CHAPTER - 1

INTRODUCTION

1.1 General Background of the Study

Common stockholders of a company are its ultimate owners. Collectively they own the company and it is assumed that ultimate risk is associated with ownership. So the common stock is risky security. But what is risky? Risk is like pornography. It's hard to define, but you know it when you see it. Investor invests in common stock for higher return. But their expected return may or may not change in realities. This uncertainty is major risk to investors in stock market investment.

The return is income received on an investment, which is expressed as dividend, plus any change in market price of share and usually expressed in percent. Both market price of share and dividend are uncertain figures. So, the actual figure of return on investment in common stock may differ substantially from the expected return. The greater the variability, the riskier the security is said to be. The market price of share of a company is driven both by fundamental business values and stock market sentiment. For a given business, it is always worth attempting to identify which of those is driving its share price.

Generally investors are risk averse. They always seek higher return for more risk as risk premium. So the primary problem of investment is to identify the security, which has low risk and high return. Although, return cannot be increased substantially, risk can be reduced by diversification can eliminate the unsystematic risk, which is not explained by general market movement. Systematic risk, which is associated with change in return on the market as a whole, cannot be avoided with change in return on the market as a whole, cannot be avoided by the diversification.

In Nepalese context, the institutional set up of securities market began along with the securities exchange center (now Nepal Stock Exchange Ltd.) in 1976. In spite of

considerable development there are still more potentialities to be explored for the development of stock market in Nepal. Most of the potential investors and the shareholder public themselves are unknown or least understood about risk-return behavior of stock. Most of the Nepalese investors are finding to visit in single security due to lack of information and poor knowledge, market intermediates exploit investors. So, many investors are afraid to invest in stocks. People participation in securities investment and its dynamic trading plays a vital role in overall economic development. For this propose potential investors must be able to analyze risk and return of individual stock and portfolio as well. This will increase their confidence and ultimately increase stock investment and increase the degree of market efficiency, which is essential to spreading economic development of the nation.

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

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

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

fund on financial assets like shares, debenture, warrants, convertibles etc for the long term return.

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

Thus, risk is virtually in 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 assess it and determine whether it is worth bearing.

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

The concept of financial institution in Nepal was introduced when the first commercial bank, Nepal bank limited was established in 1973. It was established under special banking act 1936 having elementary function of commercial bank. Later in 1955 the central bank Nepal Rastriya Bank was established with an objective of supervising, protecting and directing the function of commercial banking activities. Another commercial bank fully owned by HMG/N, names as Rastriya Banijya Bank got

established in 1966. The establishment of joint venture bank gave a new horizon to the financial sector of the country. Since 1984 JV banks were established under company act and their shares were listed in Nepal stock exchange limited (NEPSE). The focus of the study is that commercial bank whose share listed in NEPSE.

Banking sector is the most dynamic part of economy, which collects unused funds and mobilizes in needed areas. It is the heart of trade, commerce and industry. In Nepalese context, commercial banks have comparatively good performance among the public limited companies. Because most of the banks are counted with in 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 collaboRatio 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 28 commercial banks.

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

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

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

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

a. Set the investment policy
b. Perform security analysis
c. Construct a portfolio
d. Revise the portfolio
e. Evaluate the performance of the portfolio

a) Set the investment policy

The initial step in setting an investment policy involves determining the investment objectives and the amount of one's investable wealth. Investment is always related with risks and returns. Making money alone cannot be an appropriate objective. It is appropriate to state that the objective is to make a lot of money by recognizing the possible losses. Therefore, investment objectives should be stated in terms of both risks and returns.

Setting a clear investment policy also involves the identification of the potential categories of financial assets for consider Ratio in the ultimate portfolio. The identification of assets depends upon many things, such as investment objectives, investable wealth, tax consider Ratios etc.

b) Perform security analysis

The second stage of an investment process involves the analysis of securities, which are identified in the previous stage of the process. The main purpose of analyzing securities is to find out the miss-priced securities.

Many approaches can be used to analyze the securities. This approach in a broad sense can be classified into two types.

a. Technical analysis
b. Fundamental analysis.

c) Construct a portfolio

Portfolio construction is the third step of our investment process. At this stage we identify assets in which to invest and what proportion of the investor's wealth to put in each one. While constructing a portfolio, the selectivity, timing and diversification need to be addressed by investor.

d) Revise the portfolio

Portfolio revision means repeating the previous three steps of the process. Over the period of time, the objectives of the investor may change and the current portfolio may no longer be optimal.

- The investor can sell some unattractive securities and introduce attractive ones to form a new optimal portfolio.
- Some securities that are initially unattractive may turn out to be attractive later and vice versa.

e) Evaluate the performance of the portfolio

The last step of the investment process is to evaluate the investment performance. The performance should be evaluated not only in terms of the returns but also the risks experienced. Evaluate the performance, appropriate measures and standard are needed.

1.2 Statement of the Problem

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

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

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

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

More specifically the research problems are:

- How can one make higher return through lower risk?
- How do they know about the magnitude of risk?
- How can investor diversify the risk?

- What are the criteria for evaluation that the common stock they are holding will give them favorable return?

1.3 Research Question:

- What is the condition of common stock in terms of Risk and Return?
- What are the stock of selected commercial banks are overpriced, under priced and equilibrium price?
- How to analyze the diversifiable and undiversifiable risk of the banks?
- What is optimum portfolio of the banks?

1.4 Objective of the Study

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

- To analyze the common stock in terms of risk and return.
- To identify whether stock of selected commercial banks are overpriced, under priced and equilibrium price.
- To construct optimum portfolio of the banks.
- To analyze the diversifiable and undiversifiable risk of the banks.

1.5 Significance of the Study

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

This research has attempted to analyze the market share of samples companies with references to their financial indicators and risk in common stock investment, which may probably provide real pictures of samples companies, to both the outstanding and

potential investors in order to take proper investment decision. Similarly, this piece of task may work as guide for future research and concerned persons.

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

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

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

1.6 Limitation of the Study

As every research has its own limitation, the study is not free from it. Some limitations of this study are as follows

- Data published from various sources differ from the figures published by NEPSE and respective commercial banks. However in this study respective banks published annual report data is taken into accounts as the basis sources of data.
- The study only focus on the analysis of risk and return associated with common stock investment of selected commercial banks. The finding on the study is based on the performance of co listed banks for the period of seven years starting from fiscal year 2002/03-2008/09
- Analysis is mostly based on the statistical and financial tools developed in the context of an efficient market condition.

1.7 Organization of the Study

This study is organized into five chapters:

Chapter one: The first chapter is introduction chapter. It consists of general background, statement of problems, objective of the study, significance of the study, focus of study, limitation of the study and organization of the study.

Chapter two: The second chapter deals with the received of literature, which consists of conceptual framework and review of relevant studies.

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

Chapter four: This chapter contains presentation and analysis of data.

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

CHAPTER – II

REVIEW OF LITERATURE

This part includes the review of previous studies, articles and conceptual framework for the related studies. More analysis is not sufficient to present real framework of the study. So, review of related materials should be dealt with to give the research a clear vision, past study and knowledge provides foundation to the present day.

Review of literature includes the following topics:

2.1 Conceptual/ Theoretical review of Books

2.2 Review from related studies

2.3 Review from journals

2.4 Review of other independence studies in Nepal

2.5 Review from thesis

2.6 Research Gap

2.1 Conceptual / Theoretical review of Books

Various books relating to theoretical aspect of risk and return are taken into consider Ratio.

2.1.1 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. (Bhalla, 1997)

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. (Bhalla, 1997)

Investment is an exchange of financial claim stocks and bonds etc. investment if the employment of funds with the rim of achieving additional income or growth in value it involves the commitment of resources that have been saved or pot away from current consumption in the hope that some benefit will occur in future. Investment involves long term commitment and waiting for a reward. (Bhalla, 1997)

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

2.1.2 Common Stock

"The study is focused on the common stock investment that's why light is thrown on it. It is sources of long term financing and an ownership security. Common stock certificates are legal documents that evidence ownership or equality in a company that is organized as a corp. Ratio, and they are also marketable financial instruments.

Common stock is recipient of the residual income of the corp. Ratio. Through the right to vote, holders of common stock have legal control of the corp. Ratio. An element of high risk is involved with common stock investment due to its low priority of claims at liquidation. When investors buy common stock they receive certificate of ownership as a proof to their being part of the company. The certificate states the number of shares purchased and their value per share". (Bhalla; 1997)

Common stock holders of a corp. Ratio are its residual owners, their claim to income and asset comes after creditors and preference share holders have been paid in full. As a result, a stockholders return on investment is less certain than the return to lender or to preference stock holder. On the other hand, the share of the common stock can be authorized either with or without per value. The par value of the stock is merely a stated figure in the corporate character and is of little economic significance. A company should not issue stock at a price less than par value because stock holders who bought stock for less than par value would be liable to creditors for the difference between the below pre price they paid and the par value. (Van Horne; 1997)

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 irRatioal and excessive price fluctuation in both directions, as most people to speculate or gamble i.e. give way to hope fear and greed.

2.1.3 The Return of Common Stock

The concept of return has different meaning to different investors. Some investors seek near term cash flows and five less value to more distant return. Such an investor might purchase the stock of other from that pays a large cash dividend.

Return better known or reward from an investment includes both current income and capital gain or loss that arises by the increase or decrease of the security price. Return is the income received on an investment plus any change in market price. Usually expressed as a percent of beginning price of the investment, the overall rate of return can be decomposed into two parts as capital appreciation and dividend. Capital appreciation is the difference between ending value and beginning value of an investment. Return is defined as the dividend yield plus the gain or loss. The relationship between different

levels of return on their relative frequencies is called a probability distribution. We could formulate a probability return over the previous period but we know that history never repeats itself exactly. Hence after analyzing relative frequencies of historical data plus the analysis for the out look for the economy and the outlook for the industry, the outlook for the firm in its industry and other factors. (Cheney and Mases, 1996)

For investors, return is considered as the main attraction to invest in a risky security as a stock (equity) accepting a varying degree of risk tolerance. "The return from holding an investment over some period says a year is simply and cash payments received due to ownership plus the change in market price dividend by the beginning price. Thus the return comes from source, income and price appreciation. (Cheney and Mases, 1996)

For common stock, we can define, one period (single period) return as:

$$\text{HPR or Simple 'R'} = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$$

Where,

R = Annual rate of return

P_t = Price of a stock at time t

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

D_t = Cash dividend received at time

Above formula can be used to determine both actual one period return (when based on historical figure) as well as expected one period return (when based on expected dividends and prices). The return in the parenthesis is the number of the above equation represents the capital gain or loss during the period.

Holding period return measures mentioned above is useful with an investment horizon of one year or less. For longer periods, it is better to calculate rate or return as an

investments yield. The yield calculated is present value based and this considers the time value of money.

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

The simple arithmetic means:

$$\overline{HPR} = \sum_{t=1}^{n} \frac{HPRt}{n}$$

The Geometric mean

$$\overline{HPR}_G = \prod_{t=1}^{n} (1 + HPRt)^{1/2} - 1$$

Where HPR_t is the individual period return, is the number of period and $\prod$ represents the product. (or the result of multiplication) (Cheney and Moses; 1996)

2.1.4 The risk on common stock

2.1.4.1 Risk

In the basic sense, risk can be defined as the chance of loss. Assets having greater chances of loss are viewed as more risky than those with lesser chances of loss. More formally, the term risk is used interchangeably with uncertainty to refer to the variability of expected returns associated with a given asset.

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, Dodd and Kimpton; 1991)

Risk is defined in Webster's as "a hazard, exposure to loss or injury." Thus, risk refers to the chance that some unfavorable event will occur. If anybody engage in skydiving, such people is taking chance with his/her life skydiving is risky. (Brigham, Gapenwnski and Ehrhardt; 2001)

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)

There are many ways to measure risk. The following three models are commonly used (Van Horne; 1998)

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, "β_j" denotes it.

Standard Deviation

This is a measurement of the dispersion of forecast returns when such returns approximate a normal probability distribution. It is a statistical concept and is widely used to measure risk from holding a single asset. The standard deviation is derived so that

a high standard deviation represents a large dispersion of return and is a high risk. On the other hand, a low standard deviation is a small dispersion and represents low risk. Mathematically, it is denoted by σ_j

Subjected Estimates

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

With the overall definition of risk as dispersion of return, there are two components of risk may be identified.

a. Business Risk

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

b. 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.

Sources of Risk

According to Clark; (1997) every investment involves uncertainty that contribute to investment risk are as follows:

Interest Rate Risk

Interest rate risk is defined as the potential variability of return caused by changes in the market interest rates. In more general terms, if market interest rate rise, then investment values and market prices will fall, and vice versa. The variability of return that results is

interest rate risk. This interest rate risk affects the prices of bonds, stocks, real estate gold, puts, calls, futures contracts and other investment 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/Market Risk

As its name suggests, bull-bear market arises from the variability in market return resulting from alternation bull and bear market forces.

When a security index rises fairly consistently from a low point, called a trough, for a period of time, this upward trend is called a bull market. The bull market ends when the market index reaches a peak and starts a downward trend. The period during which the market declines to the next trough is called a bear market.

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 and occupy luxurious offices 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 the portion of an assets total variability of return which results from price discounts given or sales commissions paid in order to sell the without delay. Perfectly liquid asses are highly marketable and suffer no liquidation cost. Illiquid assets are not readily marketable either price discounts must be given or sales commissions must be paid, or both of these costs must be incurred by the seller, in order to find a new investor for an illiquid asset. The more illiquid an asset is the large the price discounts and/or commissions which must be given by the seller in order to affect a quick sale.

Call – Ability Risk

Some bonds and preferred stocks are issued with provision that allows the issuer to call them in for repurchase. Issuers like the call provision because it allows them to buy lack outstanding preferred stocks and /or bonds with fund from a newer issue if market interest rates drop below the level being paid on the outstanding securities.

The portion of a security's total variability of return that derives from the possibility that the issue may be called is the call-ability risk. Call-ability risk commands risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue will be called increase.

Convertibility Risk

Call-ability risk and convertibility risks are similar in tow respects. First, both are contractual stipulations that are included in the terms of the original security issue. Second, both of these provisions alter the variability of return from affected security. Convertibility risk is that portion of the total variability of return from convertible bond or a convertible preferred stock that reflects the possibility that the investment may be

converted into issuer's common stock at a time or under terms harmful to the investor's best interests.

Political Risk

Political risk arises from the exploitation of politically weak group for the benefit of a politically strong group, with the efforts of various groups to improve their relative positions increasing the variability of return from the affected assets. Regardless of whether the changes that cause political risk are sought by political or by economic interests, the resulting variability or return is called political risk if it is accomplished through legislative, judicial or administrative branches of the government. Political Risk can be future classified as international political risk and domestic political risk.

Industry Risk

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

2.1.4.2 The risk on common stock

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

uncertainty is simply a lack of definite outcomes, its anything that could happen-any unknown event, which may be favorable or unfavorable on the other hand. Uncertainty involves a situation about which the likelihood of the possible outcomes is not known. The trouble arises from the fact that despite different interpretation of uncertainty and risk, people often use them interchangeably. Although it is quit clear what precisely these two terms mean, authorities in the field of finance do agree that the risk is the product of uncertainty. If we interpret certainty as future outcomes, which is 100% sure to happen, uncertainty is then just the opposite of certainty that refers to all possible future outcomes none of which is know for sure to happen. (Rabindra, 2006)

Risk, on the other hand, is the product of all potential outcomes expressed with probability associated with each of them and it is measure in terms of the degree of variability in the probability distribution of such outcomes. (Rabindra, 2006)

"The practice is to translate the uncertainty into a mathematical value which represents the uncertainty into a mathematical value which represents the best estimate of all uncertain value. But risk is treated differently. Although risk arises from uncertainty, its magnitude depends upon the degree of variability in uncertainty cash flows, and it is measure in term of standard deviation. In project analysis, the project risk indicates the probability of return is being less than exceed value-higher the probability of such loss or less return, higher the project risk." (Pradhan; 1992)

Assets having greater chances of loss are viewed as move risky than those with lesser chances of loss. More systematically, the term risk is used interchangeably with certainty to refer to the variability of return associate with a given asset. For example, a government bond that guarantees its holder $100 interest after 30 days has no risk, since there is no variability associated with return. In equivalent investment in a firm's common stock that may earn over the same period anywhere from $0 to $100 is very risky due to high variability of return. The more certain returns from an asset, the less variability and therefore the less risk. (Rabindra, 2006)

2.1.5 Relationship between risk and return

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

"The observe difference in both the levels and variability of the rate of return across securities are indicative of the underlying risk and relation in the market." (Loric, Dodd and Kempton; 1995)

Generally, there is a positive relationship between rate or return and risk. It means an investor can usually attain more return by selecting dominant assets that involve more risk. While it is not always true that a riskier asset will pay a higher average rate of return, it is usually. The reason is that investors are risk averse. As a result, high-risk assets must offer investors' high return to induce them to make the riskier investment normally; investors are likely to prefer more return and less risk. It means investors will not choose an investment that guarantee less return when investments promising higher returns in the same level of risk class are readily available.

2.1.6 Portfolio

Investors rarely place their entire wealth into a single asset or investment rather they construct a portfolio or a group of investments. Therefore, it is needed to extend analysis of risk and return to include portfolio. A combination of two or more securities or assets is portfolio. Portfolio management is related to the efficient portfolio investments in financial assets. It has following two types of objective.

Primary Objective

- To minimize risk
- To maximize return.

Secondary objectives:

- Regular return
- Safety of investment
- Stable income

- Tax benefit
- Appreciation of capital

The expected return on the portfolio is simply a weighted average of the expected returns of the individual securities that they are included in the portfolio. The weighted are equal securities (the weight must sum to 100% or 1). The general formula for expected return of a portfolio (Rp) is as follows.

$$\overline{R_p} \; X \sum_{jX1}^{n} W_j \overline{R_j}$$

Where,

$\overline{R_p}$ = Expected return of a portfolio

$\overline{R_j}$ = Expected return for security j

W_j = Proportion of total funds invested in security j

n = Total no. of different securities in the portfolio

While the portfolio expected return is a straight forward weighted average of returns on the individual security where as portfolio standard deviations would be to ignore the relationship or correlation between the returns of two securities. "The Standard deviation of probability distribution of possible portfolio return $\pm_p$ is

$$\sigma_p \; X \sum_{jX1}^{n} \sum_{kX1}^{n} W_j . W_k . Cov_{j.k}$$

Where,

n = Total no. of different securities in the portfolio.

W_j = Proportion of total funds invested in security j.

W_k = Proportion of total funds invested in security k.

$Cov_{j.k}$ = Covariance between the possible return of securities j and k.

The covariance of the possible returns of two securities is a measure of the extent to which they are expected to very together rather than independently of each other. The covariance term in the above formula can be written as.

$$Cov_{jk} Xr_{jk}\sigma_i.\sigma_k$$

Where,

r_{jk} = Correlation coefficient between possible return for security j and k

$\pm_{j}$ = S.D. of the security j.

$\pm_{k}$ = S.D. of the security k.

When j = k, the correlation coefficient is 1 as variance movement correlated perfectly with itself.

"The correlation coefficient which is significant in portfolio construction is standardized statistical measured of the linear relationship between two variables. Its range from -1 (perfect negative correlation) to +1 (perfect positive correlation). Lesser the correlation, higher the reduction in portfolio risks". (Van Horne and Wachowicz; 1995: 97)

The positive correlation coefficient shows that the return from the securities generally moves in the some direction. While negative correlation coefficient shows that they move to opposite direction and zero correlation coefficient shows that the returns from two securities are uncorrelated. They show no tendency to vary together in either a positive or negative in linear function.

2.1.7 Systematic Risk and Unsystematic Risk

Systematic and unsystematic risks are the terms frequently used in the portfolio context. Combining securities that are not perfect positively correlated helps to reduce the risk of a portfolio to some extent. How much risk reduction is reasonable to expect and how

many different security holding in portfolio would be required? Answer to the question will be explained in following paragraphs: (Rabindra, 2006)

In the case of single stock, the risk of a portfolio is the standard deviation of that stock. As the randomly selected stocks held in the portfolio are increased, the total risk of the portfolio is reduced. Such a reduction is at a decreasing rate. Thus a substantial proportion of the portfolio risk can be eliminated with a relatively moderate amount of diversification.

Systematic risk has its source factors the affect all the marketable assets and this cannot be diversified way. Systematic risk is due to the risk factor that affects the overall market such as changes in national economy, tax reform by the government or changes in the world energy situation. The sources of systematic risk are market pervasive. The measure of systematic risk permits an investor to evaluate an assets required rate of return relative to the systematic risk of the stock. In other words over an investor who holds a well diversified portfolio will be exposed to this type of risk. (Rabindra, 2006)

Unsystematic risk is risk unique to a particular company or industry. It is independent of economic, political and other factor that affect all securities in systematic manner. A wild cat risk may affect only one company a new competitor may begin to produce essentially the same product or a technological break through can make an existing product absolute. "For most stocks, unsystematic risk accounts for between 60 to 70 percent of stocks total risk or standard deviation. (Van Horne and Wachowicz; 1997)

The relationship among systematic, unsystematic and total risk are shown below.

Total risk (σ_j) = Systematic risk + unsystematic risk

Systematic Risk and unsystematic Risk can be written as

Systematic Risk (SR)

$$SR = \frac{Cov_{j,m}}{\sigma_m}$$

Where,

SR = Systematic Risk

$Cov_{j,m}$ = Covariace of Stock j and Market Return

σ_m = Standard Deviation of Market

Unsystematic Risk (USR)

USR = $\sigma_j - \frac{Cov_{j,m}}{\sigma_m}$

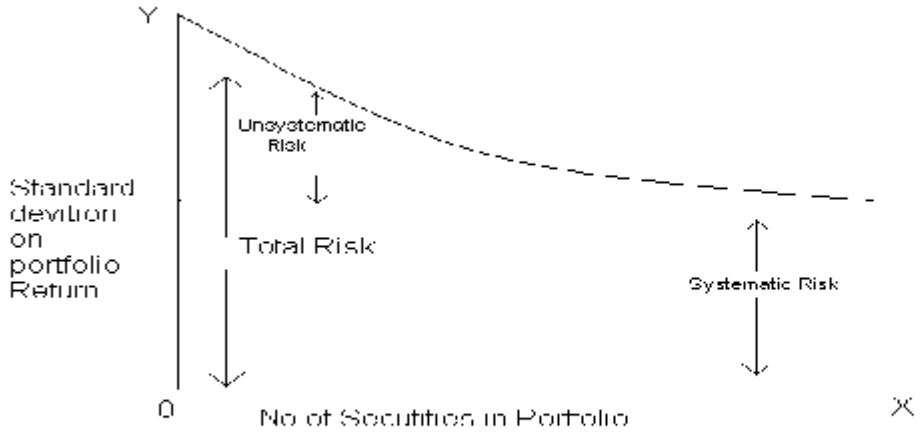
σ_j = Standard Deviation of Stock j

Proportion of SR = $\frac{SR}{TR}$

Where,

TR = Total Risk

Proportion of USR = 1 – Proportion of SR



Where, systematic risk = σ_j Pjm and unsystematic risk = σ_j (1-Pjm). Here Pjm is the Correlation coefficient between the return of given stock (j)k and the return on market portfolio.

However by diversification, unsystematic risk can be reduced and ever eliminated if diversification is efficient. Therefore, not all the risk involved in holding a stock is relevant since part of their risk can be diversified away. The important risk of stocks is its unavoidable systematic risk. Investor will be compensated for bearing this systematic risk. They should not however expect the market to provide may extra compensation for bearing avoidable risk. It is the large that lies behind Capital Assets Pricing Model (CAPM).

2.1.8 Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model provides us a means by which to estimate required rate of return on a security. This models was developed by William F. Sharpe and John Linter in the 1960's and it has had important implications for finance ever since. And on the basis of price and divided data, expected return can be calculated with comparison of these two returns investors can analyzed whether the stock is under priced or overpriced.

Based on the behavior of the risk adverse investors, there is implied on equilibrium relationship between risk and expected return to provide a return on common stock with its unavoidable risk. This is simply the risk that cannot be avoided by diversification. The great unavoidable risk of security, the greater the return that investor will expected from the security. (Van Horne; 1997)

"CAPM is the model that describes the relationship between risk and expected return. In this model, a security's expected (required) return is the risk free rate plus a premium based on the systematic risk of the security. This model is expressed as:

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

Where,

$E(R_j)$ = Required rate of return for stocks j

R_f = Risk free rate

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

β_j = An index of systematic risk of stock j (beta coefficient)

"Beta measures the sensitivity of a stock's returns to change in the returns on the market portfolio. The beta of a portfolio is simply a weighted average of the individual stock betas in the portfolio." (Van Horne, 1997)

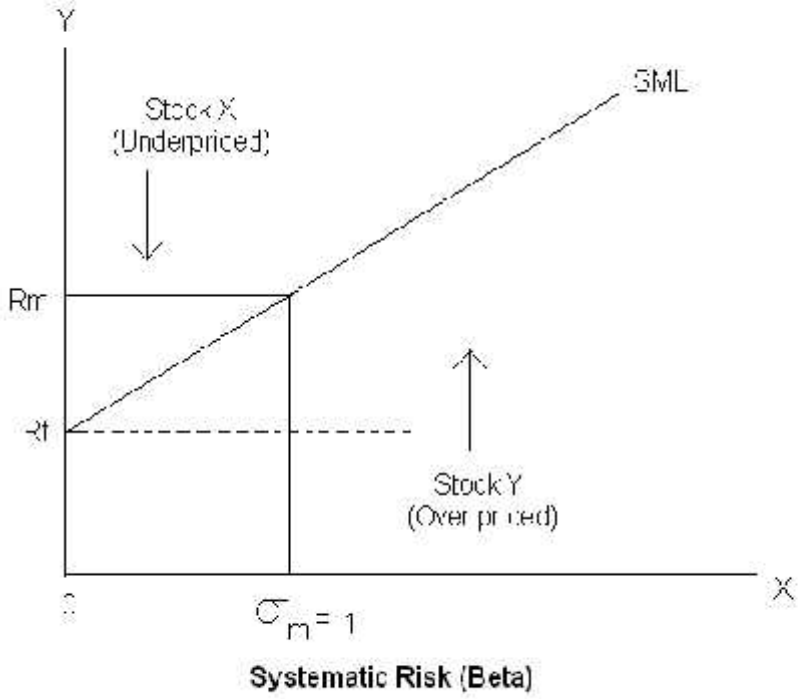
If beta is one (i.e. β=1) then the required return is simply the average return for all situation, that is the return on market portfolio, otherwise, the higher the beta, higher the risk premium and the total required return. However, a relatively high beta does not

guarantee a relatively high return. The actual return depends partly on the behavior of the market, which acts as a prissy for general economic factor.

“The major implication of the CAPM is that the expected return of an asset will be related to a measure of risk for that asset known as beta (β). The exact manner in which expected return and beta are related is specified by the CAPM. The model provides the intellectual basis for a number of the current practice in the investment industry.” (Sharpe; 1995)

The CAPM states that the expected risk premium on each investment is proportion to its beta. This means that each investment should lie on the sloping security market line connecting treasury bills and market portfolio. CAPM is the predominant model used for estimating equity risk and return. Comparison between the expected rate of return and required rate of return indicates whether the stock is under priced or overpriced. And when these two return are equal then it is said table market equilibrium i.e. all the stocks lie on the Security Market Line (SML).

SML is the graphical representation of the CAPM, which shows the relationship between risk and required rate of return. The SML clearly shows that returns are the increasing function, in fact at linearly increasing function of risk. Further, it is only market risk that affects return. The investor receives no added return for bearing the diversifiable risk. If stocks are under priced it lies above the SML and if they are overpriced then it lies below the SML. The following diagram shown the SML with over priced and the under priced stocks.



"Above figure clarifies that stock X is under priced relative to the security market price while stock Y is over priced. As a result tock X is expected to provide a rate of return greater than that required based on its systematic risk. In contact stock Y is expected to provide a lower return than that required to compensate for its systematic risk. Investors seeing the opportunity for the superior return by investing in stock X will rush.

This situation would drive the price up and expected return comes down. It would continue until the market price was seen that the expected return would row lies on the SML. In the case of stock Y, investors holding this stock will start to sell it, recognizing that they could obtain a higher return for some amount of systematic risk with other stocks. This selling pressure would drive market price down and its expected return goes up until the expected return matches on the SML. When the expected return for these two stocks returns to SML, market equilibrium will again prevail. (Van Horne and Wachowicz; 1995)

Under the CAPM, each investors hold the market portfolio and is concerned with its standard deviation because this will influence the slope of the SML and hence the magnitude of his/her investment in the market portfolio.

“The CAPM is sometimes used to estimate the required rate of return for my form with publicly traded stock. The CAPM is based on the promise that the only important risk of firms is systematic risk, or the risk that returns form expose to general stock market movements. The CAPM is not concerned with so-called unsystematic risk, which is specific to an individual firm, because investors can avoid that type of risk by holding diversify portfolio. (Madura; 2001)

Investor appears to be concerned principally with risk that they cannot eliminated by diversification. If this is not so, we find that stock price increases. Whenever two companies merge to spread their risk and we should find that investment companies which invest in the share of other firm are more highly valued that than the shares they hold. But we do not observe either phenomenon. Mergers under taken just to spread risk don’t increase stock prices and investment companies are no more highly valued than the stocks held. The CAPM model captures these ideas in simply way. That’s way many financial mangers find it is the most convenient for coming to decision with slippery motion of risk. And it is why economist often uses the CAPM to demonstrate important ideas in finance even when there are other ways to prove thee ideas.

2.2 Reviews from Related Studies

So far focus is given in basic well known books, which are academically accepted in most of the world. In this section reviewing procedure will slightly twist as we review the journals.

The book entitled as "An introduction to investment theory" by William N' Goetz Mann in the year 1999 is also relevant to this study. Here, he explained finance from the investor's perspective as, "Investors, whether they are individuals or institutions such as pension funds, mutual funds, or college endowments hold portfolio i.e. they hold a collection of different securities. Much of the innovation in investment research over the

past forty years has been the development of a theory of portfolio management and this model is principally an introduction to there new methods. It will answer the basis question, what rate or return will investors demand to hold risky security in their portfolio. To answer this question we first must consider what investors want how we define return, and what we mean by risk. (William, 1999)

Investors want to make more money in the future. The key measure of benefit derived from a security is the rate or return. "The investor return is a measure of growth in wealth resulting from that investment. This growth measure is expressed in percentage forms to make it comparable across large and small investors. Stock returns may be riskier or more volatile, but this concept is a difficult one to express simply. To do so, we borrow a concept from statistics called standard deviation. It is a single measure, allowing us to quantity assets returns by risk and it also provides the basis for investor decisions about portfolio choice. (William, 1999)

In emerging markets: Research, strategic and Benchmarks, Keppler and Lenchner (1993) focus on the examination of the performance of specific investment strategies. Second, the presentation format, comprising emerging market investment strategies with previously published work by the authors (e.g. Keppler and Traub, 1993) in the developed markets in effective. Third another examines a wide range of measure of the portfolio risk in addition to standard deviation, which has not been analyzed in other work. Such measure includes the probability and expectation of monthly loss, number of losing months and lowest monthly return. The keepler Ratio is introduced as an alternative to the Sharpe Ratio, replacing the standard deviation by the expectation of monthly loss. In many cases, the standard risk measures such as standard deviation shows to be misleading when compared to those other measures. Even though it is well known that emerging market returns are not normally distributed, the comparison of various risk measures helps the practitioner to understand more effectively how this impacts portfolio allocation decisions. These measures complement the extensive analysis of country risk measures, such as institutional Investor Credit Rating, reviewed in Erb. Harvergy and Viskanta (1997).

Keppler and Lechner (1993) shows that return on values strategies based in part on looking at dividend yields and price to cash flows of different markets; are even greater than those based on the small country effect. Although risk is higher according to standard deviations other risk measures show that this portfolio can also be less risky. The analysis is then extended to forming regional portfolios. Strategies based on industry selection and company selections are less promising. A strategy based on equally weighting individual companies within a market gives small excess returns. After a reviewing the historical growth experience across regions, the authors give and in depth discussion into why emerging markets have grown faster than developed markets in the past, and they offer projections for the future. Among the factors analyzed are liberalization of capital markets, reduced debt servicing burden, expanding global trade, and improving education and infrastructure. Although higher growth rates have been achieved, the risk of investing in these markets are also greater Keppler and Lechner explore risk caused by political instability and corruption, high levels of foreign debt commodity prices and short term speculators. The causes of higher cash flow and greater risk are then analyzed in the context of the risk and return characteristics of the markets, followed by discussion of the different emerging market benchmarks.

In emerging Markets Portfolio Diversification and Hedging Strategies, Papaionannous and Tsetsekos (1997) focus more on regulatory issues and derivatives instrument in emerging markets, following a number of chapter on risk characteristics and potential diversification opportunities. Their book will be or greater interest to policy makers or a more academically including people and portfolio managers concerned with quantifying and managing risk in emerging markets. Although the stated objective of the book is to "develop a framework for portfolio management" in emerging markets, many chapters focus on topics of direct concern to policy makers. Topic that have received less attention on the literature, such as market based measures to manage commodity price risk and the preconditions for the development of derivatives markets in emerging economics. The book analyze four broad themes: investment risk and opportunities in emerging markets, structural features and the role of government in the market development, the impact of return, correlation and the development and use of derivatives markets in emerging economics by government and investors.

Although the chapters are separated into seven different parts, they don't fit very well into their grouping. A chapter on optimal asset allocation provides a useful analysis of how the portfolio allocation to emerging markets should vary under different assumptions for expected return correlation and investor's risk tolerance. Among with investment opportunities, additional risk such as volatility, currency and political risk, lack of liquidity and information, market access and repatriation restrictions serve as a deterrent to investing in these markets. The chapter also discusses the role of policy makers in encouraging market development and concludes that the role of government is to provide a legal structure and promotes policies that allow market forces to work. Recent institutional reforms and liberalization efforts should help to promote their development.
Political portfolio diversification benefits are assessed by examining linkages in returns and volatility, co-integRatio among markets and factor models. Although, the chapters are informative, they often simply correlated the results of earlier studies, with a notable lack of data from recent years. These factors limit the value added to the chapters. The empirical studies support the view that diversification benefits of investing in emerging markets are present but have been reduced in recently years as a result of growing foreign institutional investor involvement and are less effective during periods of large market movements.

These two books provide a useful compliment to the existing literature. They provide investors with valuable tools for investment strategies in emerging markets and they provide policy makers with a framework for analyzing the benefits and costs of developing derivatives markets and using market based techniques for managing risk in emerging markets.

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. At first, let us begin with the history of finance.

"Financial economics is defined by Smith (1996) as the application of economic theory to financial markets. It is a large body of theory including. Such well known models as "Modern Portfolio Theory" of Markewitz (1953), The Capital Asset Pricing Model (CAPM) of Sharpe (1964), The Efficient Market Hypothesis (EMH) of Sammelson (1965) and Fama (1965) and the option pricing model of Blank and Scholes (1973). Although these models are all included in institute of faculty education Ltd. (1995), their acceptance or use is controversial (Bbouse, 1997).

An article entitled "Expected return, Realized returns and assets pricing tests" (Edwin J. Elton, 1999) is journal of finance in the year 1999 is relevant to this study. In this proper he points out the fundamental issues in finance like that what the factors are that affect expected return on assets, the sensitivity of expected return to those factors, and the reward for bearing this sensitivity. There is along history of testing in this area and it is clearly one of the most investigated assess in finance.

Almost all of the testing being aware of using realized returns as a process for expected returns. The sue of a average realized relies on a belief that information surprises tent to out over the period of a study and realized returns are therefore an unbiased estimate of expected returns. However, he believes that there is ample evidence that there is ample evidence that this belief is misplaced. There are period's longer than 10 years during which stock market realized returns are one average less than the risk free rate (1973 to 1984). There are periods longer than 50 years in which risk long term bonds on average under perform the risk free rate (1927 to 1981). Having a risky asset with expected return above the risk less rate is an extremely weak condition for realized returns to be and appropriate process for expected return, and 11 and 50 years is an awful longtime for such a weak condition not to be satisfied. In the recent past, the United States has had stock market returns of higher than 30% per year while Asian Markets have had negative returns.

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 Gou Warhorse (1999) has been renewed here. 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 sectionally correlated with liquidity? (Gou Warhorse (1999)

Total returns are calculated in the form of the dividend return are rice 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)

In this proper Rouwenhorst (1999) has 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 out perform growth stocks and emerging market stocks exhibit momentums. There is no evidence that local market betas are associated with average returns. The low correlation between the country return factors suggest that the premium

have a strong local character. Furthermore, global exposure cannot explain the average factor returns of merging market. This is little evidence that the correlation between the local factor portfolios have increase, which suggests that the factors responsible for the increase of emerging market country correlation are separated from those drives the difference between expected return within these markets. A Bayesian analysis of Premiums in developed and emerging markets shows that unless one has strong prior belief to the contrary. The empirical evidence favors the hypotheses that size, momentum and values strategies are compensated for in expected returns around the world. Finally, the paper documents the relationship between expected returns and share turnover and examines the turnover characteristics of the local factors portfolios. There is no evidence of relation between expected returns and turnover, in emerging markets. However, beta, size momentum and value are positively cross sectionally correlated with turnover in emerging markets. This suggests that return premium do not simply reflect a compensation for liquidity. (Rouwenhorst; 1999)

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. (Rouwenhorst; 1999)

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 wont break all the eggs. The creation of a portfolio by combining two assets that behave exactly the some 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 roll-up-your sleeves fundamental analysis into a statistical problem. In short, the CAPM turned Wall Street on its head.

2.4 Review of Other Independence Studies in Nepal

Very few independent studies can be found in the topics of finance. Specifically, it is rare in the case of this research topic, risk and return analysis. However, the available independent studies which are related to the Nepalese stock market and about shareholders democracy are reviewed here.

The study carried out by professor Shrestha in the title of “Shareholder’s Democracy and Annual General meeting feedback” is reviewed here Shrestha prefers to consider this book as assemblage of opinions which he had express in different occasions of various

annual general meeting where he has critically analyzed the situation of common stock investors and the situations that is not improving till date.

The content of the book have been divided into two parts. The first part includes views on the rights of the shareholders regarding how they can exercise them in democratic perspective, where as the second part consists of feedback and the issues raised by shareholders at different annual general meeting of the public limited companies and financial institutions.

Writer has found the overall shareholders democracy in terms of the protection of their interest, is basically focused on the payment of satisfactory wealth by appreciating the value or share they hold.

“In many cases the existing authoritarian mentality of management seems to have not considered the share holders in deciding managerial plans and policies. Top level decision often by pass the interest of shareholders. As the management lacks serious concerns about the protection of shareholders rights and expectations. The annual general meeting has become a plate-form for shareholders to express their opinions and grievance in front of the management and board of directors”. (Shrestha, 1993)

Many general meeting feedback reveal no serious response so the feelings of shareholders. Thus it reflects unwillingness of the management and broad of director to change their traditionally held activities towards shareholders.

(Shrestha, 1993) has expressed his deep concern to the government for not taking my initiative formulating the separate act which protects the shareholders right despite the increase in population of shareholders in Nepal and questioned the need of separate act are regarding the protection of shareholders right.

He has further quoted as writing company and other acts relating to financial and industrial sector have provisioned rights of the shareholders as: (1) voting rights, (2)

participation in general meeting, (3) Rights of getting information. (4) Electing as aboard of director, (5) participation in the profit and loss of the company, (6) transferring share, (7) priory representation. (Shrestha, 1993)

The collective rights or the shareholders are

1) Amend the internal by laws.
2) Authorized the sales of assets.
3) Enter into merger.
4) Change amount of authorized capital.

As reviewed above, Nepalese stock being in emerging state; study conducted previously in Nepal in relation with the subject was no in specific issues but in broad manner.

(Pokhrel, 1999) 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 of June 2001 entitled "Nepal share market and investors prospect" by Ghimire (2001). 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. On 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 (2002) also carried out another study in a topic of "Investing in shares of Return and Risk elements", in 2001. The study was based on the data collected for eight banks from mid July 2001. 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.

Mr. Poudel summarized the following finding:

- Most of the individual share's appeared to be defensive as beta coefficients were les that on low data shares were less volatile than market as a whole. Only the return of share of Bank of 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.

2.5 Reviews from Thesis

However risk and return is not a new concept for financial analysis, in context of Nepal and its very slow growing capital market, 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. In this study only relevant subject matters are reviewed which are as follows.

Mishra (2002) analyzed "Risk and Return on common stock investment of commercial Banks in Nepal" with special reference to five listed commercial banks. The major objective of this study was to promote and protect the interest of the investor by regulation the issuance sales and distribution of securities and purchases, sale or exchange of securities. He also intends to supervise and monitor the activities of the stock exchange and of other related firms carrying on securities business. In addition he tried to render contribution to the development of capital market by making securities transactions fair health, efficient and responsible.

It was noticed that there is a positive correlation between risk and return character of the Bank. Nepalese capital market being inefficient, the price index itself is not sufficient to give the information about the prevailing market. Situation and the company proper regulation should be introduced so that there is more transparency in issuance, sales and distribution of the securities. Investors do not have any idea about the procedures of the securities issuance. Neither company nor the stock brokers transmit any information to the investors about the current market situation and hence it becomes difficult for a common investors to invest in the securities. Both government authorities and the stock exchange regulator body should try to promote healthy practices so that the stock brokers do not give false information to the investors for their personal benefit which is a common practice in Nepal. Investors should get regular information about the systematic Risk (Beta), Return on Equity and P/E Ratio of various listed companies in some way; it is given in economic times for the companies listed in Nepal Stock Exchange. Security exchange Board of Nepal should make this mandates that it is easier for the investors to calculate risk and return of portfolio and transparency is increased.

Another study conducted by Manandhar (2003) "Analysis of Risk and Return analysis on Common Stock Investment" with special reference to five listed commercial banks. The main objective of the study is to examine risk and return of common stock in Nepalese stock market, the study is focused on the common stock of commercial banks.

In her findings "Banking industry is the biggest one in F/Y 057/058 in terms of market capitalization and turnover expected return of the common stock of BOKL is maximum (i.e. 1.1267) due to effect of unrealistic annual return and Capital Structure of NIBL is found minimum. In the context of industries, expected return on banking sector (i.e. 67.39) is highest and other sector is the least (0.65%). Expect NIBL, other banks other banks common stocks are more volatile (aggressive with market stocks). All banks in the study are said to be under priced. Capital Structure of BOKL is most risky and Capital Structure is least risky.

Followings are the findings of Mrs. Manandhar's study:

- Stocks have greater volatility risk than other investment, which take a random and unpredictable path. Stock market is risky in the short term and it is necessary to prepare the investors for it.
- One of the most important things to consider when choosing investment strength is the balance between risk and return that you are comfortable with
- Investors should diversify their fund to reduce risk with the help of optimal portfolio concept.
- It is better to say something that is going up and sell something that is going down.
- Investor's attitude, perception and risk handling capacity also play essential role is rational investment decision.

Another study conducted by Khadka (2004) in his study "Analysis of Risk and Return on selected Nepalese Commercial Banks listed in NEPSE" with special reference to 7 listed commercial banks is also relevant to this study. The main objective of the study is to analyze the risk, return and other relevant variables that help in making decision about

investment on securities of the listed commercial banks. This study will also target to determined whether the share of commercial banks are correctly priced or not by analyzing the required rate of return using the CAPM. Khadka addressed the following findings in risk return behavior from the analysis of different stock.

The share of Bangladesh Bank offered highest realized rate or return. Amongst them NABIL bank is the lowest having 5.23% which is less than required rate or return. NBL, which is hard hit by the events (Return = -0.8809), the ranking of the bank is placed as the highest return earner. The study showed that the realized rate or returns of the samples banks do not have the some features being with in the range of 5.23% to 16.12%. Return on the average tock is 5.51% over the period. All the shares under review generated higher rate of return than the market portfolio except NABIL Bank Ltd. The price of shares of banks under review except NABIL Bank Ltd. are under priced. The unsystematic risk of NBL is the highest one amongst the shares under review which is 95.59% and SCB of Nepal has the lowest one being 45.14%. The negative correlation coefficient of NBL (-0.21) revealed that the return on the bank goes down if the market goes up. The rest of the shares moved in the direction the market moves. B y observing the individual shares beta coefficient, most of the shares appear to be defensive as beta coefficient are less than one. However, beta of the stocks NB bank SCB are greater than one indicating that the shares are more riskier than the market..

On the basis of finding, Khadka concluded that in Nepalese capital market, the contribution of real sector is negligible. Though the shares of commercial Banks of Nepal are heavily traded in NEPSE, none of the share NABIL Bank will have positive trend towards the equilibrium.

He outlined following Recommendations:

- Adoption of comprehensive and Advance Regulatory framework.
- Awareness campaign for the investor.
- Regular publication of financial information.
- Improvement in the infrastructure facilities.

- Effective use of banking system.
- Deregulation of foreign exchange.

Another study conducted by Manandhar (2005) "A Study of Risk and Return analysis on Common Stock Investment" with special reference to six listed commercial banks. The main objective of the study is to evaluate common stock of listed commercial bank in terms of risk and return and to perform sector wise comparison on the basis of market capitalization, to identify whether the share of commercial banks are overpriced, under priced or at equilibrium price, to identify the correlation between returns of commercial banks, & to construct optimum portfolio from listed common stock.

Major findings 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 the common stock of EBL is maximum (44.44%) which is very high rate of return. in reality this rate exists only due to effect of unrealistic annual return because of the issues of banks share and increase in share price. Similarly expected return of the CS of NIB is found minimum (24.21%).
- Risk is the variability of return which is measured in terms of standard deviation on the basis of S.D. common stock of NSBI is most risky since it had high S.D. and C.S. of NIBL is least risky because of its lowest S.D. on the other hand, we know that coefficient of variation is more Ratioal basis of investment decision. Which measures the risk per unit of return on the basis of CV; CS of NIBL is the best among all banks. NIBL has 1.4977 unit of risk per 1 unit of return. But CS of SBI has the highest risk per unit return i.e. 3.5495.
- Diversification of fund by making a portfolio can reduce unsystematic risk of individual security significantly. If investors select the securities for investment, which have highly negative correlation of returns, the risk can be returns of two stocks in highly positive, risk reduction is not so significant. So, portfolio between the C.S. of same industry cannot reduce risk properly. In this study, SBI and EBL have negative correlation between their returns, which is favorable with the

viewpoint of the diversification. And all other banks have positive correlation among their returns. So, the portfolio construction among their returns. So, the portfolio construction of the common stock of these banks will not completely reduce any risk, which is not favorable as portfolio construction is concerned.

Another study conducted by Regmi (2009) "Analysis of risk & return of selected commercial banks in Nepal" with special reference of four commercial banks, i.e. NIBL, SCBNL, NABIL and BOKL are taken. The main objectives of this research are the assessment of return, which is associated with risk in common stock investment, to evaluate risk and return on common stocks of selected commercial banks. To calculate systematic risk coefficient market sensitivity associated with common stocks of selected commercial banks, to identify whether the security prices of the selected company are overpriced underpriced and equilibrium priced, to determine the effect of portfolio on risk and return and identify optimal Portfolio.

Major findings of the study are as follows:

a. The return is the income received on common stock investment, which is usually expressed in percentage. Among selected four commercial Banks expected return on the common stock of BOKL is maximum (i.e.77.66%) and NIBL is minimum by 50.54%.

b. Risk is associated with return and it is variability of returns which is Measured in terms of Standard deviation, common stock of BOKL is most risky, since it has the highest Standard Deviation and common stock Of SCBNL is less risky because of its lowest standard deviation.

c. On the other hand, coefficient of variation is more rational basis of investment decision which measures the risk per unit of variation, common stock of SCBNL is best among all selected Commercial banks. SCBNL has 0.79 unit of risk per unit of return. Whether common stock of NIBL has highest risk considering per unit return (i.e. 1.12 units)

d. The null hypothesis is accepted by testing the hypothesis – I at different level of significance (I.e. 10%, 5%, 2% and 1%). So it can be concluded that there is no

significant difference between the portfolios return of the common stock of commercial banks is equal to the market Rate of return.

e. Standard deviation measures unsystematic risk which is not defined by the market. Another Aspect of the risk is systematic risk which is defined by the market and measured by beta Coefficient. Beta coefficient measures the sensitivity or volatility of the stock with market.

f. The null hypothesis is accepted by testing the hypothesis – II at 10%, 5%, 2% and 1% level of Significance. So, it can be concluded that there is no significant different between the portfolio Beta of commercial banks and market beta.

g. Capital asset pricing model (CAPM) describes the relationship between risk and required rate of return. Summation of risk free rate (RF) and premium based in the systematic risk of the

h. Security is required rate of return of that common stock. Comparison between required rates of return (RRR) and expected rate of return (ERR) helps to predict whether the stock is overpriced or underpriced. If the required rate of return is greater than expected rate of return, the price of

i. Stock is overpriced or vice versa. The study shows that common stock of all selected commercial Banks is underpriced. All the stocks are in demand and investor can buy the stock of NIBL, SCBNL, NABIL and BOKL.

j. It can be concluded that diversification of fund by making a portfolio can reduce unsystematic Risk of individual security significantly. If investors select the securities for investment, which has highly negative correlations of returns, the risk can be reduced totally. If the correlation between the return of two stocks is highly positive, risk reduction is not too significant. So, portfolio between the common stock of same industry cannot reduce risk properly. In this study Portfolio investment has less risk (i.e. 45.34% < 48.58%) than average risk of four assets. But the average return and portfolio return are exactly similar.

k. Investors of NEPSE invest on common stock only keeping the return in the mind and they are found unable to calculate the risk factors of the security. Most of the Nepalese individual Investors invest in single security. Some of the investors invest their funds in two or more securities without any portfolio analysis. With the help of majority questionnaire it is also found that if investors never calculate risk and return over their investment.

2.6 Research Gap

Although some previous MBS students have conducted their thesis in the same topic the present researcher has selected, there is fundamental difference between those and this present one. The previous researcher focused only on the risk and return aspect of selected commercial banks from investors perspectives. This research has further tried to identify the correlation among returns of the commercial banks under study which plays a significant role in risk reduction by portfolio construction and systematic and unsystematic risk has been identified for each bank which is not done by previous researchers.

Most of the previous researches reviewed have been carried out with less than seven year data. Here, in this research seven year's data has been taken for analysis. Similarly, the number of sample firms takes by the previous researchers is five or more. But this research has been conducted with reference to three sample firms which give the clear vision for all the investors who invest in common stock investment of commercial banks listed in NEPSE. However, almost effort has been put upon to save it from allegation of being copy of previous research works done in the same topic.

CHAPTER – III

RESEARCH METHODOLOGY

3.1 Introduction:-

Research methodology is the systematic way of solving research problems and which ultimately refer to the overall research process. It includes all the procedures from theoretical framework to the collection and analysis of the data. As most of the data are quantitative the research is based on the specific models. It is composed of both parts of technical aspect and logical aspect, on the basis of historical data. Research is systematic and organized effort to investigate a specific problem that needs a solution. This process of investigation involves a series of well though out activities f gathering recording, classifying, analyzing and interpreting the data with the purpose of finding answer to the problem. Thus the entire process by which we attempt to solve problems is called research.

3.2 Research Design:

The research is based on the recent historical data, so simply it is a historical research. It covers the data from 2000/01-2008/09. It deals with the common stock of commercial banks on the basis of available information. For the portfolio analysis, the common stocks of the selected commercial banks are taken into account. Financial analysis with various statistical and financial tools and testing of hypothesis has also been used for analysis aspect.

3.3 Sources of data:

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

The collection procedure is summarized below: -

- Financial document and summary sheets provided by Banks.

- Trading manual published by Nepal Stock Exchange Limited.
- Related URL
- Materials published in Newspapers and Magazines.
- Other related journals, periodicals, books and booklets.
- Central library T.U., Lumbini Banijya Campus library.

3.4 Population and Sample:

This study is based on the comparative study of risk and return on the basis of common stock investment of three commercial banks listed in NEPSE. Population is all the 23 commercial banks are listed in NEPSE. Current Ratio of this study is listed commercial banks only. There are a total of 28 commercial banks registered under Nepal Rastra Bank. The number of listed commercial banks in NEPSE is fifteen. For this, study three commercial banks Himalayan Bank Limited (HBL), Everest Bank limited (EBL) and Nepal Investment Bank Limited (NIBL) are taken as sample.

3.5 Factors and Methods of Analysis:-

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

The collection data are analyzed by using various factors and financial as well as statistical tools which are given and defined below.

3.5.1 Factors for Analysis

The factors that are used for analysis of risk and return are as follows:

3.5.1.1 Market Price of Shares (MPS)

Here in this study, each year closing price is taken as the market price of stock which has specific time span of one year and the study has focused in annual basis. To get the real

average, volume and price of each transaction in the stock and Du Ratio of time of each transaction in the whole year are essential, which is tedious and impossible too, considering the data availability and maintenance.

Market value in the secondary market is determined by the supply and demand factors and reflects the opinion of investors and trader concerning the values of the stock closing price is used as market price of stock because it is very different to obtain and include these all information and average of high and low price may not be reliable and representative information.

3.5.1.2 Dividend per Share (DPS)

Dividend is the part of earning that is distributed to the share holders as a part of their investment. Dividend is return to equity capital that consist price of time and price of risk taking by the investors. The total amount of dividend out of earning available to the shareholder if distributed, the common stock's portion is said Dividend per share (DPS). Symbolically DPS can be expressed as follows:

$$\text{DPS} = \frac{\text{The total amount of dividend paid}}{\text{No. of common shares outstaning}}$$

Dividend is relevant during computation of rate of return, which is reward to the shareholders for their investment, which can be given in different for, for investment, which can be given in different form. For instance cash dividend and stock dividend etc. if company declares only cash dividend. There is no problem while taking the exact amount of dividend that is relevant. But if the company declares stock dividend (Bonus share), it is difficult to obtain the amount that really shareholders has gained. In this case, they get extra numbers of shares as dividend and simultaneously price of the stock declines as a result of increased number of stocks. To get a real amount of dividend following model has been used through out.

Total dividend amount = cash dividend + stock dividend % | next year MPS.

The various financial and statistical tools used are as follows:

3.5.2 Financial Tools:

3.5.2.1. Holding Period Return (HPR):

Holding period return indicates the summation of price appreciation and dividend gain. Here price appreciation means gain on capital investment.

$$\text{HPR or Simple 'R'} = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$$

Where,

R = Annual rate of return

P_t = Price of a stock at time t.

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

D_t = Cash dividend received at time t.

3.5.2.2. Expected Rate of Return:

One of the main aims of the study is to determine the expected return on the investment in common stock. Expected rate or return is the arithmetic mean of the post years returns.

$$\overline{R_j} = \frac{R_j}{n}$$

Where,

$\overline{R_j}$ = Expected rate or return on stock j.

n = Number of years that the return is taken.

= sign of summation.

3.5.2.3. 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 measurement of total risk on stock investment.

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

If data is probability distribution

Or, $$\sigma_j = \sqrt{\sum_{t=1}^{n} (R_j - E(R_j))^2 P_j}$$

Where,

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

P_j = Probability distribution of the observation.

R_j = Probability distribution of the observation.

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

n = Number of years that the returns are taken.

3.5.2.4. Coefficient of Variation (C.V.):

It is the relative measurement of risk and 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.

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

Where,

C.V. = Coefficient of variation of stock.

σ_j = Standard deviation of return on stock j.

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

3.5.2.5. Beta Coefficient (β):

Beta coefficient shows the market sensitivity of stock. Higher the beta, Higher 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.

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

$$COV(R_j, R_m) = \frac{\sum (R_j - E(R_j))(R_m - E(R_m))}{n - 1}$$

Where,

β_j = Beta coefficient of stock j.

$COV(R_j, R_m)$ = Covariance between return on stock j and return on market.

σ_m^2 = Variance of market return.

3.5.2.6. Correlation Coefficient:

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 negatively correlated which combined in portfolio reduces the risk. If securities are positively correlated risk cannot be reduced.

Correlation coefficient measures the relationship between two variables in quantitative terms. Correlation coefficient always lies in the range of +1 to -1. A positive correlation coefficient indicates that the returns from two securities generally move in the same direction and vice versa.

Correlation coefficient and covariance are related by the following equation.

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

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

Where,

σ_i and σ_j are the standard deviations of returns for assets i and j and ρ_{ij} is correlation coefficient for asset i and j. there are various cases of correlation and risk condition which are presented below.

i) Perfectly positive correlation (ρ_{ij} = + 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 to reduce risk if does nothing the portfolio consists of perfectly positive correlated stocks.

ii) Perfectly negative correlation (ρ_{ij} = -1)

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

iii) No relation between return (ρ_{ij} = 0)

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

iv) Intermediate risk (ρ_{ij} = +0.5)

Most of the stocks are positively correlated but not perfectly. On average the returns on two stocks would lie on the range of +0.4 and +0.75 under this condition combining stock into portfolio reduces risk but does not eliminated at completely.

3.5.2.7. Return on Market (R_m):

It is the percentage increase in NEPSE index. Market return is the average return of the market as a whole.

$$Rm = \frac{R_m}{n}$$

Where,

$\sum$ = sign of summation.

R_m =Market return

n = Number of samples period

3.5.2.8. Portfolio Risk and Return:

Portfolio is combination of individual or a group of assets. Investors have different types of investment opportunity but they have limited resource for investment so that investors have to choose that investment opportunity which maximizes return for a given level of risk or minimize risk for a given level of return. Thus the combination of these investments is called portfolio.

a. Portfolio Return:

The expected return on a portfolio is simply the weighted average of expected returns on the individual assets in the portfolio with the weights being the fraction of the total portfolio invested in each asset.

$E(R_P) = W_i\ E(R_i) + W_j\ E(R_j)$

Where,

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

W_i = Proportion of wealth invested in i assets.

W_j = Proportion of wealth invested in j assets.

$E(R_i)$ = Expected return on i assets.

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

b. Portfolio Risk:

It is the combined standard deviation of individual stock return. it is the risk of individual securities plus covariance between the securities. It can be written as:

$$\sigma_p = \sqrt{\sigma_i^2 w_i^2 + \sigma_j^2 w_j^2 + 2 w_i w_j \mathrm{cov}(R_i, R_j)}$$

Where,

σ_p = Standard deviation of stock i & J.

W_i =Proportion of asset i.

W_j =Proportion of assets j.

σ_i^2 =Variance of assets i.

σ_j^2 = Variance of assets j.

$\mathrm{cov}(R_i, R_j)$ = Covariance between the return of assets i & j.

3.5.2.9. Portfolio Beta

The beta of portfolio can be easily estimated by using beta of individual assets it includes. Symbolically, it is represented by:

$$\text{Portfolio beta } (b_p) = \sum_{j=1}^{n} Wjbj$$

Where,

Wj = proportion of the portfolio.

b_j = beta coefficient of asset j.

b_p = portfolio beta coefficient.

3.5.2.10. Risk Minimizing Portfolio

It is the ratio of stock that will minimize the possible unsystematic risk. The risk-minimizing portfolio is calculated by using following formula.

$$W_A = \frac{\pm^2_B - Cov(R_A.R_B)}{\pm^2_A + \pm^2_B - Cov(R_A.R_B)}$$

Where,

W_A = Weight of proportion of stock A that minimize the portfolio risk.

$W_A + W_B = 1$, $W_B = 1 - W_A$

3.5.2.11. Required rate of return

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

should be purchased, instead if one is holding such asset, if should be sold immediately. The required rate of return is calculated by using following formula.

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

Where,

$E(R_j)$ = Required rate of return for stocks j

R_f = Risk free rate

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

β_j = An index of systematic risk of stock j (beta coefficient)

3.5.3 Statistical Tools

Test of Hypothesis (T-test)

All the companies listed in the NEPSE index is population of 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 than 30, t-test is the best way for testing the hypothesis.

(a) Testing of Hypothesis (I)

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

Null Hypothesis (H_o)

$\overline{R_i} \text{ X } \overline{R_m}$, i.e. there is no significant difference between the average return of selected banks and overall market return.

Alternative Hypothesis (H_1)

$\overline{R_i} \mid \overline{R_m}$, i.e. there is significant difference between the average return of selected banks and overall market return.

Under the H_o

The test statistics (t) is t = $\frac{\overline{R_i} - \overline{R_m}}{\sqrt{S^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$

Where,

$\overline{R_i}$ = Average return of the portfolio of C.S. of Selected banks

$\overline{R_m}$ = Average return of market

S^2 = $\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$

$n_1 = n_2$ = Number of observation.

s_1^2 = Variance returns 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.

3.6 Methods of analysis and presentation

All the methods of analysis and presentation are applied as simple as possible. Proper financial and statistical tools are used and results are presented in table and also shown in diagram. Interpretation is made in very simple way detail of calculation which cannot be shown in the main body part, are presented in appendices at the end, summary, conclusion and recommendation are presented finally.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

This chapter includes analysis of data collected and their presentation. In this chapter the effort has been made to analyze "Risk and Return on Common Stock Investment of Commercial Banks'. Detail data of MPS, EPS, P/E ratio and dividend of each bank and NEPSE index and their interpretation and analyses is done with reference to the various reading and literature review in the preceding chapter effort is made to analyze and diagnose the recent Nepalese stock market movement, with a special reference to the listed commercial banks. The analysis of data consists of organizing tabulating and assessing financial and statistical result from different tables and diagrams are drawn to make the result more simple and understandable.

4.1 Analysis of Individual Commercial Banks

The study is focused on analyzing the common stock of listed commercial banks separately as the scope of the study concentrated only on listed commercial banks of Nepal. There are currently 28 commercial banks in opeRatio in Nepal and among them only 23 are listed in NEPSE. Among them 3 commercial banks are taken as a sample for the study. They are Nepal Investment Bank Ltd. (NIBL), Himalayan Bank Ltd. (HBL) and Everest Bank Ltd. (EBL). Common stock of each listed commercial banks, their risk and return are analyzes are included in this study.

4.1.1 Nepal Investment Bank Ltd. (NIBL)

4.1.1.1 Introduction

NIBL, Previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50 % of the capital of NIBL) was credit Agricole Indosuez a subsidiary of one of the largest banking group in the world.

With the decision of credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% shareholding of credit Agricloe Indosuez in Nepal Indosuez Bank Ltd.

The name of the bank has been changed to Nepal Investment Bank Ltd. upon approval of banks AGM, NRB and company Register's office with the following shareholding structure.

- "Ka" Class Licensed Institutions 15%
- Insurance Company holding 15 % of the capital.
- Organized Institutions holding 50 % of the capital.
- The remaining 20 % being held by the general public (which means that NIBL is a company listed on the Nepal Stock Exchange)

Now this bank is operating under the full ownership of Nepalese promoters and shareholders. Authorized, Issued and Paid up capital of Rs. 4,000,000,000.00, Rs. 2,409,097,700.00, Rs. 2,407,068,900.00 respectively. Par value per share was Rs. 100. The bank was listed in the NEPSE at B.S. 2054/12/25. The central office of this organization is in Durbar Marg, Kathmandu.

4.1.1.2 Analysis of Total Dividend

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

Fiscal Year	Closing MPS	Cash DPS (Rs.)	Stock Dividend (%)	Total Dividend (Rs.)	EPS (Rs.)	P/E Ratio
2000/01	1150	-	-	-	33.18	34.65
2001/02	760	-	30	238.50	33.59	22.62
2002/03	795	20	-	20	39.56	20.10
2003/04	940	15	-	15	51.70	18.18
2004/05	800	12.5	-	12.5	39.50	20.25
2005/06	1260	20	35.46	633.10	59.35	21.23
2006/07	1729	5	25	670	62.57	27.63
2007/08	2450	7.5	33.33	470.12	57.87	42.33
2008/09	1388	20	-	20	37.42	37.10

Data Source: AGM Report of NIBL

According to table 4.1, NIBL is not paying cash and stock dividend every year. In the year 2005/06, 2006/07 and 2007/08 it is paying both cash and stock dividend. Highest total dividend is paid in the year 2006/07. P/E ratio of NIBL is maximum in the year

2007/08 i.e. 42.33 and minimum in the year 2003/04 i.e. 18.18. The closing MPS of NIBL is maximum of Rs. 2450 in the year 2007/08 and minimum of Rs. 760 in the year 2001/02.

Figure 4.1

Year and Price movement of the Common Stock of NIBL

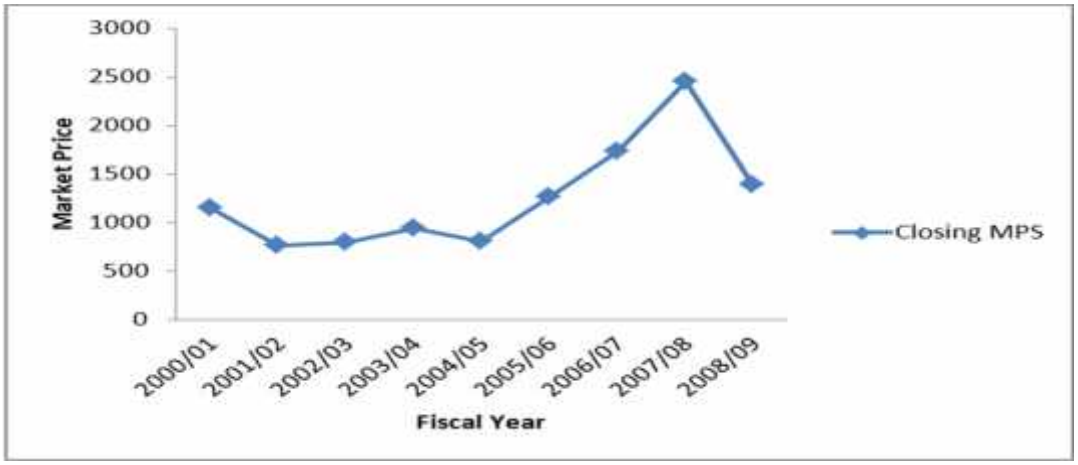


Figure 4.1 shows the trend line of market price in several year of NIBL. It can be seen that there is fluctuation of market price from year 2000/01 to till 2004/05, and the trend line shows the rapid growth after 2004/05 and dropped in 2008/09. There is minimum price in the year 2001/02 i.e. Rs. 760 per share and maximum in the year 2007/08 i.e. Rs. 2450 per share.

4.1.1.3 Expected Return $E(\bar{R}_j)$, Standard Deviation $(\exists_j)$ and Coefficient of Variation (C.V.) of C.S. of NIBL

Table 4.2

Expected Return, S.D. and C.V. of C.S. of NIBL

Fiscal Year	Closing MPS	Total Dividend	$R_j X \frac{D_t \Gamma P_t Z P_{tZ1}}{P_{tZ1}}$	$(R_j Z \bar{R}_j)$	$(R_j Z \bar{R}_j)^2$
2000/01	1150	-	-	-	-
2001/02	760	238.50	-0.1317	-0.4493	0.2019
2002/03	795	20	0.0724	-0.2452	0.0600
2003/04	940	15	0.2013	-0.1163	0.0135
2004/05	800	12.5	-0.1356	-0.4532	0.2054
2005/06	1260	633.10	1.3664	1.0488	1.0999
2006/07	1729	670	0.9040	0.5864	0.3439
2007/08	2450	470.12	0.6890	0.3714	0.1379
2008/09	1388	20	-0.4253	-0.7429	0.5519
			Rj X **2.5405**		$(Rj Z \overset{Z}{R} j)^2$ X2.6144

Where,

Expected Return $E(\bar{R}_j) X \frac{R_j}{n} X \frac{2.5405}{8} X 0.3176$

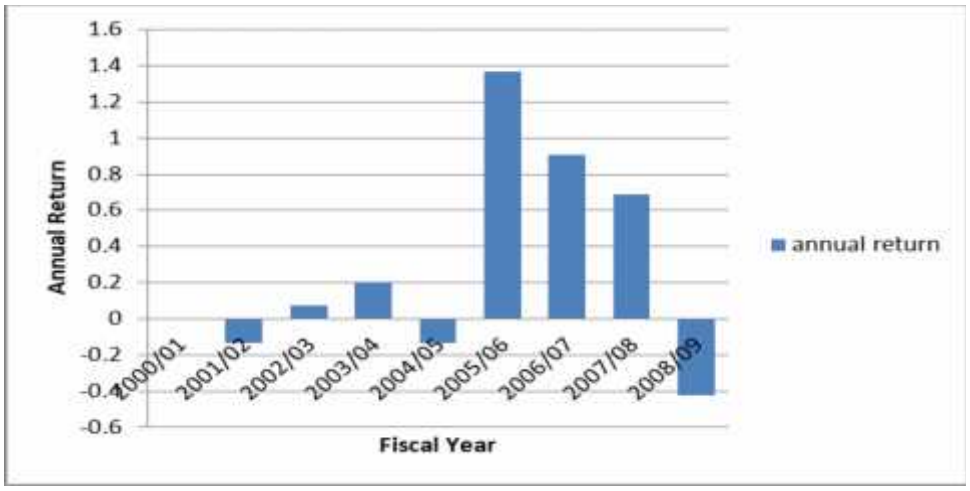
Standard Deviation $(\exists_j) X \sqrt{\frac{(R_j Z \bar{R}_j)^2}{n Z \mathbf{1}}} X \sqrt{\frac{\mathbf{2.6144}}{\mathbf{7}}} X \mathbf{0.6111}$

Coefficient of Variation (C.V.) $X \frac{\exists_j}{R_j} X \frac{0.6111}{0.3176} X 1.9242$

Expected return of NIBL is 0.3176 with the total risk (measured by S.D.) of 0.6111. The C.V. of NIBL is 1.9242 which denotes that to get per unit return 1.9242 risk must be sacrifice. So, higher the C.V., higher will be the risk.

Figure 4.2

Annual Rate of Return of C.S. of NIBL



The Figure 4.2 shows the annual rate of return of C.S. of NIBL in several years. The rate of return is maximum on 2005/06 i.e. 1.3664 which shows highest return profitable while the return is negative in the year 2001/02, 2004/05 and 2008/09 i.e. -0.1317, -0.1356 and -0.4253 respectively.

4.1.2 Himalayan Bank Ltd. (HBL)

4.1.2.1 Introduction

HBL was established in 1993 in joint venture with Habib Bank Limited of Pakistan, with the Bank's main objective to become the bank of first choice. The authorized, Issued and paid of capital is Rs. 1,000,000,000.00, Rs. 810,810,000.00 and Rs. 810,810,000.00 respectively. The par value of per share is Rs. 100.00. The bank was listed in NEPSE in 2050/03/21 (1993 A.D.)

4.1.2.2 Analysis of Total Dividend

Table 4.3

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

Fiscal Year	Closing MPS	Cash DPS (Rs.)	Stock Dividend (%)	Total Dividend (Rs.)	EPS	P/E Ratio
2000/01	1500	27.5	30.00	327.50	93.75	16.03
2001/02	1000	25.00	10.00	108.60	60.26	16.59
2002/03	836	1.32	23.68	200.23	49.45	16.91
2003/04	840	0.00	20.00	184.00	49.05	17.12
2004/05	920	11.58	20.00	231.58	47.91	19.20
2005/06	1100	30.00	5.00	117.00	59.24	18.57
2006/07	1740	15.00	25.00	545.00	60.66	28.69
2007/08	1980	25.00	20.00	377.00	62.74	31.56
2008/09	1760	12.00	31.56	352.85	61.90	28.43

Data Source: AGM Report of HBL

Table 4.3 shows that, HBL is paying cash and stock dividend every year. Highest total dividend is paid in the year 2006/07 i.e. Rs. 545 and lowest is in the year 2001/02 i.e. Rs. 108.60. P/E ratio of HBL is maximum in the year 2007/08 i.e. 31.56 and minimum in the year 2000/01 i.e. 16.03. P/E ratio is in increasing trend from starting year 2000/01 to the ending year 2008/09. The closing MPS of HBL is maximum of Rs. 1980 in the year 2007/08 and minimum of Rs. 836 in the year 2002/03.

Figure 4.3

Year and Price Movement of C.S. of HBL

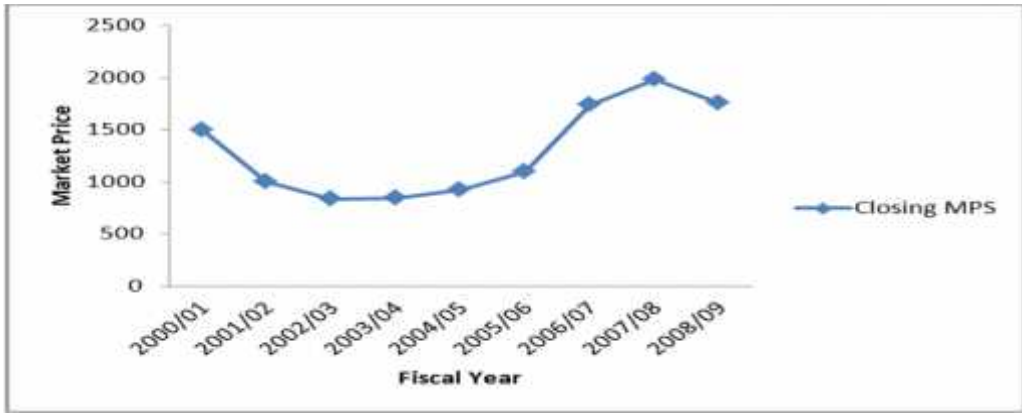


Figure 4.3 shows the trend line of price or MPS of HBL in the fluctuating trend. The minimum is in the year 2002/03 i.e. Rs. 836 and maximum in the year 2007/08 i.e. 1980.

It can be seen that there is decreasing from the year 2001/02 and growing slowly from the year 2003/04 and rapid growth was observed from the year 2005/06 before slightly decreasing in 2008/09.

4.1.2.3 Expected Return $E(\overline{R}_j)$, Standard Deviation $(\exists_j)$ and Coefficient of Variation (C.V.) of C.S. of HBL

Table 4.4

Expected Return, S.D. and C.V. of C.S. of HBL

Fiscal Year	Closing MPS	Total Dividend	$R_j X\frac{D_t \Gamma P_t Z P_{tZ1}}{P_{tZ1}}$	$(R_j Z\overline{R}_j)$	$(R_j Z\overline{R}_j)^2$
2000/01	1500	327.50	-	-	-
2001/02	1000	108.60	-0.2609	-0.5350	0.2862
2002/03	836	200.23	0.0362	-0.2379	0.0566
2003/04	840	184.00	0.2249	-0.0490	0.0024
2004/05	920	231.58	0.3709	0.0968	0.0094
2005/06	1100	117.00	0.3228	0.0487	0.0024
2006/07	1740	545.00	1.0773	0.8032	0.6451
2007/08	1980	377.00	0.3546	0.0805	0.0065
2008/09	1760	352.85	0.0671	-0.2070	0.0428
			$R_j X$**2.1929**		$(Rj Z\overset{Z}{R}j)^2$ X1.0514

Where,

Expected Return $E(\overline{R}_j) X\frac{R_j}{n} X\frac{2.1929}{8} X0.2741$

Standard Deviation $(\exists_j) X\sqrt{\frac{(R_j Z\overline{R}_j)^2}{n Z\mathbf{1}}} X\sqrt{\frac{\mathbf{1.0514}}{\mathbf{7}}} X\mathbf{0.3876}$

Coefficient of Variation (C.V.) $X\frac{\exists_j}{R_j} X\frac{0.3876}{0.2741} X1.4141$

The expected return of HBL is 0.2741 with the total risk (measured by S.D.) of 0.3876. The C.V. of HBL is 1.4141 which indicates that 1.4141 risks must be bearded to get per unit return. It can be shown clearly in the figure 4.4.

Figure 4.4

Annual Rate of Return of C.S. of HBL

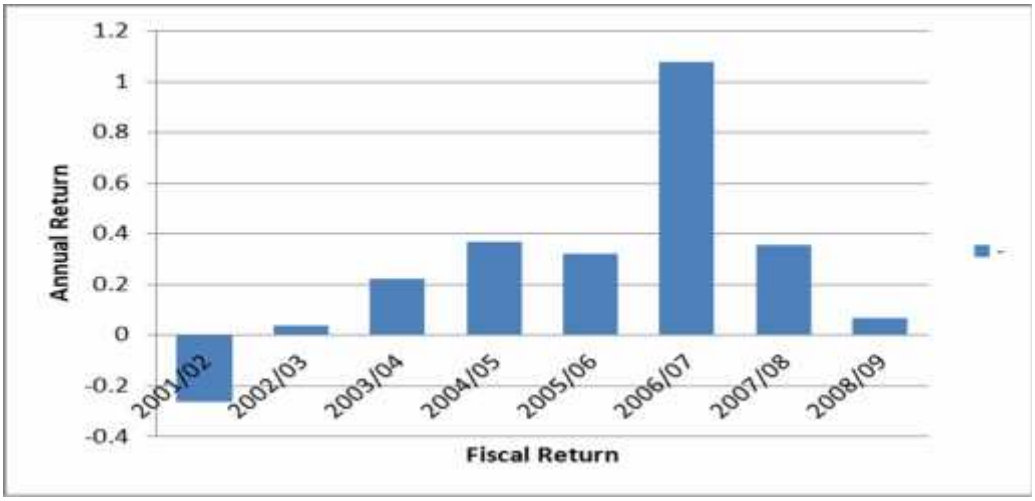


Figure 4.4 shows returns of HBL in the several years. There is negative and fluctuating return in several years. The highest return is in the year 2006/07 i.e. 1.0773 and lowest return of 2001/02 i.e. -0.2609.

4.1.3 Everest Bank Ltd.

4.1.3.1 Introduction

EBL started its operation ratio in 1994 with a view and objective of extending professionalized and efficient banking service to various segments of the country and society as well. The bank is providing customer friendly service through a network of 28 branches.

EBL is joint venture partner with Punjab National Bank holding 20 % of equity in the bank. The bank has been conferred with “Bank of the year 2006, Nepal” by the banker a publication of financial times, London.

Overall management of the bank is managed by foreign counterpart. Its authorized, issued and paid up capital is Rs. 100,00,00,000.00, Rs. 84,06,20,000.00 and Rs. 83,88,21,000.00 respectively. The par value per share is Rs. 100. It was listed on NEPSE in 1905 A.D.

4.1.3.2 Analysis of Total Dividend

Table 4.5

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

Fiscal Year	Closing MPS	Cash DPS (Rs.)	Stock Dividend (%)	Total Dividend (Rs.)	EPS (Rs.)	P/E Ratio
2000/01	650	-	-	-	31.56	20.59
2001/02	405	-	20	89	32.90	12.31
2002/03	445	20	-	20.00	29.90	14.90
2003/04	680	20	-	20.00	45.60	14.90
2004/05	870	-	20	275.80	54.20	16.00
2005/06	1379	25	-	25.00	62.80	22.00
2006/07	2430	10	30	862.00	78.40	31.00
2007/08	3120	20	10	265.50	91.82	34.11
2008/09	2455	30	-	30.00	100.00	24.55

Data Source: AGM Report of EBL

According to table 4.5, there is no cash dividend in the year 2000/01, 2001/02 and 2004/05. And it is paying stock dividend in year 2001/02, 2004/05, 2006/07 and2007/08. In the year 2006/07 and 2007/08 it is paying both cash and stock dividend. Highest total dividend is paid in the year 2006/07 i.e. Rs. 862.00 and there is no stock and cash dividend in the year 2000/01. P/E ratio of EBL is maximum in the year 2007/08 i.e. 34.11 and minimum in the year 2001/02 i.e.12.31. P/E ratio is in increasing trend from starting year 2002/03. The closing MPS of EBL is maximum of Rs. 3120 in the year 2007/08 and minimum of Rs. 405 in the year 2001/02.

Figure 4.5

Year and Market Price Movement of the C.S. of EBL

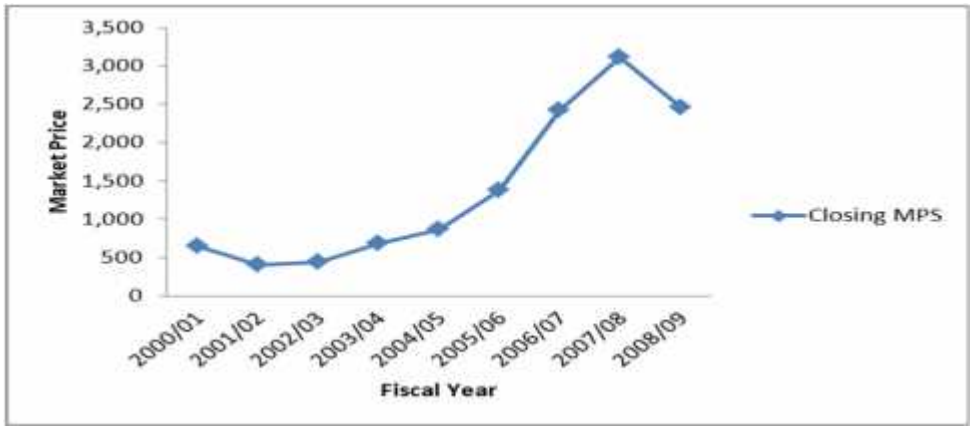


Figure 4.5 shows the trend line of price or MPS of EBL which is in increasing trend from 2003/04 with decrement in 2008/09. The price is minimum in the year 2001/02 i.e. Rs. 405 and maximum in the year 2007/08 i.e. 3120. It is shown that there is slow growth from year 2001/02 to 2004/05 and rapid growth from 2004/05 till 2007/08. Overall price of the EBL seems as satisfactory with their growth in the market price.

4.1.3.3 Expected Return $E(\overline{R}_j)$, Standard Deviation $(\exists_j)$ and Coefficient of Variation (C.V.) of C.S. of EBL

Table 4.6

Expected Return, S.D. and C.V. of C.S. of EBL

Fiscal Year	Closing MPS	Total Dividend	$R_j X\frac{D_t \Gamma P_t Z P_{tZ1}}{P_{tZ1}}$	$(R_j Z\overline{R}_j)$	$(R_j Z\overline{R}_j)^2$
2000/01	650	-	-	-	-
2001/02	405	89	-0.2400	-0.6596	0.4351
2002/03	445	20	0.1481	-0.2715	0.0737
2003/04	680	20	0.5730	0.1534	0.0235
2004/05	870	275.80	0.6850	0.2654	0.0704
2005/06	1379	25	0.6138	0.1942	0.0377
2006/07	2430	862	1.3872	0.9676	0.9362
2007/08	3120	265.50	0.3932	-0.0264	0.0007
2008/09	2455	30	-0.2035	-0.6231	0.3883
			R_j X3.3568		$(Rj Z\overline{R}j)^2$ X1.9656

Where,

Expected Return $E(\bar{R}_j) X \frac{R_j}{n} X \frac{\mathbf{3.3568}}{\mathbf{8}} X \mathbf{0.4196}$

Standard Deviation $(\exists_j) X \sqrt{\frac{(R_j Z \bar{R}_j)^2}{n Z \mathbf{1}}} X \sqrt{\frac{\mathbf{1.9656}}{\mathbf{7}}} X \mathbf{0.5299}$

Coefficient of Variation (C.V.) $X \frac{\exists_j}{R_j} X \frac{0.5299}{0.4196} X 1.2629$

The expected return of EBL is 0.4196 with total risk (measured by S.D.) of 0.5299. The C.V. of EBL is 1.2629 which indicates the investor needs to sacrifice 1.2629 unit of risk for per unit return.

Figure 4.6

Annual Return of C.S. of EBL

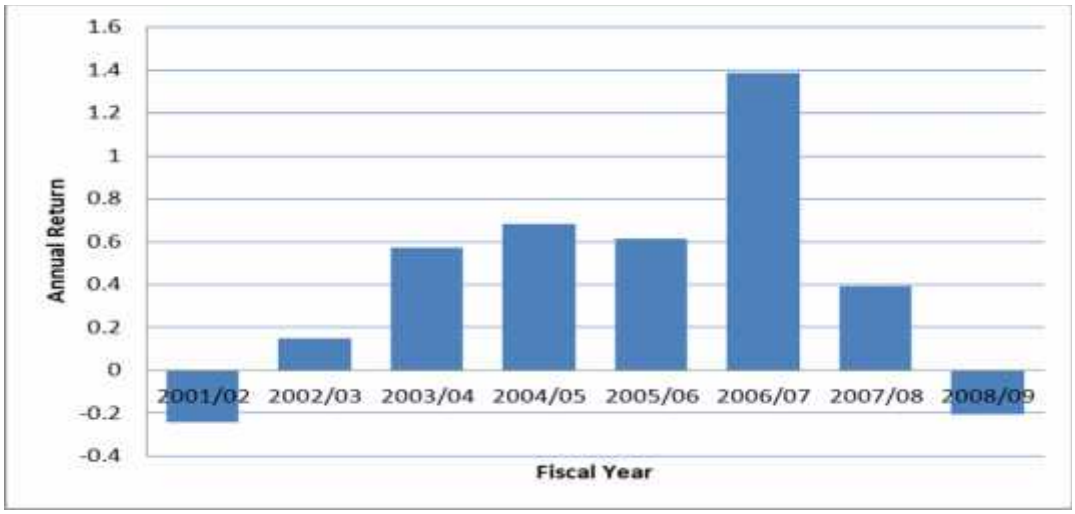


Figure 4.6 shows the return of EBL which is negative in the year 2001/02 and positive in following years. There is highest return of 1.3872 in the year 2006/07and lowest return of -0.2400 in the year 2001/02. There is fluctuation of returns.

4.2 Inter Bank Comparison

According to the result from analysis part, a comparative analysis of return, total risk and risk per unit performed here. Expected return, standard deviation of return and coefficient of variation of each bank for the year 2001/02 to 2008/09 are given in the table 4.7.

Table 4.7

Expected Return, S.D. and C. V. of each Bank

Bank	**Expected Return** $E(\overline{R}_j)$	**Standard Deviation** $(\exists)$	**Coefficient of Variation (C.V.)**	**Remarks**		
				Return	**Risk**	**C.V.**
NIBL	0.3176	0.6111	1.9242	-	Highest	Highest
HBL	0.2741	0.3876	1.4141	Lowest	Lowest	-
EBL	0.4196	0.5299	1.2629	Highest	-	Lowest

Source: Table 4.2, table 4.4 and table 4.6

The table 4.7 shows the overall return and risk of the individual banks. Here, the investor can get the highest return from EBL i.e. 0.4196 and lowest return from HBL i.e. 0.2741. Total risk (measured by standard deviation) is observed maximum of the C.S. of NIBL i.e. 0.6111 and minimum of HBL i.e. 0.3876. This means that quantitative of total risk is very high in NIBL. Higher the C.V. higher the risk and C.V. of NIBL is highest i.e. 1.9242 than that of other commercial banks. So common stock of NIBL is more risky than other banks. Investment in EBL is desirable because its return is higher and risk is lowest compared to others.

To make the comparison easily understandable Figure 4.7 is presented below.

Figure 4.7

Expected Return, S.D. and C.V. of each Bank

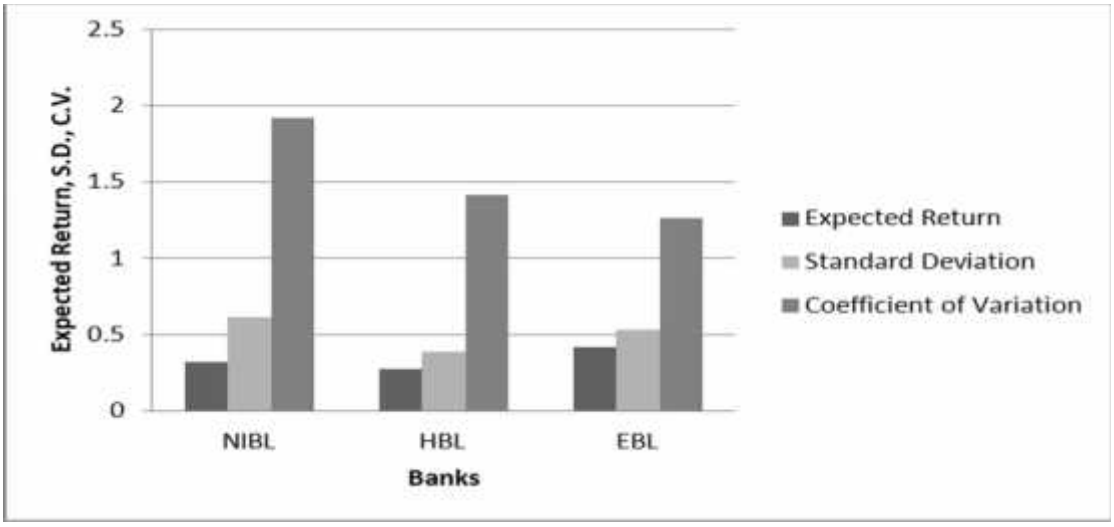


Figure 4.7 clarify the expected return, standard deviation and coefficient of variation of each individual bank. It is showing the comparison of these banks in terms of risk and return.

4.3 Market Capitalization

On the basis of Market Capitalization at the end of 2008/09, size of each bank is presented in table 4.8 that NIBL has highest market capitalization with Rs. 19208.41 million and Everest Bank Ltd has lowest market capitalization with Rs.13129.67 million among these three companies at 2008/09. So, NIBL is the biggest and EBL is the smallest company on the basis of market capitalization. The figure 4.8 shows that the comparative proportion of the market capitalization of listed three banks.

Table 4.8

Market Capitalization of listed Banks at July 16, 2008 to July 15, 2009

Bank	Market capitalization (In millions)	Percentage
NIBL	19208.41	40.27 %
HBL	15360	32.20 %
EBL	13129.67	27.53 %
Total	47698.08	100.00 %

Source: Trading Report (2008 July-2009 July) SEBO/N

Comparative proportion of market capitalization of listed three commercial banks is shown in given figure 4.8

Figure 4.8

Comparative Proportion of Market Capitalization of Listed Commercial Banks

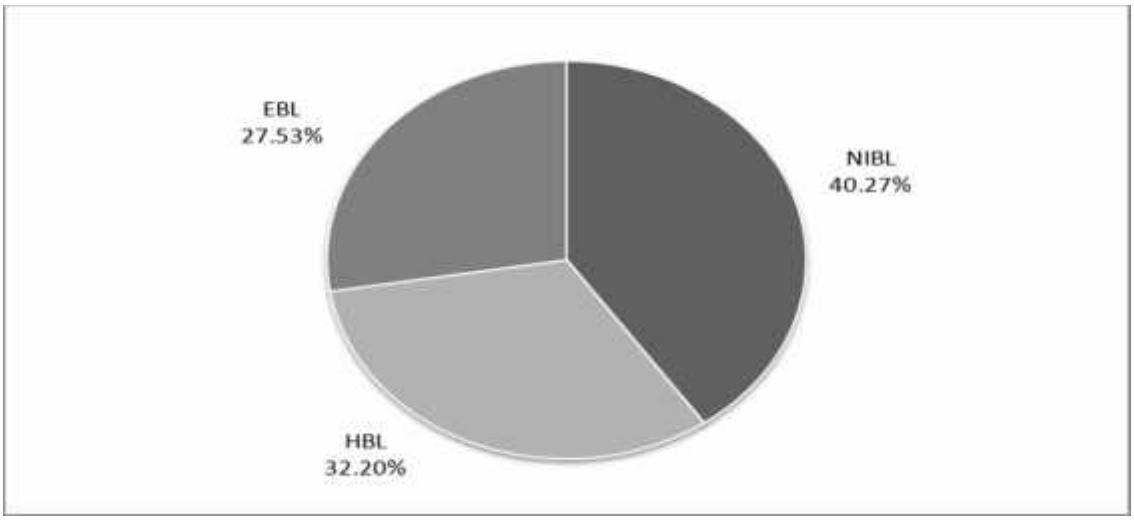


Figure 4.8 shows the share of each bank in the market. NIBL is in the highest position by occupying 40.27% share in the market and EBL is in the lowest positing by occupying 27.53% of share in the market among others.

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. With this NEPSE base market portfolio return its standard deviation and coefficient of variation is presented below

Table 4.9

Calculation of Return, S.D. and C.V. of Overall Market

Fiscal Year	Market Index	$R_m X\frac{NI_t Z NI_{tZ1}}{NI_{tZ1}}$	$(R_m Z\bar{R}_m)$	$(R_m Z\bar{R}_m)^2$
2000/01	348.43	-	-	-
2001/02	227.54	-0.3470	-0.4749	0.2255
2002/03	205.46	-0.0970	-0.2249	0.0505
2003/04	222.04	0.0807	-0.0472	0.0022
2004/05	286.67	0.2911	0.1632	0.0266
2005/06	386.83	0.3494	0.2215	0.0491
2006/07	683.95	0.7681	0.6402	0.4098
2007/08	963.36	0.4085	0.2806	0.0787
2008/09	548.61	-0.4305	-0.5584	0.3118
		R_m X1.0233		$(R_m Z\overset{Z}{R}_m)^2$ X1.1542

We have,

Expected Return $E(\bar{R}_m) = \frac{R_m}{n} X\frac{1.0233}{8} X0.1279$

Standard Deviation $(\exists_m) = \sqrt{\frac{(R_m Z\bar{R}_m)^2}{n Z1}} X\sqrt{\frac{1.1542}{7}} X0.4061$

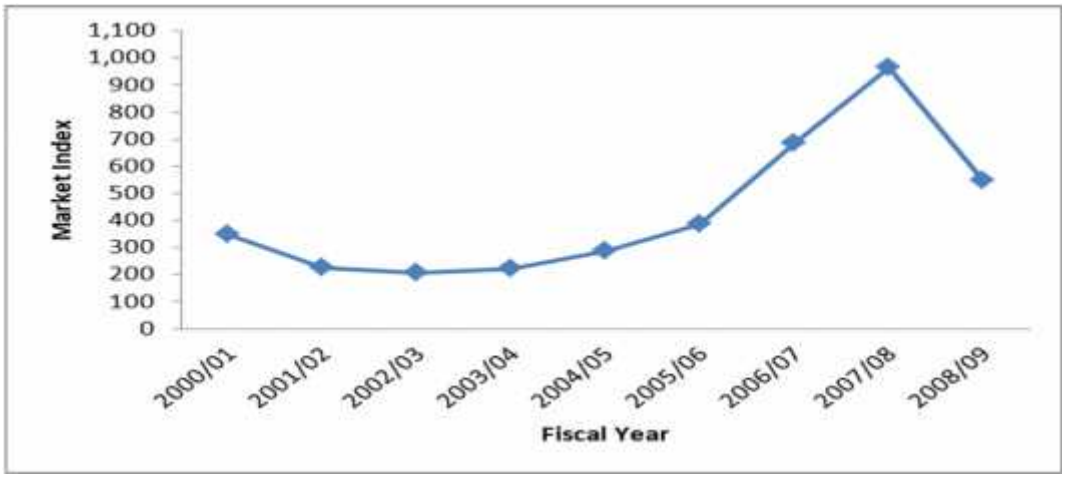
Coefficient of Variation $(C.V.) = \frac{\exists_m}{R_m} X\frac{0.4061}{0.1279} X3.1748$

Table 4.9 shows the return of market in several years. There is highest return of market in the year 2007/08 i.e. 0.7681 and there is negative return of market in the year 2001/02, 2002/03 and 2008/09 i.e. -0.3470, -0.0970 and -0.4305 respectively.

The expected return of the market is 0.1279 with the total risk (measured by S.D.) of 0.4061. C.V of market is 3.1748 which means, 3.1748 risks must be sacrificed to get per unit market return.

Figure 4.9

NEPSE Index Movement



The figure 4.9 shows the movement of NEPSE Index. It decreased slightly from the fiscal year 2000/01 to 2002/03 and kept on increasing gradually from 2002/03 till it reached the maximum index of 963.36 in the year 2007/08. Again, in 2008/09, the index sharply decreased. The minimum index of 205.46 was recorded in the year 2002/03.

Figure 4.10

Market Return Movement

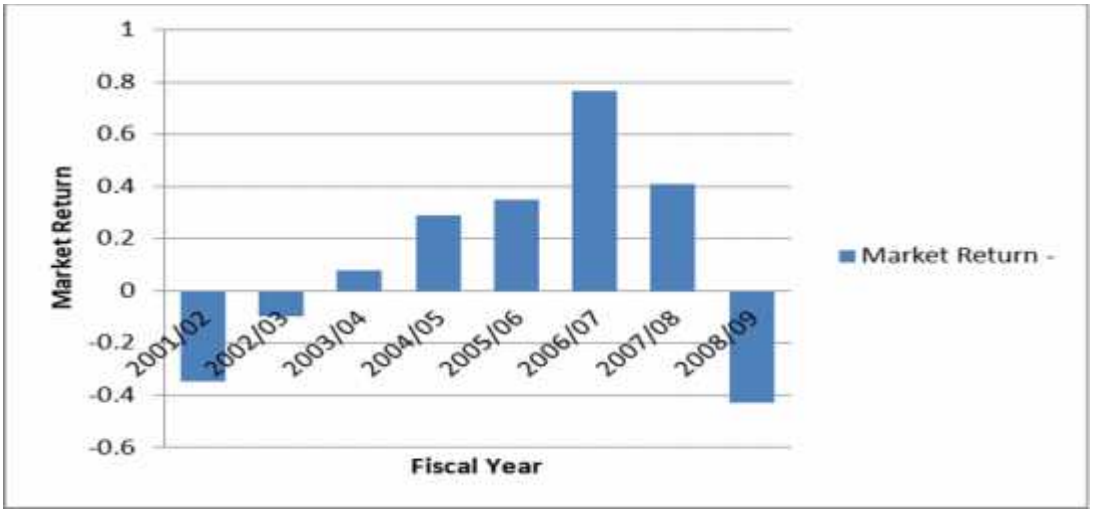


Figure 4.10 shows that the market return is negative in year 2001/02, 2002/03 and 2008/09 with positive return in increasing trend from 2003/04 and reaching the peak in 2006/07. It again decreased in 2007/08, showing negative return in year 2008/09.

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 4.10

Beta coefficient of C.S. of NIBL

Fiscal Year	$(R_m \; Z\bar{R}_m)$	$(R_j \; Z\bar{R}_j)$	$(R_m \; Z\bar{R}_m)(R_j \; Z\bar{R}_j)$
2001/02	-0.4749	-0.4493	0.2134
2002/03	-0.2249	-0.2452	0.0551
2003/04	-0.0472	-0.1163	0.0055
2004/05	0.1632	-0.4532	-0.0739
2005/06	0.2215	1.0488	0.2323
2006/07	0.6402	0.5864	0.3754
2007/08	0.2806	0.3714	0.1042
2008/09	-0.5584	-0.7429	0.4148
			$[(R_m \; Z\bar{R}_m)(R_j \; Z\bar{R}_j)]$ X**1.3268**

We have,

$$\text{Cov}((R_m, R_j) = \frac{[(R_m \; Z\bar{R}_m)(R_j \; Z\bar{R}_j)]}{n \; Z1} X \frac{1.3268}{8 \; Z1} X \frac{1.3268}{7} X 0.1895$$

Again,

$$\beta_m = \frac{\text{Cov}(R_m, R_j)}{\sigma_m^2} X \frac{0.1895}{(0.4061)^2} X 1.1491$$

Where,

n = number of observation

σ_m^2 = Variance of market

R_j = Return on Sock of NIBL

R_m = Return of Market

From sensitivity analysis of NIBL, the beta coefficient is 1.1491, which is more than 1, shows that NIBL is very much volatile and aggressive Investor can purchase this type of investment. From the view of investment, it is risky.

Table 4.11

Beta Coefficient of the C.S. of HBL

Fiscal Year	$(R_m \; Z\overline{R}_m)$	$(R_j \; Z\overline{R}_j)$	$(R_m \; Z\overline{R}_m)(R_j \; Z\overline{R}_j)$
2001/02	-0.4749	-0.5350	0.2541
2002/03	-0.2249	-0.2379	0.0535
2003/04	-0.0472	-0.0490	0.0023
2004/05	0.1632	0.0968	0.0158
2005/06	0.2215	0.0487	0.0108
2006/07	0.6402	0.8032	0.5142
2007/08	0.2806	0.0805	0.0226
2008/09	-0.5584	-0.2070	0.1156
			$[(R_m \; Z\overline{R}_m)(R_j \; Z\overline{R}_j)]$ X0.9889

We have,

$$\text{Cov}\ (R_m, R_j) = \frac{[(R_m \; Z\overline{R}_m)(R_j \; Z\overline{R}_j)]}{n \; Z1} X \frac{0.9889}{8 \; Z1} X \frac{0.9889}{7} X0.1413$$

Again,

$$\beta_m = \frac{\text{Cov}(R_m, R_j)}{\exists_m^{\,2}} X \frac{0.1413}{(0.4061)^2} X0.8568$$

Where,

n = number of observation

$\exists_m^{\,2}$ = Variance of market

R_j = Return on Sock of HBL

From sensitivity analysis of HBL, the beta coefficient is 0.8568, which is less than 1, shows that HBL is less volatile and risk averter can purchase this type of investment. From the view of investment, it is less risky.

Table 4.12

Beta Coefficient of the C.S. of EBL

Fiscal Year	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m)(R_j - \bar{R}_j)$
2000/01	-0.4749	-0.6596	0.3132
2001/02	-0.2249	-0.2715	0.0611
2003/04	-0.0472	0.1534	-0.0072
2004/05	0.1632	0.2654	0.0433
2005/06	0.2215	0.1942	0.0430
2006/07	0.6402	0.9676	0.6195
2007/08	0.2806	-0.0264	-0.0074
2008/09	-0.5584	-0.6231	0.3479
			$[(R_m - \bar{R}_m)(R_j - \bar{R}_j)]$ X1.4134

[

We have,

$$\text{Cov}\ (R_m, R_j) = \frac{[(R_m - \bar{R}_m)(R_j - \bar{R}_j)]}{n - 1} X \frac{1.4134}{8 - 1} X \frac{1.4134}{7} X 0.2019$$

Again,

$$\beta_m = \frac{\text{Cov}(R_m, R_j)}{\sigma_m^2} X \frac{0.2019}{(0.4061)^2} X 1.2243$$

Where,

n	=	number of observation
σ_m^2	=	Variance of Market
R_j	=	Return on Sock of EBL

From sensitivity analysis of EBL, the beta coefficient is 1.2243, which is more than 1, shows that EBL is very much volatile and aggressive Investor can purchase this type of investment. From the view of investment, it is risky.

Table 4.13

Beta Coefficient of each Bank

Banks	Beta Coefficient	Remarks
NIBL	1.1491	-
HBL	0.8568	Least Aggressive
EBL	1.2243	Most Aggressive

Source: Table 4.10, 4.11 and 4.12

Here, as shown in the table 4.13, EBL and NIBL have higher beta coefficient than the beta coefficient of market. The stock of these banks is aggressive and HBL has lower beta coefficient than market so it is a defensive stock. The stock of EBL seems most aggressive than other stocks where as HBL seems least aggressive.

4.4.3 Required Rate of Return $(\overline{R}_j)$, Expected Rate of Return $[E(R_j)]$ and Price Evaluation Analysis

CAPM is model that assumes stock's required rate of return is equal to the risk free rate plus its 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 rate 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, 91 days duration Treasury bill is taken as a risk free rate from website of NRB. This is approximately 6.35%.

Table 4.14

Required Rate of Return, Expected Return and Price Evaluation

Banks	R_f	$E(R_m)$	Beta (β_j)	$E(R_j) = R_f + [E(R_m) - R_f]\beta_j$	$(\overline{R}_j)$	Price Evaluation
NIBL	0.0635	0.1279	1.1491	0.1375	0.3176	Underpriced
HBL	0.0635	0.1279	0.8568	0.1187	0.2741	Underpriced
EBL	0.0635	0.1279	1.2243	0.1423	0.4196	Underpriced

Where,

R_f = Risk free rate of return (0.0635)

$E(R_m)$ = Market rate or return (0.1279)

$(\wp_j)$ = Beta of individual sample Banks.

$(\overline{R}_j)$ = Expected rate of return

In the table 4.14, the expected rate of return is higher than the required rate of return, so the stocks of NIBL, HBL and EBL are underpriced. It shows that these banks have stock with good investment opportunity and all the stocks are in the demand. Their stock value may increase in the near future providing the investors a higher return. Since all stocks are underpriced, investor can gain profit from buying those stocks. These stocks are recommended to buy.

4.5 Portfolio Analysis

A portfolio is a combination of investment assets. Portfolio theory was proposed by Harry M. Markowitz which gives the concept of diversification of risk by investing total funds in more than a single asset or single stock. Markowitz diversification helps the investor to attain a higher level or expected utility than with any other risk reduction technique. In a very simple way we can understand it as not keeping all the eggs in a single basket. The risk of individual securities can be reduced without losing considerable return. The main objective of portfolio is reduction of unsystematic risk from which investors can take more benefit by making efficient portfolio. Therefore a brief analysis of risk and return is extended in portfolio context. The portfolio expected return is straight forward weighted average of return on the individual securities. The weight is equal to the proportions of the total fund invested in each security (the weight must sum to 100%).

4.5.1 Analysis or Risk Diversification

The analysis is based on two assets portfolio and the tools for analysis are presented in the third chapter (research methodology). Here the portfolio of common stock of NIBL (say stock A), HBL (say stock B) and EBL (say stock C) is analyzed.

Covariance between Stocks

$COV(R_{A,}R_B)$	0.2070
$COV(R_{B,}R_C)$	0.1559
$COV(R_{A,}R_C)$	0.2414

Source: Appendix IV, V, VI

Where,

$COV(R_{A,}R_B)$ = Covariance returns of NIBL and HBL

$COV\ (R_{B,}R_C)$ = Covariance returns of HBL and EBL

$COV(R_{B,}R_C)$ = Covariance returns of NIBL and EBL

Banks	S.D. of Stocks	Expected Return of Stocks
NIBL	$\exists_A$ X**0.9764**	$E(R_A)$ X0.3176
HBL	$\exists_B$ X0.3876	$E(R_B)$ X0.2741
EBL	$\exists_C$ X0.5299	$E(R_C)$ X0.4196

Source: Table 4.7

4.5.1.1 Portfolio of stock NIBL (A) and HBL (B)

The optimal portfolio weight of stock A and B, which minimizes the risk, is given below:

$$W_A = \frac{\exists_B^2 - Cov(R_{A,}R_B)}{\exists_A^2 + \exists_B^2 - Cov(R_{A,}R_B)}$$

$W_B = 1 - W_A$

Where,

W_A = optimal weight to invest in stock of NIBL

W_B = optimal weight to invest in stock of HBL

$\exists_A^2$ = variance of NIBL

$\exists_B^2$ = Variance of HBL

Now,

$$W_A = \frac{0.3876^2 - 0.2070}{0.9764^2 + 0.3876^2 - 0.2070} = \frac{0.1806}{0.8966} = 0.2014$$

$$W_B = 1 - W_A = 1 - 0.2014 = 0.7986$$

As we know that the proportion of stock in the portfolio is constructed with 20.14% of NIBL and 79.86% of HBL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return.

Portfolio Return

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

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

= 0.2014 x 0.3176 + 0.7986 x 0.2741

= 0.2829

= 28.29 %

Where,

$E(R_p)$ = Expected Return on Portfolio of stock NIBL and HBL

$E(R_A)$ = Expected Return of NIBL

$E(R_B)$ = Expected Return of HBL

Portfolio Risk

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

$$\exists_p = \sqrt{W_A^2 + \exists_A^2 + W_B^2 + \exists_B^2 + 2COV_{AB} + W_A + W_B}$$

$= \sqrt{0.2014^2 \mid 0.9764^2 \Gamma 0.7986^2 \mid 0.3876^2 \Gamma 2 \mid 0.2070 \mid 0.2014 \mid 0.7986}$

$= \sqrt{0.2011}$

$= 0.4484$

$= 44.84\%$

Where,

$\exists_p$ = The standard deviation of portfolio return of stock NIBL and HBL

From the above calculation the portfolio return and risk for NIBL and HBL are 28.29% and 44.84% respectively.

4.5.1.2 Portfolio of Stock HBL (B) and EBL (C)

The optimal portfolio weight of stock B and C, which minimized the risk, is given below.

$$W_B \; X \frac{\exists_C^{\,2} \; Z Cov(R_{B,} R_C)}{\exists_B^{\,2} \; \Gamma \exists_C^{\,2} \; Z Cov(R_{B,} R_C)}$$

$$W_C \; X 1 \; Z W_B$$

Where,

W_B = optimal weight to invest in stock of HBL

W_C = optimal weight to invest in stock of EBL

$\exists_B^{\,2}$ = variance of HBL

$\exists_C^{\,2}$ = Variance of EBL

Now,

$$W_B \; X \frac{0.5299^2 \; Z 0.1559}{0.3876^2 \; \Gamma 0.5299^2 \; Z 0.1559} \; X \frac{0.1250}{0.2751} \; X 0.4543$$

$$W_C \; X 1 \; Z W_B \; X 1 \; Z 0.4543 \; X 0.5457$$

As we know that the proportion of stock in the portfolio is constructed with 45.43% of HBL and 54.57% of EBL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return.

Portfolio Return

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

Expected Return on portfolio $E(R_P) = W_B \times E(R_B) + W_C \times E(R_C)$

= 0.4543 x 0.2741 + 0.5457 x 0.4196

= 0.3535

= 35.35%

Where,

$E(R_p)$ = Expected Return on Portfolio of stock HBL and EBL

$E(R_B)$ = Expected Return of HBL

$E(R_C)$ = Expected Return of EBL

Portfolio Risk

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

$$\sigma_p = \sqrt{W_B^2 + \sigma_B^2 \times W_C^2 + \sigma_C^2 \times 2COV_{BC} + W_B + W_C}$$

$$= \sqrt{0.4543^2 + 0.3876^2 \times 0.5457^2 + 0.5299^2 \times 2 + 0.1559 + 0.4543 + 0.5457}$$

$$= \sqrt{0.1919}$$

= 0.4381

= 43.81%

Where,

σ_p = The standard deviation of portfolio return of stock HBL and EBL

From the above calculation the portfolio return and risk for HBL and EBL are 35.35 % and 43.81 % respectively.

4.5.1.3 Portfolio of Stocks NIBL (A) and EBL (C)

The optimal portfolio weight of stock A and C, which minimizes the risk, is given below

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

$$W_C = 1 - W_A$$

Where,

W_A	=	optimal weight to invest in stock of NIBL
W_C	=	optimal weight to invest in stock of EBL
σ_A^2	=	variance of NIBL
σ_C^2	=	Variance of EBL

Now,

$$W_A = \frac{0.5299^2 - 0.2414}{0.9764^2 + 0.5299^2 - 0.2414} = \frac{0.0394}{0.9928} = 0.0397$$

$$W_C = 1 - W_A = 1 - 0.0397 = 0.9603$$

As we know that the proportion of stock in the portfolio is constructed with 3.97% of NIBL and 96.03% of EBL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return.

Portfolio Return

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

Expected Return on portfolio $E(R_P) = W_A | E(R_A) + W_C | E(R_C)$

= 0.0397 x 0.3176 + 0.9603 x 0.4196

= 0.4156

= 41.56%

Where,

$E(R_p)$ = Expected Return on Portfolio of stock NIBL and EBL

$E(R_A)$ = Expected Return of NIBL

$E(R_c)$ = Expected Return of EBL

Portfolio Risk

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

$$\exists_p \; X\sqrt{W_A{}^2 \mid \exists_A{}^2 \Gamma W_C{}^2 \mid \exists_C{}^2 \Gamma 2COV_{AC} \mid W_A \mid W_C}$$

$$= \sqrt{0.0397^2 \mid 0.9764^2 \Gamma 0.9603^2 \mid 0.5299^2 \Gamma 2 \mid 0.2414 \mid 0.0397 \mid 0.9603}$$

$$= \sqrt{0.0778}$$

$$= 0.2789$$

$$= 27.89\%$$

Where,

$\exists_p$ = The standard deviation of portfolio return of stock NIBL and EBL

From the above calculation the portfolio return and risk for NIBL and EBL are 41.56 % and 27.89 % respectively.

Table 4.15

Portfolio

Risk and Return

Banks	**$E(R_P)$**	$\exists_p$	**Remarks**	
			Return	**Risk**
NIBL and HBL	28.29%	44.84%	Lower	Highest
HBL and EBL	35.35%	43.81%	-	-
NIBL and EBL	41.56%	27.89%	Highest	Lower

4.6 Correlation between Banks

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 4.16 shows presented below shown the various consolations between each sample banks.

Table 4.16

Correlation Matrix

Sample	NIBL	HBL	EBL
NIBL	1	0.5474	0.4666
HBL		1	0.7590
EBL			1

Source: Appendix IV, V and VI

Since, table 4.16 (correlation matrix) has shown the positive correlation between the banks. If correlation between stocks is +1, any part of risk cannot be reduced by diversification. On the other hand, if correlation between stocks 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 NIBL and EBL is much better than any other combination because the combination has the lowest correlation.

4.7 Systematic and Unsystematic Risk

4.7.1 Systematic Risk

This is a part of total risk and cannot be diversified through creation of portfolio. This risk creates from systematic factor or market factor or macro-economic factor like inflation, GDP, interest etc. Systematic risk can be expressed in formula as:

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

Where,

SR	=	Systematic Risk
$COV(R_{j,}R_m)$	=	Covariance returns of stock with market
$\exists_m$	=	S. D. of market

4.7.2 Unsystematic Risk

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

USR = Total Risk - SR

$= \exists_j\ ZSR$

Where,

USR	=	Unsystematic Risk
SR	=	Systematic Risk
$\exists_j$	=	S.D. of stock of sample bank

4.7.3 Systematic and Unsystematic Risk of NIBL with Market

$$SR\ X\frac{COV(R_j,R_m)}{\exists_m}\ X\frac{0.1895}{0.4061}\ X0.4666$$

$$USR = \exists_J \; ZSR = 0.6111 \; Z0.4666 = 0.1445$$

Note: $COV(R_{j,}R_m), \exists_m, \exists_j$ are taken from table 4.10, 4.9 and 4.2 respectively.

Where,

$COV(R_{j,}R_m)$ = Covariance returns of NIBL with market

$\exists_j$ = S.D. of NIBL

4.7.3.1 Proportion of Systematic and Unsystematic Risk

$$\text{Proportion of } SR = \frac{SR}{TR} = \frac{0.4666}{0.6111} = 0.7635 = 76.35\%$$

$$\text{Proportion of } USR = \frac{USR}{TR} = \frac{0.1445}{0.6111} = 0.2365 = 23.65\%$$

Out of total risk in stock of NIBL; 76.35% is undiversifiable risk and created from systematic factor or market factor and the remaining 23.65% is diversifiable risk and created from company related factor.

4.7.4 Systematic and Unsystematic Risk of HBL with Market

$$SR = \frac{COV(R_j, R_m)}{\exists_m} = \frac{0.1413}{0.4061} = 0.3479$$

$$USR = \exists_J \; ZSR = 0.3876 \; Z0.3479 = 0.0397$$

Note: $COV(R_jR_m)$, $\exists_m$, $\exists_j$ are taken from table 4.11, 4.9 and 4.4 respectively.

Where,

$COV(R_{j,}R_m)$ = Covariance returns of HBL with market

$\exists_j$ = S.D. of HBL

4.7.4.1 Proportion of Systematic and Unsystematic Risk

$$\text{Proportion of SR } X\frac{SR}{TR} X\frac{0.3479}{0.3876} X0.8976 X89.76\%$$

$$\text{Proportion of USR } X\frac{USR}{TR} X\frac{0.0397}{0.3876} X0.1024 X10.24\%$$

Out of total risk in stock of HBL; 89.76% is undiversifiable risk and created from systematic factor or market factor and the remaining 10.24% is diversifiable risk and created from company related factor.

4.7.5 Systematic and Unsystematic Risk of EBL with Market

$$SR\ X\frac{COV(R_j,R_m)}{\exists_m} X\frac{0.2019}{0.4061} X0.4972$$

$$USR\ X\exists_j\ ZSR\ X0.5299\ Z0.4972\ X0.0327$$

Note: $COV(R_jR_m)$, $\exists_m$, $\exists_j$ are taken from table 4.12, 4.9 and 4.6 respectively.

Where,

$COV(R_jR_m)$ = Covariance returns of EBL with market

$\exists_j$ = S.D. of EBL

4.7.5.1 Proportion of Systematic and Unsystematic Risk

$$\text{Proportion of SR } X\frac{SR}{TR} X\frac{0.4972}{0.5299} X0.9383 X93.83\%$$

$$\text{Proportion of USR } X\frac{USR}{TR} X\frac{0.0327}{0.5299} X0.0617 X6.17\%$$

Out of total risk in stock of EBL; 93.83% is undiversifiable risk and created from systematic factor or market factor and the remaining 6.17% is diversifiable risk and created from company related factor.

Table 4.17

Proportion of SR and USR

Bank	SR	USR
NIBL	76.35%	23.65%
HBL	89.76%	10.24%
EBL	93.83%	6.17%

4.8 Testing of Hypothesis

The hypothesis is based on the text of significance for difference of mean (t-test). For this expected return of selected banks are calculated in following table.

4.8.1 Testing of Hypothesis Expected Return of NIBL with overall Market Return

For NIBL Banks	**For Market**
Sample size (n_1) = 9 years	(n_2) = 9 years
Expected Return $(\bar{R}_j)$ = 0.3176	$(\bar{R}_m)$ = 0.1279
Standard Deviation (S_1) = 0.9764	(S_2) = 0.4061

Null Hypothesis (H_0)

$\bar{R}_j = \bar{R}_m$ I.e. there is no significance difference between the Expected return of NIBL and overall market return.

Alternative Hypothesis (H_1)

$\bar{R}_j \neq \bar{R}_m$ i.e. there is significance difference between the Expected return of NIBL 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 NIBL bank = 0.3176

$\bar{R}_m$ = Expected Return of market = 0.1279

$n_1 = n_2$ = Numbers of years in Sample = 9

S^2 = Estimated variance of population

$$S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} = \frac{(9-1)(0.9764)^2 + (9-1)(0.4061)^2}{9+9-2}$$

$$= \frac{0.6269 + 1.3193}{16}$$

$$= \frac{8.9462}{16}$$

$$= 0.5591$$

S_1^2 = Variance of C.S. of NIBL banks

S_2^2 = Variance of market return

Hence

$$t = \frac{0.3176 - 0.1279}{\sqrt{0.5591\left(\frac{1}{9} + \frac{1}{9}\right)}} = \frac{\mathbf{0.1897}}{\mathbf{0.3525}} = 0.5382$$

Degree of freedom = $n_1 + n_2 - 2$ = 9+9-2 = 16

Level of Significance = 5 %

The tabulated value of t at 5 % level of significance and 12 degree of freedom is 2.120

Decision

Since the calculated value "t" is less than tabulated value. The null hypothesis (H_0) is accepted at 5 % level of significance i.e. there is no significance difference between the expected return of NIBL and overall market return.

4.8.2 Testing of Hypothesis Expected Return of HBL with overall Market Return

For HBL Banks	**For Market**
Sample size (n_1) = 9 years	(n_2) = 9 years
Expected Return $(\overline{R}_j)$ = 0.2741	$(\overline{R}_m)$ = 0.1279
Standard Deviation (S_1) = 0.3876	(S_2) = 0.4061

Null Hypothesis (H_0)

$\overline{R}_j = \overline{R}_m$ I.e. there is no significance difference between the Expected return of HBL and overall market return.

Alternative Hypothesis (H_1)

$\overline{R}_j \neq \overline{R}_m$ I.e. there is significance difference between the Expected return of HBL 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 HBL bank = 0.2741

$\bar{R}_m$ = Expected Return of market = 0.1279

$n_1 = n_2$ = Numbers of years in Sample = 9

S^2 = Estimated variance of population

$$S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} = \frac{(9-1)(0.3876)^2 + (9-1)(0.4061)^2}{9+9-2}$$

$$= \frac{1.2019 + 1.3193}{16}$$

$$= \frac{2.5212}{16}$$

$$= 0.1576$$

S_1^2 = Variance of C.S. of HBL banks

S_2^2 = Variance of market return

Hence

$$t = \frac{0.2741 - 0.1279}{\sqrt{0.1576\left(\frac{1}{9} + \frac{1}{9}\right)}} = \frac{0.1462}{0.1871} = 0.7812$$

Degree of freedom = $n_1 + n_2 - 2$ = 9+9-2 = 16

Level of Significance = 5 %

The tabulated value of t at 5 % level of significance and 12 degree of freedom is 2.120

Decision

Since the calculated value "t" is less than tabulated value. The null hypothesis (H_0) is accepted at 5 % level of significance i.e. there is no significance difference between the expected return of HBL and overall market return.

4.8.3 Testing of Hypothesis Expected Return of EBL with overall Market Return

For EBL Banks	**For Market**
Sample size (n_1) = 9 years	(n_2) = 9 years
Expected Return $(\overline{R}_j)$ = 0.4196	$(\overline{R}_m)$ = 0.1279
Standard Deviation (S_1) = 0.5299	(S_2) = 0.4061

Null Hypothesis (H_0)

$\overline{R}_j \; X \overline{R}_m$ I.e. there is no significance difference between the Expected return of EBL and overall market return.

Alternative Hypothesis (H_1)

$\overline{R}_j \mid \overline{R}_m$ I.e. there is significance difference between the Expected return of EBL and overall market return.

The test statistics (t) is

$$t \; X \frac{\overline{R}_j \; Z \overline{R}_m}{\sqrt{S^2 \; \frac{1}{n_1} \; \Gamma \; \frac{1}{n_2}}}$$

Where,

$\bar{R}_j$ = Expected Return of C.S. of EBL bank = 0.4196

$\bar{R}_m$ = Expected Return of market = 0.1279

$n_1 X n_2$ = Numbers of years in Sample = 9

S^2 = Estimated variance of population

$$S^2 X \frac{(n_1 Z 1)S_1^2 \Gamma (n_2 Z 1)S_2^2}{n_1 \Gamma n_2 Z 2} = \frac{(9 Z 1)(0.5299)^2 \Gamma (9 Z 1)(0.4061)^2}{9 \Gamma 9 Z 2}$$

$$= \frac{2.2464 \Gamma 1.3193}{16}$$

$$= \frac{3.5657}{16}$$

$$= 0.2229$$

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

S_2^2 = Variance of market return

Hence

$$t X \frac{0.4196 Z 0.1279}{\sqrt{0.2229 \left(\frac{1}{9} \Gamma \frac{1}{9}\right)}} = \frac{0.2917}{0.2226} = 1.3104$$

Degree of freedom = $n_1 \Gamma n_2 Z 2$ = 9+9-2 = 16

Level of Significance = 5 %

The tabulated value of t at 5 % level of significance and 12 degree of freedom is 2.120

Decision

Since the calculated value "t" is less than tabulated value, the null hypothesis (H_0) is accepted at 5 % level of significance i.e. there is no significance difference between the expected return of EBL and overall market return.

4.9 Major Findings of the Study

This study enables investors to keep the returns they can expect and the risk they may take into better perspective. 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 (41.96%). Similarly expected return of C.S. of NIBL is (31.76%) and HBL is (27.41%)
- Risk is the variability of returns which is measured in terms of standard deviation. On the basis of S.D., common stock of NIBL is most risky since it has high S.D. i.e. 0.6111 C.S of HBL is least because of its lowest S.D. of 0.3876, on the other hand we know that C.V. is more Ratioal basis of investment decision, which measures the risk per unit of return. On the basis of C.V., C.S. of EBL is best among all other banks. EBL has 1.2629 unit of risk per 1 unit of return. But C.S. of NIBL has the highest risk per unit of return.
- 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. $\beta = 1.2243$ and common stock of HBL is least volatile i.e. $\beta = 0.8568$. The bank's stock, having the beta less than beta coefficient of market i.e. defensive stock. We find NIBL and EBL have aggressive type of common stock. Among them, most aggressive seems to be EBL with highest beta and least aggressive is HBL with lowest beta among three bank's common stock.
- NIBL is in the highest position (Rs. 19208.41 in million) and EBL is in lowest position (Rs. 13129.67 in million) according to their inter-bank market capitalization comparison.
- 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 identity whether the stock is overpriced or under price. If the required rate of return is greater than the expected rate of return the stock is overpriced and vice versa. This study shows that all the stocks of commercial banks, 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 return between NIBL and EBL is high i.e. 41.56% and NIBL & HBL is lower i.e. 28.29%.
- The portfolio risk between NIBL and HBL is high i.e. 44.84% and NIBL and EBL is lower i.e. 27.89%.
- Since the entire bank has positive correlation so bank doesn't reduce any unsystematic risk. Among them, NIBL 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 shows that NIBL has high proportion of unsystematic risk i.e. 23.65% which can be minimized from internal management. Whereas, EBL has high proportion of systematic risk i.e. 93.83%. This cannot be minimized from internal management. C.S. of EBL is best among these banks due to its lowest proportion of unsystematic risk.
- Testing of hypothesis relates expected return of selected banks with overall market return. There are no significance difference between expected return of selected banks and overall market return.
- Most of the investors invest only keeping the return in the mind but they are found unable to calculate the risk factors of the security. Most of the Nepalese private investors invest in single security. Some of the investors use their fund in two or more securities. But it is found that they don't make any analysis of portfolio before selecting security. They invest their fund in different securities on the basis of expectation and assumption of individual securities rather than analysis of the effect of portfolio. It seems that they don't have knowledge of the risk diversification by using portfolio of their investment.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

In this chapter, the effort has been made first to present summary of major findings and conclusion drawn from the analysis. Last step proceeds with the recommendation.

5.1 Summary

Central focus of finance is trade-off between risk and return. Risk and return is getting, considerable attention in final management. And its major part stock market had greatest glamour, not only for the proportional or institutional investors but also for the individual or private investors. Development in the field of finance has led to the application of many new concepts and models to deal with various issues reported to financial management.

The relationship between risk and return is described by investor's perceptions about risk and their demand for compensation. No investors will like to invest in risky assets unless s/he is assured of adequate compensation for the acceptance of risk. Hence, risk plays a central role in the analysis of investment taking decision about proper investment decision process, analysis of securities, identification of overpriced, under priced securities making appropriate investment strategies as well as construction of efficient portfolio. Return, Risk and time are the elements of investment. It is the investor required risk premium that established a link between risk and return, in a market dominated by rational investors, higher risk will command by rational premium and the trade-off between the two assumes a liner relationship between risk and risk premium.

Common stock is the most risky security and life blood of stock market. Because of higher expected return on investment in common stock of a corporate firm neither ensures on annual return nor the return of principal. Therefore investment in the common stock is very sensitive on the ground of risk. Dividend to common stockholder is paid only if the firm makes on operative profit after tax preference dividend. Common stock

has attracted more investors in Nepal. Rush in the primary market during the primary issue is one of the examples. But private investor plays a vital role in economic development of the nation by mobilizing the disposed capital in different from the society.

The main objective of the study is to analyze the risk and return in common stock investment of Nepalese stock market. The study is focused on reference to analyze the risk and return in common stock investment. While analyzing the risk and return, brief review of related studies has been performed. Scientific methods are used in data analysis. Tables, graphs and diagrams are used to present the data and results more clearly. Both quantitative and qualitative analysis have performed by using statistical tools as well as performed by using statistical tools as well as personal judgment. Secondary data are collected from the NEPSE, NRB, SEBO/N and other related banks and their websites. Other subjective types of information are collected through the officials of NRB, SEBO/N and NEPSE. Findings of analysis are summarized and conclusion is drawn as follows.

5.2 Conclusion

From the study it is concluded that all the commercial banks, which are under study, are very much risky with fluctuated rate of return. From the findings of the different banks beta coefficient of all the banks are very much volatile except HBL stock. The 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 NIBL and EBL is lower portfolio risk.

This study shows that NIBL has high proportion of unsystematic risk i.e. 23.65% and EBL has high proportion of systematic risk i.e. 93.83% which cannot be minimized from internal factor. Common stock of EBL is best among these banks.

5.3 Recommendations

Mainly this study is focused on individual investors. Other related components of stock are also taken into account to some extent. The following recommendation and suggestion are prescribed on the basis of data analysis and major findings of this research.

- Proper analysis of individual security is always essential to make possible to conquer the stock market. General knowledge about economic, political as well as technological trend will be advantageous. Which is performing better than before, sell share when the market is rising and buy share when market is falling and hold the share which will perform better than market.
- Different financial and statistical tools are to analyze the data in this study. C.V. suggests that while analyzing individual security EBL seems undoubtedly the best for investment with considering the full time horizon of the study. C.S. of HBL may be best investment opportunity for the investors whose beta is lower than the beta coefficient of market (i.e. 1). So it is less risky or defensive type of stock. Hence it is prescribed to select the C.S. of HBL for individual stock investment due to its lowest beta coefficient.
- Investors need to diversify their fund to reduce risk. Proper construction of portfolio will reduce considerable potential loss which can be defined in terms of risk. But portfolio construction is dynamic job. For the portfolio construction select the stock that has higher return will not correlated or negatively correlated stock. So the construction of portfolio between the C.S. of NIBL and EBL is recommended to invest due to their higher portfolio return.
- Analysis of personal risk, attitude, needs and requirements will be helpful before making an investment in stock market. Investors should make several discussions with stock holder before reaching at the decision. Investors should make their decision on the basis of reliable information rather than the imagination and amours.
- Investment club or broker firms are good way to exchange and share investment ideas. Mutual fund is worth-while for people with little interest in investment.

Investors are recommended to share experience, ideas and taking view of expert before investing in stocks of individual banks.

- NEPSE needs to initiate and to develop different programs for private investors such as investors meeting and seminars indifferent subjective matters like “Trading Rules and Regulation” etc. Though these days NEPSE have opened its branches outside valley, they don’t have full authority to do all NEPSE’s related work. They need to take decision according to their head office. So, every branch should be authorized for the every decision related to investors so that all the investors will be benefited outside the valley.
- Government needs to amend the rules and regulation regarding stock market in time to time and to make the policy that protects the individual investor’s right. And also need to follow up the implementation of rules and regulation and to make sure the objectives are achieved. On the regard, Nepal Government needs to monitor and to make active all the components of stock market properly. The government has to implement the rules and regulation strictly otherwise it will be meaningless. The political problem of the country is another burning issue, which affects the economy of the nation adversely. So political leaders should think seriously on economic motive of country rather than their self motive.
- The corporate firm should disclose their actual financial condition so that insisted investors may analysis their performance and they only make a decision whether to invest on their stock or not. Value of assets and liabilities should not be manipulated to report the under or over profitability. Every decision of the corporation ratio should be made to maximize the value of the firm and value per share.

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APPENDIXES

Appendix I

Calculation of Total Dividend

Total Dividend in (Rs.)=	Cash Dividend		+ % of Stock Dividend		Next Year MPS	
2000/01	= 0	+	0%	×	760	= Rs. 0
2001/02	= 0	+	30%	×	795	= Rs. 238.00
2002/03	= 20	+	0%	×	940	= Rs. 20.00
2003/04	= 15	+	0 %	×	800	= Rs. 15.00
2004/05	= 12.5	+	0%	×	1260	= Rs. 12.50
2005/06	= 20	+	35.46%	×	1729	= Rs. 633.10
2006/07	= 5	+	25%	×	2660	= Rs. 670
2007/08	= 7.5	+	33.33%	×	1388	= Rs.470.12
2008/09	= 20	+	0%	×	851	= Rs.20

Appendix II

Calculation of Total Dividend

Total Dividend in (Rs.) = Cash Dividend + % of Stock Dividend × Next Year MPS							
2000/01	= 27.50	+	30.00%	×	Rs. 1000	=	Rs.327.50
2001/02	= 25	+	10.00%	×	Rs. 836	=	Rs.108.60
2002/03	= 1.32	+	23.68%	×	Rs. 840	=	Rs.200.23
2003/04	= 0.00	+	20.00%	×	Rs. 920	=	Rs.184.00
2004/05	= 11.58	+	20.00%	×	Rs. 1100	=	Rs.231.58
2005/06	= 30.00	+	5.00%	×	Rs. 1740	=	Rs. 17.00
2006/07	=15.00	+	25.00%	×	Rs. 2120	=	Rs.545.00
2007/08	=25.00	+	20.00%	×	Rs. 1760	=	Rs.377.00
2008/09	=12.00	+	31.56%	×	Rs. 1080	=	Rs.352.85

Appendix III

Calculation of Total Dividend

Total Dividend in (Rs.)= Cash Dividend + % of Stock Dividend × Next Year MPS							
2000/01	=	0	+	0%	×	405	= Rs. 0.00
2001/02	=	0	+	20%	×	445	= Rs. 89.00
2002/03	=	20	+	0%	×	680	= Rs. 20.00
2003/04	=	20	+	0%	×	870	= Rs. 20.00
2004/05	=	0	+	20%	×	1379	= Rs. 275.80
2005/06	=	25	+	0%	×	2430	= Rs. 25.00
2006/07	=	10	+	30%	×	2840	= Rs. 862.00
2007/08	=	20	+	10%	×	2455	= Rs. 265.50
2008/09	=	30	+	0%	×	1608	= Rs. 30.00

Appendix IV

Calculation of Correlation between NIBL (A) and HBL (B)

Calculation of covariance of return of given two stocks

Fiscal Year	$(R_A \; Z\overline{R}_A)$	$(R_B \; Z\overline{R}_B)$	$(R_A \; Z\overline{R}_A)(R_B \; Z\overline{R}_B)$
2001/02	-0.5112	-0.5561	0.2843
2002/03	-0.3071	-0.2590	0.0795
2003/04	-0.1782	-0.0703	0.0125
2004/05	-0.5151	0.757	-0.0390
2005/06	0.9869	0.0276	0.0272
2006/07	0.5245	0.7821	0.4102
2007/08	0.3714	0.0805	0.0299
2008/09	-0.7429	-0.2070	0.1538
			$(R_A \; Z\overline{R}_A)(R_B \; Z\overline{R}_B)$ X1.4493

Note: $(R_A \; Z\overline{R}_A)$ from table 4.2 and $(R_B \; Z\overline{R}_B)$ from table 4.4

We have,

$$COV(R_A, R_B) \; X \frac{[(R_A \; Z\overline{R}_A)(R_B \; Z\overline{R}_B)]}{n \; Z1} \; X \frac{1.4493}{8 \; Z1} \; X 0.2070$$

Now,s

Correlation between NIBL and HBL

$$\partial_{AB} \; X \frac{COV(R_A, R_B)}{\exists_A \mid \exists_B} \; X \frac{0.2070}{0.9764 \mid 0.3876} \; X 0.5470$$

Note: σ_A from table 4.2 and σ_B from table 4.4

Where,

$COV(R_{A,} R_B)$ = Covariance of return between NIBL and HBL

∂_{AB} = Correlation between NIBL and HBL

$\exists_A$ = S. D. of NIBL

$\exists_B$ = S. D. of HBL

Appendix V

Calculation of Correlation between HBL (B) and EBL (C)

Calculation of covariance of return of given two stocks

Fiscal Year	$(R_B \; Z\overline{R}_B)$	$(R_C \; Z\overline{R}_C)$	$(R_B \; Z\overline{R}_B)(R_C \; Z\overline{R}_C)$
2001/02	-0.5561	0.7679	-0.4270
2002/03	-0.2590	-0.3798	0.0984
2003/04	-0.0703	0.0451	-0.0033
2004/05	0.757	0.1571	0.0119
2005/06	0.0276	0.0859	0.0024
2006/07	0.7821	0.8593	0.6721
2007/08	0.0805	-0.0264	-0.0021
2008/09	-0.2070	-0.6231	-0.1290
			$(R_B \; Z\overline{R}_B)(R_C \; Z\overline{R}_C)$ X1.0913

Note: $(R_B \; Z\overline{R}_B)$ from table 4.4 and $(R_C \; Z\overline{R}_C)$ from table 4.6

We have,

$$COV(R_B, R_C) \; X \frac{[(R_B \; Z\overline{R}_B)(R_C \; Z\overline{R}_C)]}{n \; Z1} \; X \frac{1.0913}{8 \; Z1} \; X 0.1559$$

Now,

Correlation between HBL and EBL

$$\partial_{BC} = \frac{COV(R_B, R_C)}{\exists_B \mid \exists_C} = \frac{0.1559}{0.3876 \mid 0.5299} = 0.7590$$

Note: σ_B from table 4.4 and σ_C from table 4.6

Where,

$COV(R_{B,}R_C)$ = Covariance of return between HBL and EBL

∂_{BC} = Correlation between HBL and EBL

$\exists_B$ = S. D. of HBL

$\exists_C$ = S. D. of EBL

Appendix VI

Calculation of Correlation between NIBL (A) and EBL (C)

Calculation of covariance of return of given two stocks

Fiscal Year	$(R_A Z\overline{R}_A)$	$(R_C Z\overline{R}_C)$	$(R_A Z\overline{R}_A)(R_C Z\overline{R}_C)$
2001/02	-0.5112	0.7679	-0.3926
2002/03	-0.3071	-0.3798	0.1166
2003/04	-0.1782	0.0451	-0.0080
2004/05	-0.5151	0.1571	-0.0809
2005/06	0.9869	0.0859	0.0848
2006/07	0.5245	0.8593	0.4507
2007/08	0.3714	-0.0264	-0.0098
2008/09	-0.7429	-0.6231	0.4629
			$(R_A Z\overline{R}_A)(R_C Z\overline{R}_C)$ X1.6897

Note: $(R_A Z\overline{R}_A)$ from table 4.2 and $(R_C Z\overline{R}_C)$ from table 4.6

We have,

$$COV(R_A, R_C)\ X \frac{[(R_A\ Z\overline{R}_A)(R_C\ Z\overline{R}_C)]}{n\ Z1}\ X \frac{1.6897}{8\ Z1}\ X 0.2414$$

Now,

Correlation between NIBL and EBL

$$\partial_{AC}\ X \frac{COV(R_A, R_C)}{\exists_A \mid \exists_C}\ X \frac{0.2414}{0.9764 \mid 0.5299}\ X 0.4666$$

Note: σ_A from table 4.2 and σ_C from table 4.6

Where,

$COV(R_{A,} R_C)$ =Covariance of return between NIBL and EBL

∂_{AC} = Correlation between NIBL and EBL

$\exists_A$ = S. D. of NIBL

$\exists_C$ = S. D. of EBL