Risk and Return Analysis of Common Stock of Commercial Bank

(with references to BOK,NIBL, SBI,NBBL,KBL, HBL and SCBL)

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RECOMMENDATION

This is to certify that the thesis

Submitted By

Bidur Bastakoti

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

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VIVA - VOCE SHEET

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

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DECLARATION

I Hereby declare that this thesis work entitled "**Risk and Return Analysis of Common Stock of Commercial Bank" (with references to BOK, NIBL, SBI, NBBL, KBL, HBL and SCBL)** submitted to Office of the Dean, Faculty Management, Tribhuvan University, is my original work done in the form if partial fulfillment of the requirement for the degree of Masters of Business Studies which is prepared under the supervision of respected supervisor **Dr. K.D. Manandhar** and **Kiran Thapa** of **Shanker Dev Campus.**

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ABBREVIATIONS

A.D.	: Anno Domini
BOK	: Bank of Kathmandu
CAPM	: Capital Assets Pricing Model
CIT	: Citizen Investment Trust
CV	: Coefficient of Variances
DPS	: Dividend per Share
FY	: Fiscal Year
GDP	: Gross Domestic Product
HBL	: Himalayan Bank Limited
i.e	: That is
KBL	: Kumari Bank Limited
Ltd	: Limited
MPS	: Market Price Per Share
NBBL	: Nepal Bangladesh Bank Limited
NEPSE	: Nepal Stock Exchange
NIBL	: Nepal Investment Bank Limited
No.	: Number
NRB	: Nepal Rastra Bank
r	: Coefficient of correlation
SBI	: Nepal SBI Bank Limited
SCBL	: Standard Chartered Bank Limited
TU	: Tribhuvan University

CHAPTER-I

INTRODUCTION

1.1 General Background

Risk is the major factor that determines the return. Higher risk can cause the higher return so that risk can be compensated. Higher returns encourage the invertors to invest and increase the capital inflow. In the past the financial studies were focused for returns on the trading volume, trading volume influence the future prices and price volatility. In past, the trading volume and price movement both considered as the market information. In modern stock markets of the developed countries the empirical studies. The empirical studies show the trading volume and stock prices are interrelated.

Two types of volatility can be noticed while analyzing prices of stock. The first thing to be notice is the result of company-related factors, like projects are not going through as they were expected to go, potential growth with expected limits, competition from inside and outside of the country, and changes which are taking place in the management and within the financing patterns. Usually these are industry-specific and known as unsystematic risk technically. The other type of risk is said to be as market risk or systematic risk. It is said commonly that some factors such as the Budget, production of Agricultural, and reserves of foreign exchange, the stock market are affected by the above. Other from this the "market sentiment", through which stock prices is pushed up and down within different times. The rate of fluctuation wills base upon relationship of stock with the whole market. Some stocks used to move in tenderly with the market, and some move in direct proportions on the markets same side and some moves in inverse proportions. The basic concept of beta arises because all stocks used to move with fluctuation in the overall market to some extent. Clearly some of the stocks used to move more than the others move. Therefore, their degree of sensitivity of movements of whole market index is very important measure which is called as coefficient of Beta widely. Traditionally the model of market has been used to find the coefficient of beta estimate (Bradfield, 2003).A large numbers of studies have focused to investigate the relation of risk-return-volume in financial markets which are emerging. Salman (1998) provided a proof for the relationship of risk return-volume empirically in the

Istanbul Stock exchange (ISE) which found that return on volatility on daily basis and was varies with time and highly persistent. Additionally, return and risk are associated positively, it means that the findings of the conditional standard deviation. Simultaneous volume changes and returns are directly proportions to each other. Moreover, investors are always interested in return as they use this information to assess the efficiency of management team, to decide on buy/hold/sell strategy and to readjust their portfolio of assets (Bundoo, 2000).

This research paper focuses on relationship of Risk-Return for a sample of 7 commercial banks. Therefore the main motive is to facilitate the investors and other stakeholders in making investment decisions. This study will open new dimensions of research for future researchers. For instance future researchers can do the same analysis for the periods in future. Commercial banks are the biggest and best performing stock market of the country.

Investment is defined simply to be the sacrifice of current consumption for future consumption, whose objective is to increase further wealth. The general principle is that the investment can be retired when cash is needed .The decision to now be the most critical decision at the future level of wealth is not certain. Time and risk are the two conflicting attributes involved in the investment decision.

The proper mobilization and utilization of domestic resources is because of indispensable for any developing countries aspiring for a sustainable economic development. In the changing nature of competitions and increasing pressure of globalization on today's business world. Investment management has of the economy. Good investment policy has a positive impact on economic development of the country in recent years international investors are attracted towards the financial markets of developing countries as a result, many joint ventures banks and multinational companies are being establish in the country. Bank and other financial institutions are playing vital role in the economy development of the country. Successful implementation of investment policy is the prime require for the successful performance of banks and financial institutions. Good investment policy has a positive impact on the economic development of the country.

"Risk plays a central role in the analysis of investments. Investors often ask about the total risk they will be assuming in an investment and like to know if the risk premium provided as enough. But they are also consumed about many other issues. First of all, it is necessary to

see if the total risk associated with a single asset is relevant for them. Second they need to know the actual contribution of an asset's risk to portfolio risk."(Pradhan, 2001-334)

"The concept of risk and return are the determinant for the valuation of securities .however, risk means that we do not know what is going to happen even though we occasionally have a good idea of the range of possibilities that we face .In the most basic sense risk can be defined as the change of loss. Assets having greater changes of loss are viewed on more risky them those with lesser changes of loss. More formally, the risk is used interchangeably with uncertainty to refer to the variability of returns associated with a given assets."(Gitmin,2001;237)

 "Investor generally does not invest their money in only one risky asset instead: they hold a portfolio of many the hope of diversifying investment risk .The relevant risk of assets is defined as the portion of its total risk that changes proportionately with the market risk. In the context of portfolio, the contribution of each asset to the portfolio risk is the portion of relevant risk of the asset. Therefore, an investor is concerned with the portfolio risk, which is the some of the relevant risk of individual assets included in portfolio."(Pradhan,2001:334)

"Of course, some stocks are riskier than others, and even in years when the overall stock market is up , many individual stocks go down .Therefore ,putting all your money into one stock is extremely risky. According to a recent business week article, the single best weapon against risk is diversification. By spreading your money around ,you're not tied to the fickleness of a given a market, stock or industry correlation , in portfolio –manager speak, help you diversify properly because it describes how closely to investments track each other. If they move in random, they are likely to suffer from the same bad news .So you should combine assets with low correlation."(Gapnski Brigham ,Ehrhardt,2001,157)

Commercial bank and finance companies are some of the main companies are and components of business sector, which may nave important role in the economy. The business world is entirely different from one in the past. The changing life style has always been challenging to the business community and has given opportunities to produce thousand of goods and services to satisfy of foods and services to satisfy the changing needs of people. The societal needs have increased tremendously in quantity as well as quality in market for product and services have developed throughout the world and the competition among firms has alerted there has induced business to get up investments in many fields. Where

investment needs huge amount, which cannot be covered by the firms past profit and surplus of individual investors only and also the numbers of an economic society individuals and institutions rarely have balanced budget. Some of them always earn more then what consume and others earns less than what they consume. Further, some members of the society under taken additional activities of investing, requiring more funds than what they have. Thus, there is no equilibrium in income and expenditure.

Similarly, these member have varying perception towards risk and enterprising ability, this disequilibrium in income and expenditure in the hand and perception towards risk and enterprising ability of the other necessitated a mechanism to transfer financial resource from one unit of another unit of the society. The advent of securities market has successfully served this purpose of fund transfer from one unit to the other.

However, this study focuses an important role in the development of stock market. In the market stock price can be affected by inflation, strengths of the dollar and price of the stock. The risk of a stock can be measured by its price volatility and its beta, banking sector is the most dynamic part of economic, which collects unused funds and mobilizes it in needed sectors. It is the heart of trade, commerce and industry. In Nepal, foreign joint venture commercial bank performs better than other Nepalese commercial banks because of their higher management efficiency and capacity of proper risk management. Nowadays, these are number of commercial banks growing in the country and number of joint ventures among them is also significant. Besides commercial bank, development bank are investing their performance in Nepalese banking sectors. This study of risk and return is basically focused on listed commercial banks of Nepal and this study analyze the risk and return associated with investment among these banks on the basis of market price of stock and dividend.

1.2 Statement of the Problem

People assume more risk in stock investment than its real risk. So it is necessary to analyze in the field because a must unavailability of clear and simple technique to analyze risk associated with return is also a constraints.

Theory says that the stock price in market is guided by the intrinsic value, which is calculated by and of company's result of financial performance such as dividend, required rate of return and growth in an efficient market conditions 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 positively correlated but conditions here are totally different from that whatever the theory has depicted is not implicated in our context, where most of the investors does not know to interpret the information and so they cannot make a rational decision regarding transaction of the stock. Therefore stock price in Nepal is determined more by other factors that the financial performance of the concerned company. Therefore coverage is needed there are several questions which may be arising in the mind of the individual investor at the time of the investment. Some of the common question that frequently occurs in and investors mind can be listed as follows.

The critical for equal that they are holding will give then a favorable return or not. What should be the compensation they have to receive for bearing risk?

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

So they are some burning issues that have influence researcher to carry on this study.

1.3 Objective of the Study

The basis objectives of this study are to assert the risk .associated with return on ht common stock investment on the basis of selective the other specific objectives of this study are as follows;

- To study returns associated with common stock investment of bank.
- To study systematic risks and unsystematic risks associated with security.
- To analyze the volatility of common stock and other related variables.
- To identify stocks of the sampled companies equilibrium priced or not.

1.4 Significance of the Study

The analysis of the risk and return is a significant in investment decision as well as managerial decision. It influences risk and return of the shareholders. Consequently the risk and return analysis influences risk the market price of the stock. So before making and

investment decision, a person must analyze the risk and return from particular stock as well as they can make a good risk minimizing portfolio between their investments in the stock.

In context of Nepal, there lack wider investment opportunities, which provides good rate of return. So they have been huge amount of unutilized saving funds with general public. In the security market, MPS of joint venture commercial bank has higher than other so it attracts the investor. Therefore they are investing their saving funds in common stock of public companies with the good exceptions of higher capital gain in future. But there seems very least consciousness about the real financial conditions of the companies and degree of risk involved in their investment.

This research is not only fulfilling MBS course of T.U. but also to provide some knowledge about Nepalese stock market development along with providing ideas to minimize the risk on stock investment. The trend of flow of investment in stock is essential for achieving growth of an economy. This study will be helpful for other researcher in the area of investment as it provides suggestion to some extent.

1.5 Limitation of the Study

This study is to fulfill the requirement of Master Degree in Business Studies . It cannot cover all the dimension of the subject matter and resources. The major limitations of the subject are as follows:

- Risk and return of only common stock will be analyzed.
- Only five years observations are analyzed. Differential coverage of data limits the study.
- Analysis is mostly based on the tools developed in contest of efficient market condition that may reduce validity of finding.
- The study is focused only on the analysis of relationship of MPS with financial indicators and the level of risk associated with the common stock investment of the sampled companies
- The major portions of analysis and interpretation have been done on the basis of available secondary data and information. So, the consistency of findings and conclusions are dependent upon then reliability of secondary data and information.

1.6 Organization of the Study

This research has been organized in five chapters. The titles of these chapters are listed below:

Chapter-One: Introduction

This chapter is introductory and deals with subject matter of the study including general back ground of the study, problem of the study, objectives of study, significance of study, limitation of study, organizing of study etc.

Chapter-Two: Review of Literature

This chapter contains the profound review of available literature related to the area of this study.

It is directed towards the review of conceptual framework and review of major related studios. Risk and return its relationship, determinants measuring techniques and methods etc are reviewed from the various available literatures.

Chapter-Three: Research Methodology

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

Chapter-Four: Presentation and data Analysis

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

Chapter-Five: conclusion and Recommendation

This chapter is for summary of main findings conclusion, recommendation and suggestions for further important. This chapter contains the profound review of available literature related to the area of this study. It is directed towards the review of conceptual framework and review of major related studies. Risk and return, its relationship, determinates, measuring techniques and method etc are reviewed form the various available literatures.

CHAPTER-II
LITERATURE REVIEW

Literature review is the chapter where a researcher reviews the books journal magazine or any other type of studies which are related to his/her field of study ,research is the continuous process it never ends the procedures and the finding may changed but research remain continuous. So far analyzing the data and to find some things new a researcher must review and know if there are any studies ahead or not. The purpose of reviewing the literature is to develop some expertise in once area, to see what new contribution can be made, and to receive some ideas for developing a research design. Thus, the previous studies cannot be ignored because they provide the foundation to the present studies. In other words, there has to be continue in research. This continuity in research is ensured linking the present studies with the past research studies.

In this chapter relevant and recent literature , which are related to the topic risk and return is reviewed .Topics from basic academic courses books and different studies public in magazine ,thesis of senior and journal related to the study are review below

2.1 Conceptual Framework

There are various books regarding risk and return, which are taken in to consideration. The objective of this section is to know how various writers have described about the risk and return.

The focus of this study is on common stock investment. It may be defined as a share of ownership of the firm .common stock holders are real owner of business firm .common stocks are more risky than both preferred stock and bond but it has also benefit like voting right ,right in participation of the profit .and common stock can be purchased and sold immediately.

"Common stock representing equity ownership in a corporation, providing voting rights, and entitling the holder to a share of the company's success through dividends and/or capital appreciation. In the event of liquidation, common stockholders have rights to a company's assets only after bondholders, other debt holders, and preferred stockholders have been

satisfied. Typically, common stockholders receive one vote per share to elect the company's board of directors (although the number of votes is not always directly proportional to the number of shares owned). The board of directors is the group of individuals that represents the owners of the corporation and oversees major decisions for the company. Common shareholders also receive voting rights regarding other company matters such as stock splits and company objectives. In addition to voting rights, common shareholders sometimes enjoy what are called "preemptive rights". Preemptive rights allow common shareholders to maintain their proportional ownership in the company in the event that the company issues another offering of stock. This means that common shareholders with preemptive rights have the right but not the obligation to purchase as many new shares of the stock as it would take to maintain their proportional ownership in the company also called junior equity.

According to Borchert, Ensz, Knijn, Pope & Smith (2003), if returns are expected high it is required that to take high risk. Mostly investors feels comfortable with the notion of taking higher level of risks as it is necessary for earning of higher returns. As much as the rate of uncertainty increases, on the other hand the return which is required for the justification of the risk will be much higher Additionally, the economists have made the assumption that if investors are averse of risk, it means that that they are willingly sacrifice some of their return (and even less than the expected present value of returns on future will be accepted) in order of reduction of risk. If this assumption is quite true there would be expectation that investors will demand for a high return in order to justify the risk accepted by holders of more risky assets additionally. The reduction in volatility can be made effectively without any high cost with the help of diversification, so it makes the sense that investors should not be remunerated for that segment of instability which is only specific about stock and has no effect on a well-defined assortment. Such kind of volatility is said to be unsystematic risk in terms of literature of finance because it does not co-vary with the whole, but is only the haphazard noise which is there in that exact return on asset additionally. Since this random noise has zero return expectedly, with the help of adding more securities to the portfolio it can be diversified away. This is meant that it will be zero, and as more assets are added the standard deviation will be reduced. The reasonable expansion of *the* dispute is that with appropriate assets in a portfolio, the whole market volatility match with the volatility of the portfolio. So that investor expects to compensate for the risk that can't diverge.

In a portfolio Beta is determined very easily by taking arithmetic mean of the single securities betas, weighed down capitalization of each security by market capitalization. Sharpe (1964) offered Single Index Market Model (SIMM), the most general of advice to investors. It was assumed that the return of a security to portfolio and the market return in the same period had a linear relationship. Therefore, they regressed the both variables to estimate the beta value for individual securities. They concluded that the closer the individual security followed the market; the closer to value of 1.0 was its beta.

According to Pettit & Westerfield (2011) the capital asset's market model pricing theory portrays that one-period asset return was a linear function of one-period market return factor in addition to the consequence of factors that were matchless to that asset. The model's coefficients used to predict the returns, beta's coefficient and estimation of risk associated with the assets. Although the function of model has brief line of study of capital market, and in past the researchers used to predict the risk. They developed a model to originate and measure the factors which are underlying and in the use of market to determine beta coefficient of an asset, and indicates that in which way the provision a predictions from the market model can be enhanced. They depicts that how traditional theory of asset valuation can incorporated with theory of modern capital asset pricing in order to capitulate an amplified knowledge of risk assessments process. The assessment indicates that the model of the market was an essential special case of a more general speculation that how returns on assets were developed. They assessed the legitimacy of two methods which are mainly used for formation of provisional predicted returns on portfolio. The first method is mean-variance theory of equilibrium depends upon single time/event, which is occasionally called as Capital Asset Pricing Model (CAPM).Markowitz's second method was the Market Model (MM).

Brown, Harlow and Tinic (1993) assessed the correlation between risk and expected common stocks returns. They found that the temporary changes in the uncertainty gives a huge/leading financial change, resulting stock returns incorporated a quality in order to increases in parameter (i.e. beta); which are not certainty connected with these events. The finding suggested that the sale and repurchase of common stock ware reduce the return on stocks discrepancy; in this reduction the minimum part of the risk is constant. The prediction error increases and changes in systematic risk due to post announcement and straightforwardly unified and that the price of the market determined the systematic risk.

Lilti & Montanger (1997) examined French stock exchange using six year data from 1990 to1995 on daily basis to find the relationship between systematic risk and average stock returns. The results lead to a clear-cut prescription i.e.to invest in stocks which have low systematic risk, and low market price and sell the stocks which have high systematic risk and high in market price.

According to Brooks &Henry (2000), the usual measure of the risk of a portfolio is its beta. Using UK equity index data for a sample of sectors, they considered the influence of news on actions of beta which used to vary with the time. The results suggested that beta was not independent rather it depends on two news's sources. One is markets news and second is sectors news. Moreover, they concluded that higher returns were associated with higher standard deviation indicating a direct proportion between risk and return.

Bundoo (2000) performed a sectored analysis using the CAPM and market model on the companies that are listed on the Mauritius stock exchange and analyzed the risk-return characteristics of a large enough sample of companies on the official list, beta estimates calculated using. Resulting, the positive significant relationship between risk and retune, as higher returns was associated with higher value of beta.

Shuterim (2000) bring into being the facts that firms used to maneuver their systematic risk. The vital result was that firms took measures, in the result of which equity betas adjusting toward unity, where equity betas were a usual initiative of systematic risk. Other than these systematic risks larger deviations from the market average were estimated to be related with a larger possibility to be de-listed.

Jacoby, Fowler & Gottesman (2000) using a CAPM-based model assessed the association between return on expected and on the future spread cost within the framework of CAPM. In the model this positive relationship was found to be convex.

Pawlukiewicz, Cagle & Webb (2000) examined the impermanent risks behavior and returns behavior subsequent leverage changes which are stemming from stock and debt dealings in financial markets. The results indicated that sales and repurchase of the common stock and sale of the debt were on average processed by a diminution in return variability of common stock and that this diminution in total risk had both impermanent and permanent mechanism.

Some weak proofs were that changes unsystematic risks which are preceded by announcements of leverage-altering security dealings affected successive returns which are required. Additionally the accuracy, with the help of which systematic risk was measured, that was priced with the market and it's out come changes which depend upon the direction of change in leverage.

Guo &Whitelae (2001) developed and tested an practical model which was based on the CAPM that independently acknowledged the two workings of expected returns- the risk factor and the fact due to which the wish to be cautious about fluctuations in opportunities for investment. The estimated relative risks coefficient aversion was positive, with the statistics point of view important, and rational in quantity. However, expected returns were obsessed chiefly with the hedge component. The exception of this component was partly liable for the attained conflicting consequences. They found from the results that stock market risk and return are positively related.

Gatfaoui (2002), based on daily data, showed that the immediate returns on volatility and market factor indicator were leptokurtic circulated. He deliberates the impact of implied market factor on a basket of French assets having a alternative for the systematic risk. First, he work out on the relationship of implied market factor return and returns on assets, and come to know that as well as VAR study and Granger causality test. In the second step, the regression is used to estimate the return on assets and implied market factor returns. Then, its prove with the example of the customary correlation between the rolling volatility of implied market return factor on weekly basis and rolling volatilities of French asset returns on weekly basis. These two studies associated to misunderstood consequences. His goal was to observe the link between the implied market risk's return and some French stocks or index returns. Therefore, he considered vicariate VAR model.

In the l960s the practical studies on the relationship of return-volume developed financial markets initiate, for example, Granger and Morgenstern and Godfery (1963). Weekly data was used by them to assess the association between price and changes and volume and bring into being that price changes followed a haphazard walk. Crouch (1970) found that the daily stock price changes and the daily volume are directly related to each other in market index as well as in individual stocks index.

Morgan (1976 found that by using the daily or monthly data the price changes and volume are directly related to each other. Smirlock and Starks (1985) conducted a research their results showed the relationship asymmetric between return and volume. Afterward, Smirlock and Starks (1985) found the positive relationship of the lagged values between price change and volume

Hiemstra and Jones (1994) conducted a research to find the non linear casual association between return and volume using the Granger causality tests and found that they are positively bidirectional related to each other. Brailsford (1994) explained on empirical scrutiny of the association between trading volume and volatility of stock return in the market of Australia. The association linking price change and trading volume, with not respect to the way of the change in price, was momentous crossways three options of measures of trading volume on daily basis for the aggregate market and individual stocks.

Brock & Baron (1995) made a structural model by using data of return on assets and volume to movements to check whether volatility autocorrelation comes from the basic that the trading processes itself. Returns and volume data gave arguments the preservance of volatility was occurred by traders who made experiments with different beliefs which were based upon past yield experience and their estimates of future yield experience. According to Andersen (1996) the journalism on activity of trading in financial markets is widespread and a number of proceedings of volume have been anticipated and studied. The total number of shares traded as a measure of volume was used in some of the studies of aggregate trading activity. Share volume of individual was frequently used in the test the price/volume and volatility of volume relations.

Jun, Marathe and Shawky (2003), conducted a research for sample of 27 emerging markets using the monthly data from the period 1992- 1999 (together with china) and analyses the association linking liquidity and stock return where the later variable was measured in a number of ways i.e. trading value, turnover and the ratio or turnover to volume. They found that trading value, turnover and the ratio or turnover to volume is positively related to each other. In review, volume and return were strongly connected contemporaneously but there was diminutive proof that either could be used to forecast the other.

Financial Risk

The purpose of the following chapters was to introduce the concept of financial risk and its influence on the economic activity and stock prices in the energy industry. The concept of financial risk was further divided into two risk dimensions, systematic and unsystematic risk. These two dimensions comprise the total risk exposure facing the energy industry (Brealey et al., 2008). Let us start by introducing the general terms of financial risk. Risk can be regarded as future uncertainties; these uncertainties could provide both limitations and opportunities for a company. Financial risk could further be defined as the *likelihood of losses resulting from events such as changes in the market price* (Horcher, 2005, p. 16). This financial risk is the product of two factors:

- Conceiving the potential loss from changes in a particular rate or price
- Estimating the probability of the change occurring (Horcher, 2005)

In order to reduce risk it is necessary to first manage the risk exposure and provide an adequate answer to the following questions:

- What financial risk is the company exposed to?
- How sensitive is the company to the financial risk exposure?
- What is the possible loss or gain for the company as a result of this risk? (Horcher, 2005)

Managing financial risk can be considered as an economical priority for energy companies. The motive behind managing financial risk is creating economic value through applying financial instruments in order to control its risk exposure.

The total financial risk exposure and the resulting influence on the energy company's stock prices, or other companies in general, can further be characterized as equity risk. Equity risk relates to the risk behind fluctuating stock prices and would therefore refer to the exposure to changes within a stock price value. Equity risk can encompass one stock, several stocks, an industry or the market as a whole (Armitage, 2005; Goetzmann & Ibbotson, 2004; Horcher, 2005).

Variation in a company's stock price could represent a significant risk for the energy companies and for the investors and shareholders within a specific energy company. Significant stock price fluctuations signals a high degree of risk exposure but does also

provide the possibility to either experience a great return when the stock price increases, or a large loss when the stock price deteriorates.

The total risk exposure or equity risk of a stock price can be measured by the volatility of a stock Volatility can be described as *a measurement of how uncertain we are about future stock price movements (Hull, 2009, p. 202)*. The volatility of a stock will therefore provide a measure of the uncertainty of a stock caused by possible financial risk factors (systematic and unsystematic risk).This implies uncertainties of a stock providing additional return. The volatility of a stock can be measured by the standard deviation of the log return of a single stock in a given period and can be illustrated by the following equation:

$$S = \sqrt{\frac{1}{n-1} \sum_{i=1}^{n} (u_i - u^-)^2}$$

Equation 1 - Volatility

Where is the log stock return and is calculated by the following equation:

$$u_i = l_n \left(\frac{s_i}{s_{i-1}} \right)$$

Equation 2 - Log Stock Return

S= volatility

u_i= log return of stock

u= average log return of stock

l_n = natural logarithm

n = number of observations

s_i= current stock price

s_{i-1}= former stock price

(Stock & Watson, 2007)

The above equation helps to indicate the extent of former stock price fluctuations caused by former changes within the world economy. A high volatility would indicate that the stock has experienced several significant movements, while a low volatility would indicate a rather stable stock price (Hull, 2009). The volatility measurement of a stock could therefore provide us with valuable information on a stock's previous movements, and indicate the extent of financial risk exposure in periods of recession compared to periods of growth.

As earlier mentioned, the equity risk has been divided into two risk dimensions, systematic and unsystematic (Brealey et al., 2008). The following chapters will further introduce possible systematic, meaning market specific and unsystematic, meaning company specific, and risk factors. The systematic and unsystematic risk provided us with fundamental concept within this thesis and will remain as an underlying framework when discussing further theories and models.

Systematic and Unsystematic Risk

This sub-chapter provides us with an understanding on why and how companies might be exposed to financial risk by introducing systematic and unsystematic risk. The purpose of the following sub-chapters was therefore to present possible systematic and unsystematic risk factors and its influence on the energy industry.

Systematic Risk

Systematic risk refers to the overall market influence affecting the economy as a whole. The systematic risk dimension will refer to the industries interdependence to a market or a system, effecting the entire market index or industry rather than individual companies as a single unit

Beta

When evaluating the systematic risk exposure of a company we would have to consider the beta value. The beta value describes the sensitivity of a single stock to changes in the marked conditions, here defined as systematic risk. If we would like to consider how a stock is exposed to systematic risk we could further use models as CAPM (Capital Asset Pricing Model) to assess the systematic risk exposure by predicting the estimated stock

return. The beta value representing the systematic risk factor in CAPM is measured by calculating the covariance between the return on a stock and the market index. The market index would therefore represent the systematic risk (T. E. Copeland, Weston, & Shastri, 2005). The formula for calculating beta in CAPM can be illustrated by the following equation:

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

Equation 3 - CAPM Beta Value

β_i represents the sensitivity of stock i to the market risk

σ_{im} Represents the covariance between the return on stock i and the marked index; how the company stock deviates from the market index. This is caused by changes σ_m^2 Represents the variance of the market index. This is caused by changes in the marked index and is therefore common for every stock; systematic risk (Brealey et al., 2008; T. E. Copeland et al., 2005; Cuthbertson & Nitzsche, 2004)

he beta value in CAPM indicates how the stock return varies in relative to the overall market index. The market index is supposed to capture the systematic risk exposure. The market index is further supposed to provide a beta value of 1. By calculating the beta value of a stock we could therefore determine whether a stock moves in the same or opposite extent as the market index. A stock with a beta value less than one indicates the stock price changing in a smaller frequency than the market index, whereas the opposite is true for a beta above 1. A stock representing a high beta value is therefore expected to provide supplementary return because of the additional systematic risk not captured by the market index (Brealey et al., 2008; T. E. Copeland et al., 2005; Hull, 2009).

The CAPM is only one of several models incorporating financial risk factors to assess the financial risk exposure from changes in a company's stock price. There is however several possible systematic and unsystematic risk factors that could have influenced the stock price fluctuation. The CAPM model could therefore be regarded as insufficient, as it only includes the market index to explain the total risk exposure. This thesis has chosen to consider several models including both systematic and unsystematic risk factors in order to measure a company's financial risk exposure from former stock price changes. The following sub-

chapters will therefore introduce possible systematic and unsystematic risk factors before proceeding to the models incorporating these risk factors for measuring the energy company's exposure to financial risk when considering former stock price fluctuations.

Systematic Risk Factors

This chapter intends to introduce three possible systematic risk factors and their possible influence on a company's stock price. The three risk factors selected to represent an energy companies exposure to systematic risk were interest rates, exchange rates and commodity prices The purpose of the next sub-chapters were to provide an explanation to how these systematic risk factors could influence the energy industry, and how periods of recession and periods of growth may provoke additional changes in the stock return. The intention of this chapter was therefore to provide a sufficient perspective of the possible determinants of expected stock return.

Interest Rate Risk

Interest rate risk is the first systematic risk factor presented that could have caused changes in the stock price values. Interest rate risk can be defined as *the possibility of an adverse impact on profitability or asset value as a result of interest rate changes* (Horcher, 2005, p. 24). Interest rates can be regarded as a key factor within market prices, and as an important economic indicator. Energy companies are exposed to interest rate risk when borrowing money to perform new investments and when performing monthly repayment. In periods of recession it might be more difficult for the bank sector to achieve access to enough capital, hence increasing the requirement to loan money. This provides the energy companies with limited access to capital when planning future investments, and may therefore reduce the ability to explore new strategic developments to secure future growth.

The US Treasury bill is often referred to when considering the risk free interest rate. The Treasury bill can be considered as an instrument used by the government to borrow in its own currency. This is a non-interest bearing obligation or debt issued by the US Treasury with a maturity of less than one year. The US Treasury could therefore be considered as the safest securities available for the investors, and the yield provided by these securities appear to be the Treasury bill or the risk-free rate of return. For that reason, these securities would appear a good possibility for companies to obtain risk free investments and at the same time provide a less extent of credit risk. This is followed by the high liquidity of US government/Treasury

obligations. The low maturity provides less sensitivity to changes within interest rates (Brealey et al., 2008; Hull, 2009; Van Horne & Wachowicz, 2005).

The interest rate risk is particularly important for the energy companies, because it could affect both profitability and the asset value causing the stock price to increase or decline. In periods of recession and periods of growth followed by respectively a low or high interest rate, it is therefore important to incorporate the possible changes to prevent possible influence on the company's profitability. A high interest rate indicates increased cost of capital which may cause changes within strategic and financial plans (Horcher, 2005). The cost of capital we refer to here, is the companies expected return on an investment (Brealey et al., 2008). The companies will therefore have to increase their effort additionally to sustain required growth. Increased interest rate does not only influence investment behavior, it also affects the amount of debt held by the company. Higher interest rates could increase the monthly obligations and for that reason decrease the capital available for investments and operations expenditures. The interest rate is often settled over a given time period and can therefore remain unchanged for months. This enables the energy company to make the necessary preparation and management in order to maintain economic growth and possibly mitigate the cost of capital (Horcher, 2005).

Exchange Rate Risk

When performing transactions related to export or import, or when performing international investments the companies are exposed to exchange rate risk. International investments and transactions often require transactions in foreign currencies providing possible risk exposure when converting from national to foreign currency. Exchange risk can therefore be defined as *the price of a unit of foreign currency, measured in units of domestic currency* (L. S. Copeland, 2005, p. 53).

Oil and gas are usually traded internationally in U.S. dollars. This implicates a higher risk exposure for non U.S. energy companies. Trading supplies involves exposure to other currencies and arises through transaction of commodities. When trading oil and gas supplies, the supplier will have to sell oil and gas in U.S. dollars then convert the sale income into the national currency. This trade could provide a strong or weak exchange rate for the supplier. The exchange rate risk can be illustrated by the following example. If oil supplies are traded in U.S. dollars and the supplier converts its domestic currency into U.S. dollars, it is exposed

to exchange rate risk. For example, if StatoilHydro were selling oil at an exchange rate 7 NOK/$ it would have significant higher income then if oil was sold at an exchange rate of 5 NOK/$. In periods of recession there will be currencies that are more attractive and safer than others. The company decides how to utilize their financial holdings which allows them to seek safe return on their investments (Horcher, 2005).

Commodity Price Risk

Organization producing or purchasing commodities are exposed to commodity risk. Commodity risk can be defined as *the exposure to absolute price changes in the risk of commodity prices rising or falling* (Horcher, 2005, p. 34). Both producers of commodities and those who use commodities as intermediate supplies would experience exposure to commodity price risk. The commodity price fluctuation may therefore cause the energy companies to experience uncertainties regarding future market values and future income from commodities not yet produced.

Financial risk associated with commodity prices relates to uncertainties regarding various unpredictable factors like exchange rates, interest rate, economic conditions and production costs. The value of the commodity could also be affected by physical quality, delivery location and storability unlike other financial assets. For an energy company to maximize their return they need to take these risk factors into consideration. An unexpected decline in the exchange rate or reduced product quality may cause significant financial loss. The commodity prices are further influenced by market demand and supply. Commodity supply is a function of production which may deteriorate if the production system fails or if the company experience difficulties regarding delivery. Demand will also experience increased cost as the commodity prices goes up, possible causing reduced profit (Horcher, 2005).

Periods of recession and periods of growth may cause additional commodity price fluctuation in contrast to rather stable commodity price levels. These periods may cause additional uncertainties when considering long term investments. Long term investments are intended to provide income on the long term basis, and it is therefore important to consider possible movements based on former historical movements. It is however difficult to predict how the oil price would be 1 year from now, and even more difficult in 5 years from now. Who would for example have guessed the oil price reaching a peak level above 130 $/bbl by July 2008, and who would have guessed the oil price dropping over 65% as we move into March 2009?

These periods of growth and recession makes is rather difficult for an energy company to predict future conditions when considering developing new fields. This provides superior exposure to commodity risk and could therefore provide as an important indicator when evaluating previous stock price movements. The systematic risk factors presented could appear as possible reasons for former stock price changes within the energy industry. The following chapter will now present unsystematic risk as the other important component within equity risk.

Unsystematic Risk

The unsystematic risk relates to the company specific risk. Companies can influence these risk factors in a larger extent by diversifying their risk exposure in contrast to systematic risk (T. E. Copeland et al., 2005; Downes & Goodman, 2006). This thesis has evaluated stocks individually and not as a portfolio, this implies that we will not explore the term diversification further in our quantitative or qualitative analysis.

If we would have considered several portfolios of stocks then diversification could have removed a large extent of the unsystematic risk. The concept of diversification is to spread the risk by investing in several stocks in order to be prepared for uncertain market conditions if a stock sudden deteriorates. Diversification will not be further evaluated since we are considering single stocks rather than several stocks in one portfolio. In this thesis there is only one portfolio, the market index. In this context the portfolio referred to in this thesis will be the world market index consisting of all the stocks in one portfolio

The unique risk is related to revenues and activities within the company. The unique risk discussed and evaluated in this thesis is exploration and production related risk; exploration and development cost, and reserve replacement rate. These company specific or unsystematic risk factors were further presented in chapter 3.3 Investment Behavior, as these unsystematic risk factors could be related to a company's investment behavior

Systematic and Unsystematic Risk Summary

We have now evaluated systematic and unsystematic risk that comprises the equity risk or the overall financial exposure facing the energy industry. These factors could all provide significant financial risk exposure in periods of recession or periods of growth, causing fluctuating stock prices and return alterations for an energy company. In order for a company

to succeed they are depending on managing financial risk and succeeding within financial investments, to increase revenue and hence increase the stock price (Horcher, 2005). The first task in any management function is to identify the risk exposure facing a company. Once the risk has been identified, it must be assessed, evaluated and mitigated. This implies to determine the impact of risk exposure and evaluate what influence risk management can have on limiting the risk. These procedures are present for all the different market risk factors and are essential in order to provide higher returns and dividends for the shareholders. These ystematic and unsystematic risk factors were further applied in the quantitative and qualitative analysis in order to explain their possible influence to former stock price changes

We will now continue to present the models selected in this thesis used to measure the company's financial risk exposure from former stock price changes.

Historical Stock Return

As mentioned in the previous sub-chapters, the energy companies are vulnerable to both systematic and unsystematic risk. In order to determine the market price of risk and the appropriate measure of risk for a single stock, we can employ different models. The purpose of this chapter was to present the single and multifactor models applied in this thesis for the explanation of oil and gas companies' excess stock return over the last 20 years. The excess return of a stock represents the required risk premium from investing in a single stock rather than in a risk free investment (Bodie, Kane, & Marcus, 2005). The excess return is required to calculate the beta values indicating the systematic and unsystematic risk factor for a stock. The risk premium indicating the excess stock return has further been presented in chapter 3.2.5 Risk Premium and Excess Stock Return. These models intend to capture the energy company's exposure to both systematic and unsystematic risk factors by including certain risk factors within the model to help explain historical stock return. The next sub-chapters will provide an introduction to these models applied in this thesis by explaining the fundamentals of each model selected.

CAPM

A well recognized method for calculating the required rate of return is CAPM; Capital Asset Pricing Model. The theory of CAPM was developed by Black, Lintner, and Sharpe (Black, 1972; Lintner, 1965; Sharpe, 1964). The idea behind the CAPM theory started with how investors could construct efficient stock portfolios based on a single factor, the market index.

CAPM was included in this thesis as it assesses the financial risk exposure by considering the changes in the return of the world market index compared to stock return. This relationship is indicated by the beta value of a stock and was presented in chapter III. This model provides information of the historical stock price as a function of the covariance with the market index. When investing in a company or when purchasing company stocks, one would require a compensation for the exposure to financial risk. When an investment is considered as risky, the expected return (r) will have to exceed the return on a risk-free investment (rf); here described as the market risk premium. Market risk premium is referred to *the difference between the return from the market and the interest rate* (Brealey et al., 2008, p. 214). This risk free return is often considered to be the interest rate.

The formula illustrating the relationship between risk and expected stock return, CAPM, is:

$$Er_i = r_f + \beta_i [E(r_m) - r_f] + e_i$$

Equation- CAPM Expected Stock Return

Er_i=expected return on stock i

r_f =risk free interest rate often referred to as the US Treasury bill

(r_m)=expected return on the market index

β_i=systematic risk

$[E(r_m) - r_f]$=equity risk premium; the excess return of the market index beyond the risk free interest rate

e_i=other risk factors that might have influenced the former stock return

(Reilly & Brown, 2003)

The CAPM formula provides the relation between the expected risk premium of a stock and their systematic risk factor represented by the market index. The CAPM model can further be explained by illustrating a few examples. Consider an example where the market index provides several fluctuation during a given time period, like for example in recession or

growth periods. The stock price however, remains at a rather stable level providing a small volatility measure. The stock return does therefore not vary in accordance to the market and would therefore provide a beta around 0. This implies a risk free investment and would provide an expected return similar to the return provided by the risk free interest rate. Another example would be a stock providing similar movement as the market index implying a beta value around 1. The stock's relation with the market would therefore provide the stock return to be similar as the return provided by the market index (Womack & Zhang, 2003)

The CAPM formula divides risk into two dimensions, systematic and unsystematic risk. The systematic risk stems from market risk factors and unsystematic from company specific factors. CAPM further implies that investors are compensated for systematic risk exposure but not for unsystematic risk exposure. The possible unsystematic risk factors are therefore excluded in the CAPM model. The reason being that investors could avoid unsystematic risk by diversifying which involves investing in a portfolio consisting of several stocks (Brealey et al., 2008; Reilly & Brown, 2003).

The CAPM model assumes that a stock should provide a return similar to the risk free rate in addition to a risk premium from holding the stock, measured by the beta value of the stock. The beta value of a stock representing the systematic risk would therefore provide valuable information indicating the variance of the stock price which can't be reduced through diversification. The relation between the beta of a stock and the following expected stock return can be illustrated by the following figure:
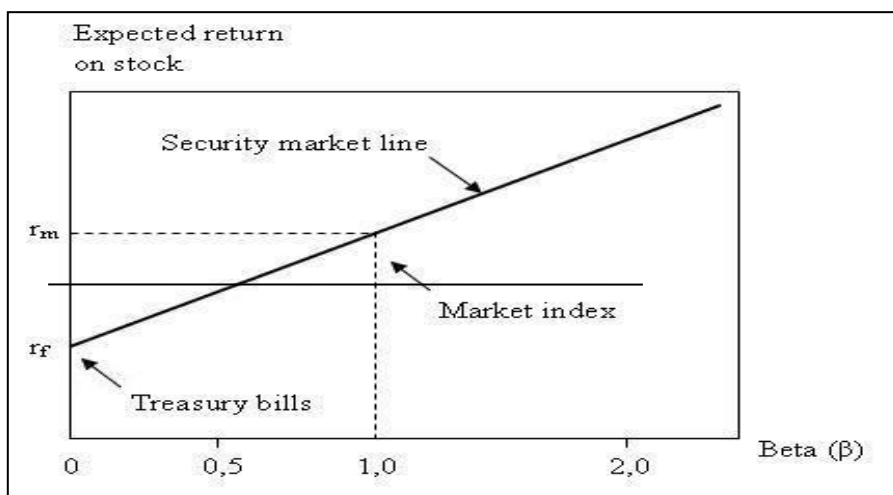
CAPM: Security Market Line (SML)

(Brealey et al., 2008, p. 214)

The security market line illustrates the relation between the expected return and the market risk, where the market risk referred to here is the beta value. In a competitive market, the expected risk premium varies in proportion to beta which implies that all stocks should be on the security market line (Armitage, 2005).

As earlier mentioned, this thesis has selected to apply several models including both systematic and unsystematic risk factors as the CAPM model only captures financial risk in one systematic risk factor; the market index, and could therefore be regarded as insufficient. We have explored several models trying to explain a company's financial risk exposure considering the relation between the stock return and several systematic and unsystematic risk factors. The following chapters will therefore provide an introduction to some of the multifactor models explored, as they have been applied to assess and measure the financial risk exposure of the energy companies selected.

2.2 Review from Nepalese Studies

Very few independent studies can be found in the topic of finance .however, the available studies which are related to the Nepal stock market and about shareholder democracy view expressed by different person in their articles regarding risk and return of common stock of commercial bank are presented here in the topic.

Manandhar (2007) conduct a study on the topic "A *Study on Risk and Return Analysis on Common Stock of Listed Commercial Bank in Nepal"* the main objective of the study was to analyze the risk return and other relevant variables that help in making decisions about investment on securities of the listed commercial banks. The other specific objectives of this study were as follows;

- 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 identity 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.

- To make relevant suggestion and practical idea and materialize recommendations based on findings.

The major Findings of the study were;
- Among all the securities common stock is known to be must risky security.
- Higher the risk higher will be the return.
- Most of investors attached to common stock securities because of its higher expected returns.
- As for the investors it is important to analyze each investment, company to pentagonal returns with the risk and average the potential returns form an investment should compensate for the level of risk undertaken.

Gyawali (2008), has conducted a research work on the topic *"Risk and return on common stock"* He used secondary data analysis with five commercials banks covering 5 years period from 2056/057 to 2060/061. The major objectives of his studies were as follows.
- To determine the risk, return and other relevant factors that directly affect the investment in common stock.
- To evaluate the common stock of the listed commercial banks in terms of risk and return to perform sector wise comparison on the basic of market capitalization.
- This study used market prices of stock and dividend per share as well as statistical tools to analysis the data. The major findings of the study were;
- Among five commercial banks standard chartered bank and Himalayan bank is the continuous dividend payer.
- Among sample banks Nepal Bangladesh bank ltd it has lowest expected return.
- Bangladesh bank is high risky and standard bank is low risky.

Joshi (2009) has studied on the topic *"Problems in choice of optimum portfolio of stock in Nepal stock Exchange"* This study s based on 21 listed 'A' graded companies data are used to analyze. The main objectives of the study is to find out and analyze the major problems of investors facing regarding selection of most profitable stocks in NEPASE and other objective were;
- To analyze the trend of NEPSE.
- To analyze the problems and find out some resolutions for the problems.

- To suggest the measure of the improvement of the stock market as well as for better meet of invest.
- To try to found out the best portfolio of NEPSE to invest.

This was an empirical study on investors problem regarding selection of most portfolio stock of NEPSE. Therefore to conduct the study analytical and descriptive research has been made from readily available data of stock market. Some information is gathered with the help of questionnaire and meeting with people. Various financial tools are used to fund out the best stock available in the NEPSE such as standard deviations, holding period return, coefficient of variation portfolio return, portfolio standard deviation and others.

With the help of coefficient of variation more variable stocks are ignored where as the only lesser variable stock are used to construct portfolio. It return more the only yardstick to make investment decision than CIT be the better are which gives the optimum of 37% monthly holding period return. Per standard deviation NHDFC seems better though its HPR comes to negative. So to make decision easier negative return stocks were ignored and picked three least standard deviation stock to construct portfolio, due to high fluctuating almost stocks seems riskier so to invest in single stock means to welcome the risk. So to diversify the risk investment possibility more searched in different efficient lets and the analysis and calculation concluded the stock of CIT and PFC be the best when the proportion on investment of PFC and CIT is 55% and 45% respectively.

- **Pokharel (2010)** has under taken a study entitled "Risk & Return on Common Stock Investment of Commercial Banks, With Reference to Six Commercial Banks" the basic objectives of his research were as follows.
- To analyze whether the common stock of commercial banks are correctly priced or not.
- To analyze the required rate of return and expected rate of return.
- To study the systematic and unsystematic risk associated with securities of the commercials banks.
- Majors finding of his study were given below.
- Among the six commercials banks, NABIL bank has highest expected rate of return on common stock (i.e.14.03%) and NIB bank has negative expected rate of return o common stock (i.e.-3.9698%). Similarly, The common stock of BOKL is most risky

asset, which has highest standard deviation (i.e.52.15%) and HBL"s stock is less risky due to lowest standard deviation (i.e.19.49%).

- Regarding the market capitalization of six selected companies, SCBNL has the maximum market capitalization (i.e.31.36%) and the market capitalization of BOKL is low by 7.11%.
- Considering the different investment sectors, the expected return of other sector is maximum by 34.53% and the processing sector has very low expected return (-12.076%). Similarly, considering coefficient of variation of different sectors, the trading sector has maximum by 18.49 units, which indicate that to earn 1 unit of return, the investor has to bear 10.49 units of risk. The coefficient of variation on manufacturing & processing is – 3.1349 and –3.28 (negative) respectively.

Mishra, (2011) has conducted a study entitled *"Risk and Return Analysis of Common Stock of Five Listed Commercial Banks"* The major objectives of the study were as follows.

- To calculate and analyze the risk and return of banking sector.
- To evaluate common stock of listed commercial banks.
- To analyze whether the common stock of commercial banks are correctly priced or not etc.

The major findings of his study were summarized below.

- Regarding the market capitalization of selected companies, SCBL has the maximum market capitalization and NBBL has the minimum market capitalization.
- Regarding the market capitalization of the inter industry, Banking sector has 65%, Insurance & Finance has 14%, Manufacturing & Processing sector has 13%, Hotel sector has 7%, Trading sector has 1% and Other sector has negotiable proportion of share in over all market capitalization.
- The return of SCBL is maximum (i.e.73.30%) but its risk also maximum but if risk is taken into account for consideration, NIBL has the minimum risk of 43.82%.
- In industry wise analysis, the expected return of finance and insurance has a maximum expected return (i.e. 27.70%), while other sector has a minimum expected return (i.e.16.61%). If the risk is assessed in term of C.V., Banking sector has minimum C.V. like 1.66, which indicates that it is better to invest on the shares of banking sector.

2.3 Research Gap

There are lot of research work done by different Researcher on the topic of "Risk and Return Analysis and Optimal Portfolio Creation of Common Stock Investment." Some researcher a used very few sample size which may not cover the whole population and some researcher used nominal fiscal period which may not provide the whole scenario of market. Some researcher use only statistical tools and technique to determine the risk and return of the assets or securities of firm. This research work on the topic of "Risk and Return Analysis and Optimal Portfolio Creation of Common Stock Investment With Reference to SBI, HBL, BOK, NIBL, KBL, NBBL & SCBNL " has taken the five year data from Fiscal year 2063/064 to Fiscal year 2067/68 and seven finance companies are taken as sample so that this study is differ from other research work.

To find out the condition of Risk and Return and Portfolio Creation the research is done in seven banks among the 32 commercial banks, which are listed in Nepal Stock Exchange. In the study of few thesis on same topic of several commercial banks, companies and hotels by previous researcher. There is found a poor analysis of risk and return. The previous researcher used the Nepse index, but this study finds out conclusion using industry index i.e. banking index which is a sub index. Banking index calculated based on listed commercial banks.

The main gap of this thesis is that gives an idea about how to create an optimal portfolio. Past researcher only analyzes about portfolio. They don't give any suggestion for creation of optimal portfolio and also present market movement in trend line figure. So, this study gives more reliable and accurate conclusion than past research.

CHAPTER- III

RESEARCH METHODOLOGY

The Research Methodology is the Systematic way of solving research Problems. Research methodology refers to the overall research process, which a researcher conducts during his/her study. It includes all producers from theoretical under planning to the collection and analysis of data .as most of the data are quantitative the research is based on the scientific models. It is the composed of both parts of technical aspect and logical aspect; on the basis of historical data. Research is systematic and organizational efforts to investigate a specific problem that needs a solution. This process of investigation involves a series of well thought out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answer to the problems is called research.

Research can be conducted on the basis of primary and secondary data .Here in the study all the data are secondary and the observed data in the analysed with using appropriate financial and statistical tools. Outcomes are presented in simple way .detail research method is described in following headings.

3.1 Research Design

This study can be termed as descriptive challenging is feedback study; Risk & Return tools, as well as statically tools with the help of secondary data.

The study aims at portraying risk and return of these seven commercial banks. The study covers the five years period from the FY 2005/06 to2000/10. It details with the common stocks of these commercial banks on the basis of available information. In order to study, descriptive, analytical and developmental researchers have adopted. Descriptive research design has been utilized mainly for conceptualizations of the problem. Analytical research design has been followed mainly to analyze the relationship among different variables. Likewise, developmental research has been conducted for the purpose of predicting future trends.

3.2 Nature and Sources of Data

The data required for the research is collected from the Primary and secondary sources .During the study, information opinion survey has also been taken with the individual investors, bank officials, security board of Nepal, staff of Nepal stock exchange and stockholders. Data related to the market Prices of stocks, market capitalization movement of NEPSE index etc. It is taken from the trading report published by NEPSE and the website of Nepal stock exchange (i.e. www.nepalstock.com), Annual report of securities Board of Nepal (i.e. sebon.gov.np) .Annual report of commercial banks and their financial statement are also collected from the respective sample banks. NEPSE periodicals articles and previous research report etc has also been considered.

3.3 Population and Sample

The population of study is all the listed companies in NEPSE index. There are 299 companies listed in NEPSE until 25 July 2011. They consist of 32 commercial banks, 50developmentbanks,20 insurance companies, 70 finance companies, 17manufaturing companies, 4hotels, 4trading companies, 4 hydropower and 2 others. This study is concentrated is listed commercial banks only. Total listed commercial banks are 24 for these study 7 commercial banks are taken as sample.

SAMPLE BANKS ARE AS FOLLOWS:
- Bank Of Kathmandu Limited, Nepal
- Nepal Investment Bank Limited , Nepal
- Nepal Sbi Bank Limited, Nepal
- Kumari Bank Limited, Nepal
- Himalayan Bank Limited ,Nepal
- Standard Chartered Bank Limited, Nepal
- Nepal Bangladesh Bank Limited.

3.4 Data Collection Producer

According to the nature of data, they have been inserted in meaningful tables, which have been shown in appendices. Homogeneous data have been sorted in one table and similarly various tables have been prepared in understandable manner, odd data are excluded from the

table. Data have been analyzed and interpreted using financial and statistical tools. The detail calculations questioner cannot be shown in the body part of the report are presented in appendices at the end of the report.

The primary data has been used for the analysis of portfolio performance of the Bank. Questions was prepared selected to portfolio analysis and asked to the respondent (Bank Staff) individually and fulfill the questioner.

3.5 Data analysis tools

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

3.5.1.1 Market Price of stock (p)

If the market prices of shares of companies are followed them it can be found that there are three types of price high, low, and closing price. For the analysis, single one is needed. So average price (that of high and low) or closing price approaches can be used. Here in this study the closing price is taken as the market price of stock, which has specific time to 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 duration of time of each transaction in the whole year are essential. Which is tedious and impossible too, considering the data availability and maintenance? Hence, the closing Price is used as the market price of stock, which has a specific time span of one year and the study has focused in annual basis.

3.5.1.2 Dividend per share (DPS)

The dividend is depends on the company's dividend policy. Dividend is the proportion of earning which company pays to its shareholders. It is usually distributed from the retained earnings. it is useful in the computation of the realize rate of return. Symbolically, it can be expressed as:

$$\text{Dividend per Share (DPS)} = \frac{Total\ AMount\ of\ DividenPaid}{No of\ Common\ Stock\ Outstanding}$$

Total Dividend Amount = Cash dividend +Stock Dividend %* Next Year MPS

Some time the Company issues at par. in this situation we can calculate total dividend amount by this model.

Total dividend Amount =Cash Dividend +Right Share % (Next Year MPS-Price of Right Share)

3.5.1.3 Return of Common Stock (Rj)

It is not as realized rate of return or single period rate of return. It is cash received plus price change in period of stock (capital Gain/loss). It is calculating form of Percentage. It is calculated by adding change in market price with total dividend and then dividing by market price of previous year. Symbolically,

Single period rate of return $(Rj)= \frac{(Pt-Pt-1)+Dt}{Pt-1}$

Where,

$Rj = $ Annual Return of Return at time j

$Pt = $ Price at the end of year t

$Pt-1 = $ Price at the begin of the year 1

$$Dt = Divend\ at\ the\ end\ of\ this\ year$$

3.5.1.4 Expected Rate of Return E(R_j)

One of the main objectives of this study is to determine the expected rate of return on common stock investment .Generally this rate is obtained by arithmetic mean of the past year return. The expected rate of return is the arithmetic mean of the past years return. The expected rate of return can be calculated by using following formula.

If the probability distribution is given.

Expected rate of return $\mathbf{E}(R_j) = \sum(Pj * Rj)$

If the probability distribution is not given.

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

Where,

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

Pj = probability distribution on stock j

Rj = Return on stock j

n = Number of years that the return is taken

$\sum$ = Sign of Summation

3.5.1.5 Return on Market

It is the percentage increase in NEPSE Index market return is the average return of market as whole. It is calculated as

$$R_{m=} \frac{NI_t - NI_{t-1}}{NI_{t-1}}$$

Where,

$R_{m=} Return\ on\ Market$

$NI_t = NEPSE\ Index\ at\ time\ t$

$NI_{t-1} = NEPSE\ Index\ at\ time\ t - 1$

3.5.1.6 Expected Return on Market $E(R_m)$]

It is average return of future expectation. It is calculated by summing of the past return and dividing of sample period.

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

Where,

$E(R_m) = Expected\ return\ on\ Market$

$\sum R_m = summation\ of\ Market\ return$

$\qquad n\ =\ Number\ of\ Sample\ Period$

3.5.1.7 Required rate of Return

The required rate of return is function of the real rate of return and risk. It is the minimum rate of return an investor will accept. The required rate of return for assets can be estimated using the equation for the security market like suggest by the capita assets pricing model.

Required rate of return $(R_j) = R_f + (R_m - R_f)b_j$

Where,

$(R_j) = Required\ rate\ of\ Return$

$R_f = RIsk\ free\ rate$

$R_m = Required\ rate\ of\ return\ on\ the\ Market$

$\qquad b_j = The\ index\ of\ no\ Diversifiable\ of\ assets\ portfolio$

3.5.1.8 Standard Deviation (S.D.) of the stock return

Standard Deviation measure the dispersion from the mean .In other words, it is the statically measure of the variability of the distribution of return around its mean. It is the square root of the variance and measures the risk on the stock investment. The symbol is called (σ) sigma.

Symbolically, $\sigma_j = \sqrt{\dfrac{\sum (R_{j-E(R_j)2})}{n-1}}$

If data is probability distribution given;

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

Where,

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

P_j=Probability Distribution of the observation.

R_j=Single period rate of return on stock j.

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

n=Number of years that the return are taken.

3.5.1.9 Covariance

Covariance is a statistical measure of relationship between two random variables. It measure how random variables such as on securities (R_j) and market return (R_m) Are related to each other. A positive value of covariance indicates that the securities return tends to remove in the same direction with other. A negative covariance indicates a tendency for the return to offset one other. A relatively small or zero for the covariance indicates that these are a little or no relationship between returns for the two securities. it is calculated as :

$$\text{Covariance} \left(R_j R_m \right) = \frac{\sum_{j-1}^{n} (R_j - \bar{R_j})(R_m - \bar{R_m})}{n-1}$$

Where,

Covariance $\left(R_j R_m \right)$= Covariance between return in j Assets and Return In market

3.5.1.10 Coefficient of Variance (CV)

It is the relative measurement of risk with return. It measures the risk per unit return. It provides more meaningful basis for comparison when the expected return on two alternatives are not the same. There is higher coefficient of variance represents the higher the relative risk of the investment and vice - versa. It is calculated as:

$$CV = \frac{\sigma_j}{E(R_j)}$$

Where

CV= Coefficient of Variance of stock

σ_j=Standard deviation of return of stock J

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

3.5.1.11 Beta Coefficient(β)

Beta is an Index of systematic risk. It measured the sensitive of a stock's return on the market portfolio. Symbolically

$$\beta_j = \frac{COV(R_jR_m)}{\sigma_m^2}$$

Where,

β_j=Beta coefficient of Stock J

σ_m^2=variance of Market Return

$COV(R_jR_m)$=covariance between of return on stock j and Return on market.

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

The beta coefficient is a measure of non diversifiable risk. It assumes that total market risk is equal to 1. An asset of portfolio of with a beta greater than1 is considered to be aggressive and an assets or portfolio with a beta less than 1 is considered to be defensive. An investor can use the beta measure to access the risk level of an assets or portfolio.

3.5.1.12 Correlation coefficient (ρ_{i_j})

To variable are correlated when they related that the change in the value of one variable is accompanied by changed in the value of other. Correlation may be positive or negative if returns on two securities are negatively correlated which combine in portfolio reduce the risk. If securities are positive correlated risk cannot be reduce. Correlation coefficient is negative or positive which range from +1 to -1.

It can be calculated as:

$$\rho_{i_j} = \frac{COv(ij)}{\sigma_i \sigma_j}$$

Where,

ρ_{i_j}=Correlation coefficient for securities I and J

$COv(ij$= Covariance between securities I and J

$\sigma_i \sigma_j$=Standard deviation of Return for securities I and J

3.5.1.13 Portfolio Risk and Return

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

3.5.1.14 Portfolio Risk

In order to calculate the risk of portfolio consideration must be given not only to the individual assets in the portfolio and their relative weights but also to the extent to which the

assets is returned more together. We measure the risk of individual assets by the variance of return or its square root, the standard deviation.

The degree to which the assets return move together is measured by the covariance or correlation coefficient. By combining the measure of individual assets, related assets, weights and the co movement of assets return, the risk of portfolio can be estimated. Portfolio risk can be calculated by using the following formulas.

Symbolically,

$$\sigma_p = \sqrt{\sigma_A^2 W_A^2 + \sigma_B^2 W_B^2 + 2W_A W_B Cov_{AB}}$$

$$\sigma_p = \sqrt{\sigma_A^2 W_A^2 + \sigma_B^2 W_B^2 + 2\rho_{AB}\sigma_A\sigma_B W_A W_B}$$

Where,

σ_p = Standard deviation of Portfolio

σ_A^2 = Variance of Return of Security A

W_A = weight or proportion of Security A

σ_B^2 = Variance of return of Security B

W_B = Weight or proportion of Security B

Cov_{AB} = Covariance between return of assets A and B

ρ_{AB} = Correlation coefficient between the return of security A and B

3.5.1.15 Portfolio Return E (R_p)

Portfolio is the combination of two or more assets. Portfolio return is the simply weighted average of the return on the individual assets in portfolio. Symbolically,

$$E (R_p) = W_A R_A + W_B R_B + \ldots\ldots\ldots + W_N R_N$$

Where,

$E(R_p)$ = Expected return on portfolio

W_A = Proportion of investment A assets

W_B = Proportion of investment B assets

W_N = Proportion of investment n assets

R_A = Expected Return on investment A assets

R_B = Expected Return on investment B assets

R_N = Expected Return on investment N assets

3.5.1.16 Portfolio Beta (β_p)

The Portfolio Beta is the weighted average of the individual Beta. The portfolio beta is calculated by using the following formula:

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

Where,

β_p = Portfolio Beta coefficient

W_j = Proportion of the portfolio.

β_j = Beta coefficient of assets j

3.5.1.17 Partitioning of Total Risk

Systematic Risk Proportion $(\rho^2) = \dfrac{\beta_j^2 \sigma_m^2}{\sigma_j^2}$

Unsystematic Risk Proportion $(1 - \rho^2) = \dfrac{Var(e)}{\sigma_j^2}$

Where,

β_j^2=Square beta of stock j

σ_m^2=Variance of market return

σ_j^2=Variance of stockj

$Var(e)$=Residual Variance

3.5.1.18 the optimal portfolio

The optimal portfolio for each investor is found at the tangency point between the efficient set of portfolio and one of the investor's indifference curves. The tangency point makes the highest level of satisfaction an investor can attain from efficient portfolio. The portfolio theory is a description of how rational investor should build the efficient portfolios and select the optimal portfolio. The capital assets pricing model derives the relationship between the expected return and systematic risk of individual securities and portfolios. The CAPM are calculated as follows.

$$R_J=R_F + [E(R_M) - R_F]\beta_J$$

Where,

R_J=Required rate of return on J stock

R_F= Risk free rate of return

$E(R_M)$= The expected rate of return on market portfolio

β_J=Beta coefficient of j stock

3.5.2 Statistical Tools

While analyzing date, following statistical tools are used:

3.5.2.1 Tools for calculating index.

Index numbers are statistical devices design to measure the relative change in the level of phenomena with respect to time, geographical location or other characteristics. In other words, index number one specialized type of rates, ratio, and percentage which give the general level of magnitude of a group of distinct but related variable in two or more situation(Gupta, 1998:650)

$$\text{Index} = \frac{market\ capitalization\ (Rs\ in\ Million)of\ T\ Year}{Base\ Market\ Capialization(Rs\ in\ Million)of\ T\ Year}$$

3.5.2.2 Tools for testing Hypothesis

Population is the all the listed common stock in NEPSE that makes market Portfolio. Sample is all listed of commercial bank. As the test is test of significant for a single mean .the test statistics (t) is :

$$t = \frac{x^- - \mu}{\frac{s}{\sqrt{n}}}$$

Where,

t = students test (t) statistic

x^- =Arithmetic mean of sample statistics

μ= Arithmetic mean of population

s =estimated standard deviation of population

$s = \sqrt{\dfrac{\sum(X - \bar{X})}{n-1}}$ if the deviation is taken from actual mean

Again, if the test is, test of significant of different the test statistics is,

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

Where,

$\bar{X}_1$ =Arithmetic mean of first sample

$\bar{X}_2$ = Arithmetic mean of second sample

n_1 =First sample size

n_2 = Second sample size

3.6 Method of Analysis and Presentation

Methods of analysis are applied as simple as possible. Results are presented in tabular from and clear interpretation on it is given simultaneously. All the methods of analysis and presentations are applied as simple as possible. Details calculations are presentation in appendices at the end of report. To make report simple and easily understandable charts, diagram and graphs have been used. Summary conclusion and recommendations are presented finally.

CHAPTER- IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Presentation and Analysis of Data

This chapter is the main body of study. In this chapter the effort has been made to analyze risk on common stock investments which includes details data of market price of share and dividend of each, selected commercial banks. their interpretation and analysis. with reference to the various readings and literature review in the preceding chapter effort is made to analyze the recent Nepalese stock market movement to the listed commercial banks. The analysis of data consists of organizing, tabulating and assessing financial and statistical result. Different table and diagrams are used to make the result easily under stable. This chapter is the focal part of the study. The main objective of this chapter is to analyze and elucidate the collected unprocessed data through simplification and systematic presentation. This chapter presents the analysis and interpretation of the collected data related to portfolio analysis. As stated earlier in the chapter three, this study consists of primary as well as secondary data. Secondary data obtained from NEPSE trading and annual report, NRB annual report and annual report of Banks companies. Similarly primary data obtain through primary sources i.e. questionnaire and interview method. Secondary data helps to analyze the condition and trend of Banks companies. Likewise primary data helps to describes companies' situations. The requirement of the topic doesn't fulfill by only the secondary data hence primary data has taken into consideration. Data collected from different sources are also tasted with sophisticated statistical tools. Data presented and analysis reveals portfolio risk and return of Banks companies securities.

This chapter includes the presentation and analysis of the quantitative as well as qualitative.

4.2 Risk and Return Analysis of individual commercial bank

There were 299 companies listed in NEPSE until 25 June 2011.They consist of 24 commercial bank , 50 development bans,20 insurance companies, 70 Banks companies, 17 manufacturing companies ,4 hotels,4 trading companies,4 hydropower's and 2 others. This study is concentrated in listed commercial banks only. Total listed commercial banks are 32 for these study 7 commercial banks are taken as sample in this research which is as follows:

- Bank Of Kathmandu Limited, Nepal
- Nepal Investment Bank Limited , Nepal
- Nepal Sbi Bank Limited, Nepal
- Kumari Bank Limited, Nepal
- Nepal Bangladesh Bank Limited, Nepal
- Himalayan Bank Limited ,Nepal
- Standard Chartered Bank Limited, Nepal

4.5 Presentation and Analysis of Secondary Data:

This section provides interpretation and analysis of secondary data concern with portfolio analysis required variables are analyzed using financial and statistical tools as follows:

4.3.1 Analysis the Common Stock risk and return of Banks Companies:

Single period rate of return is the change in value of common stock plus cash dividend per share expressed as s percentage of the beginning period of investment value. Table 4.1.1 (a) shows the calculated holding period return (HPR) of different Banks companies.

The expected rate of return for assets i is the weighted average rate of return. The formula which is used to calculate average or expected return is given below. Table 4.1.1(c) reveals the calculation of expected rate of returns of sample companies.

Table: 4.1

Closing price & Cash dividend of Banks Companies

Years	2006	2007	2008	2009	2010	2011
BOK (B)						
Closing Price	100	105	115	125	120	200
Cash Dividend		14.5	8.1	13.07	15.07	12.62
NIBL (G)						
Closing Price	170	185	190	195	165	220
Cash Dividend		9.55	12.58	16.72	14.98	18.45
KBL (K)						
Closing Price	100	110	118	132	153	507
Cash Dividend		15	17.12	18.52	18.55	13.13
SBI (N)						
Closing Price	545	455	360	295	263	460
Cash Dividend		35.75	42.15	69.12	17.37	25.36
NBBL (S)						
Closing Price	120	145	171	200	200	345
Cash Dividend		24.79	21.29	34.88	25.59	34.67
HBL (U)						
Closing Price	95	105	115	125	154	416

Cash Dividend		1.14	4.65	13.4	21.18	34.97
SCBL (W)						
Closing Price	100	111.27	131.73	122.27	125.82	300
Cash Dividend		11.27	31.73	22.27	25.82	32.24

Source: Respective Banks Companies

- Single Period rate of return $(r_t) = \dfrac{\text{Ending price - Begnning price + cash dividend}}{\text{Begnning price}}$

$$= \frac{r_{t+1} - r_t + D_{t+1}}{r_t}$$

Table: 4.2

Calculation of Banks companies HPR

Year	Particulars	Name of Company						
		BOK	NIBL	KBL	SBI	NBBL	HBL	SCBL
2007	Beginning price	100	170	100	545	120	95	100
	Ending Price	105	185	110	455	145	105	111.27
	Cash dividend	14.5	9.55	15	35.75	24.79	1.14	11.27
	HPR, %	19.50	14.44	25.00	-9.95	41.49	11.73	22.54
2008	Beginning price	105	185	110	455	145	105	111.27
	Ending Price	115	190	118	360	171	115	131.73
	Cash dividend	8.1	12.58	17.12	42.15	21.29	4.65	31.73

	HPR, %	17.24	9.50	22.84	-11.62	32.61	13.95	46.90
2009	Beginning price	115	190	118	360	171	115	131.73
	Ending Price	125	195	132	295	200	125	122.27
	Cash dividend	13.07	16.72	18.52	69.12	34.88	13.4	22.27
	HPR, %	20.06	11.43	27.56	1.14	37.36	20.35	9.72
2010	Beginning price	125	195	132	295	200	125	122.27
	Ending Price	120	165	153	263	200	154	125.82
	Cash dividend	15.07	14.98	18.55	17.37	25.59	21.18	25.82
	HPR, %	8.06	-7.70	29.96	-4.96	12.80	40.14	24.02
2011	Beginning price	120	165	153	263	200	154	125.82
	Ending Price	200	220	570	460	345	416	300
	Cash dividend	12.62	18.45	13.13	25.36	34.67	34.97	32.24
	HPR, %	77.18	44.52	281.13	84.55	89.84	192.84	164.06

- Expected return for i stock $\left(\bar{r_i}\right)$ $= \dfrac{\sum r_i}{n} = \dfrac{r_1 + r_2 + r_3 \text{-------} r_n}{n}$

Where,

n = no. of observation

r_n = HPR for period n

$\sum r_i$ = Summation of annual return for i security

- Variance $\left(\sigma_i\right)^2 = \dfrac{\sum\left(r_i - \bar{r_i}\right)^2}{n}$

S.D. $\left(\sigma_i\right) = \sqrt{\dfrac{\sum\left(r_i - \bar{r_i}\right)^2}{n}}$

Table: 4.3

Banks Companies Risk and Return

Year	Yearly return of Companys(r_i)						
	BOK	**NIBL**	**KBL**	**SBI**	**NBBL**	**HBL**	**SCBL**
2007	19.50	14.44	25.00	-9.95	41.49	11.73	22.54
2008	17.24	9.50	22.84	-11.62	32.61	13.95	46.90
2009	20.06	11.43	27.56	1.14	37.36	20.35	9.72
2010	8.06	-7.70	29.96	-4.96	12.80	40.14	24.02
2011	77.18	44.52	281.13	84.55	89.84	192.84	164.06
Mean , $\bar{r}_i$ (%)	28.41	14.44	77.30	11.83	42.82	55.80	53.45
Variance, σ^2_i	613.41	285.65	10392.71	1341.63	649.54	4795.00	3202.16
Standard Deviation, σ_i (%)	24.77	16.90	101.94	36.63	25.49	69.25	56.59

Figure: 4.1

Risk and Return of Banks Companies
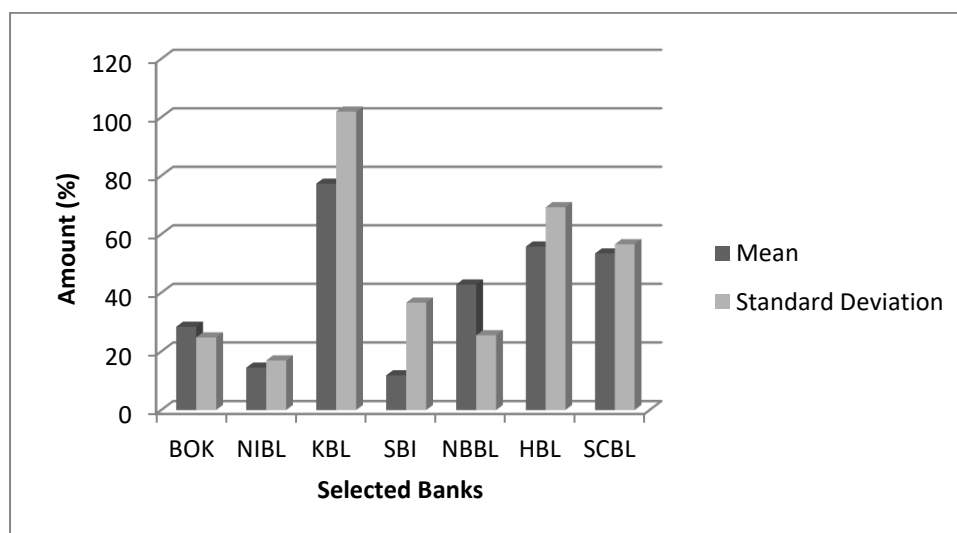
The above table 4.3 shows the Banks companies annual rate of return, which are fluctuating year by year. The highest returns were observed in year 2011 of all Banks companies. The lowest return is not occurred in the same year of all sample Banks companies. The stock returns of BOK, NIBL and NBBL have lowest in year 2010. KBL and SBI have lowest stock returns in year 2008. HBL and SCBL have lowest returns in year 2007 and 2009 respectively.

Table 4.3 describes the expected return (mean value) and risk (standard deviation, variance) of sample Banks companies. Looking at the return, KBL has highest return (77.30%) and SBI has lowest return (11.83%). Looking at risk again KBL has highest standard deviation (101. 94%) and variance (10392.71) but NIBL has lowest standard deviation (16.90%) and variance (285.65). If considering both risk and return BOK and NBBL performing well i.e. $\bar{r}_i$ (28. 41) > σ_i (24.77) and $\bar{r}_i$ (42.82) > σ_i (25.49). NIBL, KBL, HBL and SCBL are average performer. The stock performance of SBI is poor.

From the above table and figure, it was found that B, G, S and W are dominant assets which lie on efficient frontier but stocks K, N and U are dominated assets which lie on inefficient frontier.

4.3.2 Analysis of Market Risk and Return:

NEPSE is one and only stock market of Nepal. Overall market movement is represented by market index i.e. NEPSE index. For calculation of annual market return, market portfolio return, its standard deviation and variance following formula is using.

Annual return on market $(r_m) = \dfrac{\text{Endind NEPSE Index - Beginning NEPSE Index}}{\text{Beginning NEPSE Index}}$

Expected return on market $(\bar{r}_m) = \dfrac{\sum r_m}{n}$

Variance on market return $(\sigma_m)^2 = \dfrac{\sum(r_m - \overline{r_m})^2}{n}$

Standard deviation $(\sigma_m) = \sqrt{\dfrac{\sum(r_m - \overline{r_m})^2}{n}}$

Remarks: No of year (n) is 5 years

Table: 4.4

Calculation of Market Mean, Variance & Standard deviation

Year	NEPSE Index	r_m (%)	$(r_m - \overline{r_m})$	$(r_m - \overline{r_m})_2$	Remarks
2006	227.54	-	-	-	
2007	204.86	-9.97	-37.82	1430.40	
2008	222.04	8.39	-19.47	378.96	
2009	286.6	29.08	1.22	1.49	
2010	386.8	34.96	7.11	50.53	
2011	683.9	76.81	48.96	2396.74	
Mean, $\overline{r_m}$ (%)	27.85				
Std Dev, σ_m (%)	29.18				
Variance, σ^2_m	851.63				

Source: NEPSE

Figure: 4.2

Market annual rate of return
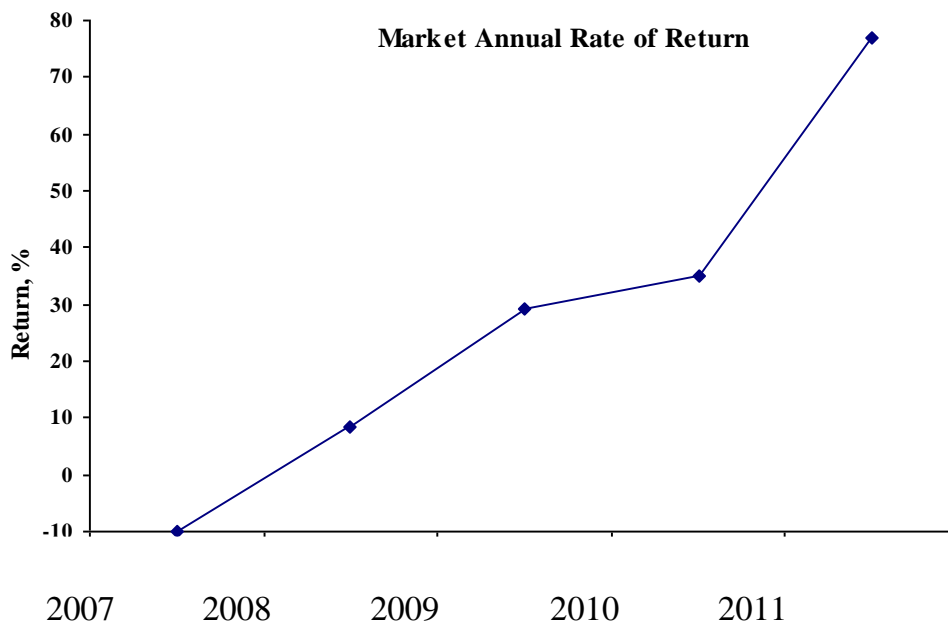
From the above table and figure, it is shown that the market annual rate of return is increasing trend. In the year 2007 it is negative after that it is running upward. In this way market return is 27.85 % and market risk is 29.18 % which leads by mean and standard deviation.

4.3.3 Market Sensitivity Analysis:

Market sensitivity of stock i is explained by its beta coefficient. Beta coefficient (β_i) measures of how much systematic risk a stock has relative to an average risky asset (market) when investor holds large portfolios. It measures the responsiveness of security to movements in the market portfolio.

The beta coefficient of market (β_m) is always equal to 1.

For calculation market sensitivity of stock we should find out the correlation between Market and Banks companies stock and compare company's stock beta with market beta i.e. 1. For this following formula must consider.

Covariance between i stock and market, $\text{Cov}(r_j r_m) = \dfrac{\sum (r_i - \bar{r_i})(r_m - \bar{r_m})}{n}$

Correlation between i stock and market $(\rho_{im}) = \dfrac{\text{Cov}(r_i \ r_m)}{\sigma_i \ \sigma_m}$

Beta coefficient i stock and market $(\beta_{im}) = \dfrac{\text{Cov}(r_i \ r_m)}{\sigma^2_m} = \dfrac{\rho_{im} \sigma_i \sigma_m}{\sigma^2_m}$

Calculation is shown in following table.

Table: 4.5

Calculation of co variance, correlation and beta

Year	2007	2008	2009	2010	2011	Total
r_B	19.50	17.24	20.06	8.06	77.18	142.04
r_G	14.44	9.50	11.43	-7.70	44.52	72.19
r_K	25.00	22.84	27.56	29.96	281.13	386.49
r_N	-9.95	-11.62	1.14	-4.96	84.55	59.16
r_S	41.49	32.61	37.36	12.80	89.84	214.09
r_U	11.73	13.95	20.35	40.14	192.84	279.01
r_W	22.54	46.90	9.72	24.02	164.06	267.25
r_M	-9.97	8.39	29.08	34.96	76.81	139.27
$(r_B - \bar{r_B})(r_M - \bar{r_m})$	336.89	217.44	-10.21	-144.67	2387.89	2787.35
$(r_G - \bar{r_G})(r_M - \bar{r_M})$	-0.13	96.07	-3.68	-157.38	1472.49	1407.37
$(r_K - \bar{r_K})(r_M - \bar{r_M})$	1977.93	1060.20	-60.81	-336.48	9978.96	12619.79
$(r_N - \bar{r_N})(r_M - \bar{r_M})$	823.99	456.46	-13.07	-119.36	3559.87	4707.89

$(r_S - \overline{r_S})(r_M - \overline{r_M})$	50.18	198.65	-6.68	-213.42	2301.77	2330.50
$(r_U - \overline{r_U})(r_M - \overline{r_M})$	1666.96	814.68	-43.35	-111.30	6708.81	9035.80
$(r_W - \overline{r_W})(r_M - \overline{r_M})$	1169.03	127.43	-53.46	-209.20	5415.08	6448.88

Table: 4.6

Companies beta coefficient, covariance and correlation

S.No.	Banks Company	Cov ($r_i r_m$)	$\rho_{i,m}$	$\beta_{i,m}$
1	BOK (B)	557.47	0.77	0.65
2	NIBL (G)	281.47	0.57	0.33
3	KBL (K)	2523.96	0.85	2.96
4	SBI (N)	941.58	0.88	1.11
5	NBBL (S)	466.10	0.63	0.55
6	HBL (U)	1807.16	0.89	2.12
7	SCBL (W)	1289.78	0.78	1.51

From the above table 4.6 it is seen that U stock correlation coefficient(ρ) with M (market i.e. +1) is highest (0.89) so it is most market sensitive than others. The lowest correlation with market is 0.57, which is belonging to stock G. Looking at the correlation coefficient it was found that stocks B, K, N, U and W are highly correlated and stock S and G average correlated with market.

If considering beta β_i), stock K has highest beta of 2.96 and stock G has lowest beta of 0.33. Stocks B, G and S are defensive assets because their beta value is less than market beta $(\beta_m = 1)$ but stocks K, N, U and W are aggressive assets because of their greater beta value.

4.3.4 Calculation of Diversifiable and Undiversifiable Risk:

Diversifiable risk: Diversifiable risk is the portion of the total risk that can be diversifiable away it is also called unsystematic risk. It is caused by events particulars to the firms so this types risk differ from one company to another. Labor strike, management errors, investors, advertising campaigns, shift in consumer taste and law suits etc are the diversifiable risk. The formula of diversifiable risk is as follows;

$$\text{Unsystematic risk} = \text{Total risk} \left(\sigma_i^2\right) - \text{Systematic risk}$$

Un diversifiable risk: The portion of total risk of an individual security caused by market factors that simultaneously affects the prices of all securities is called market risk or un diversifiable risk it is also called systematic risk which cannot diversified away by construction of optimum portfolio. War, inflation, recession, high interest rates, depression and long term changes in consumption in the economy are the example of un diversifiable risk. The formula is as follows;

$$\text{Systematic risk} = \beta_{im} \, \sigma_m^2$$

The percentage of total risk that is systematic can be measured by the coefficient of determination $\left(\rho_{im}^2\right)$. The formula is;

$$\text{Un diversifiable Proportion} = \frac{\text{Systematic risk}}{\text{Total risk}} = \frac{\beta_{im}^2 \, \sigma_m^2}{\sigma_i^2} = \rho_{im}^2$$

Table: 4.7

Calculation of Systematic Risk and Unsystematic Risk

Banks Companies	Total Risk (σ_i^2)	Systematic risk	Unsystematic risk	Coefficient of determinants
BOK	613.41	364.92	248.49	0.59
NIBL	285.65	93.03	192.62	0.33
KBL	10392.71	7480.24	2912.47	0.72
SBI	1341.63	1041.03	300.60	0.78
NBBL	649.54	255.10	394.44	0.39
HBL	4795.00	3834.81	960.19	0.80
SCBL	3202.16	1953.35	1248.81	0.61

From the above table 4.7 it is observed that stock K has highest total risk (10392.71%) and stock G has lowest total risk (285.65%). Coefficient of determination shows the portion of systematic risk (undiversifisble risk) on total risk. Here, stock U posses' highest systematic risk (80%) on total risk and remaining (20%) is unsystematic (diversifiable) risk. In case of stock U only 20% risk can be diversified through construction of optimum portfolio. Similarly stock G has lowest coefficient of determination (33%). Construction of optimum portfolio can diversified remaining 67% risk on total risk for stock G.

Portion of systematic and unsystematic risk on total risk is clearly shown on below figure.

Figure: 4.3

Part of systematic and unsystematic risk on total risk
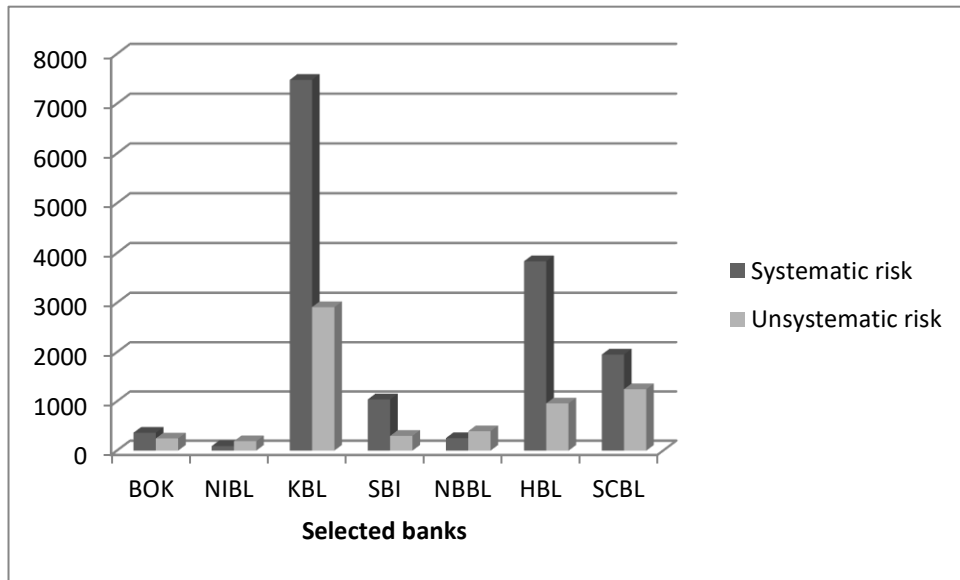
4.3.5 Portfolio Analysis:

Security Market Line (SML): SML describes the linear relationship between the require rate of return on individual assets their covariance with the market portfolio i.e. represented by beta.

Figure: 4.4

Security market line
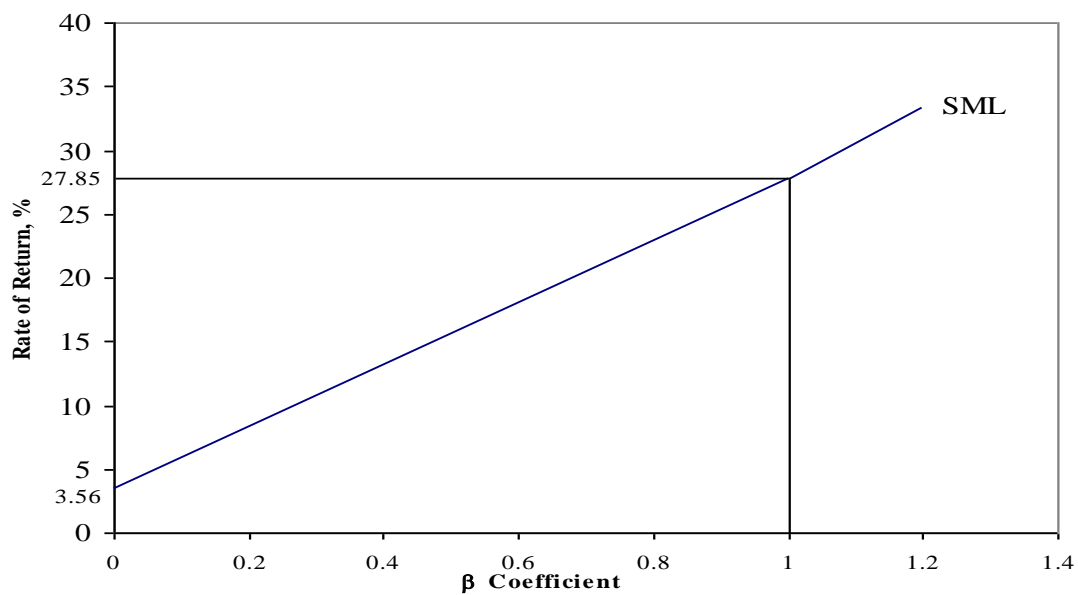
The equation of the SML is;

$$K_i \quad = \quad r_f + (r_m - r_f)\beta_i$$

$$= 3.56 + (27.85 - 3.56)\ \beta_i$$

$$= 3.56 + 24.29\ \beta_i \quad ..\dots\dots.. \ (1)$$

Remarks: Risk free rate ($r_f = 3.56\%$) is taken from NRB issued 90 days T- bill rate which is published on date 2065-5-23.

Table: 4.8

Calculation of Require Rate of Return

Companies Name	$\bar{r_i}$, %	$\beta_{i,m}$	K_i, %	Evaluation	
BOK (B)	28.41	0.65	19.46	$K_i < \overline{r_i}$	Underpriced
NIBL (G)	14.44	0.33	11.59	$K_i < \overline{r_i}$	Underpriced
KBL (K)	77.30	2.96	75.55	$K_i < \overline{r_i}$	Underpriced
SBI (N)	11.83	1.11	30.42	$K_i > \overline{r_i}$	Overpriced
NBBL (S)	42.82	0.55	16.85	$K_i < \overline{r_i}$	Underpriced
HBL (U)	55.80	2.12	55.10	$K_i < \overline{r_i}$	Underpriced
SCBL (W)	53.45	1.51	40.35	$K_i <$	Underpriced

From the above table 4.8 it is seen that stock K has highest require rate of return as 75.55% with highest beta 2.96. Stock G posses lowest require rate of return11.59% and its beta is also lowest of 0.33. From the above scenario we can say that highest beta means highest require rate of return and vice versa. So require rate of return is depends on its beta coefficient.

From table it seems that only N stock is overpriced because its require rate of return is higher than expected rate of return. Remaining all are underpriced with lower require rate of return. So, for the investor of N stock may take short strategy (selling decision) and investors of other assets have long position strategy (purchase decision) is beneficial.

Portfolio Risk and Return: Previous analysis of risk and return are based on the investment in single security i.e. Held on isolation which shows the many Nepalese private investor placed their entire wealth in single assets. If they construct portfolio or group of investment in such kind of assets which are negatively correlated, they can reduce unsystematic risk dramatically without losing their return.

The analysis is based on two assets portfolio, risk free assets (investment in government securities) and risky assets (market portfolio). The portfolio risk and return can be calculated following formula.

- Portfolio expected return , $\bar{r}_p = r_f \, w_{rf} + r_m \, w_m$

- Portfolio risk , $\sigma_p = w_m \, \sigma_m$

Where, w_{rf} = Investment weight on risk free assets (government securities)

   W_m = Investment of risky assets (market portfolio)

Table: 4.9

Calculation of Portfolio Risk and Return

Banks Comp.	r_f (%)	$\bar{r}_m$,%	W_{rf}	W_m	$\bar{r}_p$,%	σ_p (%)
BOK	3.56	27.85	0.501	0.499	15.67	14.55
NIBL	3.56	27.85	0.497	0.503	15.77	14.67
KBL	3.56	27.85	0.038	0.962	26.93	28.07
SBI	3.56	27.85	0.095	0.905	25.53	26.40
NBBL	3.56	27.85	0.571	0.429	13.97	12.51
HBL	3.56	27.85	0.989	0.011	3.83	0.32
SCBL	3.56	27.85	0	1	27.85	29.18

Source: "Annual report, 2011" of respective Banks company

From the above table 4.9 it is observed that HBL has invested highest amount of total investment on risk free securities 98.9% and only 1.1% invest on risky assets but SCBL invest its whole amount on market portfolio. So HBL has lowest portfolio return (3.83%) and risk (0.32%) likewise SCBL has highest portfolio return (27.85%) and risk (29.18%).

Capital market line CML also describes the relationship between portfolio risk and return. This is shown in below figure:

Figure: 4.5

Capital market line
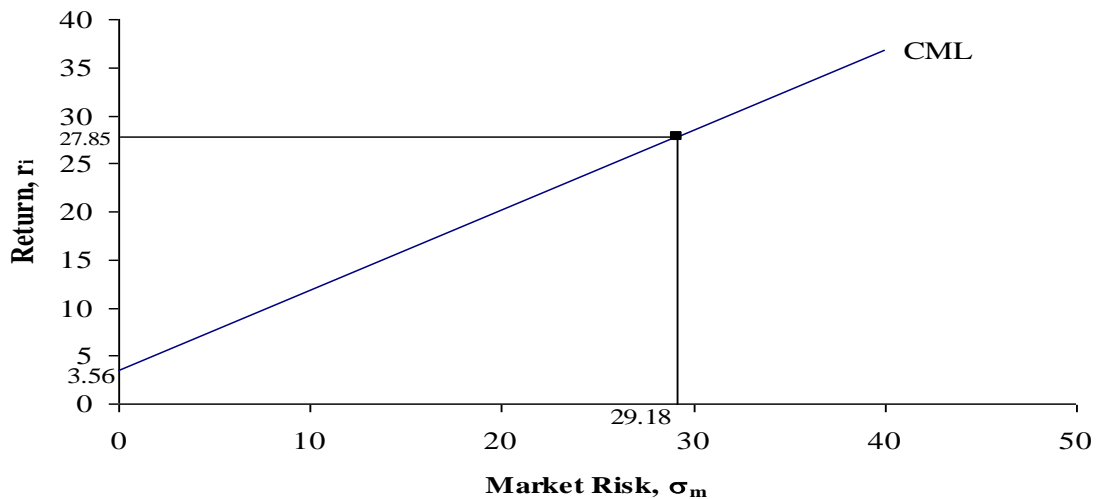
The CML equation is:

$$\overline{r_p} = r_f + \frac{r_m - r_f}{\sigma_m} * \sigma_p \quad \ldots\ldots\ldots\ldots\ldots \text{(1)}$$

$$= 3.56 + \frac{27.85 - 3.56}{29.18} * \sigma_p$$

$$= 3.56 + 0.8324 * \sigma_p \quad \ldots\ldots\ldots\ldots\ldots \text{(2)}$$

From the above result there is less risk premium (0.8324%) per unit.

4.3.6 Portfolio Performance Evaluation through Various Method:

The portfolio performance of the organization can be evaluated by following methods;

Sharpe's Portfolio Performance Measure: It was derived by William Sharpe. Sharpe's measured divides average portfolio excess return over the same period by the standard deviation of return over that period. The formula is;

$$S_i = \frac{\bar{r}_i - R_f}{\sigma_i}$$

Where,

s_i = Sharpe`s index of portfolio performanc e

$\bar{r}_i$ = Average return on portfolio i during a specific time period

R_f = Average risk free rate

σ_i = Standard deviation of portfolio i

Table: 4.10

Portfolio performance evaluation by Sharpe measure

Banks comp.	r_f (%)	$\bar{r}_i$ (%)	σ_i (%)	Sp.	Ranking
BOK	3.56	28.41	24.77	1.00	2nd
NIBL	3.56	14.44	16.90	0.64	6th
KBL	3.56	77.30	101.94	0.72	5th
SBI	3.56	11.83	36.63	0.23	7th
NBBL	3.56	42.82	25.49	1.54	1st
HBL	3.56	55.80	69.25	0.75	4th
SCBL	3.56	53.45	56.59	0.88	3rd

From the above table 4.10 it is found that Sp of stock S is highest (1.54) and N stock has lowest one with (0.23). So we can say that among all sample Banks companies NBBL has best portfolio performance and SBI has poor portfolio performance. The second rank is stock B with (Sp = 1), W is third position (Sp = 0.88), stocks U, K and G is 4th, 5th and 6th position respectively.

Treynor's Portfolio Performance Measure: Treynor's measure gives excess return per unit of risk over systematic (beta) not a total risk (σ_i) like Sharpe measure. So its result is slightly different than Sharpe measure.

$$T_i \quad = \quad \frac{\overline{r_i} \ - \ R_f}{\beta_i}$$

Table: 4.11

Portfolio performance evaluation by Treynor's measure

Banks comp.	r_f	$\overline{r_i}$	$\beta_{i,m}$	T_i	Ranking
BOK	3.56	28.41	0.65	37.96	2nd
NIBL	3.56	14.44	0.33	32.91	4th
KBL	3.56	77.30	2.96	24.88	5th
SBI	3.56	11.83	1.11	7.48	7th
NBBL	3.56	42.82	0.55	71.73	1st
HBL	3.56	55.80	2.12	24.62	6th
SCBL	3.56	53.45	1.51	32.94	3rd

Table 4.11 shows Treynor's portfolio performance evaluation which is based on beta coefficient of the companies. From above table S stock performance is best performance with

($T_i = 71.73$) and Stock N performance is worse with ($T_i = 7.48$). According to Treynor's measure B, W, G, K and U is 2nd, 3rd, 4th, 5th and 6th position.

Jensen's Portfolio Performance Measure: Michael Jensen developed this formula. This is based on CAPM. The version of CAPM which is used to compute portfolios expected rate of return is given by;

$$E(r_i) = R_f + \beta_i [r_m - R_f]$$

Where,

$E(r_i)$ = The expected return on portfolio i

R_f = One period risk free rate of return

β_i = Beta for portfolio i

r_m = Expected return on market portfolio.

Table 4.12

Portfolio performance evaluation by Jensen's measure

Banks comp.	r_f (%)	$\overline{r_m}$	$\beta_{i,m}$	$\overline{r_i}$	α_P	$\dfrac{\alpha}{\beta}$	Ranking
BOK	3.56	27.85	0.65	28.41	8.95	13.76923	2nd
NIBL	3.56	27.85	0.33	14.44	2.85	8.636364	4th
KBL	3.56	27.85	2.96	77.30	1.74	0.587838	5th
SBI	3.56	27.85	1.11	11.83	-18.59	-16.7477	7th
NBBL	3.56	27.85	0.55	42.82	25.96	47.2	1st
HBL	3.56	27.85	2.12	55.80	0.69	0.325472	6th
SCBL	3.56	27.85	1.51	53.45	13.10	8.675497	3rd

According to table 4.12 stock S has highest performance and stock N has poorest performance. Likewise B, W, G, K and U are 2nd 3rd 4th 5th and 6th position respectively.

All portfolio performance evaluation method is different but the purpose is same. Due to the different formula the result is little bit different.

4.6 Presentation and Analysis of Primary data:

This section interprets and analyze of primary data which is directly collected from the study areas. For fulfill the requirements of the topic only the secondary data is not sufficient so to cover the objectives of the study, primary data has been conducted. For primary data collection, interview and questionnaire methods are applied. Appendix -1 reveals important information as to analyze the portfolio performance of the listed Banks companies. For this multiple choice some questions and one open end question were prepared related to portfolio analysis and asked to respondents. The 100% of questionnaire are collected during the research period. Forget information 15 higher level personnel of Banks companies are taken as a sample. The following analysis is based on their opinions.

4.4.1 Application of Portfolio Management:

Regarding the systematic application of portfolio management, the respondents were asked that whether the portfolio management of Banks companies in Nepal is systematically applied. 27% of the respondents said yes, 60% said no and 13% said that don't know. From the table 4.2.1 it is clear that portfolio management is not so systematically applied in Nepalese Banks companies. The data is showing bellow,

Table: 4.13

Application of portfolio management

S.N.	Research Variables	No. of respondents	% of respondents
a.	Yes	4	27
b.	No	9	60
c.	I don't Know	2	13
	Total	15	100

Source: Field Survey 2012

4.4.2 Diversification Technique Analysis:

Respondents were asked which diversification technique you used for reducing the portfolio risk in your organization. Most of them (67%) are called diversification across industry and others are said simple diversification technique. Based on their answer we can say that Markowitz diversification, simple diversification across quality rating and superfluous diversification are not in practicing in Nepal. Table no. 4.2.2 shows the collected data.

Table: 4.14

Diversification technique analysis

S.N.	Research Variable	No. of respondents	% of respondents
a.	Simple diversification	5	33
b.	Superfluous diversification	0	0
c.	Diversification across industry	10	67
d.	Simple diversification across quality raring	0	0
e.	Markwitz diversification	0	0
	Total	15	100

Source: Field Survey 2012

4.4.3 Basis of Portfolio Selection Practice:

Regarding the question whether the process of determining the division of your portfolio among the available assets. The 53% are said experience, 27% said scientific way and remaining 20% said competitors move. From their view we can say that most of the investor invests their fund on the basis of past experience.

Table: 4.15

Basis of portfolio selection practice

S.N.	Research Variable	No. of respondents	% of respondents
a.	Scientific way	4	27
b.	Experience	8	53
c.	Competitor move	3	20
	Total	15	100

Source: Field Survey 2012

4.4.4 Major Objectives of Portfolio Management:

Regarding the major objectives of the portfolio management, the respondents were ranked the minimization of risk is in 1st rank then maximization of return, regular return and then after easy marketability. From their view it may conclude that the main objective of portfolio management is reducing risk.

Table: 4.16

Major objectives of portfolio management

S.N.	Research variable	ranks
a.	Maximizing return	2nd
b.	Minimize risk	1st
c.	Regular return	3rd
d.	Easy marketability	4th

Source: Field Survey 2012

4.4.5 Portfolio Strategy Study:

Investors were asked that which portfolio strategy they should follow to achieve better result in present scenario. About 75% respondents were replied that passive strategy and 25% said active strategy. Following figure shows their view.

Figure: 4.6

Portfolio strategy study

Field Survey 2012
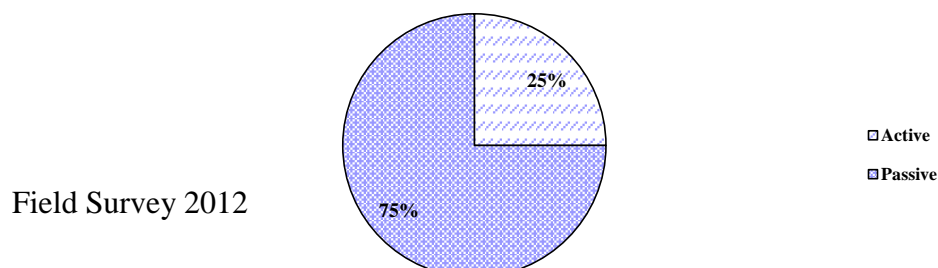
4.4.6 Time Horizon for Portfolio:

Regarding the time horizon of portfolio, the investors (respondents) were asked that which time horizon is most plausible for their portfolio. The 20% of respondents were said 1year (short term), 47% said 2-5 years and 20% said 5-10 years that's way 13% said above 10 years (long term). From the research we can say that mainly Nepalese Banks companies put their portfolio time horizon 2-5 years (medium terms).

Table: 4.17

Time horizon for portfolio

S.N.	Research variable	No of respondents	% of respondents
a.	1 year	3	20
b.	2-5 years	7	47
c.	5-10 years	3	20
d.	Above 10 years	2	13
	Total	15	100

Source: Field Survey 2012

4.4.7 Stock Bond mix Analysis:

At the question of which stock bond mix is appropriate for their portfolio. Among the all 40% of respondents in fabour of (75%-25%), 20% are favour of (50%-50%) and (90%-10%), 13% in (25%-75%) and 7% in (10%-90%) stock bond mix which is clearly shown in table 4.2.7

Table: 4.18

Stock bond mix analysis

S.N.	Research variable	No. of respondents (Corporate investors)	% of respondents
a.	10-90	1	7
b.	25-75	2	13
c.	50-50	3	20
d.	75-25	6	40
e.	90-10	3	20
	Total	15	100

Source: Field Survey 2012

4.4.8 Portfolio Revision method:

In the question of revision of portfolio method that which method they use to revise their portfolio. Most of them said that they revise their portfolio on the basis of past experience. The following table has shown their view clearly.

Table: 4.19

Portfolio revision method

S.N.	Research variable	No. of respondents (Corporate investors)	% of respondents
a.	Using scientific method	2	13
b.	Using past experience method	12	80
c.	Randomly	1	7
	Total	15	100

Source: Field Survey 2012

4.4.9 Portfolio Performance Evaluation:

In the question of portfolio performance evaluation is necessary if yes which method they are employing for evaluation. Most of the respondents said that portfolio performance evaluation is necessary. Only few of them are using the systematic evaluation (Sharpe's measure and Treynor's measure) and others are relying on conventional method.

4.4.10 Activities for Betterment the Present Conditions of Nepalese Banks Companies:

The investors (respondents) were asked that what is the present condition of Nepalese Banks companies and what steps should be taken for the betterment of existing situation. Moreover the same, they notify the conditions and some prominent suggestions are as follows:

Conditions:

- Nepalese capital market still is in growing stage. There is lack of skilled and professional manpower.
- The capital market is limited in small boundaries.

- There is lack of resources and sophisticated technology.

- Poor information and communication system.

- Transaction system is difficult and time consuming.

- Investors have less knowledge of investment education and unknown the value of financial assets.

Suggestions:

- The role of market players in the stock market should made effective in promoting capital market in all over the country.

- Special training and development program should be provided to make skilled and professional manpower.

- Sophisticated technology should be adopted to save time and cost.

- Information and communication system should be making prompt.

- The basic knowledge and benefits of portfolio management should be provided to the investors.

- For the long term economic development, financial assets investment is required rather than real assets investment so the general awareness program about investment should be conducted to all types of investors by government and related organization.

4.5 Testing of Hypothesis:

H_o: $\mu = 27.85\%$ i.e. Average return of common stock of listed Banks companies is

equal to market return.

H_1: $\mu \neq 27.85\%$ i.e. Average return of common stock of listed Banks companies

is not equal to market return.

Under H_0, t – test statistics is:

$$t = \frac{(\bar{x}) - \mu}{s / \sqrt{n}}$$ ----------------------(i)

Where,

$\bar{x}$ = Average return of the common stock of 7 listed Banks companies i.e. 40.58%

(It is assumed that these listed seven companies represent the whole Banks companies)

μ = Average market portfolio return = 27.85%

s = Sample standard deviation = $\sqrt{\dfrac{\sum(x-\bar{x})^2}{n-1}}$ = 23.83%

n = No. of sample observations = 7

Hence,

$$t = \frac{40.58 - 27.85}{23.83/\sqrt{7}} = 1.413$$

The tabulated value of 't' for 6(7-1) degree of freedom at level of significant 5% and 1% are 2.447 and 3.707 respectively.

Decision

Since the calculated value of t at the level of significant 5% and 1% are greater than calculated value of t, the null hypothesis H_o is accepted. In other words, we conclude that the average return of listed Banks companies may be equal to market return.

4.6 Major Findings of the Study:

In chapter four it is trying to find out the risk and return of listed Banks companies on individual security as well as portfolio securities through financial and statistical tools. From the above analysis the following major findings are observed.

- Investment on security is easy task but to earn higher and stable return from the security is challenging. For enjoy more return by bearing lower risk the deep knowledge of investment is required. Without proper analysis of individual security, portfolio security and overall market, it is almost impossible to beat the stock market. General knowledge about political, economic and technological trend is more advantageous.

- Stocks have greater volatility risk than other investments. Stocks take a random and unpredictable path. Obviously, stock market in undoubtedly risky in the short term.

- The higher risk of common stock may have greater possible return i.e. Banks companies stock providing higher return for risk.

- The holding period return of Banks companies fluctuating year by year. In year 2011 all sample companies earned higher returns.

- KBL expected rate of return (77.30%) and risk (101.94%) is higher in comparison to other companies. SBI has lowest expected return (11.83%) and NIBL has lowest risk (16.90%).

- Expected market return (27.85%) is lower in comparison to market risk (29.18%). So market is risky place to investment.

- HBL stock is highly correlated (0.89) with market in comparison to other companies.

- NIBL is more defensive assets due to lowest beta ($\beta_G = 0.33<1$) but KBL stock is most aggressive asset due to highest beta ($\beta_K = 2.96 > 1$).

- Coefficient of determination of HBL (80%) is highest and NIBL has lowest (33%). HBL and NIBL can erase (20%) and (67%) respectively risk through well diversification.

- After using CAPM six Banks companies stocks are under priced and SBI stock is overpriced. SBI stock should sell and the investor may buy other stocks.

- SCBL portfolio return (27.85%) and risk (29.18%) is equal to market return and risk because of 100% investment on risky assets. HBL stock has lowest return (3.83%) and risk (.32%).

- After portfolio performance evaluation NBBL (Sharpe measure, Treynor measure and Jensen measure) NBBL has best performance but SBI held lowest position.

- After primary research it is observed that portfolio management is not systematically applied in Nepalese Banks companies.

- It is found that to reduce portfolio risk most of investors use diversification across industries technique.

- Most of Nepalese investors select their portfolio on the basis of past experience.

- It is found that the major objective of portfolio management is reducing risk.

- In Nepalese context, it is found that passive portfolio strategy is more suitable than active strategy to achieve better result.

- Generally Nepalese Banks companies prefer their portfolio time horizon 2- 5 years i.e. medium terms.

- It is found that 75%-25% stock bond mix is selected by majority corporate investors.

- Nepalese investors revise their portfolio time to time by their past experience.

- It is observed that corporate investors think portfolio evaluation is necessary but lack of proper information and specific knowledge they depends on conventional method.

- In Nepal, the capital market is not in advance stage. There exist many problems like lack of skilled manpower, new technology and good information and communication system so the stock transaction is time consuming. Thus, the investors are less interested to invest their capital in various sectors.

- It is found that for effective portfolio performance of Banks companies, the stock market should be developed. Computer base technology and information system should be adopted. Training and development program should be organized. General awareness program about investment should be conducted to all types of investors.

- Test of hypothesis helps to find out the validity of assumption a representative sample which is selected from the population. To conclude this research and test of hypothesis, the t- test method is applied which is based on the test of significance of different average returns (i.e. Banks companies returns and market returns) has been executed to test whether overall returns of common stocks of Banks companies is equal to market or not. Hence, over the study period, it was found that the null hypothesis is accepted i.e. the average returns of the listed Banks companies is equal to market portfolio returns.

CHAPTER V
SUMMARY, CONCLUSION AND RECOMMENDATION

This research attempts to analyze the portfolio performance of listed Banks companies in Nepal. This chapter presents conclusion derived from the analysis of the study. Summary has been presented in first section. The second section has been designed for the conclusions draw from the study and the last section recommendation tries to erase the weakness and drawbacks of the present condition portfolio management in financial institutions in Nepal.

5.2Summary:

Effective portfolio performance is challenging task for the financial institutions due to various factor. To exist today's competitive environment the institutions need to manage their portfolio in proper way. Portfolio management helps to reduce risk and increase the returns. Financial institutions are the backbone of the nation for the economic development. Banks companies collected and mobilized their investing funds in different sectors. They explore and innovative new business opportunities like venture, financing and managing investment plans. Banks companies invest their fund on the basis of portfolio management for various reasons like minimize risk, maximize returns, regular returns, increase market share and market growth, and tax saving and for the safety of the investors. But the central focus is to given the Banks to trade off between risk and return. In Nepal like other sectors, capital market facing uncertainty. It is passing through transition phase with various inconsistence and hindrance.

The main objective of the present study is to examine and study the existing situation of portfolio management of the Banks companies. As per the requirement of the study both secondary as well as primary types of study has done with analytical and descriptive way. Secondary data obtained from annual report of respective Banks companies, NEPSE, SEBON, economic survey, monthly and quarterly bulletin of the NRB and NEPSE. Primary data collected through questionnaire and interview to the higher level of personnel of the Banks companies. For secondary data analysis 'A' Group seven listed Banks companies are

taken as a sample and primary analysis is based on the view of 15 higher level personnel of the Banks companies.

The sample companies are taken into consideration to analyze the risk and return of individual stock and portfolio with the helps of secondary data. For this financial and statistical tools are used. Information are tabulated and presented as per the requirement of the study. From the analysis it is found that those institutions who manage their portfolio well and their share price less volatile character these companies' performance is better. Inconsistence nature share price indicates higher risk and poor performance. Diversification of portfolio helps to reduce a part of risk is called unsystematic risk.

5.2 Conclusion:

This study aims to know the risk and return of individual investment as well as portfolio investment of listed Banks companies in Nepal. From the study we draw the following conclusions.

- After analysis we conclude that in Nepalese market the risk of security is higher than return of security i.e. the share price is volatile character.
- Banks companies have enough unsystematic risk that means there is no effectively portfolio is considering in listed Banks companies.
- The companies who pay higher dividend rate and relatively stable share price their performance showing good either more unsystematic risk.
- For the portfolio securities selection in Nepal this study concluded that technical analysis does not work effectively but fundamental analysis is considering which does not match with international market because there is technical analysis is effectively applied.
- Due to the transition phase Nepalese capital market facing unstable and uncertain condition an also lack of expertise and sophisticated technology it is limited on small boundaries and performance is not so good.

5.4 Recommendation:

Management of portfolio and proper diversification is complex task in practically. But by improving the present scenario, portfolio management and well diversification is possible and can reduce somewhat risk of organizations. From this study we found the major conditions of the Banks companies in Nepal. On the basis of such findings the following recommendations are proposed in order to solve the problems of Banks companies (corporate investors) related with portfolio management.

- Every organization and financial institutions are established to mobilize resources, create employment opportunities with overall economic development of the nation. The main objective of these institutions is to make optimum return at the lower level of risk. For this organizations structural reform is necessary with external environment (Political, social and economic environment) analysis.

- Capital market should be systematically developed to increase financial investment alternatives through general awareness towards financial assets investment rather than real assets investment.

- NEPSE index plays major for creating investment prosperity. So, for removing stock market difficulties transaction facilities, investor's interest and investment facilities should be manage in effective way by formulating investors' protection act.

- Without analysis of the individual securities, portfolio securities, industry and overall market trend, it is almost impossible to beat stock market. So, for this information about trails and tribulation of stock market should be gathered and analyzed.

- In Nepal, there is limited area of financial investment so the financial investment area should make wide. For this, boundary of money market securities (T- bill, certificated deposit, commercial paper and repurchase agreement), capital market securities (various types of bonds, debenture equity and preference share) and derivative securities (option, warrants and convertible) should be expanded and create sufficient investment opportunities. Without developing investment opportunities, it is difficult to make optimum portfolio by Banks companies.

- It is found that the process of determining the division of portfolio by Banks companies (corporate investors) on the basis of past experience without analyzing future uncertainties. So the corporation should use scientific analysis with experience to determine division of portfolio.

- Due to immature stock market and uncertainties the corporate investors prefers passive portfolio strategy rather than active strategy. But this is the result of lack of effective rules and regulations, proper information and skilled and knowledgeable manpower. So, theoretical as well as practical knowledge and skill development program should be conducted for corporate personnel.

- For improve portfolio performance computer based technology, prompt information and communication system should be adopted. The necessary information about the financial market should be disseminating time to time.

- Signaling factor plays major role for making rational investment decision. So investor should analyze impact of signaling factors before making investment decision.

- The study of stock market behavior should be done in periodic manner so that proper results can be drawn for betterment of the stock market.

- NEPSE should lunch monthly and quarterly news letter for provide information about the capital market activities. It should call regular meeting to all listed companies for discuses about mutual benefit and further steps.

- Periodic research and analysis of stock exchange should e carried out for betterment the investment decisions.

- Reliability of financial information has significant role in investment decision. In order to ensure the reliability of information regarding performance of listed companies, international standard securities analysis and rating agency is needed in Nepalese securities market. This will avoid investors' confusions and they will feel protected.

- The SEBON an apex body for monitoring and regulating the Nepalese stock market regulatory regimes up to international standards.

- In Nepalese capital market, there is regarded as "White collar crime" inside the trading process. It has bee n appeared due to lack of appropriate legal provisions, ethical guidelines, adequate regulation and enforcement. For prevent such crime the regulation are strictly implemented.

- Stock market (NEPSE) appointed broker for making easy the stock exchange process. But some brokers of NEPSE are involved in scandalous activities. The investor should aware so that brokers can cheat them easily. The legal provisions related to broker should be clearly define, provision of civil and criminal fees and penalties are

made against the fraud and scandals activities. NEPSE should supervise regularly its overall activities.

- Overall study shows that portfolio is not properly diversifying by Nepalese Banks companies due to lack of adequate knowledge and information. But the investor should diversify their fund to reduce risk with the help of portfolio analysis by inspiring the fact "Don't put your all egg in one basket" i.e. if basket falls down all egg may destroy.

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Questionnaire:

INSTRUCTION:

Please tick (√) in appropriate place and put your view in following questions.

Name: ………………………………………………

Address: ………………………………………….

Position: ………………………………………….

Experience: ……….Years ………………………….

Institution: ………………………………………..

Year of establishment: ………………………………

1. DO YOU THINK PORTFOLIO MANAGEMENT OF BANKS COMPANIES IN NEPAL IS SYSTEMATICALLY APPLIED?

    A) YES   B) NO   C) I DON'T KNOW

2. FOR YOUR ORGANIZATION, WHICH DIVERSIFICATION TECHNIQUE GENERALLY DO YOU ADOPT TO REDUCE RISK?

    A) SIMPLE DIVERSIFICATION

    B) SUPERFLUOUS DIVERSIFICATION

    C) DIVERSIFICATION ACROSS INDUSTRIES

    D) SIMPLE DIVERSIFICATION ACROSS QUALITY RATING

    E) MARKOWITZ DIVERSIFICATION

3. IN WHICH BASIS DO YOU DETERMINE THE DIVISION OF YOUR PORTFOLIO AMONG THE AVAILABLE ASSETS?

   a) Scientific way   b) Experience   c) Competitor's move

4. WHICH OBJECTIVES MAINLY FULFILLED BY PORTFOLIO MANAGEMENT? RANKED ACCORDING TO THEIR IMPORTANCE?

   A) MAXIMIZE RETURN

   B) MINIMIZE RISK

   C) REGULAR RETURN

   D) EASY MARKETABILITY

5. WHICH PORTFOLIO STRATEGY DO YOU FOLLOW TO ACHIEVE BETTER RESULT?

   a) Active strategy   b) Passive strategy

6. WHICH TIME HORIZON IS PLAUSIBLE FOR YOUR PORTFOLIO?

   a) 1 year   b) 2-5 years   c) 5- 10 years   d) More than 10 years

7. WHICH LONG TERM STOCK- BOND MIX IS APPROPRIATE FOR YOUR PORTFOLIO?

   a)   10 – 90 b) 25 – 75 c) 50 – 50 d) 75 – 25 e) 90 – 10

8. DO YOU REVISE YOUR PORTFOLIO? IF YES, HOW DO YOU REVISE YOUR PORTFOLIO?

   a) Using scientific method   b) Using experience   c) Randomly

9. DO YOU THINK PORTFOLIO PERFORMANCE EVALUATION IS NECESSARY? IF YES WHICH METHOD ARE YOU EMPLOYING?

   a) Sharpe's measure   b) Treynor's measure

   c) Jensen's measure   d) any other (…….)

10. IN YOUR OPINION, WHAT IS THE PRESENT CONDITION OF NEPALESE
BANKS COMPANIES AND WHAT ARE THE MAJOR STEPS SHOULD
ADOPT FOR THE BETTERMENT OF THE EXISTING SITUATION?

……………………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………
……….

Appendix-2

Amount of investment by Banks Companies in year 2011 in risk free (r_f) and risky
assets (r_m)

Name of company	Total investment amount	Amount of (r_f)	Amount of (r_m)	Weight for r_f	Weight for market
BOK	125325000	62825000	62500000	0.501	0.499
NIBL	104889933	52180000	52709933	0.497	0.503
KBL	197177000	7500000	189677000	0.038	0.962
SBI	178636167	17050000	161586167	0.095	0.905
NBBL	35000000	20000000	15000000	0.571	0.429
HBL	32860000	32500000	360000	0.989	0.011
SCBL	59327000	0	59327000	0.000	1.000

Appendix-3

Average Return of Listed Banks Companies

Banks Companies	$\bar{r_i}$
BOK	28.41
NIBL	14.44
KBL	77.30
SBI	11.83
NBBL	42.82
HBL	55.80
SCBL	53.45
Mean	40.58

$$\bar{x} = \frac{\sum \bar{r_i}}{n} = 40.58\%$$

n = No. of observation = 7

Appendix- 4

Five year profit (%) trend of sample Banks companies:

Name of Co.	2007	2008	2009	2010	2011
BOK	7.82	5.54	7.76	10.24	9.05
NIBL	4.66	7.42	8.25	14.44	16.28
KBL	10.60	19.80	16.94	18.25	17.04
SBI	12.75	19.50	32.93	18.13	20.21
NBBL	12.92	12.92	17.20	14.26	20.39
HBL	2.57	7.22	11.55	16.24	20.84
SCBL	16.09	22.12	11.21	14.59	11.04