/07	1.05	+	21	×	830	212
2007/08	0.53	+	10	×	1005	74
2008/09	0.55	+	10	×	700	50
2009/10	12	+	12	×	468	43
2010/11	0.44	+	8	×	266	224

Value of stock Dividend for the Year 2010/11 = Dividend % × Same Year MPS

Appendix-II

Calculation of Total Dividend

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

2006/07	10	+	30	×	2430	949
2007/08	20	+	30	×	3132	756
2008/09	30	+	30	×	2455	519
2009/10	30	+	30	×	1630	358
2010/11	50	+	10	×	1094	159

Appendix-III

Calculation of correlation between KBL(A) and EBL (B) Bank

$(R_A - \bar{R}_A)$	$(R_B - \bar{R}_B)$	$(R_A - \bar{R}_A)(R_B - \bar{R}_B)$
1.1174	1.1349	1.2681
0.0642	0.2843	0.0183
-0.4898	-0.3663	0.1794
-0.5048	-0.506	0.2554
-0.1871	-0.5469	0.1023
		$(R_A - \bar{R}_A)(R_B - \bar{R}_B) = 1.8235$

Here,

R_A = Return on Kumari Bank Limited

R_B = Return on Everest Bank Limited

Now,

$$Cov(R_A, R_B) = \frac{\sum(R_A - \bar{R}_A)(R_B - \bar{R}_B)}{n-1} = \frac{1.8235}{5-1} = 0.4559$$

And

$$\beta_{AB} = \frac{Cov(R_A, R_B)}{\sigma_A \times \sigma_B} = \frac{0.4559}{0.6675 \times 0.7173} = 0.9522$$

Appedix-IV

Calculation of Correlation between Stock of KBL and Market

Fiscal Year	$(R_A - \bar{R}_A)$	$(R_m - \bar{R}_m)$	$(R_A - \bar{R}_A)(R_m - \bar{R}_m)$
2006/07	1.1174	0.6978	0.7797
2007/08	0.0642	0.3382	0.0217
2008/09	-0.4898	-0.2927	0.1434
2009/10	-0.5048	-0.433	0.2186
2010/11	-0.1871	-0.3102	0.0580
			$\Sigma(R_m - \bar{R}_m)(R_A - \bar{R}_A) = 1.2214$

Now,

$$Cov(R_m, R_A) = \frac{\Sigma(R_m - \bar{R}_m)(R_A - \bar{R}_A)}{n-1} = \frac{1.2214}{5-1} = 0.3054$$

And

$$\beta_{AM} = \frac{Cov(R_A, R_m)}{\sigma_A \times \sigma_m} = \frac{0.3054}{0.6675 \times 0.4926} = 0.9288$$

Appendix-V

Calculation of Correlation between Stock of Everest (B) and Market (M)

Fiscal Year	$(R_B - \bar{R}_B)$	$(R_m - \bar{R}_m)$	$(R_B - \bar{R}_B)(R_m - \bar{R}_m)$
2006/07	1.1349	0.6978	0.7919
2007/08	0.2843	0.3382	0.0962
2008/09	-0.3663	-0.2927	0.1072
2009/10	-0.506	-0.433	0.2191
2010/11	-0.5469	-0.3102	0.1696
			$\Sigma(R_m - \bar{R}_m)(R_B - \bar{R}_B) = 1.384$

Now,

$$Cov(R_B, R_M) = \frac{\Sigma(R_B - \bar{R}_B)(R_M - \bar{R}_M)}{n-1} = \frac{1.384}{5} = 0.346$$

And

$$\beta_{BM} = \frac{Cov(R_B, R_m)}{\sigma_B \times \sigma_m} = \frac{0.346}{0.7173 \times 0.4926} = 0.9793$$