RISK AND RETURN ANALYSIS OF COMMON STOCKS OF COMMERCIAL BANKS IN NEPAL

(With reference to NCC Bank Ltd. & Kumari Bank Ltd.)

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RECOMMENDATION

This is to certify that the thesis

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SHYAM PRASAD YADAV

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

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DECLARATION

I hereby declare that the work reported in this thesis entitled **"Risk and Return Analysis of Common Stocks of Commercial Banks in Nepal (with Reference to NCC Bank ltd. & Kumari Bank Ltd.)''** submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (M.B.S) under the supervision of**. Asso. Prof. Shashi Kant Mainali** and **Rabindra Bhattarai** of Shanker Dev Campus, T.U.

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ABBREVIATIONS

AGM	:	Annual General Meeting
BOK	:	Bank of Kathmandu Limited
CAPM	:	Capital Assets Pricing Model
CPI	:	Consumer Price Index
CS	:	Common Stock
CV	:	Coefficient of Variation
EBL	:	Everest Bank Ltd.
HBL	:	Himalayan Bank Ltd.
JV	:	Joint Venture
KBL	:	Kumari B**a**nk limited
MPS	:	Market Price Per share
NABIL	:	Nepal Arab Bank Limited
NBL	:	Nepal Bank Ltd.
NCCBL	:	Nepal Credit & Commerce Bank Limited
NEPSE	:	Nepal Stock Exchange Ltd.
NRB	:	Nepal Rastra Bank
OTC	:	Over the Counter
SBI	:	State Bank of India
SCBNC	:	Standard Chartered Bank Nepal Ltd.
SD	:	Standard Deviation
SE	:	Stock Exchange
SEBO/N	:	Security Exchange Board of Nepal
SML	:	Security Market Line
US	:	United States

CHAPTER-I

INTRODUCTION

1.1 Background

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

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

The top management decision is based on financial analysis. Financial Analysis is the tool of decision making and covers the acquisition, utilization, control and administration of funds. Such type of study and analysis performed through managerial finance, which is concerned with the duties of the financial manager in the senses firm "Managerial finance is important in all types of business whether they are public or private, deal with financial services or manufactures. These types of jobs one encounters in managerial finance range from decision regarding plant expansion to choosing what types of securities to issue to raise fund. Nowadays the field of

finance is broad and dynamic. There are various sources leading the sector of economy i.e. bond, stocks. The stock market is one of the leading sectors of economy concerned with finance. Today capital market have primary and secondary markets have been established for stock exchange.

Securities enable to raise funds to meet the financial requirements of a company. Most of the Companies require huge amount of money to meet their financial requirements. Therefore, securities like equity shares, preference shares, and debentures are crucial for meeting the company's monetary requirements. A sound and well developed security market can easily help meet their financial requirements. A security market consists of activities in organizing, distributing and trading in securities. A security market includes stock exchange as well. A stock exchange is the organized market for buying and selling of the financial instruments, such as stocks, options, and futures. Stock exchanges serve important roles in national economies. They encourage investment by providing places for buyers and sellers to trade securities, stocks, bonds, and other financial instruments. Companies issue stocks and bonds to obtain capital to expand their businesses. Most stock exchanges have specific locations where intermediaries called brokers conduct buying and selling of shares and debentures. Stocks are shares of ownership in a company. People who buy a company's stock are entitled to dividends, or shares of any profit. A company can list its stock on only one major stock exchange, though options on its stock may be traded on another. Each exchange establishes requirements that a company must meet to have its stock listed. The different exchanges tend to attract different kinds of companies. Smaller exchanges typically trade the stock of small, emerging businesses, such as high-tech companies. Corporations issue new securities in the primary market (as opposed to the secondary market, where securities are bought and sold), usually with the help of investment bankers. In the primary market, corporations receive the proceeds of stock sales. Thereafter, they are not involved in the trading of stocks. Owners of stocks trade them on a stock exchange in the secondary market. In the secondary market, investors, not companies, earn the profits or bear the losses resulting from their trades. Stock exchanges encourage investment by providing this secondary market. By allowing investors to sell securities, exchanges increase the safety of investing. Stock exchanges also encourage investment in other ways. They protect investors by upholding rules and regulations

that ensure buyers will be treated fairly and receive exactly what they pay for. Exchanges also support the state-of-the-art technology and the business of brokering, both which help traders to buy and sell securities quickly and efficiently. Stock brokers must be registered with the exchange in which they trade. Most brokers belong to brokerage firms. Brokerage firms maintain staffs of many brokers, each of whom have experience in the trading of securities of certain companies or those of particular economic sectors, high tech, utilities, or transportation businesses, for instance. Brokerage firms also tend to trade in the stocks of specific companies, and, therefore, keep inventories of the stocks of those companies. To become a member of an exchange, a firm must register its brokers by buying seats for them. A seat is simply a right to trade on an exchange. Member firms have the right to vote on exchange policy and must also arbitrate in disputes among customers. In larger exchanges, seats could sell for several hundreds of thousands of rupees. Exchanges attract larger or smaller brokerage firms depending on how high or low their fees are. Brokerage firms that pay high membership fees to exchanges like the New York Stock Exchange (NYSE) have the opportunity to make large profits trading in the stock of very successful businesses. They also risk losing large amounts, and, therefore, charge their clients higher prices than do smaller firms. To some extent large companies use large brokerage firms and list on large exchanges because of the potential losses possible to those trading on securities.

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

By their nature, investments are categorized into two categories, one is risky (risk taker) and another is less risky (risk averter). The common stock investment is a risky investment out of the other various investments. The government bonds are less risky than other categories of the investment and in other hand corporate bond are most risky than the other categories investment in bond. As return in bonds investors get fixed interest but in common stocks investors get dividend which is not fixed when company earns profit, it gives dividend to their investor but if company does not earn profit, investor do not get dividend in this way a investor get return in two terms one is regular gain(dividend) and another is capital gain(due to price fluctuation). There is an uncertainty of further return whose main sources is the price fluctuation of the stock. The stock price may decrease due to the economic factor such as inflation, interest rate, strength of dollar, economic growth of the nation etc. The stock prices are also affected by legal environment and political environment of the nation. The dividend received by the investors directly contributes to the return but at the same time reduces the amount of earning re-invested by the firm i.e. retain earning, resulting limited potential growth. So, mainly the risk of a stock investment can be measured by its prices volatility and degree of uncertainty of dividend fluctuation.

As already mentioned that most of the investors are risk averse, the main problem in investment is to select the security having low risk with high return. Even the investor can't increase the return substantially they can reduce the risk by diversification of the investment funds in different types of securities making a portfolio we can say it in simple language “don’t put all your eggs in single basket”. Making a portfolio of common stocks investors can eliminate the unsystematic risk considerably. But the systematic risk can't be avoided even investing in a portfolio. Any investors will want their investment to yield favorable return and so they invest in those securities which provide greater expected returns. Investment is defined as the sacrifice of current Rs amount for future Rs amount. So, investors sacrifice their current amount in securities in anticipation of higher future benefits but want to bear low amount of risk.

In the investment of common stock an investor agrees to pay the price for stock in the anticipation of future dividend and growth in stock price. But various financial and

non financial factors play a great role in price determination even the imperfect market.

Financial market is the market for the exchange of capital and credit in the economy. Money markets concentrate on short-term debt instruments; capital markets trade in long-term debt and equity instruments. The financial market beings together people and organization that want to borrow money with those having surplus funds. The capital market is the part of financial market, which is related to long term debt and corporate stocks i.e. in capital market the financial assets such as stocks and bonds are purchased or sold. The main objective of such markets is to create opportunity for maximum number of people to get the benefit from the return obtained directly by the economy towards the productive sectors by stock mobilizing long- term capital. The objective is fulfilled the stock market providing various opportunities in investing various stock of companies. Stock market is a financial market, which probably has the greatest glamour is perhaps the least understood. Some observers consider it as a legalized heaven for gambling and many investors consider stock market investing as a game in which the role purpose is picking winners. The organized stock exchange buys the securities of large business so firms for the general public where the transaction of only listed companies are made. Where as in the stock exchanges are traded without the development of financial market the proper choice of securities for investment is impossible. Mainly the financial market comprises of money market and capital market. Money markets are the markets for short-terms debt securities, which mature in less than one year such as 90 days treasury bills issued by Nepal Rastra Bank. Capital markets are the markets for the long-term debt and corporate stocks. The financial markets may be classified into primary market and secondary markets on the basis of economic function. The market for new securities is called primary market where IPO's are issued by the company to raise its capital. In the secondary market, the existing shares i.e. the shares that have already been purchased by the public in primary market are traded again and again.

In Nepal the history of security market did start by issuing the shares to the public in the year1937. Two companies, namely the Biratnagar Jute Mills and the Nepal Bank Limited, issued their shares to the public. These two companies were considered as the pioneer of issuing the security to the general public. Since then for almost four

decades, there were no formal institutions that came into existence to look after the security issues in the country. In the year 1976 the Security Marketing Centre (SMC) was established with a view to develop security market in Nepal. In the initial period the SMC started trading of securities. The SMC changed its name into the Security Exchange Centre in 1984 that was the only institution responsible for managing and operating primary and secondary markets. It acted as a sole agent of operating primary and secondary markets for long-term government and corporate securities. Later individuals began to think of having a separate body for regulating security markets in Nepal. The first amendment of the Security Exchange Act 1983 in the year 1993 lay concrete on restructuring the security markets in Nepal. Consequently, the Security Board of Nepal (SEBON) was established on 7th of June 1993 as an apex institution of regulating securities market in the country. The main mandated objectives of the Board was to regulate issue and trading of securities and market intermediaries, promote the market and protect investor's rights. The former Securities Exchange Centre (SEC) was converted into the Nepal Stock Exchange Ltd. (NEPSE) with the objective of operating and managing secondary transactions of securities. Following this conversion, the open outcry system of securities trading among the stock brokers commenced. Since then all the intended investors can deal in security only through licensed brokers. The second amendment of the Security Exchange Act of 1993 in 1997 made several provisions that were: to register all the securities business persons in SEBON, to issue licenses to the stockbroker, securities dealer, market-maker and issue- manager, and also submit their semi-annual as well as annual reports.

The main problems is that the lack of knowledge and information about stock investment due to which the market intermediaries exploit investors. The investors also afraid to invest in stock and the investors who are investing in stock are found to invest in single security due to lack of ability to analyze risk and return and low level of knowledge about the portfolio investment. So, in Nepal proper information about the stock investment should be provided to participate the people in stock investment because the dynamic trading of stocks may play an important role in economic development of the nation. To exist the security market their mechanism should be created to make easy the exchange of securities. "Security

Market exists in order to bring together buyer and sellers of the securities meaning their mechanism are created to facilitate the exchange of financial assets".

1.2 Focus of the Study

In this study the researcher has focused on risk and return Analysis of two commercial Banks Nepal Credit & Commerce Bank and Kumari Bank. Risk and Return as earlier noted, are the two fundamental and important considerations in the investment decision making process. The rate of return from a capital investment is a concept that has different meanings to investors. Some investor may seek near term cash inflow and gives less value to more long-term return. Such a investor might purchase the share of other firms that would pay large cash dividends investment (ROI) or Return on Equity (ROE). Rate of return can be described as the relationship between the total return realized and the principle amount originally invested. It is usually expected as a percentage rate.

Banking sectors in Nepal are the dynamics part of national economy. So, if there are insufficiencies of Banking and financial facilities the growth of the economic development becomes very slow. Commercial banks collect scatter fund with individual and mobilize it in needed sectors. It is the heart of trade and commerce. "Commercial Banks exchange money, accepts deposits, grants loan and performs other commercial banks' functions and is not a bank meant for co-operative, agriculture, industrial as per specific functions". The main objectives of a commercial bank are to earn profit by proper mobilization of financial resources.

The modern commercial banking was introduced in 1938 with the establishment of the Nepal Bank Limited (NBL).In 1955A.D, the first central bank Nepal Rastra Bank was established which supervise, protect and direct the function of commercial banking activities. The establishment of the Rastriya (national) Banijya (commerce) Bank (RBB) in 1966 was to promote banking further to semi-urban and rural areas of Nepal. The participation of foreign banks through joint –ventures begun since 1984 when the Nabil Bank was created. Then there came Nepal indo-Suez Bank in 1985 and Nepal Standard Chartered Bank in 1987. The mushrooming of banks did happen since the early 21st century. When government adopted the policy of the

decentralization and liberalization, several financial institutions of commercial banks were established to mobilize scattered funds in the economy. Since then many private commercial banks and joint venture banks are being established. Among all the banks, twenty four commercial banks are in the list of Nepal Stock Exchange which has highest contribution on the market capitalization as compared to other sectors. In Nepal, foreign joint venture banks perform better than Nepalese ones because their higher managerial efficiency and capacity of proper management of risk. Nepalese bank have a high degree of firm specific risk. Recently, the Nepal Bank Limited has been managed by NRB management groups. However, Nepalese banks have high to increase their risk attitude and improving their internal management.

1.3 Statement of the Problem

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

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

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

To invest in stock one should know what the accurate price of the stocks is for this the theoretical knowledge as well as market condition should be known clearly about the determinants of stock prices. According to the theory of stock price, stock price in market guided by the intrinsic value, which is calculated with the inputs-dividend, required rate of return of investors and growth in dividends, the stock prices are assumed to remain in security market line. And if it is not so, they strive towards this line and come to the equilibrium. If the expected rate of return from stock and required rate of return if investors are not equal in such case the price of stock may be over priced or under priced. Hence, the location of expected rate of return may lie above or below the security market line (SML). The stocks firstly traded in the primary market by the investors and stockholders. Since the common stock does not guarantee of return a proper analysis of risk and return since should be performed to the prevailing market atmosphere. There seems to be no sufficient empirical evidence available to support this theoretical position more specifically, the research problems are listed below:-

- How can investor make return through lower risk?
- What should be the appropriate compensation for bearing loss?
- How does investor know about the magnitude of risk inherent in individual stock and its relationship with market?

- How should the price of the stock be analyzed to make appropriate investment decision?
- What are the determinants of stock prices?

1.4 Objective of the Study

This study has undertaken to focus on the risk and return on financial assets like common stock of two Nepalese Commercial Bank, Nepal Credit & Commerce Bank and Kumari Bank. So, general level of objective of this study is to assess the risk and return on financial objective of the study is as follows.

- To study and analyze the risk and return of common stock investment.
- To find overpriced, under priced and equilibrium priced of common stock of commercial banks.
- To calculate and analyze the risk and return of different portfolio.
- To study future dividend growth rate.
- To study and develop the methodology of risk analysis and risk assessment.

1.5 Significant of the Study

This research study will give correct information about Nepalese stock market and many contribute in the analytical power of the investor. In Nepalese context, there is lack of wider investment opportunities, which provides good rate of return? So, there has been huge amount of unutilized saving funds with general public. Increasing trend of MPS of public companies, mainly joint venture commercial banks attracts the investors. Therefore they are investing their saving funds in common stock of public companies with the good expectation 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.

The study will have both academic as well as practical significance. The findings and conclusions of the study will add to the literature of risk and return theory in general and to the Nepalese literature of financial theory in particular. The study will also have practical importance. The findings and calculations of the study will be important to the firms or to the business organization under study in making their financial decision because all these decisions have risk and return implications. The

study will also be significant for individual investors who are willing to trade in securities of the firms. This study will also provide some knowledge about the Nepalese stock market developments along with providing ideas to minimize the risk on the investment. The findings and conclusion of the study may be a helpful guide in making their investment decision. However in Nepalese context, very few studies are made and the magazines and articles on the topics are less in Nepalese media. Therefore the study will be more significant for exploring and increasing stock investment. The main significance of the study is:

- This study will be beneficial for all the persons who are directly related to the Nepalese stock market.
- This study provides some knowledge about the Nepalese stock market developments along with providing ideas to minimize the risk on the stock investment.
- This study also provides the information to the investors that assets are risky or not risky.
- This study might have the clear conception over their investment, they will be able to distinct the right investment among all investment opportunities.
- This study will be a matter of interest for academicians, student and investors.

1.6 Limitations of the Study

A research study is not a simple work. It requires vast study and investigation on related subject matter to diagnose the actual problem facing by a firm and find out the proper solution of that problem. It needs deep accessibility in the core area of the problem but it is quite difficult to access in the depth of the core area of problem based on risk and return.

The following are some limitations of the studies:-

- It covers mainly relevant data of last five fiscal years (2008/09 to 2012/13) of the selected banks and stock market.
- Only Nepal Credit & Commerce Bank and Kumari Bank are taken into consideration.
- This study focuses only an analysis of risk and return leaving other components.
- Most of the data are secondary in nature.
- The main focus is given to the quantitative aspects are not studies.

- Conclusion depends on the truth and fairness of the data collected.
- Data published from different sources e.g. Figure published by NEPSE and companies differ to some degree.
- This study has been carried out for the partial fulfillment of master's degree faculty of management of TU. So the time and resources are major limitation of the study.

1.7 Organization of the Study

This study has been organized into five chapters. The contents of each of these chapters are as follows:

Chapter-I: Introduction

This first chapter include the information part of this study as already mentioned which describes the background, focus of the study, statement of problem, objective of the study, limitation of the study, significance of study and organization of the study.

Chapter –II: Review of Literature

This chapter describes theoretical analysis and brief review of related and pertinent literature available. It includes a discussion on the conceptual framework and review of the major studies.

Chapter – III: Research Methodology

The third chapter describes the research methodology enjoyed in the study. This describes the matter and sources of data, population and sample mode of analysis, running and definition of financial and statistical tools.

Chapter - IV : **Data Presentation and Analysis**

The fourth chapter describes with the presentation and analysis of data by using various analytical tools and with major findings.

Chapter-V: Summary, Conclusion and Recommendations

The fifth chapter describes the state summary, conclusion and recommendation. The annexes and bibliography has been incorporated at the end of this study.

CHAPTER-II
REVIEW OF LITERATURE

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

In this chapter, some Nepalese and foreign books and journals reviewed are being reviewed and also thesis related to the study is reviewed below:

2.1 Conceptual Framework

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

2.1.1 Common Stock

"Common stock represents equity or ownership position in a corporation. It is a residual claim, in the sense that creditors and preferred stockholders must be paid as scheduled before common stock holders can receive any payment" *(Sharpe; 1999: 475).*

Common stock represents the ownership position in a company; the holders of common stock called shareholders are legal owners of the company. Common stocks are the sources of payment capital hence they do not have a maturity date. The capital

contributed by shareholders by purchasing ordinary share are entitled or dividend. The amount of rate of dividend is not fixed. The company's board of director's decides it. A common stock is therefore knows the risk of ownership. They are entitled to dividend after the income claims of other have been satisfied. Similarly when the company winds up, they can exercise their claims on assets, after the claims of other suppliers of capital have been taken care off.

"Stockholders return on investment is less than the return to lender or preferred stockholder. On the other hand the share of a common stock can be authorized with or without par value. The par value of a stock is nearly a stated figure in the corporate character and is of title economic significance. A company should not issue stock as a price less than par value because stockholder who bought stock for less would be liable to creditors for the difference between the below par price they paid and then the par value *(Van Horne; 1997: 560).*

2.1.2 Return on Common Stock

The rate of return of the investor depend on the future state of economy. If the future events will occur as estimated by the investor, his actual rate of return will be equal to expected rate of return. But the market is imperfect; the investor cannot forecast the future state of economy with perfect certainty. Therefore expected rate of return never becomes equal to actual rate of return. If there is variation in expected rate of return and actual rate of return, we say investment is risky.

"The return from an investment is the realizable cash flow earned by its owner during a given period of time typically if it is expressed as percentage of beginning of period value of the investment" *(Chandra; 1995: 62).*

Return on common stock consists of the dividend yield and capital gain yield. An example derived from the Apple is taken into the consideration to make it clear. If you had invested $100,000 in Apple the day he rejoined in 1997 and held that investment until he stepped down this year, your investment would have been worth $6.86 million, a 35.4% compounded annual growth rate. That means, on average, Apple's shareholder return grew 35%, year in and year out, for 14 years. If you look at the shareholder return performance from 1997 to 2011, it is not a linear, steady upward

trajectory. It did not add 35% growth in shareholder return every year. The chart is in fact pretty flat from 1997 to mid 2000. (From HBR article, how good was Steve Jobs, Really?). And another example forms the book of *Berkley and Mayer's (1998).* According to them, "if current price of share is P_0 that the expected price at the end of year is P_1 and that the expected dividend per share is Div_1. The rate of return that investors expect from this share over the next year is defined as the expected dividend per share (D_1) plus the expected price appreciation per share P_1 – P0 All divided by the beginning price P_0, which can be shows as follows.

$$Kj = \frac{P1-P0+D1}{P0}$$

Where,

K_j = Expected Return

2.1.3 Holding Period Return (HPR)

The holding period return refers to the return from holding an investment over some period as cash payment received due to ownership and the change in market price derived by the banging price. If an investor purchase a stock of any company and hold it for certain period, he can get return in two ways. One is increase in the volume of that stock as compared to initial one and another is direct cash payment, the increase is capital; appreciation and direct cash payment is dividend. For common stock we can define one period return as:

$$HPR = \frac{EP-BP+D_1}{BP}$$

Where,

HPR = Holding Period Return

EP = Ending Price of stock in year 1

BP = Beginning price of stock in year 1

D= Dividend received in year 1

The formula can be used to determine both actual one period return. When based on historical figures and expected one period return when based an expected dividend and prices.

"Holding period and return (HPR) measures mention above is useful with an investment horizon of one year or less for longer period it is no better to calculate rate of return as investment yield. The yield calculation is present value bases and this considers the time value of money" *(Van Horne and Wachowics; 1997: 90).*

"Holding period return are after calculated for periods other than one year for this reason, the length of the holding period must always be indicated for the specific HPR. Many HPR owner periods shorter or longer than one year are annualized. In general if the length of the holding periods is not specified, it is assumed to be one year.

2.1.4 Expected Rate of Return

Most of the investment decision is made for future events. Hence it is necessary to predict the future returns than the past return. But future is always uncertain for common stock holders. Therefore, it leads to find the expected rate of return. The expected rate of return on security is the sum of the products of possible rate of return and their probability, thus

$\overline{K}_j = K_1P_1+K_2P_2+\ldots\ldots\ldots\ldots\ldots..+K_nP_n$

Where,

K_1 = Rate of return in 1st year

K_2 = Rate of return in 2nd year

K_n = Rate of return in n year

P_1 = Probability of 1st year

P_2 = Probability of 2nd year

P_n = Probability of n year

The above return is calculated is based on future outcomes or events. However, predicting the future outcomes and assigning probabilities to those outcomes is a difficult task. If we assume that the future is a proxy of past that the past event will not change and hence the profit, investment and the market factors than we can calculate expected return or arithmetic average expected rate of return based on the historical data can be calculated as follows:

$\bar{K}j = \frac{\sum K_j}{n}$

Where,

K_j= Expected return

$\sum K_j$=sum of the return of stock j

n= no of years that the returns are taken

2.1.5 Risk on Common Stock

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

Investment on common stock is risky investment. So the uncertainties of return on common stock are the facts of life to the common stock holders. Many investors consider risk as a chance of occurrence some unfavorable event of danger of losing some value. Most investors know that there is no free lunch, i.e. the return you can expect is a function of the risk you take. Those investors who can tolerate higher level of risk should be rewarded with high value of returns. Intelligent investing involves combining investment alternatives in a portfolio that offers a fair return you can expect is a function of the risk you take. Those investors who can tolerance higher level of risk should be rewarded with high value of return. Intelligence investing involves combining investment alternatives in a portfolio that offers a fair return for the risk you are willing to assume. Risk is the unlooked & unwanted event in the future: Someone has said that risk was the sugar & salt of life. "Instead of measuring risk was the probability of number of different possible outcomes, the measure of risk should somehow estimate the extent to which the actual outcome is likely to divergence of actual return from an expected return" *(Alexander et al.; 1982: 151).*

Investment risk is related the probability of earning a return less than the expected return the great the chance of low or negative returns, the riskier the investment. However, we can define risk more precisely if is useful to do so.

2.1.5.1 Source of Risk

Lack of Appropriate Data

The rapid financial innovation of recent decades has made historical data less useful.

Narrow Measures of Risk

Traditional daily measures of risk can't capture a company's full exposure when market fundamentals are shifting.

Overlooked Risks

Hedge funds that bought high-yielding Russian debt in the 1990s failed to properly account for counterparty risk.

Hidden Risks

Unreported risks have a tendency to expand in financial institutions.

Poor Communication

Complex and expensive risk-management systems can induce a false sense of security when their output is poorly communicated to top management.

Rate of Change

The risk characteristics of securities may change too quickly to enable managers to properly access and hedge risk.

2.1.5.2 Measure of Risk

- Risk reflects the chance that the actual return on an investment may be different than the expected return.
- One way to measure risk is to calculate the variance and standard deviation of the distribution of returns.
- We can use a probability distribution or historical data in our calculations.

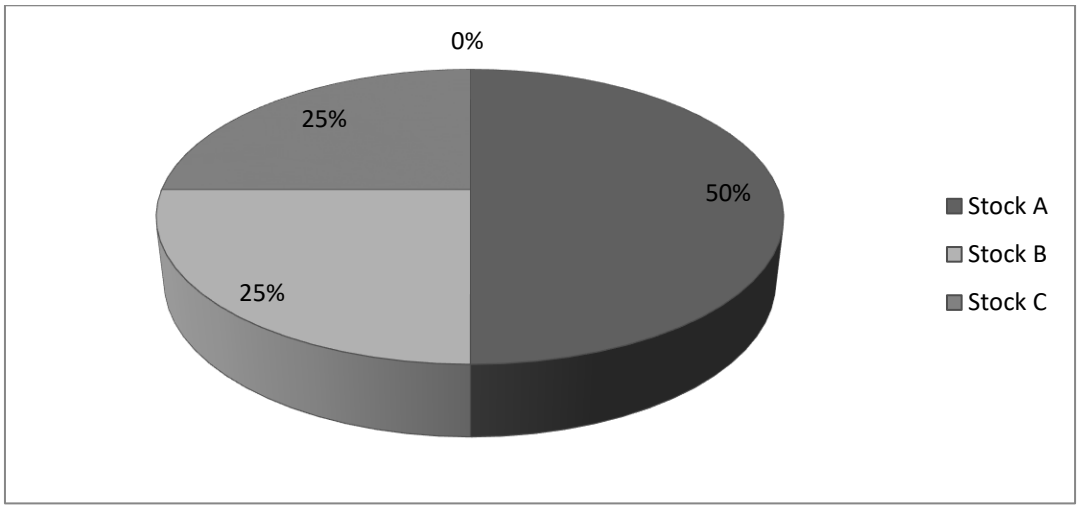
2.1.6 Portfolio Theory

Investing all the funds into a single assets or a single stock is risky. If the company is bankrupt, the whole investment becomes worthless. To minimize the risk the

investment should be done in more than one asset. Because if there is no return from the one asset there is chance that the investor may have return from other assets. The portfolio theory explains that for the minimization of risk the investor should include more than one asset in his portfolio. A portfolio is a set of investment opportunity.

Figure 2.1

Portfolio Construction



Total Investment Rs. 10, 00,000

In the above example the portfolio of the investor includes three assets. He has invested Rs. 500,000 in stock 'A', Rs. 250,000 in stock 'B' & Rs 250,000 in stock 'C'. The main zest of the portfolio theory is "Do not put all the eggs in one basket."

The basic assumption of portfolio analysis is that most investor dislikes risk. Also most investors would prefer higher return to low risk. However, it is possible to reduce risk without reducing expected returns; it follows that investors will attempt to do this. It will be assumed that S.D. of the rate of return from a portfolio of securities is a reasonable measure of the portfolio risk. Thus there is an incentive to use diversification to reduce the S.D. of portfolio.

The base of portfolio is a well diversification efforts to spread & minimum risk take from the diversification. However, it is always difficult to find right kind of diversification & the right reason. There were three type of diversification technique before the Markowitz diversification technique come into scenario. One is simple diversification second is spirituous diversification & third is diversification across industries.

Markowitz diversification is the combining of assets, which are less perfectly positively correlated in order to reduce portfolio risk. It can sometimes reduce risk below the undiversifiable level. Markowitz diversification in more analytical than simple diversification and consider assets correlation or co - variance. The lower the correlation between assets, the more that Markowitz diversification will be able to reduce the portfolio risk. All the theories on portfolio are now based on the Markowitz diversification theory.

2.1.7 Return on Portfolio

The expected rate of return on portfolio is average or weighted rate of return from total investment. The weighted being the proportion of fund invested in each stock.

$\overline{K_p}=W_1\overline{K_1}+W_2\overline{K_2}+\ldots\ldots\ldots W_N\overline{K_N}$

Where,

$\overline{K_p}$= Expected return on portfolio.

$\overline{K_1}$= Expected return on stock 1

$\overline{K_2}$= Expected return on stock 2

$\overline{K_n}$= Expected return on stock N

W_1= Proportion of portfolio invested on stock 1

W_2= Proportion of portfolio invested in stock 2

W_N= Proportion of portfolio invested in stock N

2.1.8 Risk on Portfolio

Risk on portfolio means that risk which is created while investing in more than one asset all together. Risk of a portfolio is not the weighted average of the S.D. of specific securities comprising that portfolio. It rather depends upon the co – movement (interactive risk) among the securities as well. This interactive risk measured by covariance, which is absolute measurement & by correlation, which is relative measurement. The correlation is the statistical measure of the degree to which two variables such as securities returns move together, symbolically *(Shrestha; 2003: 146).*

"Risk comes from not knowing what you're doing." ~ Warren Buffet

Expected risk as a portfolio is a function of the portfolio invested in the component, the riskiness of the component & correlation of return on the component securities. It is measured by S.D. & calculated by using this formula:

$$\sigma_p = \sqrt{W_1^2.\sigma_1^2 + W_2^2.\sigma_2^2 + 2.W_1.W_{2.}\sigma_1.\sigma_2.r_{12}}$$

Where,

σ_p= Portfolio S.D.

W_1= Proportion of total fund invested in stock 1

W_1= Proportion of total fund invested in stock 2

σ_1= S. D of stock 1

σ_2= S. D of stock 2

r_{12}= correlation between stock 1 and 2

Every business organization, whether it's large or small, suffer risk because investment is a part of economic and the economical cycle change frequently. When the market in bullish there is low risk & when it starts declining i.e. bearish, there may be high risk. The total risk associated with the investment can be classified as systematic & unsystematic risk.

2.1.9 Systematic & Unsystematic Risk

Systematic risk is that type of risk, which affects the overall market. The risk associated with in individual stock which cannot be reduced by investing in portfolio is called systematic or non-diversifiable or unavoidable risk. Systematic risk cannot be reduced or cannot be avoided the systematic risk should be taken by all the investor. The systematic risk arises due to the external factors, which are not under the control of investors. The systematic risk arises due to the external factors like, the state of economy, i.e. Boom, Recession, Depreciation, Political change, the change in monetary policy, fiscal policy of Govt., Natural climatic such as earth equate, flood etc, global change, war & so other factor. The systematic risk measured by Beta (β).

Unsystematic risk is that type of risk, which does not, affects the overall market. The risk which can be reduced by investing in portfolio is diversifiable risk. The

unsystematic risk is controllable risk. Unsystematic risk arises due to the factor which are under the control of investor like; short supply of raw-material, poor mgmt, industrial relationship, loss on big contract, struck & lack of workers, entry of strong competitor in the market etc. This type of risk are normally minor & so, can be handled by the mgmt.

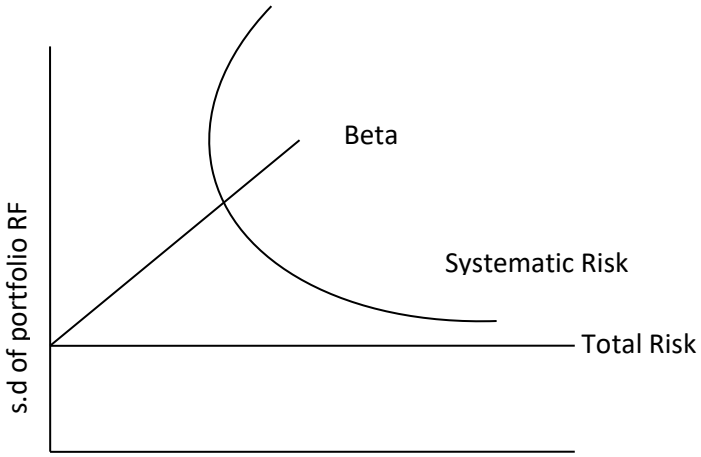
The sum of systematic risk & unsystematic risk are called total risk. The total risk is measured by S.D (σ).

Total risk (σ)= Systematic risk (β) + Unsystematic risk

The following figure shows the systematic and unsystematic risk clearly

Figure 2.2

No of Security on Portfolio



(*Source: Sharpe& Bailey: 1982:117)*

"As shown in the figure, unsystematic risk can be reduced as more & more securities a R_f lded to a portfolio. In USA it has been found that unsystematic risk can be e ıated by holding about fifteen securities & in India, it is fourth" (*Pandey; 1997: 340).*

Diversification is not able to reduce the systematic risk for a well diversified portfolio; Systematic risk is a matter to think because unsystematic risk can be reduced to almost zero.

2.1.10 Capital Assets Pricing Model

Capital market line explains the relationship between expected rate of return on portfolio & risk in portfolio. Under CAPM the assumptions are that the investor can borrowed & lend at risk free rate. The investor can borrow any amount of risk free rate & the fund can be invested at risk free rate in riskier assets or at market portfolio. Lending at risk free rate seems to be practical but borrowing at risk free rate does not seem to be true. The risk taker investor may borrowed risk free rate & he lend or borrowing with his own fund at market portfolio. In such case, the return from portfolio will be more than rate of return of market & the portfolio risk is also more than the risk in market.

CPAM is the model that describes relationship between risk & expected return. In this model, securities expected return is the risk free rate plus premium based on the systematic risk of the security. The CAPM equation or SML equation is suggested for the computation of the expected rate of return on common stock. The CAPM equation or SML equation is written as:-

$$K_j = K_{rf} + \beta_j(K_m - K_{rf})$$

Where,

K_j = Require rate of stock j

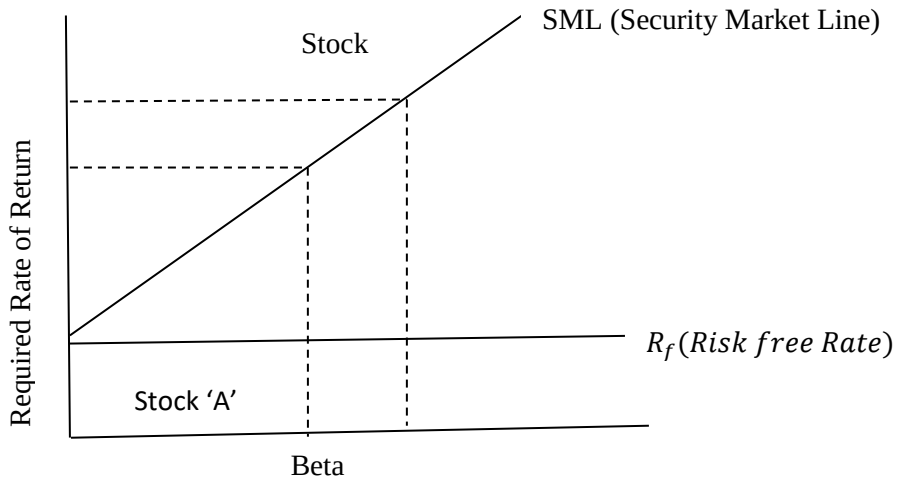
K_{rf}= Risk free rate of return

K_m= Market rate of return

β_j= Beta of stock j

Figure 2.3

Security Market Line (SML)



(Source: Sharpe& Bailey: 1982:147)

In above figure in equilibrium on stock can lie below the security market line. For stance instead of buying stock, and investors would prefer to lend part of their money and put the balance in the market and instead of buying stock B they would prefer to borrow & invest in the market portfolio and instead of buying stock B they would prefer to borrow and invest in the market portfolio.

Figure 2.4

Market Model

Figure 'A'

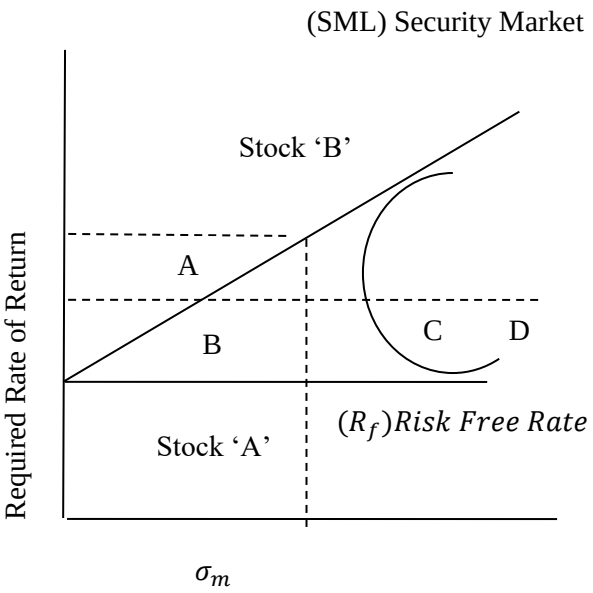
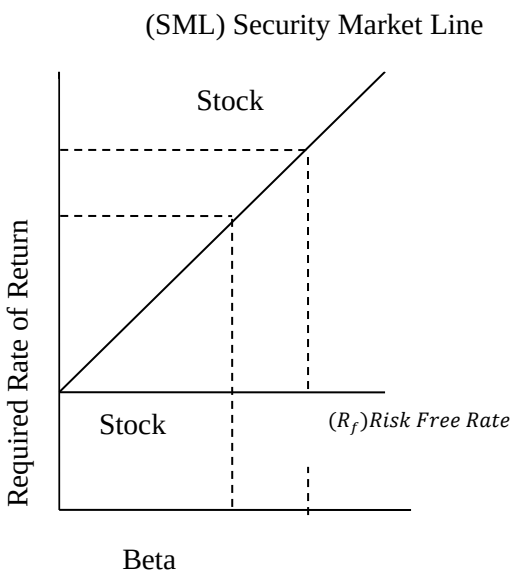


Figure 'B'



(*Source: Barley & Myres: 1998:12*

An investor can always obtain an expected risk premium of β (K_M-K_{rf}) by holding the mixture of portfolio and a risk free loan. So, in well functioning markets nobody will hold a stock of that offer and risk premium of less than β (K_M-K_{rf}) but is the equation of other possibility. In the other word, are they any lies above security market line above figure? If we take all stock together, we have the market portfolio. Therefore we know that stock on average lie on the line. Since non lies below the line, then therefore also cannot be lie above the line. Thus each and every stock lies on the security market line and offer an expected risk premium of β (K_M-K_{rf}).

The capital market line (CML) & security market line (SML) are merely difference picture of the same market equilibrium. The CML may be used to determining the require rate of return only for those portfolio that are perfectly correlated with the market portfolio because they fall one the CML, but SML may be used to explain the required rate of return of all security whether or not they are efficient. The SML provide unique relation between undiversifiable risk measure by (β) & expected return.

In equilibrium all securities must be prices so that they fall the SML. Assets A, B, C & D in figure (A) all have different variance but the same expected return. The fact that they have different total risk is irrelevant for determining their expected return, because total risk contains a diversifiable component, which is not priced in market equilibrium.

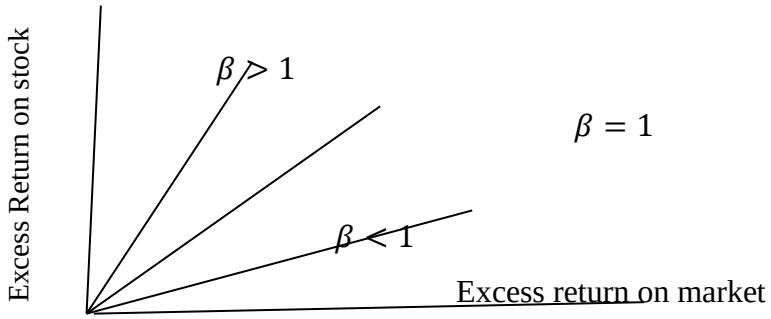
The capital assets pricing model capture these ideas in a simple way, that is why many financial managers find it the most convenient way for coming to the decision with the slippery motion of risk and it is why economists often use the CAPM to demonstrate important ideas in finance even when there are otherwise to prove these ideas. But this mean the CAPM is ultimate truth.

"The capital assets pricing theory is the best known model of risk and return. It is plausible and widely used but far from perfect. Actual return is related to beta over long run, but the relationship is not as strong as the CAPM predicts and other factor seen to explain return since the middle 1960's. Stocks of small companies, and with book values relative to market prices, appear to have risks not capture by CAPM" *(Barely and Myers; 1998:12)*

Beta measures systematic risk. It measures percentages change in security as a result of one percentage change in excess market return; it is an index of systematic risk measuring the sensitivity of assets return to change in returns on the market portfolio. The beta of security is the appropriate measures of its risk because beta's propositional to the risk that the security contributes to the optimal portfolio.

Figure 2.5

Beta



(*Source: Cheney and Moses: 1982:113)*

The Beta of market portfolio is always equal to 1. Beta of various types of stock having the high beta shows the risky stock.

$\beta > 1$= Risky

$\beta < 1$= Less risky than market portfolio

$\beta = 1$=As much risky as market portfolio

The Beta of security is a measure the responsiveness of its excess return to those of the market portfolio. Mathematically, this responsiveness is nothing more than the covariance between possible return's for security J & the market portfolio divided by the variance of the probability distribution for the market portfolio. Therefore the beta of security J can be computed by:

$$B_J = \frac{Cov_{JM}}{\sigma_M^2}$$

2.2 Review of Related Studies

The main focus of the study is risk & return analysis of common stock investment. This topic review from journals of finance published, master degree thesis & other independent topic related to this topic "Risk & Return".

2.2.1 Review of Journals & Articles

In the context of our country, there are very few financial research based journals. There are very limited business magazines, which hardly publish the topic related to the risk & returns. So, some journals are taken into account to review the risk & return topics.

Pradhan and Blampaki (2008), published an article on *"Fundamental of Stock Return in Nepal."* His study is helpful to analyze the stocks return from different aspects. This study is based as period cross sectional data of 40 listed companies in NEPSE Ltd and traded in the stock market. The study examines if dividend yield, capital gain yield & total yield are related to earning yield, Book to market ration and cash flow yield.

Pradhan and Balampaki has summarized the Following Result:

- Earning yield & cash flow yield have significant positive impact on dividend yield and insignificant impacts on book to market value, where as size has negative impact on dividend yield, in the case of earning yield & cash flow yield. Cash flow yield has been found to be more information then earning yield.
- Capital gain yield is positive influents by earnings yield & size, where as size has negative infused by book to market value & cash flow yield. Book to market value has found to be statistically strong in predicting capital gain yield.
- Total yield is positive determined by earnings yield & size, whereas the same is negatively determined by book to market value has been found to be more informative than other variables.
- The positive relationship determined by earnings yield, book to market value & cash flow yield. However the size is negatively related to those three variables.

Akhigbe and Whyte (2009), carried out the study on *"The Gram-Leach-Billey Act"*. Risk implications of the financial service industry have focused on risk implication of banking and private sectors. The research paper has included many other studies some of the studies find that bank expansion into banking activities can affect events that permitted only limited entry by banks into non banking activities. The study is conducted on systematic, unsystematic and total risks such risk are calculated by using statistical tools i.e. variance and standard deviation. The study has included 340 banks for the sample size then partition into two sub samples: 46 large banks and 294 small banks.

The major findings of the study are that evidence of significant decline of systematic risk for the banks securities firm and insurance companies but a significant increase in total and unsystematic risk for the banks and insurance companies are less risk than other securities business. If security wants to decline in risk, security firm can be explained by their ability to diversify into less risky banking and insurance activities. The research paper suggests that regulations should carefully monitor and supervise banking activities in new era of financial modernization to mitigate effect from the increase in risk.

Buelher, Freeman and Hulme (2010), published an article on "*The New Arsenal of Risk Management"* The low level of interest in risk management was also to some extent a product of prevailing thought in finance, originating with Franco Modigliani and Merton Miller's "indifference theory," which argued that a company's value was not (in most cases) affected by capital structure or hedging, and the capital asset pricing model (CAPM), developed by William Sharpe and others, which argued that risk should be managed primarily through portfolio diversification by investors.

It implies that a company's equity is a basket option in which its various risks are pooled: Each shareholder is exposed to a tiny fraction of the risk to which the company is subject. A simple but useful way to think about a company's balance sheet, therefore, is to see its equity as a cushion against the risk of performing badly. The risk that its market value will go down is borne by the shareholders. No such cushion is provided by debt, on which the interest must be paid no matter how the company performs.

Two conclusions follow: First, any company has an appropriate debt-to-equity ratio, geared to the probability that it will suffer losses. Too large a cushion—more equity capital than is required—means that the company is using capital inefficiently. (If it has issued shares to raise "excess" equity capital, profits will have to increase if it is to maintain the previous rate of return.) Too small a cushion means the company is not just courting default or financial distress but also may be ignoring or deferring growth opportunities in response to smaller-than-expected operating cash flows.

Second, because the optimal debt level is determined by a company's key market, financial, and operating risks, it is directly affected by actions that mitigate those risks. Managers can therefore add value by separately and more cheaply hedging some of the risks ordinarily managed by the equity cushion. As Robert Merton pointed out in "You Have More Capital than You Think" (HBR November 2005), some companies are better than others at managing particular risks. If risks can be priced and traded, it makes sense for companies to try to lay off the categories of risk in which they have no comparative advantage. This approach allows them to reserve their (expensive) equity capital for risks that would cost more to transfer than to manage directly.

Peter (2011), published an article on **"***Warning Signs from the Chinese Stock Market.***"** Investors are facing a dilemma that most small retail investors are grappling with. The bigger problem is that with the American economy facing structural stagnation -- we've only grown at an average rate of 1.6% a year over the last decade -- it is difficult to have a sustained bull market to lift everyone's portfolio. In fact, the S&P 500 has delivered a roughly % return during this period. My advice is to upgrade your investing and trading skills and learn how the market trend is related to the economy. Forget about "buy and hold" -- it's a path to impoverishment. The only rule is to invest with the trend -- and figure out the trend by following the economy and technical indicators of the stock market itself. Cash is the only protection against a global depression if you don't have the trading skills to short the market.

Bhattarai (2013), published an article on "*Investing in Shares in Commercial Bank in Nepal.*" The shares of commercial banks in Nepal are heavily traded in the stock market and, therefore, these shares play a key role in the determination stock exchange indicators. The average mean return on market portfolio, as measured by percent changes in the NEPSE index, was 5.51 percent over the sample period. All the shares produced higher rates of return than the return on market portfolio. However, the risk-return characteristics do not seem to be the same for all the shares reviewed.

The shares with larger standard deviations seem to be able to produce higher rates of return. The portion of unsystematic risk is very high with the shares having negative beta coefficient. The risk per unit of return, as measured by the coefficient of variation, is less than that of the market as a whole for all the individual shares. Most of the shares fall under the category of defensive stocks, (having beta coefficients less than 1) except the shares of Bank of Kathmandu Limited. Return on the shares of Nepal Arab Bank Limited is negatively correlated with the return on market portfolio and, therefore, it has negative beta coefficient. From the analysis, it appears that none of the shares are correctly priced. Theoretically, the market price of an over-priced (under-priced) share will fall (rise) in order to increase the expected return such that the expected return equals the required return. Therefore, shares of Nepal Arab Bank Limited, Nepal Indosuez Bank Limited and Himalayan Bank limited which are

overpriced relative to equilibrium thus market forces, will decline. The remaining shares appear to be under-priced indicating a possible positive long term price trend.

2.2.2 Review of Thesis

There are some topics related to the topic "Risk & Return" had been conducted as a thesis for the partial fulfillment of master's degree in T.U., Which are reviewed here.

Yadav (2008), conducted the study on *"Risk and Return in Stock Market Investment in Nepal: Issue and Challenges"* The major objective of the study are to find out and analyze risk and return as well as to examine the trend of risk, return, total paid-up value , annual turnover and capitalization of twenty three companies out of listed companies. Five companies of each sector from banking finance and insurance sector; two of each from hotel, trading manufacturing processing& other companies, are included in this study. Her research has been based on the collected data from the secondary source as well as some information from primary source for 5 years data. For analyzing data she has applied various statistical tools to find out risk and return.
The major findings of the study are as follows:

- Most of the investors are found to be risk averters. They are investing in portfolio having more than four securities.
- Most preferable sector for investor is banking and financial sector.
- Stock brokers are main source of information to the investor which shows they have remarkable role in share market.
- Increasing trend of share price and surplus money for investors are the main influencing factors to buy shares by investors.
- Profitability and marketability has equal influence for motivation to invest.
- The level of investor's satisfaction towards the present trading system (open outcry system) has found low. Most investors are not satisfied with it, because whim and rumors influenced every time. Thus most of the investor wishes to have automation trading system.
- The expected return of security market as a whole by using NEPSE index is 11.72 percent. Banking and other sector stand higher expected return than market, while manufacturing & processing, finance, insurance, hotel and trading sectors have the lower the expected return compare to the market return.

- In terms of C.V, market has 2.70. All sectors found highest C.V. in comparison with market relative risk.

Kharel (2008), conducted a study on *"Risk & Return on Common Stock Investment of Commercial Banks with Reference to Six Commercial Banks."* Among various objectives of his study, some major objectives of his research are to analyze, whether the common stock of commercial banks are correctly priced or not, by analyzing the required rate of return and to study systematic and unsystematic risk associated with securities of the commercial banks.

Majors finding of the study are given below:

- Among the six commercials banks, NABIL bank has highest expected rate of return on common stock (i.e.14.03%) and NIB bank has negative expected rate of return on 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 stock is less risky due to lowest standard deviation (i.e. 19.49%).
- Regarding the market capitalization of six selected companies, SCBNL has the maximum market capitalization (i.e.31.36%) and the market capitalization of BOKL is low by 7.11%.
- Considering the different investment sectors, the expected return of other sector is maximum by 34.53% and the processing sector has very low expected return (- 12.076%). Similarly, considering coefficient of variation of different sectors, the trading sector has maximum by 18.49 units, which indicate that to earn 1 unit of return, the investor has to bear 10.49 units of risk. The coefficient of variation on manufacturing & processing is ± 3.1349 and ±3.28 (negative) respectively.
- On the basis of required rate of return and expected rate of return, the study shows that RRR of NIBL, NABIL, SCBNL, HBL, EBL & BOKL is 0.0175, -0.0677, - 0.0174,0.0099, -0.0526, and ±0.0903 respectively. The ERR of NIBL, NABIL, SCBNL, HBL, and BOKL is ±0.0396, 0.1403, 0.2264, 0.1158, 0.1312 and 0.0021 respectively. As his study shows that the common stock of NIBL is overpriced and rest of all common stocks are under priced. At the end of the study, Pokhrel recommended that before investment decision, the investor should visit and discussion with the investment companies with expert

and researchers because sharing experience, idea view of expert will provide greater help, also advised that the investor needs to diversify their investment to reduce risk. Proper construction of the portfolio never takes any considerable loss.

Pokharel (2009), conducted a study on "*Risk and Return Analysis in Common Stock Investment´*. In this study performed an analysis of risk and return on common stock investment with special reference to banking industry. In this study, his writes, the main objective of the study is to determine whether the shares of selected commercial banks are over-priced, under-priced or correctly valued by analyzing the risk and return. Others objectives of the study are evaluate the common stock, to analyze the risk and return and to provide relevant suggestion to concerned authority based on analysis of data.

The major findings of this study are as follows:

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

Budhathoki (2009), conducted a study on *"Risk and Return Analysis on Common Stock Investment"* (an analysis of listed commercial banks) The major objectives of the study are to calculate and analyze the risk and return of banking sector, to evaluate common stock of listed commercial banks and to analyze whether the common stock of commercial banks are correctly priced or not.

This study concluded that majority of the stock investment has been taking place without base the logical financial evaluation, for most of the investors it is the blind game. Many people have unrealistically optimistic or pessimistic expectations about stock market investments or perhaps the fear of the unknown. This study enables investors to put the return they can expect and the risks they may take into better perspective. Nepalese stock market is in emerging stage and very new phenomenon to majority of the people though in recent years they have shown participation in stock investment due to growing commercial banks in the country. Our stock market is not sensitive to international stock markets. Its development is getting acceleration after multiparty system in country, since 2046 B.S. It takes place after economic liberalization in national economy since 1992. But due to the lack of proper information and poor knowledge, Nepalese individual investors cannot analyze the securities as well as market properly. This study may helps to have some understanding about stock investment, returns and associated risk there on.

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

The main objectives of the study are as follow:

- To analyze risk and return of investment in common stock of commercial bank.
- To determine relation of each bank with the industry index.
- To explain portion of systematic risk and unsystematic risk from the total risk.
- To evaluate common stock's prices under CAPM method.

- To analyze how to create optimal portfolio combination using selected commercial banks.
- To shows the current market movement, banking index movement and selected sample banks price movement in trend line.

Major findings of the study are as follows:

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

Khitawada (2012), conducted a study on *"Risk and Return Analysis of Commercial Bank in Nepal"* by taking eight commercial banks as sample, analytical tools like rate of return, standard deviation. C.V., Beta Coefficient are used. According to his studies the main objectives are to determine whether the shares of commercial banks are correctly priced or not analyzing the required rate of return using the capital Assets pricing model (CAPM) & to identify the qualitative factors that are inhibiting NEPSE.

Major findings of the study are as follows:

- In Nepalese capital market, the contribution of the real sector is negligible. Banking & financial sector occupy majority of pie in terms of capitalization & turn over.
- Most of the listed companies rarely published their financial statement comprehensively within the specified time frame.
- The common stock of Bangladesh Bank offer highest realized rate of return & Nepal Arab Banks the lowest. On the basis of coefficient of variation, which measure risk per unit of stock individually, Bank of Kathmandu has the lowest & Arab Bank has the highest one.
- The negative correlation coefficient of Arab Banks reveals that the return on the bank goes down if the market return goes up. The rest of the shares move in the direction the markets moves. As beta coefficient shows, common stock of Bank of Kathmandu is most volatile & common stock of Nepal Arab Bank is the least volatile.
- As the average rate of return is more than the required rate of return, common stock of all Banks are under priced expect the Nepal Arab Bank Ltd. Which have less required rate of return in comparison with average rate of return?

Gautam (2013), conducted as study on *"Analysis of Risk & Return and Application of SML on Common Stock Commercial Bank in Nepal."* In this study she has taken three banks as a sample size from listed commercial banks of NEPSE The main objective of the study is to analyze the risk, return and other relevant variable that help in making decision about investment on securities of the commercial bank.

The specific objectives of the study are:

- To analyze and awareness of individual investors regarding common stock investment.
- To solve the SML (Security Market line) and to analyze whether the stock is under priced or overpriced.
- To show the security characteristics line (SCL) of individual stock.

Major Findings of the study are:

- 30.12% respectively, Return is an income received by investors for bearing risk within the stock. Expected return on common stock of NBB has the highest with 0.4705 i.e. 47.05%, SCBL and NABIL bank has the expected return of 39.02%.
- Where there is return, there will be risk also. Common stock of NBB is most risky with standard deviation of 0.5542 whereas NABIL bank has standard deviation of 0.6162.3. C.V. Measures the risk in unitary basis that means it shows how many unit of risk should be bear to gain one unit if return. In terms of C.V. SCBL has lowest C.V. i.e. 1.4203 and highest in NABIL bank with 0.0458.
- Among the three stocks, NBB's stock is more volatile having beta of 2.1785 and least volatile stock is SCBL's stock with 1.2142 beta co-efficient. In fact all of them are volatile than the market portfolio or aggressive stock having beta greater than 1.
- All three stocks are under priced having greater s. D. i.e. 0.5045 and lowest S.D. in trading sector with 0.0833.
- Among the sectors, banking sector is more volatile with market having highest beta with 1.0728 and the stock of trading sector is defensive having lowest beta with 0.0372. After banking sector, other sector has the maximum beta with 0.7201
- Nepalese stock market is in the emerging stage in our country. Nepalese investors are not able to analyze the securities as well as market properly due to lack of information and poor knowledge on common stock.

Research Gap

There have been many national and international studies in the field of risk and return analysis to date. As the Nepalese capital market is in the eagerly stage of development, the conclusion made in the international studies may not be relevant in the Nepalese context. The banking industry is clearly evolving to a higher level of risk management techniques and approaches than had been in place in the past. Yet, as this review indicates, there is significant room for improvement. Before the areas of potential value added are enumerated, however, it is worthwhile to reiterate an earlier

point. The risk and return analysis techniques reviewed here are not the average, but the techniques used by firms at the higher end of the market. The risk and return management approaches at smaller institutions, as well as larger but relatively less sophisticated ones, are less precise and significantly less analytic. In some cases they would need substantial upgrading to reach the level of those reported here. Accordingly, our review should be viewed as a glimpse at best practice; therefore, it is believed that this study is quite different.

CHAPTER-III
RESEARCH METHODOLOGY

3.1 Introduction

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 concludes all the procedures from theoretical under pricing to the collection and analysis of data. As most of the data are quantities, the research is based on the scientific models. It is compared of the both parts of technical aspect and logical aspect. On the basis of historical data, research is systematic and organized effort to investigate specific problems that need a solution. This process of investigation invoices a series of well thought out activities of gathering, researching, analyzing and interpreting the data with the purpose of finding answer to the problem is called research.

A systematic methodology is essential to design the actual result from every research study. A good research methodology explains the methods using in the study including presentation of research design. Research can be conducted on the basis of primary and secondary data. Hence, the study all the data in analyzed with using appropriate financial and statistical tools outcomes are presented in simple way.

3.2 Research Design

A research design designated the logical manner in which individual or other units are compared and analyzed, it is the basis of making interpretation from the data. The challenge of research design is to translate the general scientific mode into a practical research operation. Research design will refer to the entire processed of planning and carrying out a research study. Modern research many be descriptive, explorative, experimental, evaluation, diagnostic, prognostic or any other. This research study aims risk and return analysis of common stock investment of Nepal Credit & Commerce Bank and Kumari Bank. Therefore a case study analytical research design is use for the study purpose to achieve the desired end.

In this study, the research is based on the recent historical data, so it is a historical research and covers the data from the fiscal year 2061/62 to 2066/67 B.S. The analytical as well as descriptive research designs have been included in this study for analytical purpose the annual reports and financial statement of related commercial banks are collected. But this study is more analytical and less descriptive.

3.3 Selection of Study Unit

The populations of the study consist of all the commercial banks of Nepal. Hence, 32 commercial banks which are operating now in Nepal comprise the population where as two commercial banks Nepal Credit & Commerce Bank and Kumari Bank Limited are taken for the study unit is a case study.

3.4 Sources and Nature of Data

The study is mainly based upon the secondary data. The data relating to risk and return have been directly obtained from concerned banks. The supplementary data and information have been obtained from unpublished official records of concerned banks booklets, journals, and related website. Financial reports of commercial banks are also collected. Besides, the secondary data have been acquired from various other sources like.

- Annual reports of concerned commercial banks
- Material published in paper and magazines
- Related websites
- Trading reports published by Nepal stock exchange ltd.
- Other related books.

3.5 Data Processing Procedure

The relevant data has collected from Annual Reports of the banks, Shanker Dev Campus library Putalisadak, and Kathmandu and internet search and put them in a sheet. Then data were entered into the spreadsheet to work out the financial ratio and prepare necessary figures, according to the need and requirement of this study. For this purpose, gathered data have been processed using computer programs like Microsoft excel and word.

3.6 Data Analysis Tools

In this research work, descriptive tools are used to get the meaningful result of the collected data and to meet the research objective. For this purpose of study, the collected data are tabulated under various heads. Then the tabulated data are analyzed using various financial and statistical tools, which are briefly below:

3.6.1 Financial Tools

3.6.1.1 Market Price of Stock (MPS)

If the market prices of share of companies are followed there it can be found that there are three types of prices high, Low & closing price MPS is determined by the demand & supply force. For the analysis single is needed, so average price 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 of span of one year & the study has focused in annual basis.

To get the real average, volume and price 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 the market price of stock, which has a specific fine span of one year and the study has focused in annual basis.

3.6.1.2 Earning Per Share (EPS)

Earnings refers to the net income after fax of the company earning per share (EPS) is the result of net income after taxes divided by outstanding no of common stock. Symbolically EPS can be expressed as follows: -

$$\text{EPS} = \frac{\text{Net Inocme After Tax}}{\text{No of Stock Outstanding}}$$

3.6.1.3 Dividend Per Share (DPS)

Dividend is the rewards for waiting to the investor. Dividend is that part of earning that is distributed to the shareholders as a part of their investment. Dividend constitutes the main part of return from common stock investment. there are two type of dividend, cash dividend & stock dividend if only cash dividend are paid there will be no problem but stock dividend is also paid there will be problem in calculation of total gain to get extra numbers of share as dividend & simultaneously

price of the stock decline due to increase no of stock. To get the real Amount of dividend there are no any model or formula.

Total Amount of dividend out of earning available to the share if distributed the common stock portion is dividend per share (DPS). Symbol of the DPS is computed as follows:-

$$\text{DPS} = \frac{\text{Total Amount of Dividednd}}{\text{No of Common Stock outstanding}}$$

3.6.1.4 Price Earnings Ratio (P/E Ratio)

Price- earnings ratio is also called the earnings multiplier. Price- earnings ratio is the ratio of market price per share to earnings per share. In other words, this represents the amount which the investors are willing to pay for each rupee of the firm's earnings. It reflects the price currently paid by the market for each rupee of currently reported earnings per share.

The P/E ratio measures investor's expectation and market appraisal of the performance of the firm. This is important to compare the market share prices of different stocks given their earning per share. The higher P/E ratio implies the high market share price of a stock given the earning per share and the greater confidence of investor in the firm's future. This ratio is computed by dividing Market per share by Earning per share. Thus,

$$\text{P/E Ratio} = \frac{\text{Market Price per share (MPS)}}{\text{Earning per share (EPS)}}$$

3.6.1.5 Holding Period Return (HPR)

Holding Period Return is change in market price of stock and sum of dividend income as percentage of beginning of investment.

$$\text{HPR} = \frac{E_P - B_P + D_1}{B_P}$$

Where,

E_P= Ending Price of Stock

B_P= Beginning Price of Stock

D_1= Dividend Received at the end of the year1

3.6.2 Statistical Tools

3.6.2.1 Expected Rate of Return of Common Stock ($\overline{K_j}$)

The study is also focus to find out the expected return on the investment in common stock. The expected rate of return is based upon the expected cash receipt and expected capital appreciation. This rate is obtained by arithmetic mean of the same periods. It is computed as follows:

$$K_j = \frac{\sum K_j}{n}$$

Where,

$\sum \overline{K}_j$= Expected rate of Return of Stock j

K_j= Rate of Return of Stock j

n= No of year that the return is taken

$\sum$ = Sign of Summation

3.6.2.2 Standard Deviation (σ)

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

"Probability distribution is the set of possible values that a random variable can assume & their associated probabilities of occurrence" *(Van Horne et al.; 1995: 95)*. Normally the width of the probability distribution indicates the amount of scatterings or variability of the possible event. The higher the probability distribution of the expected returns, the less is the variability of returns then the small risk associated with the investment will occur. The risk or S.D. is denoted by sigma (σ) which can be computed as follows:

$$\sigma = \sqrt{\frac{\sum_{t=1}^{n}(K_j - \overline{K})_j}{n-1}}$$

Where,

K_j= Rate of return on stock j

$\overline{K}_j$= Expected Rate of return on stock j

n= no of historical return.

In summary, S.D. is the weighted average deviation from the expected value & it gives an idea of how far above or below expected value and the actual value likely to be it is statistical tool for measuring risk which contains both systematic & unsystematic risk.

3.6.2.3 Return on Market (K_m)

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

$$K_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$$

Where,

K_m= Return on Market

NI_t= NEPSE index at‘t’ time.

NI_{t-1}= NEPSE index at‘t-1’ time.

3.6.2.4 Beta Coefficient

Total risk can be classified as the systematic (non diversifiable) an unsystematic (diversifiable) risk. Making portfolio between the securities can diversify the diversifiable portion of the total risk. But on the other hand non diversifiable risk is created from the market related factors. The risk cannot be diversified away and investor should expect to receive additional return associated with the systematic risk. The systematic risk can be measured since the sources of systematic risk are market persuasive, it is logical to measure systematic risk as the covariance between the return of individual assets or portfolio and the return of the market portfolio, which consist of all assets. This measure of systematic risk is represented by

Beta (B). Securities with Beta (B >1) are classified is j more risky (aggressive) and the securities with Beta less than market Bets as less risky (defensive) in comparison with market risk.

Mathematically:

$$B_j = \frac{\mathrm{Cov_{jm}}}{\sigma m^2}$$

Where,

B_j= Beta Coefficient of Stock j

$\mathrm{Cov_{jm}}$= Covariance between K_j and K_m

σ_m= Standard deviation of Return for Market

4.6.2.5 Comparison between Expected Rate of Return and Required Rate of Return

Price evaluation determines the overpriced, under priced and correctly priced of stock. The comparison of required rate of return and expected rate of return give the result of overpriced, under priced and correctly priced of stock. There are three condition of price evaluation. These have been shows as follows:

- Expected Rate of Return>Rrequired Rate of Return = under priced
- Expected Rate of Return<Required Rate of Return =over priced
- Expected Rate of Return=Required Rate of Return = correctly priced

From the price evaluation, the calculation of required rate of return is necessary. The required rate of return can be calculated as follows:

$$K_j = K_{rf} + \beta_j(\overline{K_m} - K_{rf})$$

Where,

K_j= Required Rate of Return

K_{rf}= Risk Free Rate of Return

$\overline{K_m}$= Expected Rate of Return of Market

B_j= Beta Coefficient of Stock j

3.6.2.6 Portfolio Return (K_P)

The expected return on a portfolio is a combination of two or more than two securities. In other words, it is simple the weighted average of expected return of the individual assets in the portfolio with the weights being the function of the total portfolio investment in each assets. Portfolio Return is computed as follows:

$$\overline{K_P} = W_A\overline{K_A} + W_B\overline{K_B}$$

Where,

$\overline{K_P}$= Expected return on Portfolio

W_A= Portfolio of the fund invested in stock A

W_B= Portfolio of the fund invested in stock B

$\overline{K_A}$= Expected return on Portfolio A

$\overline{K_B}$= Expected Return on Portfolio B

3.6.2.7 Portfolio Risk (σ_P)

It is the combine S.D. of individual stock return. It is the risk of individual securities plus covariance between the securities. The formula for the calculation of portfolio risk for two assets case is given by:

$$\sqrt{W_A^2.\sigma_A^2 + W_B^2.\sigma_B^2 + 2.W_A.W_B.\sigma_{A.}.\sigma_B.r_{AB}}$$

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

Where,

σ_P= S.D of Portfolio

W_A= Proportion of fund invested in stock A

W_B= Proportion of fund invested in stock B

σ_A^2= Variance of return of security A

σ_B^2= Variance of return of security B

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

3.6.2.8 Minimum Variance Portfolio

The portfolio of which the risk is the lowest is minimum variance portfolio. It shows the percentage of fund to be inverted in two stocks. So as to be the risk is the lowest. There is perfect positive correlation; the risk cannot be minimized as we try to

minimize the risk. Return also becomes low. If there is perfect negative correlation between two stocks the risk can be minimize to zero. The minimum variance portfolio can be found out as under.

$$W_A = \frac{\sigma_B^2 - Cov_{AB}}{\sigma_B^2 + \sigma_A^2 - 2Cov_{AB}}$$

And, W_B= 1-W_A

Where,

W_A= Optimal weight to invest in stock A

W_B= Optimal weight to invest in stock B

σ_B^2= Variance of Stock B

σ_A^2= Variance of Stock A

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

3.6.2.9 Coefficient of Variation (CV)

The S.D. is absolute measurement of risk. The coefficient of variation gives the relative measurement of risk C.V measures risk per unit of return. S.D can sometimes be misleading in company the risk or uncertainty surrounding alternatives as they differ in size. To adjust for the size or scale, problem the S.D can be divided by the expected return to compute the C.V.

C.V. is relative measurement of risk. C.V. measures per unit of risk, when the degree of risk more than one investment opportunity is to be compared. C.V. is the best method of comparison:

$$C.V. = \frac{\sigma}{\bar{K}_j}$$

3.6.2.10 Co-Variance Between Rates of Return of two Stocks (Cov_{AB})

The co-variance of rate of return of two stocks shows that how the rate of return of one stock changes due to change in rate of return of another stock. The positive co-variance indicates that the direction of change in rate of return of two stocks is same. If the rates of return of one stock increase, the rate of return of another stock also increases & vice versa.

$$Cov_{AB} = \frac{\sum_{t-1}^{N}(K_A - \bar{K}_A)(K_B - \bar{K}_B)}{n-1}$$

Where,

Cov_{AB}= Co-variance between stock A and B

K_A= Return of stock A

$\overline{K}_a$= Expected Return of Stock A

K_B= Return of Stock B

$\overline{K}_B$=Expected Return of Stock B

n = no. of historical return.

3.6.2.11 Correlation Coefficient between Rate of Return of two Stock (r_{AB})

Correlation coefficient doesn't measure the amount of change. It measures direction of change correlation coefficient shows that what is the impact on the rate of return of one stock due to the change in rate of return of another stock correlation must lies between ±1.

Positive Correlation

Positive correlation shows as the rate of return of one stock increases, the rate of return of another stock also increases.

Negative Correlation

The negative correlation shows opposite change in rate of return of two stocks. As the rate of return of one stock decrease, the rate of return of another stock increases.

Perfectly Positive Correlation (r_{AB}= + 1)

The ratio of change in one variable & the ratio of change in another variable are equal, the correlation between two variables is perfectly positive.

Perfectly Negative Correlation (r_{AB}= - 1)

If ratio of change of one variable & the ratio of change of another variables are equal but in opposite direction, the correlation is perfectly negative.

$$r_{AB} = \frac{Cov_{AB}}{\sigma_A \times \sigma_B}$$

Where,

r_{AB}= Correlation Coefficient between Stock A and Stock B

Cov_{AB}= Covariance between Stock A and Stock B

σ_A= Standard Deviation of Stock A

σ_B = Standard Deviation of Stock B

3.7 Tools of Testing Hypothesis

One of the important applications of statistical inference is test of hypothesis in testing of hypothesis; an assumption is made about the population parameter. To test whether the assumption or hypothesis is right or not a sample is selected from the population, sample statistic is obtained. Observe the different between the sample mean and the population hypothesized value, and test whether the different is significant or in significant. Smaller the different, the sample mean is close to the hypothesis value and larger the different the hypothesized value has low chance to be correct.

T-Test

The sampling distribution of sample mean when sample size is large (most commonly n>30) is normally distributed with mean (μ) and standard deviation σ but what about the situation when sample size is less than 30.

The student t- distribution sates that if the sample size is less than 30, the sampling distribution of the sample mean follows student t- distribution. In order to the test the significance of an observed sample return and beta the following procedure is applied. The following hypothesis has set in this study paper.

t is given by,

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

Where,

$\bar{X}= \frac{\sum X}{n}$

t = student's t- test statistics

$\bar{X}$= Arithmetic mean of sample statistics

μ = Arithmetic mean of population parameter

S= estimated standard deviation of population which is given by:

$$S = \sqrt{\frac{\sum X - \overline{X^2}}{n-1}}$$

n= sample size

Null HypothesisH_0 : = R_m = R; i.e. there is no significant difference between average market return and average return on NCC Bank.

Alternative HypothesisH_1 : $R_m \neq R$; i.e. there is significant difference between average market return and return of NCC Bank.

Null Hypothesis Hi: R_m= R i.e. there is significant difference between average market return and average return of Kumari Bank.

Alternate HypothesisH_1: $R_m \neq$R; i.e. There is significant difference between average market return and average return of Kumari Bank.

It is applied for hypothesis testing 1st to test whether there is any significant difference between average mean of commercial bank with market or not. If the test is test of significant for a single mean the test statistics is given by:

Test of Significance of Difference between Two Means The steps that rate taken in testing the significant of difference between two means in case of samples can also be taken in testing the significance of difference between two means in case of small samples (n<30), except in respect of the application of the test statistic. In case of testing the significance of difference between two means of small samples t- values are used to the t- distribution. The t - test for difference between two means is used to test whether two independent samples have been drawn from two normal populations having the same mean and equal population variance or there is significant difference between population means from which the samples are draws as follows:

Null Hypothesis

H_0: $\mu_1=\mu_2$ i.e. the samples have been drawn from normal populations with the same mean or the two population means do not significantly or there is no significance difference between two sample means $\overline{X_1}$ and $\overline{X_2}$

Alternative Hypothesis

H_1: $\mu_1 \neq \mu_2$ i.e. the sample have not drawn from normal populations with same mean or the two populations means differ significantly or there is significance difference between two sample means $\overline{X_1}$ and $\overline{X_2}$

The Static

Under the assumption that $\sigma_1^2 = \sigma_2^2$ i.e. population variance is equal but unknown, the test statistic underH_0: $\mu_1=\mu_2$ is,

$$t = \frac{\overline{X_1}-\overline{X_2}}{\sqrt{S^2P\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$$

i.e. the best statistic t follows t- distribution with n_1+n_2-2 degree of freedom

Where,

$\overline{X_1}$= Mean of first sample= $\frac{\sum X_1}{n_1}$

$\overline{X_2}$= Mean of second sample=$\frac{\sum X_2}{n_2}$

S^2P= an unbiased estimate of the common population variance (σ^2)

CHAPTER - IV
DATA PRESENTATION AND ANALYSIS

This chapter is the main body of study. In this chapter, the effort has been made to analyze risk and return analysis of common stock of Nepalese commercial banks. In this section data about selected banks, which are collected from various sources are changed to an understandable presentation using tools as mentioned in the previous chapter i.e. research methodology. This chapter is the heart of this study which is fully related to analysis and interprets various outcomes. The analysis of data consists of organizing, tabulating and performing risk and return analysis of a common stock. "The main purpose of analyzing the data is to change it form an unprocessed form to an understandable form. The analysis of data consists of organizing, tabulating and performing statistical analysis" (*Wolf and Pant; 2000:127).*

In this chapter, collected data from various sources have presented and analyzed using various financial and statistical tools. Such analysis provides useful information of concerned banks from fiscal year 2007/08 to 2011/12. The data related to Dividend per share (DPS), Market price per share (MPS) of each bank and NEPSE index of each sector with market has been presented and analysis and interpret to analysis "risk and rate of return on security (common stock) investment of two commercial Banks". Financial analysis of data consist organizing tabulation and diagrams are draw to make the result very simple and easily understandable. Some tables and diagrams have been published by Nepal stock exchange limited. Itself that is also presented in this chapter while analyzing the data. To begin, firstly the descriptive analysis of difficult data has been done which is then followed by the explanatory and hypothetical analysis.

4.1 Data Presentation and Analysis

This study has been focused on the only two commercial banks i.e. NCC and KBL. The presented and analysis of data has been made in the order of commercial banks published by NEPSE Limited in the heading of "Classification of the listed companies under the listing by law (2063)."

4.1.1 Total Dividend of KBL

Table 4.1

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

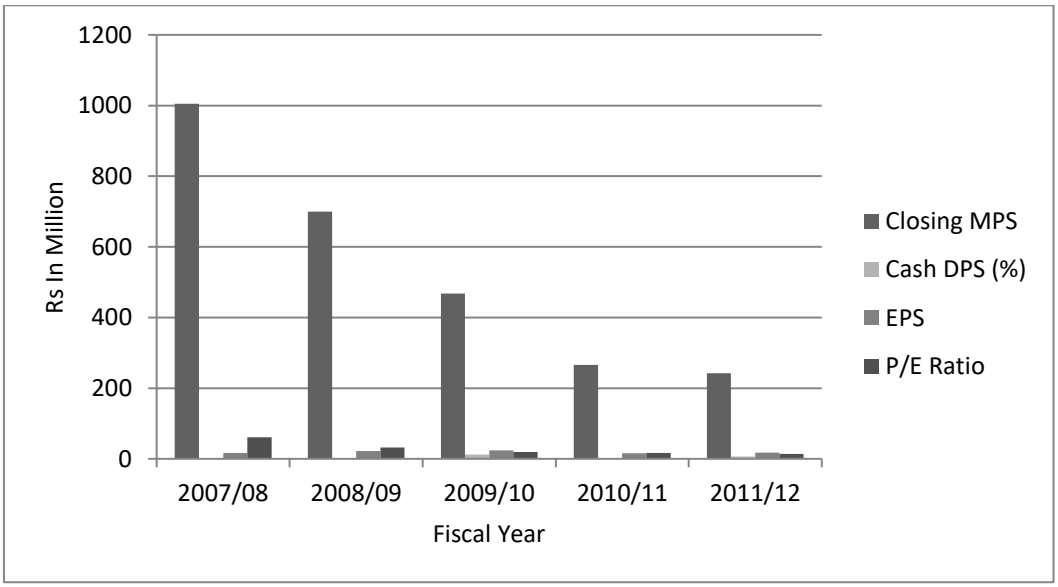
Fiscal Year	Closing MPS	Cash DPS (%)	Stock Dividend (%)	Total Dividend (%)	EPS	P/E Ratio
2007/08	1005	0.53	10	10.53	16.35	61.47
2008/09	700	0.55	10.03	10.58	22.04	31.76
2009/10	468	12	0	12	24.24	19.31
2010/11	266	0.44	8.44	8.88	15.67	16.98
2011/12	242	7	0	7	17.18	14.09

Source: Annual Report of KBL, I

The table shows that, KBL is paying cash and stock dividend every year except 2011/12 stock dividend is not given. P/E ratio of KBL is maximum in the year 2007/08 and minimum of year 2011/12. The dividend of KBL is maximum of Rs.12 in year 2009/10 and minimum of Rs.7 in the year of 2011/12.

Figure 4.1

MPS, Cash DPS, EPS and P/E Ratio of KBL



The figure shows that, KBL is paying cash and stock dividend every year. P/E ratio of KBL is maximum in the year 2007/08 and minimum of year 2011/12. The closing MPS of KBL is maximum of Rs.1005 in year 2007/08 and minimum of Rs. 242 in the year of 2011/12. Only the EPS is comparatively flexible which rs.16.35 per share in 2007/08. Share value is respectively 1005, 700, 468, 266, and 242. Similarly, except

EPS ratio all other factors are being downwards from year 2007/08 to till now. It justifies the entire economical position of bank, so this entire information shows that the condition of this bank is not much good.

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

Table 4.2

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

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{D_t + P_{t-1}}{P_{t-1}}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2007/08	1005	10.53	-	-	-
2008/09	700	10.58	-0.2930	-0.0250	0.0006
2009/10	468	12	-0.3163	-0.3163	0.1001
2010/11	266	8.88	-0.4060	-0.4060	0.1648
2011/12	242	7	-0.0568	-0.0568	0.0032
			$\sum R_j$ = -1.0721		0.2687

Source: Annex-II

Where,

Expected Return $(\bar{R}_j) = \frac{\sum R_j}{n} = \frac{-1.072}{4} = -0.268$

Standard Deviation $(\sigma_j) = \sqrt{\frac{\sum (R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{0.2687}{3}} = 0.2992$

Coefficient of Variation $(C.V.) = \frac{\sigma_j}{\bar{R}_j} = \frac{0.2992}{-0.268} = -1.17$

The expected return of KBL is -0.268 with the total risk (Measured by S.D.) of 0.2992. The C.V. of KBL is -1.17. It indicate that the per unit risk i.e. standard deviation is high. If investor can invest then they have to bear higher risks to get -0.268 of return. It can be shown clearly in the figure 4.2.

Figure 4.2

Annual Rate of Return of C.S. of KBL

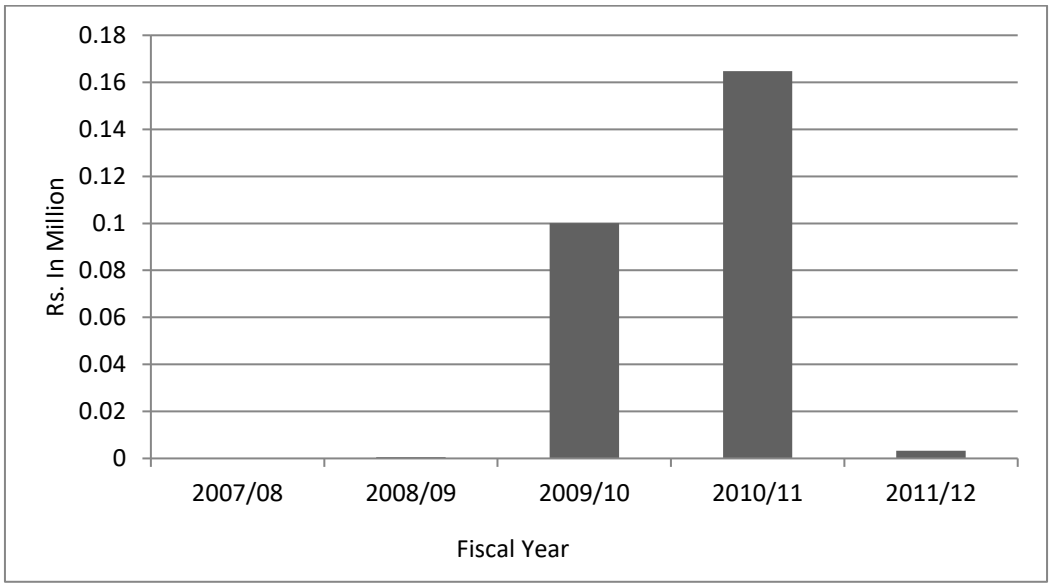


Figure 4.2 shows annual rate of returns of KBL in years. From the year 2007/08 the annual returns of KBL bank is increasing except 2008/09 and 2011/12 and reaches maximum point in 2010/11.

4.1.3 Analysis of Total Dividend of NCCBL

Table 4.3

MPS, Dividend, EPS and P/E Ratios of NCCBL

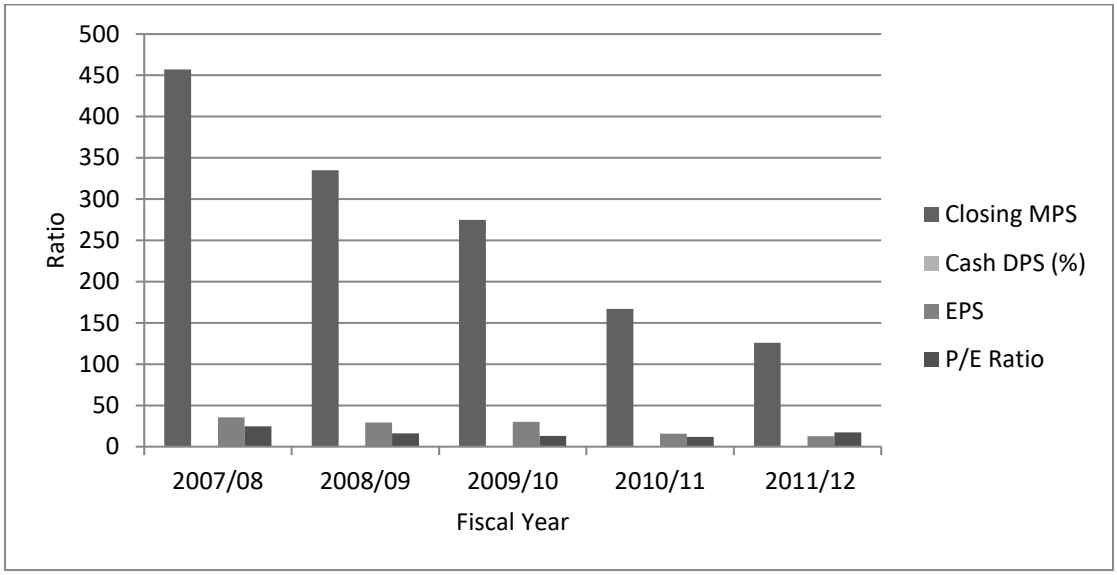
Fiscal Year	Closing MPS	Cash DPS (%)	Stock Dividend (%)	Total Dividend (%)	EPS	P/E Ratio
2007/08	457	-	-	-	35.63	24.55
2008/09	335	-	-	-	29.35	16.27
2009/10	275	-	-	-	30.28	13.15
2010/11	167	-	-	-	15.78	11.67
2011/12	126	0.26	4.74	5	12.69	17.32

Source: Annual Report of NCCBL,III

The table shows that, NCCBL is not paying cash and stock dividend every year. P/E ratio of NCCBL is maximum in the year 2007/08 and minimum in year 2010/11.

Figure 4.3

MPS, Cash DPS, EPS and P/E Ratio of NCCBL



The figure shows that, NCCBL is not paying cash and stock dividend every year. P/E ratio of NCCBL is maximum in the year 2007/08 and minimum of year 2009/10. The closing MPS of NCCBL is maximum of Rs.457 in year 2007/08 and minimum of Rs. 126 in the year of 2011/12. Share value is respectively 457, 335, 275, 167 and 126. P/E Ratio of the NCCBL bank is high in 2007/08 and lower in 2010/11 respectively.

Table 4.4

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

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{D_t + P_{t-1}}{P_{t-1}}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2007/08	457	0	-	-	-
2008/09	335	0	-0.2670	0.0041	0.0000
2009/10	275	0	-0.1791	-0.1791	0.0321
2010/11	167	0	-0.3927	-0.3927	0.1542
2011/12	126	5	-0.2455	-0.2455	0.0603
			ΣR_j = -1.0843		0.2466

Source: Annex-IV

Where,

Expected Return $(\bar{R}_j) = \frac{\sum R_j}{n} = \frac{-1.0843}{4} =$ = -0.27

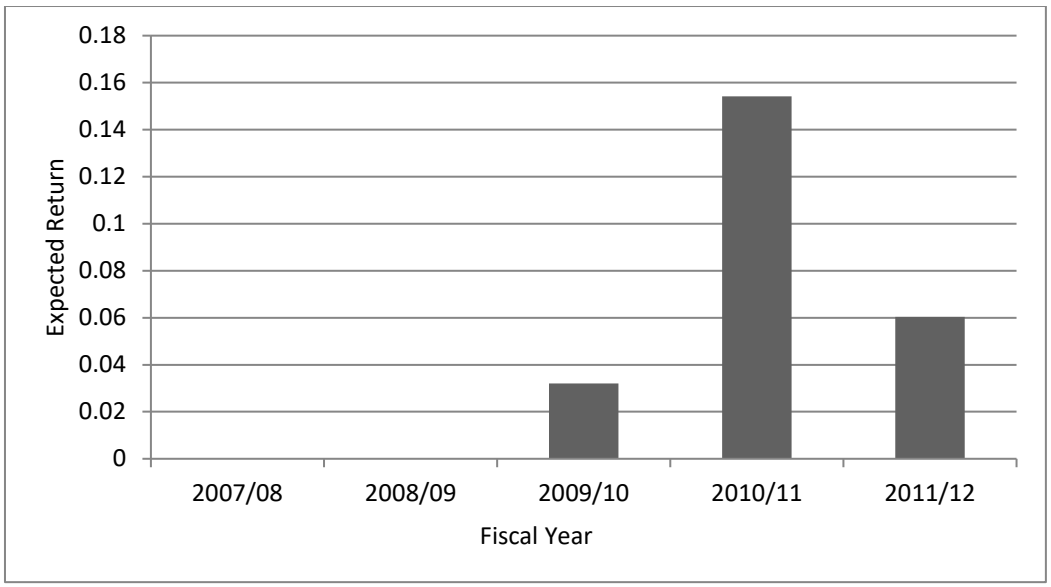
Standard Deviation $(\sigma_j) = \sqrt{\frac{\sum(R_j - \overline{R}_j)^2}{n-1}} = \sqrt{\frac{0.2466}{3}} = 0.2867$

Coefficient of Variation $(C.V.) = \frac{\sigma_j}{\overline{R}_j} = \frac{0.2867}{-0.27} = -1.06$

The expected return of NCCBL is -0.27 with the total risk (Measured by S.D.) of 0.2867. The C.V. of NCCBL is -1.06. It indicate that the per unit risk i.e. standard deviation is low. If investor can invest then they do not need to bear higher risks to get -0.27 of return. It can be shown clearly in the above figure.

Figure 4.4

Annual Rate of Return of C.S. of NCCBL



Above figure shows annual rate of returns of NCCBL in years. Every year it being flexible and moving upwards and downwards. In year 2000/10 the annual returns of NCCBL bank is minimum and maximum in 2010/11.

4.2 Market Risk and Return Analysis

The risk on return of market is the average risk and return of all the securities available in the market. The market assuming the lowest provides the best return. In this section, the industry wise risk and return is compared with the market risk and return.

There is only one exchange centre for Stock in Nepal i.e. Nepal Stock Exchange Ltd. It has been started since 1993 as its established nonprofit organization under security exchange act 1983. So, overall market movement of the country representing by the index or NEPSE index. The risk and return of market and the selected bank has been presented in the following table:

Nepal Stock Exchange ltd. (NEPSE) is only stock market in Nepal. Overall market movement is represented by market index (i.e. NEPSE Index). The NEPSE index is adjusted and changed continuously. With this NEPSE base market portfolio return its standard deviation and coefficient of variation is presented below:

Table 4.5

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

Fiscal Year	Market Index	$R_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$	$R_m - \bar{R}_m$	$(R_m - \bar{R}_m)^2$
2007/08	978	-	-	-
2008/09	824	-0.1574	-0.5377	0.2891
2009/10	476	-0.4223	-0.4223	0.1783
2010/11	289	-0.3928	-0.3928	0.1543
2011/12	680	1.35294	1.35294	1.8304
		0.3802		2.4523

We have,

Expected Return $(\bar{R}_m) = \frac{\sum R_m}{n} = \frac{0.38}{4} = 0.095$

Standard Deviation $(\sigma_m) = \sqrt{\frac{\sum(R_m - \bar{R}_m)^2}{n-1}} = \sqrt{\frac{2.45}{4-1}} = 0.9036$

Coefficient of Variation (C.V.) $= \frac{\sigma_m}{\bar{R}_m} = \frac{0.9036}{0.095} = 9.51$

The above table shows the return of market in several years. The Expected rate of return of market index is 0.095. The Standard Deviation of Market Index is 0.9036 and C.V. is 9.51 respectively. From table 4.2, 4.5 shows that the compare the sample bank and overall market the expected return of KBL is negative and over all market return is 0.095. The standard deviation of KBL is 0.2992 and over all market standard deviation is 0.9036 it seems that the sample bank per unit risk is lower than over all market scenario.

From the analysis of table 4.4 and over all market the expected rate of return is negative it seems that the sample bank contribute the negative return of over all market. The Standard deviation is lower than market.

4.3 Market Sensitivity Analysis

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

4.3.1 Calculation of Beta Coefficient of the C.S. of KBL

Table 4.6

Beta Coefficient of the C.S. of KBL

Fiscal Year	$(R_m-\bar{R}_m)$	$(R_j-\bar{R}_j)$	$(R_m-\bar{R}_m)(R_j-\bar{R}_j)$
2007/08	-	-	0
2008/09	-0.5377	-0.025	0.0134425
2009/10	-0.4223	-0.3163	0.13357349
2010/11	-0.3928	-0.406	0.1594768
2011/12	1.35294	-0.0568	-0.07684699
			0.2296458

We have,

Cov. (R_m,R_j) $= \frac{\sum[((R_m-\bar{R}_m)(R_j-\bar{R}_j)]}{n-1} = \frac{0.2296}{5-1} = 0.0574$

Again,

β_m $= \frac{\text{Cov}\,(R_m,R_j)}{\sigma_m{}^2} = \frac{0.0574}{(0.9036)^2} = 0.070$

Where,

n = number of observation

Cov. (R_m,R_j) = Variance of market

$R_j\beta$ = Return of Sock of KBL

From sensitivity analysis of KBL, the beta coefficient is 0.070 which is less than 1. The company which has got less than 1 beta coefficient is less aggressive investor.

4.3.2 Calculation of Beta Coefficient of the C.S. of NCCBL

Table 4.7

Beta Coefficient of the C.S. of NCCBL

Fiscal Year	$(R_m-\bar{R}_m)$	$(R_j-\bar{R}_j)$	$(R_m-\bar{R}_m)(R_j-\bar{R}_j)$
2007/08	-	-	0
2008/09	-0.1574	0.0041	-0.0006453
2009/10	-0.4223	-0.1791	0.07563393
2010/11	-0.3928	-0.3927	0.15425256
2011/12	1.3529	-0.2455	-0.332137
			-0.1028958

We have,

$\text{Cov}(R_m,R_j) = \frac{\sum[((R_m-\bar{R}_m)(R_j-\bar{R}_j)]}{n-1} = \frac{-0.10}{5-1} = -0.025$

Again,

$B_m = \frac{\text{Cov}(R_m,R_j)}{\sigma_m{}^2} = \frac{-0.025}{(0.9036)^2} = -0.031$

Where,

n = number of observation

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

R_j = Return of Sock of NCCBL

From sensitivity analysis of NCCBL, the beta coefficient of NCCBL is less than 1 it show that the investor could not interest this type of investment.

4.3.3 Analysis of Beta Coefficient of each Bank

Table 4.8

Beta Coefficient of each Bank

Banks	Beta Coefficient	Remarks
KBL	0.070	Defensive
NCCBL	-0.031	Defensive

Source: Table 9,10

Higher the beta represents greater the sensitivity and higher the reaction to the market movement and vice-versa. Percentage of risk that is correlated with market is said to be systematic portion of the risk beta coefficient of systematic risk, which eliminated through the means of diversification.

4.4 Portfolio Analysis

Portfolio theory was developed by Professor Harry M. Marnowitz. He has explained that the risk could be reduced without losing considerable return by investing into a portfolio (*Shrestha; 1999:120*).

The theory gives the concept of diversification of risk by investing funds in more than one type of stock. Markowitz's diversification helps the investor to attain a higher level of expected with any other risk reduction techniques. In a very simple way, we can understand it as "Do not put all eggs in one basket". By investing into a portfolio the investor can diversify the unsystematic risk will be zero in making a portfolio investment, the total fund is divided into proper amount or weight for different securities (in our study common stock of two banks i.e. KBL and NCCB). The total weight of a portfolio equals to 100%.

4.4.1 Portfolio of Stock KBL (B) and NCCBL (C)

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

$$W_B = \frac{\sigma_C^2 - Cov\,(R_B, R_C)}{\sigma_B^2 + \sigma_C^2 - Cov\,(R_B, R_C)}$$

$$W_C = 1 - W_B$$

Where,

W_B	=	optimal weight to invest in stock of KBL
W_C	=	optimal weight to invest in stock of NCCBL
σ_B^2	=	variance of KBL
σ_C^2	=	Variance of NCCBL

Now,

$W_B = \frac{0.2867^2 - (-0.025)}{0.2992^2 + 0.2867^2 - (-0.025)} = 0.5447$

$W_C = 1 - W_B = 1 - 0.5447 = 0.4552$

As we know that the proportion of stock in the portfolio is constructed with 54.47% of KBL and 45.52 % of NCCBL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return.

Portfolio Return

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

Expected Return on portfolio

$E(R_p) = W_B \times E(R_B) + W_C \times E(R_C)$

= 0.5447 × -0.268 + 0.4552 × -0.27

= -0.27

= 27%

Where,

$E(R_p)$	=	Expected Return on Portfolio of stock KBL and NCCBL
$E(R_B)$	=	Expected Return of KBL
$E(R_C)$	=	Expected Return of NCCBL

Portfolio Risk

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

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

$= \sqrt{(0.5447)^2 \times (0.2992)^2 + (0.4552)^2 \times (0.2867)^2 + 2 \times -0.025 \times 0.5447 \times 0.2867}$

$= \sqrt{0.03578}$

= 0.1892

= 18.92%

Where,

σ_p = The standard deviation of portfolio return of stock KBL and NCCBL

From the above calculation the portfolio return and risk for KBL and NCCBL are 18.92 % and 81.08 % respectively.

4.5 Systematic and Unsystematic Risk

4.5.1 Systematic Risk

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

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

Where,

SR	=	Systematic Risk
$COV(R_j, R_m)$	=	Covariance returns of stock with market
σ_m	=	S. D. of market

4.5.2 Unsystematic Risk

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

USR = Total Risk - SR

$= \sigma_j - SR$

Where,

USR	=	Unsystematic Risk
SR	=	Systematic Risk
σ_j	=	S.D. of stock of sample bank

4.5.3 Systematic and Unsystematic Risk of KBL with Market

$$SR = \frac{COV(R_j, R_m)}{\sigma_m} = \frac{0.0574}{0.9036} = 0.06352$$

$USR = \sigma_j - SR$

= 0.2992 -0.06352

= 0.23568

Where,

$COV(R_j, R_m)$ = Covariance returns of KBL with market

σ_j = S.D. of KBL

4.5.4 Proportion of Systematic and Unsystematic Risk

Proportion of SR = $\frac{SR}{TR} = \frac{0.06352}{0.2992}$ = 0.212299 = 21.23%

Proportion of USR= $\frac{USR}{TR} = \frac{0.2356}{0.2992}$ = 0.7874 = 78.87%

Out of total risk in stock of KBL; 22.15% is undiversifiable risk and created from systematic factor or market factor and the remaining 81.09% is diversifiable risk and created from company related factor.

4.5.5 Systematic and Unsystematic Risk of NCCBL with Market

$SR = \frac{COV(R_j, R_m)}{\sigma_m} = \frac{-0.025}{0.9036} = -0.02767$

$USR = \sigma_j - SR = 0.2867 - (-0.02767) = 0.3144$

Where,

$COV(R_j, R_m)$ = Covariance returns of NCCBL with market

σ_j = S.D. of NCCBL

4.5.5.1 Proportion of Systematic and Unsystematic Risk

Proportion of $SR = \frac{SR}{TR} = \frac{-0.0276}{0.2867} = -0.09626$ = -9.627%

Proportion of $USR = \frac{USR}{TR} = \frac{0.3147}{0.2867} = 1.0976 = 109.76\%$

Out of total risk in stock of NCCBL; 109.76% is undiversifiable risk and created from systematic factor or market factor and the remaining -9.627 % is diversifiable risk and created from company related factor.

4.6 Testing of Hypothesis

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

4.6.1 Testing of Hypothesis Expected Return of KBL with overall Market Return

For KBL Banks	**For Market**
Sample size (n_1) = 5 years	n_2 = 5 years
Expected Return ($\bar{R}_J$) = -0.268	$\bar{R}_m$ = 0.095
Standard Deviation (S_1) = 0.2992	S_2 = 0.9036

Null Hypothesis(H_0)

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

Alternative Hypothesis (H_1)

$\bar{R}_j \neq \bar{R}_m$ I.e. there is significance difference between the Expected return of KBL and overall market return.

The test statistics (t) is

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

Where,

$\bar{R}_J$ = Expected Return of C.S. of KBL bank

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

$n_1 = n_2$ = Numbers of years in Sample

S^2 = Estimated variance of population

$$S^2 = \frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1+n_2-2} = \frac{(5-1)(0.2992)^2 + (5-1)(0.9036)^2}{5+5-2} = 0.9060$$

Where,

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

S_2^2 = Variance of market return

Hence

$$t = \frac{-0.2867-0.095}{\sqrt{0.9060\,(1/5+1/5)}} = -0.6340$$

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

Level of Significance = 5 %

The tabulated value of t at 5 % level of significance and 8 degree of freedom is 2.179

Decision

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

4.6.2 Testing of Hypothesis Expected Return of NCCBL with overall Market Return

For NCCBL Banks	**For Market**
Sample size (n_1) = 5 years	n_2 = 5 years
Expected Return ($\bar{R}_j$) = -0.27	$\bar{R}_m$ = 0.095
Standard Deviation (S_1) = 0.2867	S_1 = 0.9036

Null Hypothesis (H_0)

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

Alternative Hypothesis (H_1)

$\bar{R}_j \neq \bar{R}_m$ I.e. there is significance difference between the Expected return of NCCBL and overall market return.

The test statistics (t) is

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

Where,

$\bar{R}_J$ = Expected Return of C.S. of NCC bank

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

$n_1 = n_2$ = Numbers of years in Sample = 5

S^2 = Estimated variance of population

$$S^2 = \frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1+n_2-2} = \frac{(5-1)(0.2867)^2 + (5-1)(0.9036)^2}{5+5-2} = 0.55$$

Where,

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

S_2^2 = Variance of market return

Hence

$$t = \frac{-0.27-(0.095)}{\sqrt{0.55\,(1/5 + 1/5)}} = -0.6064$$

Degree of freedom = $n_1 + n_2 - 2$ = 5+5-2 = 8 and Level of Significance = 5 %

The tabulated value of t at 5 % level of significance and 8 degree of freedom is 2.179

Decision

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

4.7 Major Finding of the Study

On the basis of secondary analysis and presentation the major findings of the study are as follows:

- KBL is paying cash and stock dividend every year except 2011/12 stock dividend is not given. P/E ratio of KBL is maximum in the year 2007/08 and minimum of year 2011/12. The dividend of KBL is maximum of Rs.12 in year 2009/10 and minimum of Rs.7 in the year of 2011/12.

- The closing MPS of KBL is maximum of Rs.1005 in year 2007/08 and minimum of Rs. 242 in the year of 2011/12. Only the EPS is comparatively flexible which rs.16.35 per share in 2007/08. Share value is respectively 1005, 700, 468, 266, and 242. Similarly, except EPS ratio all other factors are being downwards from year 2007/08 to till now. It justifies the entire economical position of bank, so this entire information shows that the condition of this bank is not much good.
- The expected return of KBL is -0.268 with the total risk (Measured by S.D.) of 0.2992. The C.V. of KBL is -1.17. It indicate that the per unit risk i.e. standard deviation is high. If investor can invest then they have to bear higher risks to get -0.268 of return.
- The C.V of NCCB i.e. 0.62239 is higher than the C.V of KBL i.e. 0.43255 from the result o C.V this is concluded that the KBL is more consistent than NCCB in movement of market capitalization.
- NCCBL is not paying cash and stock dividend every year. P/E ratio of NCCBL is maximum in the year 2007/08 and minimum in year 2010/11.
- The expected return of NCCBL is -0.27 with the total risk (Measured by S.D.) of 0.2867. The C.V. of NCCBL is -1.06. It indicate that the per unit risk i.e. standard deviation is low. If investor can invest then they do not need to bear higher risks to get -0.27 of return.
- The beta coefficient is 0.070 which is less than 1. The company which has got less than 1 beta coefficient is less aggressive investor.
- The proportion of stock in the portfolio is constructed with 54.47% of KBL and 45.52 % of NCCBL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return.
- Higher the beta represents greater the sensitivity and higher the reaction to the market movement and vice-versa. Percentage of risk that is correlated with market is said to be systematic portion of the risk beta coefficient of systematic risk, which eliminated through the means of diversification.
- Total risk in stock of NCCBL; 109.76% is undiversifiable risk and created from systematic factor or market factor and the remaining -9.627 % is diversifiable risk and created from company related factor.

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

CHAPTER-V
SUMMARY, CONCLUSION AND RECOMMENDATIONS

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

5.1 Summary

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

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

The most risky security and life blood of stock market. Because of higher expected return on investment in common stock of a corporate from neither ensures on annual return nor ensures the return of principal. Therefore investment in the common stock is very sensitive on the ground of risk. Dividend to common stockholder is paid only if the firm makes operational profit after tax preference dividend. Common stock has attracted more investors in Nepal. Rush in the primary market during the primary

issue is one of the examples. But private investor plays a vital role in economic development of the nation by mobilizing the disposed capital in different from the society.

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

5.2 Conclusion

KBL is paying cash and stock dividend every year except 2011/12 stock dividend is not given. P/E ratio of KBL is maximum in the year 2007/08 and minimum of year 2011/12. The dividend of KBL is maximum of Rs.12 in year 2009/10 and minimum of Rs.7 in the year of 2011/1.The closing MPS of KBL is maximum of Rs.1005 in year 2007/08 and minimum of Rs. 242 in the year of 2011/12. Only the EPS is comparatively flexible which rs.16.35 per share in 2007/08. Share value is respectively 1005, 700, 468, 266, and 242. Similarly, except EPS ratio all other factors are being downwards from year 2007/08 to till now. It justifies the entire economical position of bank, so this entire information shows that the condition of this bank is not much good. The expected return of KBL is -0.268 with the total risk (Measured by S.D.) of 0.2992. The C.V. of KBL is -1.17. It indicate that the per unit risk i.e. standard deviation is high. If investor can invest then they have to bear higher risks to get -0.268 of return. The C.V of NCCB i.e. 0.62239 is higher than the C.V of KBL i.e. 0.43255 from the result o C.V this is concluded that the KBL is more consistent than NCCB in movement of market capitalization. The year wise comparative movement of market capitalization. The maximum and minimum

movement of the market capitalization of KBL is on 2007/08 and 2011/12 respectively. The maximum and minimum movement of market capitalization of NCC bank is 2009/10 and 2010/11 respectively.

The expected return of NCCBL is -0.27 with the total risk (Measured by S.D.) of 0.2867. The C.V. of NCCBL is -1.06. It indicate that the per unit risk i.e. standard deviation is low. If investor can invest then they do not need to bear higher risks to get -0.27 of return. The beta coefficient is 0.070 which is less than 1. The company which has got less than 1 beta coefficient is less aggressive investor.

The proportion of stock in the portfolio is constructed with 54.47% of KBL and 45.52 % of NCCBL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return. Higher the beta represents greater the sensitivity and higher the reaction to the market movement and vice-versa. Percentage of risk that is correlated with market is said to be systematic portion of the risk beta coefficient of systematic risk, which eliminated through the means of diversification. The calculated value "t" is less than tabulated value. The null hypothesis (H_0) is accepted at 5 % level of significance i.e. there is no significance difference between the expected return of KBL and overall market return. The calculated value "t" is less than tabulated value. The null hypothesis (H_0) is accepted at 5 % level of significance i.e. there is no significance difference between the expected return of NCCBL and overall market return.

5.3 Recommendations

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

- The corporate firm should disclose their actual financial condition so that insisted investors may analysis their performance and they only make a decision whether to invest on their stock or not. Value of assets and liabilities should not be manipulated to report the under or over profitability. Every decision of the

corporation should be made to maximize the value of the firm and value per share.

- Proper analysis of individual security is always essential to make possible to conquer the stock market. General knowledge about economic, political as well as technological trend will be advantageous. Which is performing better than before, sell share when the market is rising and buy share when market is falling and hold the share which will perform better than market.
- Investors need to diversify their fund to reduce risk. Proper construction of portfolio will reduce considerable potential loss which can be defined in terms of risk. But portfolio construction is dynamic job. For the portfolio construction select the stock that has higher return will not correlated or negatively correlated stock.
- Analysis of personal risk, attitude, needs and requirements will be helpful before making an investment in stock market. Investors should make several discussions with stock holder before reaching at the decision. Investors should make their decision on the basis of reliable information rather than the imagination and amours.
- Investment club or broker firms are good way to exchange and share investment ideas. Mutual fund is worthwhile for people with little interest in investment. Investors are recommended to share experience, ideas and taking view of expert before investing in stocks of individual banks.
- NEPSE needs to initiate and to develop different programs for private investors such as investors meeting and seminars indifferent subjective matters like "Trading Rules and Regulation" etc. Though these days NEPSE have opened its branches outside valley, they don't have full authority to do all NEPSE's related work. They need to take decision according to their head office. So, every branch should be authorized for the every decision related to investors so that all the investors will be benefited outside the valley.
- Government needs to amend the rules and regulation regarding stock market in time to time and to make the policy that protects the individual investor's right. And also need to follow up the implementation of rules and regulation and to make sure the objectives are achieved. On the regard, Nepal Government needs to monitor and to make active all the components of stock market properly. The

government has to implement the rules and regulation strictly otherwise it will be meaningless. The political problem of the country is another burning issue, which affects the economy of the nation adversely. So political leaders should think seriously on economic motive of country rather than their self motive.

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ANNEXCES

Annex-1

Fiscal Year	Closing MPS	Cash DPS (%)	Stock Dividend (%)	Total Dividend (Rs)	EPS	P/E Ratio
2007/08	1005	0.53	10.53	275.8	16.35	61.47
2008/09	700	0.55	10.58	25	22.04	31.76
2009/10	468	12.00	5.46	543	24.24	19.31
2010/11	266	0.44	6.84	472	15.67	16.98
2011/12	242	7.00	3.73	405	17.18	14.09

Annex-II

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

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{D_t + P_t - P_{t-1}}{P_{t-1}}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2007/08	1005	10.53	-	-	-
2008/09	700	10.58	-0.2930	-0.0250	0.0006
2009/10	468	12	-0.3163	-0.3163	0.1001
2010/11	266	8.88	-0.4060	-0.4060	0.1648
2011/12	242	7	-0.0568	-0.0568	0.0032
			$\sum R_j =$ -1.0721		0.2687

Where,

Expected Return $(\bar{R}_j) = \frac{\sum R_j}{n} = \frac{-1.072}{4} = -0.268$

Standard Deviation $(\sigma_j) = \sqrt{\frac{\sum (R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{0.2687}{3}} = 0.2992$

Coefficient of Variation $(C.V.) = \frac{\sigma_j}{\bar{R}_j} = \frac{0.2992}{-0.268} = -1.17$

Annex- III

Fiscal Year	Closing MPS	Cash DPS (%)	Stock Dividend (%)	Total Dividend (%)	EPS	P/E Ratio
2007/08	457	-	-	-	35.63	24.55
2008/09	335	-	-	-	29.35	16.27
2009/10	275	-	-	-	30.28	13.15
2010/11	167	-	-	-	15.78	11.67
2011/12	126	0.26	4.74	5	12.69	17.32

Source: Annual Report of NCCBL

Annex-IV

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

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{D_t + P_t - P_{t-1}}{P_{t-1}}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2007/08	457	0	-	-	-
2008/09	335	0	-0.2670	0.0041	0.0000
2009/10	275	0	-0.1791	-0.1791	0.0321
2010/11	167	0	-0.3927	-0.3927	0.1542
2011/12	126	5	-0.2455	-0.2455	0.0603
			$\sum R_j =$ -1.0843		0.2466

Where,

Expected Return $(\bar{R}_j) = \frac{\sum R_j}{n} = \frac{-1.0843}{4} = -0.27$

Standard Deviation $(\sigma_j) = \sqrt{\frac{\sum (R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{0.2466}{3}} = 0.2867$

Coefficient of Variation $(C.V.) = \frac{\sigma_j}{\bar{R}_j} = \frac{0.2867}{-0.27} - 1.06$

Annex-V

Movement of Market Capitalization

(In Millions)

Fiscal Years	NCCB	KBL
2007/08	658	2768.75
2008/09	2212	6225
2009/10	6398	10753.5
2010/11	4690	8302.7
2011/12	3849	6112.15
Mean	3561.4	6832.42
Standard Deviation	2216.60	2955.40
Coefficient of Variation C.V	0.6223	0.4325

Source: Annual Report of NCCB & KBL

Annex-VI

Market Capitalization of each Industry for the year 2011/12

(In Millions)

Industry	Market Capitalization	Percentage (%)
Commercial Bank	3642.45	12.34446774
Mfg & Production	2631.78	8.919250314
Hotel	1292.2	4.379338416
Hydro Power	1517.41	5.142587761
Trading	3406.83	11.54593832
Insurance	2395.07	8.117026822
Finance	5780	19.58874481
Dev. Bank	5785	19.60569009
Others	3056	10.35695573
Total	29506.74	100

Source: Annual Report of NEPSE

Annex-VII

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

Fiscal Year	Market Index	$R_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2007/08	978	-	-	-
2008/09	824	-0.1574	-0.5377	0.2891
2009/10	476	-0.4223	-0.4223	0.1783
2010/11	289	-0.3928	-0.3928	0.1543
2011/12	680	1.35294	1.35294	1.8304
		0.3802		2.4523

We have,

Expected Return $(\bar{R}_m) = \frac{\sum R_m}{n} = \frac{0.38}{4} = 0.095$

Standard Deviation $(\sigma_m) = \sqrt{\frac{\sum(R_m - \bar{R}_m)^2}{n-1}} = \sqrt{\frac{2.45}{4-1}} = 0.9036$

Coefficient of Variation (C.V.) $= \frac{\sigma_m}{\bar{R}_m} = \frac{0.9036}{0.095} = 9.51$

Annex-VIII

Beta Coefficient of the C.S. of KBL

Fiscal Year	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m)(R_j - \bar{R}_j)$
2007/08	-	-	-
2008/09	-0.5377	-0.9151	0.4920
2009/10	-0.4223	-0.2957	0.1248
2010/11	-0.3928	1.4103	-0.5539
2011/12	1.35294	2.4586	3.3263
			3.3892

We have,

Cov. $(R_m, R_j) = \frac{\sum[(R_m - \bar{R}_m)(R_j - \bar{R}_j)]}{n-1} = \frac{3.3892}{5-1} = 0.8473$

Again,

$\beta_m = \frac{Cov\,(R_m, R_j)}{\sigma_m^2} = \frac{0.8473}{(0.9036)^2} = 1.0378$

Where,

n = number of observation

σ_m^2 = Variance of market

R_j = Return of Sock of KBL

Annex-IX

Fiscal Year	$(R_m - \overline{R}_m)$	$(R_j - \overline{R}_j)$	$(R_m - \overline{R}_m)(R_j - \overline{R}_j)$
2007/08	-	-	-
2008/09	-0.1574	-1.8179	0.2861
2009/10	-0.4223	0.1701	-0.0718
2010/11	-0.3928	1.5818	-0.6213
2011/12	1.3529	6.2389	8.4406
			8.0335

We have,

Cov (R_m, R_j) $= \frac{\sum[((R_m - \overline{R}_m)(R_j - \overline{R}_j)]}{n-1} = \frac{8.0335}{5-1} = 2.008$

Again,

β_m $= \frac{\text{Cov}\,(R_m, R_j)}{\sigma_m^2} = \frac{2.008}{(0.9036)^2} = 2.46$

Where,

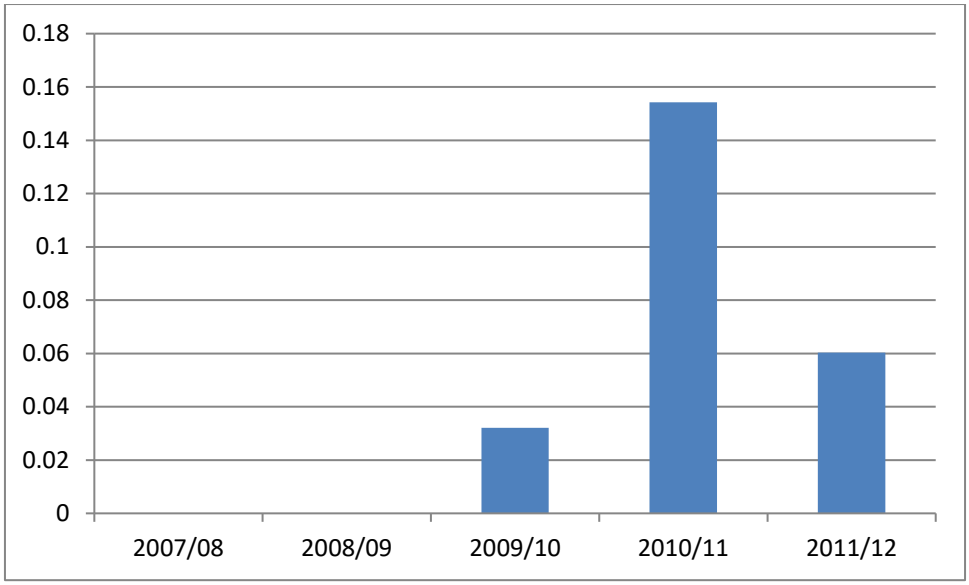
n = number of observation

σ_m^2 = Variance of Market

R_j = Return of Sock of NCCBL

2007/08	-	-	0
2008/09	-0.5377	-0.025	0.0134425
2009/10	-0.4223	-0.3163	0.13357349
2010/11	-0.3928	-0.406	0.1594768
2011/12	1.35294	-0.0568	-0.07684699
			0.2296458

-	-	0
-0.1574	0.0041	-0.0006453
-0.4223	-0.1791	0.07563393
-0.3928	-0.3927	0.15425256
1.3529	-0.2455	-0.332137
		-0.1028958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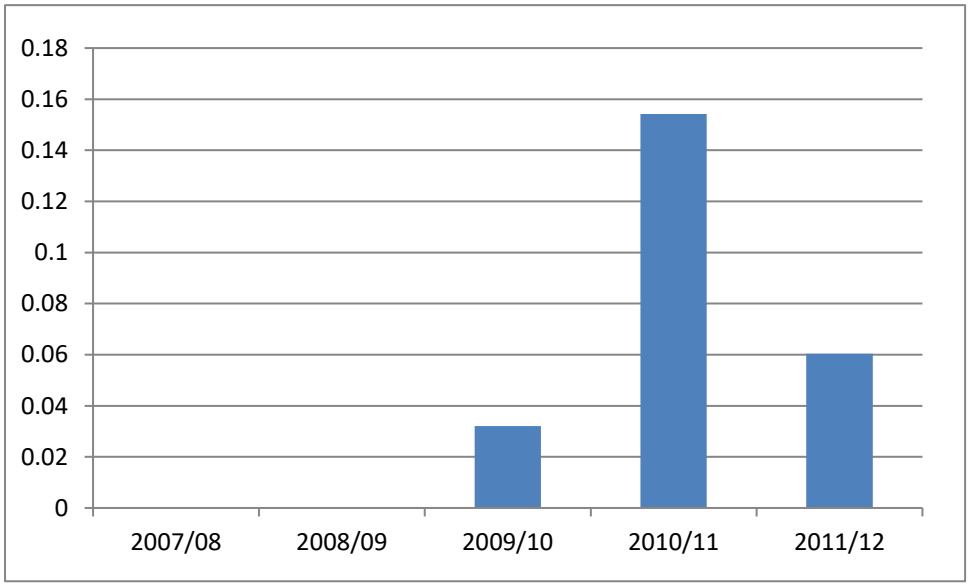
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