CHAPTER 1

Introduction

1.1Background

Nepal, basically an agricultural, mountainous and land-locked country, lies in between China in the North and India in the south, east and west. It covers an area of 147,181 square kilometers with a length of about 880 kilometers and the breadth varying between 144 to 240 kilometers. The population of Nepal according to the 2001 census is about 23200000. The per capita income of average Nepalese is US $ 270. About 31% of the population lives under the absolute poverty and 72% of the population depends upon the agriculture for their living. At present 52% of adult population are illiterate and out of them 74% are female. In Nepal, a large number of populations still live below the poverty line. Nepal's agro-dominated economy is further worsened by the complex geographical situation, poorly developed rural infrastructures and political instability. The responsible for the slow pace of development by various factors such as land locked situation, poor resource mobilization, lack of institutional commitment, volatile government policies, political instability etc.. Moreover the open border with India also hampers the economic development of the country. Development of business enterprises is most important for the economic growth and overall development of the country. Nepal is lacking this very characteristic of the development.

Since the restoration of democracy in 1991 Nepal has consistently been pursuing liberal economic policies for the economic development of the country. The economic policies adopted in the country are geared towards enhancing the environment for market-oriented economy. Similarly, Government of Nepal has also been undertaking measures for economic reform in commensurate with these policies with a view to maximizing the benefits from the liberal and market-oriented economic policies. In context of Nepal, reform programs initiated in the early 1990’s cover almost all sectors of the economy including trade, investment, fiscal and monetary policies, financial and capital markets. Policies of deregulation and simplification of procedures have significantly improved the foreign investment climate prevailing in the country. As a result, foreign investors have been increasingly attracted to Nepal's

relatively liberal policies particularly on industry, commerce and foreign investment. Most of the financial reforms initiated since the mid-1980s and expedite in the 1990's have encouraged many commercial and joint venture banks as well as finance companies to open up. The Policy of economic liberalization has also been instrument in creating a favorable environment for private sectors participation in the management of economy.

All the investors want to invest in risk less field and they want to take maximum return from their investment, globalization has encouraged, facilitate as well as appreciate to investors to invest their amount in the productive sectors. With the improvement in the global and the regional economics, the pace of growth of the Nepalese economy also remained satisfactorily with several economic indicators signaling positive development.

Capital formation is one of the most important and basic factors for overall economic development. In fact, capital accumulation may be regarded as the core process by which all other aspects of development are possible. The level of capital formation depends upon the level of saving and its mobilization. The trend in recent days is declining interest rates; high inflation and slow growth as per capita income have so far depressed the private saving rate in Nepal. At the same time, public sector saving has also not been improved. Even in a least developed country like Nepal, stock market has become one of the important parts of the national economy. Stock market is the important part of the finance that encourages the development of the country's financial sector. It is assumed that the capitalistic economy expansion of stock market represents the development of the country's financial sector and it speeds up the nation's growth. In today's world, where each and every managerial decision-making is based on financial analysis, stock market as important part of finance will encourage the development of the country's financial sector. In a capitalistic economy, expansion of stock market represents the developments of a country's financial sector and speed of the nation's economic growth.

Financial market refers both to money market and capital market. Money market includes the market for short-term debt instrument having maturity of less than one year. The instruments used in money market are treasury bills, negotiable certificate

of deposit, municipal bonds, banker acceptance etc. In Nepalese context, some financial institutions have been involved in capital market. They are: Nepal Rastra Bank, Commercial banks, Agricultural Development Bank, Nepal Industrial Development Corporation, Employees Provident Fund, Citizen Investment Trust, Cooperative agencies, Non Government Organization (NGO's), some hotels, manufacturing and trading agencies etc. Banks are one of major players in the economic growth of the country and hence it needs proper attention to run successfully. Banks should be established and conducted after analyzing the various factors.These institutions play a vital role on the development of capital market. Nepalese capital markets are classified into two sectors:

Organized sectors and unorganized sectors.

Government agencies and other institutions are categorized as organized sectors, they provide long term fund for the development of the agriculture, industrial and commercial sectors by investing in stock, debenture and government bonds, individual investor, merchants and private sectors also helps for the development of capital markets. Rural areas are still dominated by unorganized sectors. It implies that mass poverty and exploitation from higher classes are still found in these areas. In Nepal, the history of modern banking had been stated after the establishment of Nepal Bank Ltd, the first ever bank in the country in 1937 A.D. to provide require services all over the country. With the political freedom, a planned development process has been started in the country that leads to the formulation of the first development plan in 1956. At the same time, it was felt that there is a need of central bank to regulate the money supply and help banking development in the country. As such, Nepal Rastra Bank, the central bank of the country was established in 1956 A.D under the Nepal Rastra Bank Act 1955.

As a requirement to economic liberalization, the Industrial Enterprise Act was enacted in 1982 and foreign investment and technology transfer act came into effect since 1983. Since 1985 Nepal has been following liberal economic policy. In its first stage of implementation, banking and financial sector was liberalized. A policy to invite foreigners to invest jointly with the domestic investors in the banking and financial sector was introduced. Finance companies act 1986 was also enacted with a view to provide non-banking services to the people in order to promote their economic benefit

in general through institutionalized investment. Accordingly, many banks and finance companies were incorporated in the privatization and listed in the securities exchange center. Nepal Rastra Bank liberalized the regulation of the interest rate and endeavored to reforms and strengthens the financial sector by implementing various prudential financial norms like income recognition, loan classification and maintenance of adequate loan loss provisions, reserve and capital and equally ratios and liquidity position of the banks and financial companies. The industrial policy of 1988 introduced various reforms in order to introduce the establishment of corporate enterprises and guaranteed the non-nationalization of the private sector industrial organization. As a result the establishments of private commercial banks numbered more than 17 of which there are only two government banks in operation till 1984. The recent boom in the establishment of banks and finance companies, the partial privatization of the first ever established government owned commercial bank, the opening of the stock exchange and a relaxation of government policies on interest rates, foreign exchange, reserve requirements, branch expansion and many others are the manifestation of the adoption of new and more market oriented policies by the government. Besides, stock market has also become a global phenomenon even in the least develop country like Nepal that plays most important role in the development of national economy. “Stock market is a financial market which probably has the greatest glamour and 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 sole purpose is picking winners”. (Lorrie & Dodd, 1985; 106)

Investor’s perception is different towards risk. Some investors would like to purchase stocks having high risk because it is assumed that stocks having high risk yield higher return. Some investors would like to purchase stocks having low risk, which have normally low return. But most of the investors want to invest in those opportunities, which have greater expected return. Hence, a return is main objective of investment and to some extent; certain degree of risk is associated with it. So, stock price volatility plays a significant role for investors in an investment because risk and return calculation is based on stock price volatility. In determination of price, financial and non-financial factors play a significant role, even if, in case of imperfect capital market. “Thus financial market is a market where one party transfers their surplus funds to another who has deficit funds through purchasing financial assets previously

held by another party. The purpose of financial markets is to allocate capital efficiently among alternatives physical uses in the economy. The concept of the efficiency of financial markets is implicit in most models of financial decision-making. Hence, the concept is central to building as conceptual frame work required for making rationale financial policies and choices".

Thus this definition clearly defined that "Stock market is a financial market which probably has the greatest glamour and is perhaps the least understood. Some observers consider it as a legalized heaven for gambling and many investors consider stock market investing as game in which the sole purpose is picking winners". (James & Peter, 1985)

In Nepalese contexts, the institutional setup of securities market began along with the "Security Exchange Center" (Now Nepal Stock Exchange Limited) in 1976 A.D. Through after considerable developments, there still exists some problem in the development of stock market in Nepal. Most of the shareholders and investors are least familiar with risk and return. "Most of Nepalese investors are found to invest in single security" (Bhatta, 1995). Due to the lack of information and poor knowledge, market intermediaries exploit investors. So many investors are afraid to invest in stocks. People's participation in security investment and its dynamic trading play a vital role in overall economic development. For this purpose potential investors must be able to analyze risk and return of individual stock and portfolio as well which will increase market efficiency, consequently speed up the economic development.

1.2 Statement of Problem:

As we know, Nepal is one of the least developed countries of the world and facing many problems for development. Especially in a capitalist economy, it is assumed that the expansion of the stock market represents the development of the country's financial sector and it speeds up to the national economic growth. In Nepal basically after the restoration of democracy (1990) in the country, the government's move towards liberalization and privatization have paved the way for economic growth and the resultant effect has been positive. The continuous thrust to the private sector in the process of national development has helped in establishing many banks, financial

institutes and industries under the joint venture arrangements. Hence various banks are competing for their respective share price of banking sector. But recent trend shows that all economic activities are not operating properly in Nepal due to different causes such as unnecessary political regulation, political violence, and difficult topography, lack of proper evaluation by the government or central bank controversy policy of government and so on. Therefore commercial banks are facing different problems during their inception.

Common stock investment is the main source of funds to run a company, customer for the stockbroker and financial institutions and ultimately is the backbone of economic development of a nation. But the investor may not have proper acquaintance of risk and reward of the stock. Awareness regarding financial activities, investment policy, making portfolio etc appear to be very little. Not only the general public but university graduates and postgraduates are also found to have some problem. Without having theoretical knowledge of risk associated with investment some of the investors are making investment on stock. “Most investor use linear logic is based in the assumption that the future will resemble the past in a highly predictable fashion.” (Grewal,1995:64). It is said that market price and financial performance are positively correlated. But whatever the theory has depicted may not perfectly applicable in the market. If any investor doesn’t know to interpret the information, then he/she can’t make a rational decision, regarding transaction of the stock.

In Nepal, stock market is a new concept. There is only one secondary market i.e. NEPSE. There are no specialized investment analysts rendering professional services to the investors. Most of the investors are even unknown about the stock market. There is a big chance to be manipulated. Many companies which have listed their shares do not want to disseminate necessary information to the existing as well as prospective investors. Most investors are claiming that they are being cheated by the financial institutions, intermediaries, and brokers. It arises a question – whether Nepalese investors make their investment by studying the market and risk return status of the securities they choose or just they gamble to make the profit. The price of stock is very much sensitive in a free market economy. Many factors affect the value of stock directly or indirectly. Risk associated with the return should be analyzed before making any investment. “Whether the stock price of Nepalese commercial

banks are correctly priced or not?" is another aspect of the study. It is known that investors are the main source of capital for any financial organization and are the backbone of the economic development of nation; none of the effective program has been introduced to develop investor's knowledge in Nepal, which enhanced the security investment in better way.

Collapses of some of the finance companies due to improper mobilization of public funds create real investor hesitation while investing in their fund in single security rather than investing in portfolio of securities to maximize return at minimum level of risk. There are very few practices of analyzing this aspect in Nepalese context. Most of the investors seem to be investing their funds haphazardly without considering risk involved in their investment. In Nepal the investors have no much more alternatives for investment, so everyone is making investment on security market. Only few companies are listed in NEPSE, which still limits the opportunities of investment. This trend has made the market unbalanced and unfair. If any bank or financial institution issues shares there becomes huge demand rather than supply, but any manufacturing and processing issues shares, very little investors make investment.

The major research problems are:

- How can one best use the available money or resources?
- How can one construct efficient portfolio and gets higher return bearing lower risk?
- What are the factors that determine the returns out of the risk of a company?
- What portion of total risk is diversifiable and what portion is undiversiable?
- How can one evaluate whether the stock is overpriced, under priced or correctly priced?

1.3 Objectives of the study:

The main objective of this study is to assess the risk and return on common stock investment of the listed 'A' grade commercial banks. The other specific objectives of this study are as follows:

1.3.1 To evaluate common stock of listed commercial banks in terms of risk and Return and to perform sector wise comparison on the basis of market capitalization.

1.3.2 To provide the information on the situation of pricing of securities.

1.3.3 To identify the correlation between returns of commercial banks.

1.3.4 To find out the problems and resolution for NEPSE investors.

1.3.5 To find out the best alternative portfolio of common stock of commercial banks to invest.

1.4 Scope of the study:

In Nepal since the stock market is new, investors do not properly understand the risk and reward of investing in stock markets. So most of the saving goes to bank deposit rather than investing in stock.

This study will give information about Nepalese capital market by analyzing risk and return and will definitely contribute to increase the analytical power of the investor in capital market. The study will be beneficial for all the persons who are directly or indirectly related to the Nepalese Capital Market. The analysis of risk and return is a significant decision from the viewpoint of investors. It influences the shareholders risk and returns.

Accordingly the risk and return analysis influences the market price of the stock, by making it at an appropriate level. A part from this study will be a matter of interest for academicians, students, researchers, teachers or person practicing in the field of stock markets.

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

CHAPTER-2

REVIEW OF LITERATURE

Review of literature is a vital part of planning of the study and its main purpose is to develop some knowledge on this area to see what new contribution can be made and get some new ideas for developing in research design.

In the part of this, review of previous studies, theoretical and articles framework for the related studies. It is not enough to present real framework of the study. Review of related resources should be treaty with to give the research a clear vision, past study and information provides basis to the present day. Review of literature includes the following topics-

2.1 Concept of Capital market

The market defined as anybody of the individuals, whether incorporated or not, constituted for the purpose of regulating controlling the business of selling or dealing securities. Capital market is also called security market as well as facilitate the exchange the financial assets or securities by brining buyer and seller of securities together. Security market allows suppliers and demanders of funds to make transactions and it can be various types and forms classified as different bases capital market and money market, share and debenture market. Capital market consists of the security market and non security market implies mobilization of the funds through issuance of securities like share, debenture, and other derivation securities. These securities traded in the markets are generally negotiable and hence can be traded in secondary market. Non security market refers to the mobilization of the non financial resources. Capital market is divided into two parts.

Primary capital market

It is the market through which the funds are transferred from saver to demander. The transaction of securities issued first times takes place in primary markets. It is new issue market, which bring together the supply and demand or sources and use

for new capital funds. In highly developed capital market, the largest proportion of saving reaches the new issue market indirectly via a financial intermediary.

Secondary Market

Once has been issue in the primary market, investor may seller trade them in the secondary market called secondary capital market. It deals with previously issued share mainly traded through the stock exchange, over the counter market and the direct dealing.

Development of capital market in Nepal

In Nepalese context, some financial institutions have been involved in capital market they are Nepal Rastra bank, Commercial bank, Agriculture Development bank, Nepal Industrial bank, Nepal Industrial development Cooperative Agencies etc. Capital market in Nepal is in infancy position. Stock investment practice in Nepal has been developed after establishment of Biratnagar Jute Industry and Nepal bank Ltd. in 1937 A.D. Till 1980's the majority of shares issuing companies would belongs to the government ownership. In the 1990's have encouraged many commercial and joint

Venture banks as well as finance companies to open up. Government had issued treasury bills in 1962 A.D for the first time of finance the in fracture development. Furthermore it was followed by the issuance of the development bonds in 1964 A.D.

Industrial policy has establishment of the institution name Security Market Center in 1977 A.D. Security Exchange Act was approved by legislation and come into existence with effect from 13th April 1984 A.D. The former securities Exchange Center was converted into Nepal Stock Exchange (NEPSE) with the major objective of arranging market ability and liquidity of to the government and corporate securities. The Extended Adjustment Program in 1992 A.D. by taking extended Structure Adjustment Facility (FSAF).Through the Securities Exchange Board Nepal (SEBO\N) nod was gives the responsibility of regulating and developing the transaction of the stocks and bonds in the floors through its member intermediaries where NEPSE is to facilitate the transaction of the stocks and bonds in the floors through its member intermediaries. NEPSE has granted membership to issue and sales manager works as manager to the issue and under

writer trades. Works as individual portfolio manager .Currently there are 11 sales and issue manager and 2 dealers (Secondary Market) NEPSE is planning to increase the share broker in the future, it presently has 23 brokers.

Non Residence Nepalese (NRN) has declared to establish a multipurpose mutual fund investment company with amount of Rs 10 billion in near future which help to grow the capital market in Nepal. Nepal Electricity Authority (NEA) have already issue bond but Telecom Corporation (NTC) planning to issue bonds.

2.1.1 Common Stock

Common stock is crucial part of study, so it is receipt of the residual income of the corporation. Common stock certificates are legal documents that evidence ownership or equality in a company that is organized as a corporation, and they are also marketable financial instruments. Through the right to vote, holders of common stock have legal control of the corporation. An element of risk is also involved in equity ownership as due to its low priority of claims at liquidation.

The rewards of common stock, representing the ownership interest, can be very high. The Liability of common stock holders is limited to extent of their capital contribution. The common stock can be authorized either with or without par value. The par value of stock is merely a stated Figure in the corporate character and is of little economic significance.

The provision of Nepal Company Act 2057, there is no common stock is allowed to issue without par value. The par value of must be either Rs 10 or Rs 100.Common stock is sources of long term financing and an ownership security. It has one essential investment characteristics and is important speculative characteristics.

2.1.2 The Return of Common stock

Return has various meaning to different investors. Return can be expressed by cash dividend or capital gain or loss. Rate of Return on investment in common stocks that there have been no measurements that could be considered accurate and definitive. Rates of Return with reinvestment of dividends varied from time to time above and below rates were similar .This merely reflects the fact that on the

average, rates of appreciation in the price of stocks after the receipts of dividends. Risk and Return have been many efforts, but each has been deficient in at least one crucial respect (Francies,J.C).

Return is the income received on an investment plus any change in market price. Rate of Return can be decomposed into two parts as capital appreciation and dividend. Capital appreciation is the different between ending value and beginning value of an investment.

Return is the total gain or loss experienced on an investment over a given period of time. It is the income received on an investment plus any changes in market price, usually expressed as a present of beginning price of the investment.

There are two types of return on common stock or in other words, owners of common stock get cash payoff in two forms. They are:

a) Cash dividend
b) Capital gain/loss.

It is the main attraction to invest in a risky security as a stock accepting a varying a degree of risk tolerance; "The return from holding an investment over some period says a year is simply any cash payments received due to ownership plus the change in market price dividend by the beginning price. Thus the return comes from two sources, income and price appreciation.

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

Symbolically,

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

Where,

R = Annual Expected Return

t = Particular time period

D_t = Cash dividend at the end of time period t

P_t = Stock's price at the time period t

P_{t-1} = Stock's price at the time period t-1

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

Holding period return increases mentioned above is useful with an investment horizon of one year or loss for longer periods, it is better to calculate rate of return as an investments yields. The yield calculated is present value of money. (Van Horne & Wachowicz, Jr, 1997: 90)

Annualized rate of return over several periods can be calculated in two ways. The 1st one is simply to like the arithmetic average of the annual holding period returns over a given period and a second one, which also takes account the compounding effects of cash receipts over different time intervals, if the geometric mean rate of return.

- **The Simple Arithmetic Mean:**

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

- **The Geometric Means:**

$$\overline{HPR}_g = \prod_{t=1}^{n} (1 - \overline{HPR}_t)^{i/n} - 1$$

Where,

HPR_t = Individual period return

n = number of period

π = The product (or the result of multiplying)

2.1.3 The Risk of Common Stock

The concept of Risk is defined as the variability of the return of a period. Risk defines most generally is the probability of the occurrence of unfavorable outcome. But risk had different meaning in the different context in our context; two measure developments from the probability distribution have been used as

initial measure of return and risk. There are the mean and the standard deviation of the probability distribution (Weston and Brigham, 1992)

Risk refers to the chance that some unfavorable event will occur. Risk is the term which is used inter changeably with uncertainty to refer to the variability of expected return associated with a given assets. The relationship between risk and return is described by investor perception about risk and their demand for compensation.

2.1.4 Measure of Risk and return

In the view of different investors define risk in different ways. Risk can be defined as the chance of loss. Assets having greater chances of loss are viewed as more risky than those with lesser chance of loss.

It is variability of return from an investment. Investment have risks associated with them, the investors must determine combination of alternatives match that tradeoff the risk and compensation for percent risks(basnet,2006).Risk needs to be measured in an objective way in order to know whether it justifies a specific rate of return. The main aim is to maximize the returns with a given level of risk or to minimize the risk with a given level return. Therefore for this purpose that risks and returns need to be measured.Many ways to measure risk the following three models are commonly used (Van Horne, 1998)

Beta coefficient

Market sensitivity of stock is explained in terms of beta coefficient. Higher the beta, greater will be the sensitivity and reaction to the market moment. Logically, the systematic risk is the covariance between the returns of an individual asset or portfolio and the returns of the market portfolio. The measure of systematic risk is represented by beta (β).

Standard Deviation

It is a statistical concept and is widely used to measure risk from holding a single assets. The standard deviation is derived so that a high standard deviation represent a large dispersion of return and it involved high degree of risk and small

dispersion of return represent low degree of risk and vice versa. It is a statistically measure of the variability of a distribution of return and around its mean. It is the square root of variance and measures the total risk on stock investment. Mathematically, it is denoted by $\pm_j$.

Subject Estimates

Subjective risk measure when qualitative rather than quantitative estimates are used to measure dispersion. An analyst may estimate that a proposal offers a "low" level of risk. It means that, in the analyst's view the dispersion of return will not be very wide. Similarly, a high risk level will accompany a thesis whose forecast return may vary a great deal. Risk as dispersion of return identified two components of risk.

1. **Business risk**

   It defines the firm will not have ability to complete successfully with the assets that it purchases. Any operational problems are grouped as business risk.

2. **Financial Risk**

   It defines an investment will not adequate cash flows either to cover interest payment on money borrowed to finance or to provide profits to the firm.

Sources of Risk

Risk is an important element and it is a quantifiable uncertainty. Investments with greater risk requires a higher return and lower risk return lower return .Chenny and Moses define risk as the variability of possible return around the expected return of an investment. The main business function of financial institution is managing these risks through the consumption of maximum time and efforts in understanding and managing the various source and kinds of risks factors with its different natures and complexities.

- **Purchasing Power Risk**

  It is variability of return and invertors suffers because of inflation Economists measure the rate of inflation by using a price index. The consumer price index is a popular price index in the United States.

- **Bull-Bear market Risk**

  It is the risk related to uncertainty on the earning on its trading portfolios cause by changes in the market condition. Market risk is risk incurred in the trading of assets and liabilities due to change in market forces like interest rates.

- **Convertibility Risk**

  Convertibility risk and call ability risk are in two aspects. First both are contractual stipulations that included in the term of original security issue. Secondary, both of these provisions alter the variability of return from the affected security. Convertibility risk is that portion of the variability of return from a convertible bond of convertible preferred stock. That reflects the possibility that the investment may be converted into the issuer's common stock at a time or under terms harmful to the investor's best interest.

- **Credit Risk**

  It is also called as default risk. It is that portion of an investment's total risk that results from changes in the financial integrity of the investment. Default risk is probability that the borrower is unable to fulfill the term promised under the loan agreement.

- **Industry Risk**

  An Industry may be viewed as a group of companies that compete with other to market homogeneous products. Industry risk is that portion of risk that can be an investment variability of return caused by events that affects the product and firms that make up of an industry simultaneously.

- **Liquidity risk**

  Liquidity risk is that portion of an assets total variability of return which result from the prices discount given on sales .commission paid in order to sell the assets without delay. In other sense, Liquidity risk is sudden surges in ability with drawl may leave as financial institution in a position of having to liquidate assets in a very short period of time and low prices. Liquidity risks arises when on its liability holders such as depositor or insurance policy maker etc demand immediate cash for the financial claim they hold with financial institution or when holders of loan commitment or credit line suddenly exercise their right to borrow or draw down their right their loan commitment. At that situation the financial institutions must either borrow additional funds or sells assets to meet the demands for the withdrawal of funds.

- **Interest Rate Risk**

  It is define as the potential variability of return caused by the changes in its market rate interest rate. Interest rate can be variable. If we consider the single period return formula for the bond and stocking interest rate risk, if market interest rate raises the investment values and markets prices falls and vice versa. The interest rate risk affects the prices of bonds, stocks, real estate, gold and other derivatives securities.

- **Political Risk**

  Political risk arises from the exploitation of a political weak group for the benefits of politically strong group, with the efforts of various groups to improve their relative positions increasing the variability of return from the affected assets. Regardless of whether the changes that cause political or by economic interest, the resulting variability of return is called political risk if it is accomplished through legislative, judicial or administrative branches of government.

2.1.5 The Risk on Common stock

Risk can also be defined as the uncertainty associated with the end of period value of an investment. Risk and return are the determinants for the valuation of the

securities. However, risk means that we do not know what is going to happen even though we occasionally have a good idea of the range possibilities.Risk is uncertainty and these are the facts of life so to the common stockholders. Risk means a chance of happening some unfavorable event or danger of losing some value. Risk suggests that a decision maker known the possible consequences of a decision and their relative likelihoods at the times he makes decision. Uncertainty involves a situation about which the likelihood of the possible outcomes is not known. The trouble arises from the fact that despite different interpretation of uncertainty and risk, people often use them interchangeably.

The main agreement put forward may wachowicz is that the risk of an assets has no making except with refers to the portfolio in which it is held based on that idea, present only the estimate of return and risk of different portfolios. They rely on bets to measure the risk of individual securities. Risk is the product of all potential outcomes expressed with probability associated with each of them and it is measure in terms of the degree of variability in the probability distribution of such outcomes. The term risk is used interchangeably with certainty to refer to the variability of return associate with a given assets.

2.1.6 Relationship between risk and return

Risk and return have linear relationship, low risk is associated with low return and high risk consequently brings higher return. According to the CAP models, firms have their position on the security market line (SLM) and try to generate returns commensurate with their risk.

Portfolio

Investors want to invest in different sectors. Investment in two or more than two assets is normally called portfolio. It is the combination of investment assets. Portfolio is the holding of securities and investment in financial assets like bond, stock etc. Portfolio management is related to the efficient portfolio investment in financial assets. Investors rarely place their entire wealth into a single assets or investment rather they construct a portfolio or group of investments. Therefore it is needed to extend analysis of risk and return to include portfolio a combination

of two or more securities or assets is portfolio. It has following two types of objectives:

* *Primary Objectives:*
  - To minimize risk
  - To maximize return
* *Secondary Objectives:*
  - Regular return
  - Stable income
  - Safety of investment
  - Tax benefit
  - Appreciation of capital

- **Portfolio return analysis ($R_{p)}$:**

  Portfolio return is the weighted average rate of return. It will be change when proportion of investment fund is changed.

  Symbolically,

$$R_p = X_1.R_1 + X_2.R_2 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots + X_n.R_n$$

  Where,

  R_p = Portfolio Return

  X_1, X_2, X_3 = Weight of investment fund

  R_1, R_2, R_3 = Expected return of assets 1, 2, ...n.

- **Portfolio standard deviation ($\pm_p$):**

  Portfolio standard deviation is the combined standard deviation involved in the portfolio holding different stock with different weight.

  Symbolically,

$$\pm_p = \sqrt{x_1^2 \pm_1^2 . + x_2^2 . \pm_2^2 + 2¢_{12} \pm_1 \pm_2 x_1 x_2}$$

  Where,

  σ_1 = s.d of assets 1

σ_2 = s.d of assets 2

δ_{12} = the correlation coefficient between possible return for security 1 & 2

- **Optimum portfolio (minimum risk portfolio):**

For two stock portfolio:

Symbolically,

$$X_1 = \frac{\pm_2^2 - ¥_{12}\pm_1\pm_2}{\pm_1^2 + \pm_2^2 - 2¥_{12}\pm_1\pm_2}$$

And, X_2 = 1 - X_1

Where,

X_1 = weight of assets 1

X_2 = weight of assets 2

σ_1 = s.d of stock 1

σ_2 = s.d of stock 2

γ_{12} = correlation coefficient between 1 and 2.

The correlation coefficient, which is significant in portfolio construction, is standardized statistical measure of the linear relationship between two variables, its range from –1 (perfect negative correlation) to +1 (perfect positive correlation) when the correlation between the two stocks is exactly zero there is no relationship between the returns. They are independent of each other. Lesser the correlation higher will be the reduction in portfolio risks. The positive correlation coefficient shows that the returns from two securities generally move in the same direction, while negative correlation coefficient shows that the returns from two securities are uncorrelated. They show no tendency to very together in either a positive or negative in linear function.

2.1.7 Systematic Risk and Unsystematic Risk

Systematic and Unsystematic risks are the terms frequently used in the portfolio context. Combining securities are not perfect positively correlated helps to reduce

the risk of portfolio to some extent. Systematic risk is called non diversifiable risk and also called market risk. It is market related, in other words, systematic risk has its sources factors the affect all the marketable assets and this cannot be diversified way. Systematic risk is due the risk factor that affects the overall market such as changes in national economy, tax reform by the government or changes in the world energy situation. The principle of diversification has an important implication to a diversified investor, only systematic risk matters. It follows that in deciding whether or not buy particular individual assets, a diversified investor, only systematic risk matters. It follows that in deciding whether or not buy a particular individual asset, a diversified investor are only concerned with that asset's systematic risk. The systematic risk is rewarded in the form of risk premium.

The unsystematic risk is non-market factors related. It is called Diversifiable risk and also called unique or assets specific risk. It arises if bank management invests largely in one category of assets. Unsystematic risk is unique to a particular company or industry. It is independent of economic, political and other factor that affect all securities in systematic manner.

The relationship among Systematic, unsystematic and total risk are shown below

Total risk **($\pm_j$): Systematic risk+ Unsystematic risk**

Systematic risk (SR)

$$SR=\frac{Cov(jm)}{\pm_j \pm_m}$$

Unsystematic Risk(USR)

USR=$\pm_j$-

Capital Assets Pricing Model (CAPM):

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

This model is expected as:

$$K_i = R_f + [E(Rm) - R_f]\,\beta j$$

Where,

K_i = Required rate of return for stock j

R_f = Risk free rate

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

βj = an index of systematic risk of stock j (Beta coefficient)

Beta measures the sensitivity of a stock's return to change in the returns on the market portfolio. The beta of a portfolio is simply a weighted average of the individual stock betas in the portfolio. (Van Horne & Wachowicz. Jr.: 91)

If beta is one (i.e. $\beta = 1$) than the required rate is simply the average for all situation, that is the return on market portfolio, otherwise, the higher the beta, higher the risk premium and the total required return. However, a relatively high beta does not guarantee a relatively high return. The actual return depends partly on the behaviors of the market, which acts as a proxy for generally economic factor.

The major implication of the CAPM is that the expected return of an asset will be related to a measure of risk for that asset known as beta (β). The exact manner in which expected return and beta are related is specified by the CAPM the model provides the intellectual basis for a number of the current practices in the investment industry. (William F. Sharpe 2000)

The capital assets pricing model states that the expected risk premium on each investment is proportional is its beta. This means that each investment should lie on the sloping security market line connecting treasury bills and market portfolio. In mid 1060's three economists William Sharpe, John Linter and Jack Treynor created the CAPM, a theory that began a quest to identify the tendency portfolio.

CAPM is the predominant model used for estimating equity risk and return. It is useful tool for the investment portfolio and for estimating expected rate of return; comparison between the expected rate of return and required rate of return indicates whether the stock is under priced or overpriced. And when these two returns are equal then it is said to be market equilibrium i.e. all the stocks lay on the Security Market Line (SML).

Security Market Line (SLM)

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

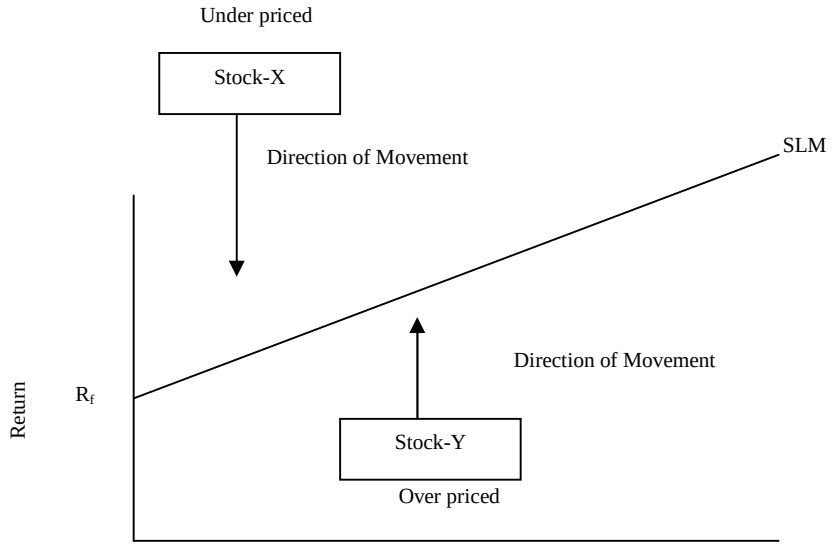

Figure 1.1 **Systematic Risk (Beta)**

(Source: Van Horne & Wacho Wicz,:107)

Above Figure clarifies that stock x is under priced relative to the security market line while stock – y is overpriced. As a result stock x is expected to provide a rate of return greater than that required, based on its systematic risk. In contrast, stock

y is expected to provide a lower return than that required compensating for its systematic risk. Investors seeing the opportunity for the superior return by investing is stock x will rush to buy.

> "The SML equation shows the relationship between securities risk and rate of returns. The return required for any securities j is equal to the risk free rate plus market risk premium times the securities Beta". (Cheney and Moses, 1995,:63)

CAPM helps us to decide whether to purchase or sell the stock of the particular company. We decide by comparing required rate with the expected rate of returns. The capital asset pricing model provides us a means by which to estimate the required rate of return on a security. And on the basis of price & divided data expected return can be calculated. With comparison of two returns investor can analyze whether the stock is under price or over prices.

2.1.8 Commercial banks in Nepal

Nepal is underdeveloped counties in the world. About 31% of the population lives under the absolute poverty and 72% of the population depends upon the agriculture for their living. Nepal has adopted mixed and liberal economic policy with the implicit objective to help the state and the private sector. Since the restoration of democracy in 1991 Nepal has consistently been pursuing liberal economic policies for the economic development of the country. The economic policies adopted in the country are geared towards enhancing the environment for market-oriented economy. In the early 1990's cover almost all sectors of the economy including trade, investment, fiscal and monetary policies, financial and capital markets. Policies of deregulation and simplification of procedures have significantly improved the foreign investment climate prevailing in the country. As a result, foreign investors have been increasingly attracted to Nepal's relatively liberal policies particularly on industry, commerce and foreign investment. Most of the financial reforms initiated since the mid-1980s and expedite in the 1990's have encouraged many commercial and joint venture banks as well as finance companies to open up. Commercial banks are legally formed financial institution, which accept deposits and makes loan for commercial and non commercial purpose.

The history of modern banking had been stated after the establishment of Nepal Bank Ltd, the first ever bank in the country in 1937 A.D. to provide require services all over the country. With the political freedom, a planned development process has been started in the country that leads to the formulation of the first development plan in 1956.. As such, Nepal Rastra Bank, the central bank of the country was established in 1956 A.D under the Nepal Rastra Bank Act 1955.

As a requirement to economic liberalization, the Industrial Enterprise Act was enacted in 1982 and foreign investment and technology transfer act came into effect since 1983. Since 1985 Nepal has been following liberal economic policy. In its first stage of implementation, banking and financial sector was liberalized. A policy to invite foreigners to invest jointly with the domestic investors in the banking and financial sector was introduced. Finance companies act 1986 was also enacted with a view to provide non-banking services to the people in order to promote their economic benefit in general through institutionalized investment. Accordingly, many banks and finance companies were incorporated in the privatization and listed in the securities exchange center. The growth of commercial banks lasts two decades remained phenomenal particularly financial sector reformation in 1990'sThe concept of the banking of the banking was formally executed after the establishment of the Nepal bank ltd. in 1994 B.s, The agriculture development bank under the agriculture development acts in 2024 B.S. Commercial banks under the commercial acts in 2031 B.S. Presently, there are twenty four commercial banks with more than 450 branches
over the national frontier operating in Nepal. Banking sector is the most vibrant part of economy which has been playing very virtual role in mobilizing the financial resources from the saver to user. It makes various functions like assets and liabilities transformation, security trading, agency functions, and economies of scale, corporate social responsibility, and other day to day banking functions. This study has been focused on the analysis of risk and return on common stock of the commercial bank in Nepal.

2.1.9 Risk and Return of commercial stock of commercial bank

Risk refers to the chance that some unfavorable event will occur. Risk is the term which is used inter changeably with uncertainty to refer to the variability of expected return associated with a given assets. Risk occurs when we cannot be certain about the possible future outcomes of particular activity or events .The relationship between risk and return is described by investor perception about risk and their demand for compensation.

When analyzing investment, analysis define risk as variability of return Thus the wider the probability distribution of return, the riskier the investment.

- **Market return (R_m):**

Market return is the return in overall market portfolio, which can be obtained by taking difference between the market indexes (i.e. NEPSE index). Here market dividend is ignored.

Symbolically,

$$R_m = \frac{NI_1 - NI_{t-1}}{NI_{t-1}}$$

Where,

R_m = Return on market

NI_1 = NEPSE index at time t-1

NI_{t-1} = NEPSE index at time t

Review of journal

An economic growth of the country, Financial assets play a important role in "Stock market arise in this model to help agents manage liquidity and productivity risk and is so doing, stock markets accelerate growth. In the absence of financial markets, firm specific productivity stocks may discourage risk-averse investors from investing in firm's stock markets, however, allow individuals to invest in a large number of firms and diversify against idiosyncratic firm shocks. This raises

the fraction of resources allocated firms, expedited human capital accumulation, and promotes economic growth.

Without stock markets, liquidity stocks not only discourage firm investment, they also reduce firm productivity. Liquidity stocks force some agents to remove capital from firms prematurely and receive a low return. Premature capital liquidation lowers firm productivity and the possibility of receiving a low liquidity stocks to sell their stock to other investors for more than the liquidation value or their firm capital. Thus, stock markets can accelerate growth directly by increasing firm productivity and indirectly by encouraging firm investment". (Levin, 1999)

An article published in "The Journal of Finance" by K. Great Rouwenhoust (1999) "Local return factors and turnover in emerging Stock Markets" concluded that the return factors in the emerging market are qualitatively similar to those in developed markets. Small stock outperforms growth stocks and emerging market stock exhibit momentum. There is no evidence that the local market betas are associated with average returns. The low correlation between the country return factors suggests that the premiums have a strong local character. Furthermore the global exposure explains the average factor return of merging markets. There is little evidence that the correlation between the local factor portfolios have increased which suggests that factors responsible for increase of emerging market country relation can separate those markets. A Bayesian analysis of premiums in developed and emerging market shows that unless one has strong price beliefs to the contrary, the empirical evidence favors the hypothesis that size, momentum and value strategies can compensate the relationships between expected return and turnover in emerging market. However, beta, size, momentum and value are positively cross sectional correlated with turnover in emerging markets. This suggests that the return premiums do not simply reflect compensation. ("Local Return Factors and the Turnover in Emerging Markets", the journal of Finance Vol Liv No. 3, 1999)

An article published in the business age magazine of June 2001 entitled "Nepal Share Market an Investors Prospect" by Atma Ram Ghimire (2001) proves quite

helpful to this study. In his study he has tried to portrait some special qualities of our capital market. He has mentioned in his article many unbalanced factors like political instabilities are the main cause of decreasing the share price. According to him, the current share price is on the declining process. The fluctuation in NEPSE is due to banking sector whose price change has no logical explanations. Price change was due to availability of bonus, dividend etc. When we analyze our stock market we find that all the components of the market are lane, weak and perhaps work for vested interest. The general public is also ignorant in their investment and booker organization is also unqualified and is a one-man show. In addition to this board always favors companies and not the investors.

His another research (2002) entitled "Gloom in the capital market" published in New Business Age is also quiet relevant for this study in which he had mention that the Keynesian doctrine of liquidity preference seems irrelevant to analyze the demand for money in Nepali economy. People are neither holding the money in their hands nor investing it in the stock exchange when the rate of interest offered by bank has reached on all time low. The main reason for not investing in stock is that the expected yield from such investment is very low. Not only that it is very much low this year, it is expected to go down further next year. Himalayan Bank, which used to provide 55% to 60%, has provided only 7.55% this year. Nepali share market is currently at the same situation as the country. Making prediction is becoming even more difficult due to political and economical climate. Most of the banks have declared how much return the shareholders are to receive for the last fiscal year. Nepal Rastra Bank has provided some bank (Everest, Bank of Kathmandu) from distributing bonus shares or dividend. In the financial sector new entrant Alpic Everest Finance Ltd is doing well. NIDC capital market has proved to be incompetent and has lost public confidence because of poor management. There are some finance companies which need to be closed down. There have been no significant changes in the field of insurance companies. Insurance companies were in news because of their denial t insuring against terrorism but now they withdraw their stand. All other sector has been passing through the gloomy climate. Neither of the sectors is doing well. The investor seems to be confused whether to invest or not. The most attractive sector has been banking. ("Gloom in the Share Market", New Business Age, Jan 2002)

Akhige and Whyte (2004) in this research, "The Gram-Leach-**billey** Act" of 1999: Risk implications for the Financial Service Industry have focused on risk implication of banking and private sectors. The research paper has included many other studies some of the stufies find that banj expansion into banking activities can affect of events that permitted only limited entry by banks into non-banking activities. The study is conducted on systematic, unsystematic and total risk, such risk are calculated by using statistical tools i.e. variance and standard deviation, T-statistical and singed rank which is recently by Aminud, Delonng and Saunder in 2002. The study has included 340 banks for the sample size than they partition two sub-samples:46 largest banks and 294 small banks. The major finding of the study is that evidence of a significant increase in total and unsystematic risk for the banks and insurance companies. It suggests that regulators should carefully monitor and supervise banking activities in new era of financial modernization to moderate adverse effects from the increase in risk.

2.2. Review in Related Studies:

In Nepal, very few independent studies can be found in this topic. However, here are some independent studies which are related to the present study and are carried out before few years.

In 1996 A.D, in the thesis paper, prepared by Bhatta entitles “Assessment of the performance of listed companies in Nepal". in this thesis concludes that Nepalese Capital Market is not efficient and Nepalese investors have not yet practiced to invest in portfolio of securities. He says that the Nepalese investors are ignorant about the fact that risk can be totally minimized by investing in portfolios having perfectly negative correlation. He further says that the stock price of the stock is unable to reveal all the required information about the market and the company. The main objective of his study is to analyze the performance of the listed companies in the light of the risk and return, internal rate of return and diversification of risk through portfolio theory. Neither investor analyzes the overall performance of the listed companies in the light of the risk and return, internal rate of return and diversification of risk through portfolio theory. Neither

investor analyzes the overall relevant information of a stock not the member of stock exchange tries to disseminate the information. The analysis shows that most companies are facing problems of unsystematic or specific risk. He has pointed out the need of institution, which would help both the companies as well as the investor. He further says that investor's wealth maximization should be the main interest of the companies where as government should take measures to regulate this sector and investor should also understand the importance of portfolio investment. On the basis of findings Bhatta concluded. "An analysis of risk and return shows that many companies have higher unsystematic or specific risk. There is a need of expert institution, which will provide consultancy services to the investors to maximize their wealth though rational investment decision.

In 1996 A.D, in the thesis paper, prepared by Katiwada entitled "A Study on Securities investment in Nepal" concluded that, although interest rate on fixed deposit is an immediate return generated through savings, the return on securities cannot be exactly predicted.According to this thesis paper, securities returns seems to be lower than the market return i.e. the share holders have yielded on their securities investment is very low (leaving some exceptional case aside) as compared to the immediate return earned through fixed deposit.

In the article of Poudel, Deputy Director of NRB (2059)"Government security markets Rationale and developments in Nepal "has concluded that the security markets are center of the financial system. Debt securities market in the Nepal is highly dominated by government debt securities. Debt statistics evidenced that Nepal remained debt free nation till 1950's. From the beginning of 1960's foreign loans and domestic bonds have been alternative means of debt financing in Nepal as a result total debt as a percentage of GDP widened from 1% in 1960's to 65.3 in 2000.According to Poudel, government debt consist Tresury bills(TBs), National saving certificates(NSCs), Development Bonds(DBs), special bonds(SBs), and citizen saving certificates(CSCs).He further added that NRB and commercial banks are the main holders of government bonds. In his article he suggested following improving area in debt securities market in Nepal:

1. To make government securities active instruments of open market operation

coupon rate on government securities has to be fixed closely to the market rate of interest.

2. Exchange of government securities at market price have to be encouraged.
3. Products of government debt securities need to be diversified to meet investor's demands.
4. Like equity shares the marketable government securities need to be exchanged in the floor of Nepal Stock Exchange at competitive price.

IN 2059 B.S., Thapa has expressed his view that the commercial banks including foreign joint venture banks seem to be doing pretty well in mobilizing deposits likewise loans and advances of their banks are also increasing. But compared to the high credit needs particularly by the newly emerging industries, the banks still seem to lack adequate funds. Out of commercial banks, Nepal Bank Ltd and Rastriya Banijya Bank are operating with a normal profit the later turning towards negative from time to time. Because of non-recovery of accrued interest, the margin between interest, income and interest expenses is declining. There banks have not been able to increase their income from commission and discount on the contrary, they have got heavy burden of personal and administrative overheads. Similarly, due to accumulated overdue and defaulting loans, profit position of these banks have been seriously affected on the other banks have been functioning in venture banks in an extremely efficient way. According to him, the joint venture banks concentrate to modern off balance sheet operations and efficient personal management has added to the maximization of their profits.

Poudel in 2002 B.S, in the thesis paper entitles, "Share price behavior of joint venture banks in Nepal" by using eight years data of 1994-2001. Among different objectives the one to examine how safe or risky to invest on joint venture banks share has a little relation with this study in this aspect, he summarized the finding as the risk and return analysis of the bank share showed mixed results i.e. newly established banks share didn't represent the actual image of the risk and return scenario while the established bank have good track record of their financial position. All the banks are operating in profit, all those sums of them suffered from looses during their initial stage. The investors' attitudes towards the share of these banks seemed to be positive. He further found that most of the banks are

offering cash dividends every year, which may not be applicable to the other types of non banking firms.

Pandey in 2003 B.S in his thesis entitled “A study on Risk and Return analysis of common stock investment” has concluded that without proper analysis of individual security, industry and overall market, it is almost impossible to heat the stock market. The main objective of the study is to analyze the risk and return of common stock investment, with special reference to six financial companies in Nepal. He says that the investor’s attitude, perception and risk handling capacity also play a vital role in rational investment decision and diversification lowers the risk of portfolio. He further says that the stock market is risky in short run. Hence, it is necessary to prepare investors for it.

In 2004 B.S, in the thesis paper, Joshi, entitled "Risk and Return Analysis of Commercial Stock of five listed Investment Commercial banks" In this thesis concludes the study was to assess the risk associated with return on common stock investment of the basis of selected tools, the researcher is used five years data 1997-2003 in this study used arithmetic mean to calculate the return, standard deviation and coefficient of variance. The major finding of the study, the unsystematic risk and beta to measure relation between risk and return. In this study findings that banking sector has the expected return is 20.77 percentage risk is 36.1 and CV is 1.66, Similarly finance and insurance sector has 21.77 percent and 1.66,hotel sector has 10.16 percent, 72.4 percent, 7.123 trading sectors ha 6.68 percent, 80.68 percent, 11.76, other sectors has 16.61 percent, 50.45 percent and 3.037. Market expected return of 10.2 percent and risk of 39.57 percent, CV of 3.88.SCB has maximum market capitalization and NBBL has the minimum market capitalization. Market capitalization as well as NEPSE index has heavily influenced by banking then they should bear higher risk and invest in the share of SCBL and if they are risk averters and them want to invest in single assets.

Moreover, in the thesis paper, prepared by Shrestha (2006) entitle "Analysis of Risk and Return of Selected Nepalese Commercial Bank" conclude that to analysis the systematic and unsystematic risk associated with security the research was covered six years data from 1996-2001.According to this thesis paper,

analytical tools has used i.e. return of commercial stock, expected return, standard deviation, beta coefficient, CAPM coefficient of determinants and hypothesis (t-test).It finding NBBL's common stock is yielding the highest realize rate of return with 71.8 percent where as it is the lowest 26.6 percent increase of NIBL Ltd.The banking industry average 47.85 percent the commercial banks NBBL, BOKL and EBL respectively rate of return are 71.8 percent, 67.6 percent and 65.6 percent. All the commercial banks required rate of return is less than expected rate of return which means that they are all under price therefore it will be beneficial to the investor who are going to purchase the company's common stock. On the basis of finding shrestha concluded investment in banking sector is beneficial instead of other financial sectors.

The study conducted by Kunwar (2008) is related to this study to some extent. In this thesis conclude that expected return on the common stock of Nepal Bank has maximum and SBI Bank Ltd has found minimum common stock of NBL is most risky and NSB is most risky and NSB is least risky. In the context of industries, expected return financial and insurance industry has focused highest so that common stock of Nepal Ltd is best for investment .In this study has conducted that, common stock is the most risky security and lifeblood of stock of stock market because of the higher expected return, common holders are the passive owner of the company. The objective of the study is to analyze the risk and return of commercial stock in Nepalese stock market.

Thapa Magar (2010) in his thesis entitled "Analysis of Risk and return of Commercial banks" has concluded that the systematic (undiversified) risk of commercial banks. In this Study the researcher has used mathematical tools market model, expected rate of return, standard deviation, coefficient of variation, beta coefficient. The period of the study has taken 10 years date from 1999-2009. The major finding of the study, the HBL has least systematic risk and EBL has the highest one among the selected banks. Unsystematic risk is considered, it is being found that NABIL has lowest risk and EBL has the highest one. The outline following recommendation through the share of commercial bank of Nepal are heavily traded in NEPSE, None of the share NABIL will have positive trend toward the equilibrium.

Chapter - 3

3.1 Research Methodology

Research methodology can be defined as the process and methods applied in the entire aspect of the study, focus of data, data gathering instrument and procedure, data tabulation and processing and methods of analysis. It includes all the procedures from theoretical foundation to the collection and analysis of data. The thesis is based on the scientific models. It is composed of both parts of technical aspect and logical aspect, on the basis of historical data. Thesis study is systematic and organizational efforts to investigate a specific problem that needs a solution. This process of investigation involves a series of well thought out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answer to the problem.

The basic objective of this study is to analyze risk and return of three banks. This chapter deals with the overall research method from the theoretical aspect to collect and analysis of data. It is compilation of technical and logical aspect on the basis of secondary data.

3.1.1 Study Design

This study aims to analyze risk and return of Nepalese commercial Banks and their relationship with market. It also aims to analyzing return on portfolio investment, evaluate overpriced and under priced as well as recommends the policy maker for improvements, correlation between return on commercial banks and it study on the area relating to general environment factors on risk and return on investment in commercial banks.

Different types of mathematical, statistical, financial tool have been used for the purpose of this study. Different spread sheet have used to tabulate of data, necessary diagram, table and index have used to presents the data. For the analysis of primary research study necessary descriptive data analysis methods have been used.

The study covers the three years period from the fiscal year. It deals with the common stocks of banks on the basis of available information.

3.1.2 Sources of Data

This study is based on primary as well as secondary data. The primary data includes vision of respondents and the secondary data related to risk and return is collected from the financial and trading report of banks published by NEPSE as well as concerned companies. In addition, journals, books and thesis related to this study are also taken into consideration.

3.1.3 Population and Sample

Population of the study consists of all the joint venture commercial banks listed in the securities market where as the following firms selected for studies from their respective sectors are the sample for secondary data analysis. And for primary data 50 respondents have been selected who are involved as investors, owners, share brokers, capital markets', commercial banks' officer and expert in financial markets etc.

1. Himalayan Bank Ltd
2. Nabil Bank Ltd.
3. Nepal Investment Bank Ltd.

3.1.3 Data Collection Techniques

The data for the present study have been collected from secondary sources for the fundamental analysis and primary data has been collected for technical analysis. The annual reports of commercial banks have been taken from Securities Exchange Act. Similarly; NEPSE price and sector price have been taken from NEPSE.NRB was visited to collect the treasury- Bills rate and banking and financial statistics. After that collect the Treasury-Bills rate and banking and financial.

3.1.4 Data Analysis Tools:

For the analysis of data all the tools taken are as appropriate as possible. The related tools and terms are described below.

Market Price of Stock (P)

The major data of this study is market price of stock. Records of high, low and closing price are available for the purpose of this study. There are two approaches: Average price or Closing price. For Average price approach volume and price of each transaction in the stock and duration of time of each transaction in the whole year are essential which is difficult to obtain. Therefore, the Closing price is used as market price of stock, which has a specific time span of one year and the study has focused in annual basis.

Dividend (D)

Dividend is a reward to the shareholders for their investment. Both cash dividend and stock dividend (bonus share) declared by each company have been taken into account for the purpose of this study. Total amount of dividend has been calculated as follows:

Total amount of dividend = Cash dividend + Stock dividend % x next year's MPS

Incase of the dividend declared is capitalized in paid up value:

Total amount of dividend = Cash dividend + declared amount = Cash dividend + capitalized % x paid up value of preceding year.

Where, MPS = Market price per share.

Tools for Analysis

Return on common stock

Return is the total gain or loss experienced on an investment over a given period of time. It is the income received on an investment plus any changes in market price, usually expressed as a present of beginning price of the investment.

There are two types of return on common stock or in other words, owners of common stock get cash payoff in two forms. They are:

a) Cash dividend
b) Capital gain / loss

It is the main attraction to invest in a risky security as a stock accepting a varying a degree of risk tolerance; "The return from holding an investment over some

period says a year is simply any cash payments received due to ownership plus the change in market price dividend by the beginning price. Thus the return comes from two sources, income and price appreciation.

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

Symbolically,

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

Where,

R = Annual Expected Return

t = Particular time period

D_t = Cash dividend at the end of time period t

P_t = Stock's price at the time period t

P_{t-1} = Stock's price at the time period t-1

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

Holding period return increases mentioned above is useful with an investment horizon of one year or loss for longer periods, it is better to calculate rate of return as an investments yields. The yield calculated is present value of money. (Van Horne & Wachowicz, Jr, 1997: 90)

Annualized rate of return over several periods can be calculated in two ways. The 1st one is simply to like the arithmetic average of the annual holding period returns over a given period and a second one, which also takes account the compounding effects of cash receipts over different time intervals, if the geometric means rate of return.

- **The Simple Arithmetic Mean:**

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

- **The Geometric Means:**

$$\overline{HPR}_g = \prod_{t=1}^{n} (1 - \overline{HPR}_t)^{i/n} - 1$$

Where,

HPR_t = Individual period return

n = number of period

π = The product (or the result of multiplying)

(Cheney – 1995)

Required Rate of Return (K_j)

According to the capital asset pricing model (CAPM) the following equation represents the relationship between risk and return. These equation consistent two components:

(i) The risk free rate of return (R_f)

(ii) The risk premium [B_j ($R_m - R_f$)

Symbolically,

$K_j = R_f + (R_m - R_f) \beta_j$

Where,

K_j = Required rate of return on stock j.

R_f = Risk free rate of return

R_m = Expected Return on market

β_j = Beta Coefficient of stock j.

Risk on common stock

Risk can also be defined as the uncertainty associated with the end of period value of an investment. Risk and return are the determinants for the valuation of the securities. However, risk means that we do not know what is going to happen even though we occasionally have a good idea of the range possibilities.

- **Standard Deviation ($\pm_j$):**

  It is a statistically measure of the variability of a distribution of return and around its mean. It is the square root of variance and measures the total risk on stock investment.

  Symbolically,

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

  Where,

  σ_j = s.d of return on stock j during the time period n.

- **Coefficient of variation (c.v)**

  It is the ratio of standard deviation of returns to the mean of that distribution. It is a measure of relative risk c.v. is a measure of relative dispersion (risk) – a measure of risk per unit expected return. The larger the c.v. the larger will be the relative risk of the investment. (Inns, Phillip G, "Business Statistics, method and application: 121)

  Symbolically,

$$c.v = \frac{\pm_j}{R_j} x100$$

- **Beta coefficient ( ):**

  Market sensitivity of stock is explained in terms of beta coefficient. Higher the beta, greater will be the sensitivity and reaction to the market moment. Logically, the systematic risk is the covariance between the returns of an individual asset or portfolio and the returns of the market portfolio. The measure of systematic risk is represented by beta (β).

  Symbolically,

$$_j = \frac{Cov\left(R_j R_m\right)^2}{\pm^2 m}$$

  Where,

  β_j = Beta coefficient of stock j.

  $Cov(R_j R_m)$ = covariance between returns on stocks j i.e, (R_j) and return of market (R_m). and is calculated as:

$$Cov(R_j R_m) = \frac{\sum_{j-1}^{n}(R_j - \overline{R}_j)(R_m - \overline{R}_m)}{n-1}$$

And,

σ^2m = Market variance

Portfolio

Investors want to invest in different sectors. Investment in two or more than two assets is normally called portfolio. It is the combination of investment assets. Portfolio is the holding of securities and investment in financial assets like bond, stock etc. Portfolio management is related to the efficient portfolio investment in financial assets. Investors rarely place their entire wealth into a single assets or investment rather they construct a portfolio or group of investments. Therefore it is needed to extend analysis of risk and return to include portfolio a combination of two or more securities or assets is portfolio. It has following two types of objectives:

* *Primary Objectives:*
  - To minimize risk
  - To maximize return

* *Secondary Objectives:*
  - Regular return
  - Stable income
  - Safety of investment
  - Tax benefit
  - Appreciation of capital

- **Portfolio return analysis ($R_{p)}$:**

  Portfolio return is the weighted average rate of return. It will be change when proportion of investment fund is changed.

Symbolically,

$$R_p = X_1.R_1 + X_2.R_2 + \ldots\ldots\ldots\ldots\ldots\ldots + X_n.R_n$$

Where,

R_p = Portfolio Return

X_1, X_2, X_3 = Weight of investment fund

R_1, R_2, R_3 = Expected return of assets 1, 2, ...n.

- **Portfolio standard deviation ($\pm_p$):**

Portfolio standard deviation is the combined standard deviation involved in the portfolio holding different stock with different weight.

Symbolically,

$$\pm_p = \sqrt{x_1^2 \pm_1^2 . + x_2^2 \pm_2^2 + 2¢_{12} \pm_1 \pm_2 x_1 x_2}$$

Where,

σ_1 = s.d of assets 1

σ_2 = s.d of assets 2

δ_{12} = the correlation coefficient between possible return for security 1 & 2

- **Optimum portfolio (minimum risk portfolio):**

For two stock portfolios:

Symbolically,

$$X_1 = \frac{\pm_2^2 - ¥_{12} \pm_1 \pm_2}{\pm_1^2 + \pm_2^2 - 2¥_{12} \pm_1 \pm_2}$$

And, X_2 = 1 - X_1

Where,

X_1 = weight of assets 1

X_2 = weight of assets 2

σ_1 = s.d of stock 1

σ_2 = s.d of stock 2

γ_{12} = correlation coefficient between 1 and 2.

The correlation coefficient, which is significant in portfolio construction, is standardized statistical measure of the linear relationship between two variables, its range from –1 (perfect negative correlation) to +1 (perfect positive correlation) when the correlation between the two stocks is exactly zero there is no relationship between the returns. They are independent of each other. Lesser the correlation higher will be the reduction in portfolio risks. The positive correlation coefficient shows that the returns from two securities generally move in the same direction, while negative correlation coefficient shows that the returns from two securities are uncorrelated. They show no tendency to very together in either a positive or negative in linear function.

- **Market return (R_m):**

  Market return is the return in overall market portfolio, which can be obtained by taking difference between the market indexes (i.e. NEPSE index). Here market dividend is ignored.

  Symbolically,

$$R_m = \frac{NI_1 - NI_{t-1}}{NI_{t-1}}$$

  Where,

  R_m = Return on market

  NI_1 = NEPSE index at time t-1

  NI_{t-1} = NEPSE index at time t

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

This chapter includes the presentation and analysis of the risk and return characteristics of common stock of the commercial banks. Detail data of market price per share (MPS) and dividend of each bank and NEPSE index of each industry is presented and their interpretation and analysis is done. With reference to various readings and literature reviews in the proceeding chapters, effort is made to analyze and diagnose the recent Nepalese stock market changes with special reference to commercial banks. The presented data are included for six F/Y from 2000/01 to 2005/06. In second phase an analysis of status of sample Banks, comparison with market return, portfolio investment risk and return, correlation between different banks and position of common stocks in market are made. It also studies about the market return, risk and coefficient of variation for the purpose of compare to status of individual bank's return, risk. It analyses primary data collected from primary research to identify the general environmental factors on risk and return of commercial banks in Nepal etc. To analyze different data to achieve the result, different financial and statistical tools, descriptive analysis method, necessary tools and diagram, spread sheet for the tabulation of data were used.

Presentation and Analysis of secondary data

Risk and return characteristics on the common stocks of individual banks, systematic and unsystematic risk, and average rate of return have been analyzed in this section.

4.1 Study of Individual Banks

In this topic different Three commercial banks are involves. More than 24 banks have been involving in share transaction, sent their annual report in SEBON as well as listed in NEPSE. But here is studies and analysis of return, expected return coefficient of variance. Total risk etc of the three sample commercial banks (HBL,

NABIL, and NIB).It helps to identify the position and status of banks which is the best in among different six banks in different aspects.

4.1.1 Himalayan Bank Ltd. (HBL)

HBL is incorporated in 1992 under the Company Act 1964. Joint venture partner of this bank is Habib Bank Ltd. of Pakistan. HBL is the first Joint Venture Bank managed by Nepalese chief executive. The operation of this bank stared from 1993 February. This bank is listed in NEPSE since 2050/01/03. Authorized, issued and paid up capital of this bank is 3000 million, 2000 million and Rs.20, 00, 00,000. The number of shareholders is 16780086. Par value of a share is Rs.100. The corporate office is in Kamaladi now.

Market price and dividend of common stock of HBL are shown in table no 2.1. Year end price and dividend movement is shown in the Figure 2.1. Annual dividend amounts gained by shareholders of HBL are calculated in the same table 2.1. Stock dividend has been distributed by the HBL during study period.

Table 2.1
MPS and Dividend Data of HBL

F/Y	Closing MPS	DPS	Stock dividend %	Total dividend
2001/02	1500	27.5	25	277.5
2002/03	1000	25	30	275.8
2003/04	836	1.32	10	253.32**
2004/05	840	-	20	184***
2005/06	920	11.5	20	230****
2006/07	1740	60.66	28.69	499.21
2007/08	1980	62.74	31.56	624.89
2008/09	1760	62.90	28.43	500.37
2009/10	816	61.90	25.66	209.39
2010/11	575	31.80	12.88	74.06

Source: NEPSE

Figure 2.1

Year-end price and Dividend movement of the C.S. of HBL

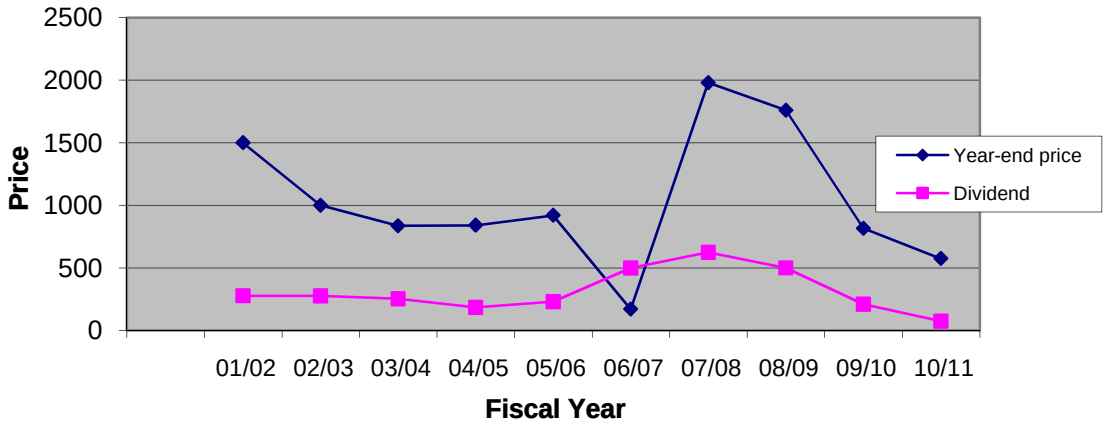

Figure 2.1 explains about the trend of closing MPS and dividend price of HBL. In 2001/02 the closing price was Rs. 1500 and then after that time it run in downward to Rs. 1000 in 2002/03. But after then share price was slightly increased up to 2007/08 then again it run downward to 2010\11.

Table 2.2.

Realized Rate of Return, Expected Return and S.D. of the C.S. of HBL.

F/Y	Year-end price CP	Dividend (D)	$R_j = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$	$(R_j - \overline{R_j})$	$(R_j - \overline{R_j})^2$	$(R_m - \overline{R_m})$	$(R_j - \overline{R_j})(R_m - \overline{R_m})$
2001/02	1500	277.5	-	-	-	-	-
2002/03	1000	275.8	-0.1494	-0.347834	0.120988	-0.1973	0.0686
2003/04	836	253.32	0.0893	-0.109134	0.01191	-0.0138	0.0015
2004/05	840	184	0.2248	-0.026366	0.000695	0.1934	0.0051
2005/06	920	230	0.3690	-0.170566	0.029093	0.2511	0.0428
2006/07	1740	499.21	1.43392	1.235486	1.526426	0.6714	0.8295
2007/08	1980	624.89	0.4970	0.298566	0.089142	0.3109	0.0929
2008/09	1760	500.37	0.1416	0.056834	0.00323	-0.3201	0.0182
2009/10	816	209.39	-0.4173	-0.615734	0.379128	-0.4599	0.2832
2010/11	575	74.06	-0.20458	0.403014	0.16242	-0.3381	0.1363
Total			**1.98439**		**2.3233**		**1.4781**

Source: NEPE

We have,

- Expected Return ($\overline{R_j}$) = $\frac{\sum R_j}{n} = \frac{1.98434}{10}$ =0.198434
- Standard Deviation ($\pm_j$) = $\sqrt{\frac{\sum\left(R_j - \overline{R_j}\right)^2}{n-1}} = \sqrt{\frac{2.323032}{10-1}} = 0.5081$
- Coefficient of variance *(c.v)* = $\frac{\pm}{R} = \frac{0.5081}{0.1984} = 2.5604$
- Covariance with market *(Cov_{jm})* = $\frac{\sum\left(R_j - \overline{R_j}\right)\left(R_m - \overline{R_m}\right)}{n} = \frac{1.4781}{10} = 0.1478$

We know,

- *Cov(jm)* = $\rho_{jm} s_j \pm_m$

or, $\rho_{jm} s_j \pm_m$ = *Cov(jm)*

or, $\rho_{jm} = \frac{Cov(jm)}{\pm_j \pm_m} = \frac{0.1478}{0.5081x0.4053} = 0.71786$

Again we have,

- $_j = \frac{Cov(jm)}{\pm_j \pm_m} = \frac{\rho_{jm} \pm_j \pm_m}{\pm_m \pm_m} = \frac{\rho_{jm} \pm_j \pm_m}{\pm_m^2} = \frac{0.71786x0.5081x0.4053}{0.1642} =$ 0.9000

The table 2.2 and calculation, it shows that the closing price of the stock was maximum in the fiscal year 2007/08 and started decreasing till 2010/11. The dividend is paid regularly. But the amount of dividend paid is varied from year to year. The negative returns are due to the decline in market price. The mean return and standard deviation are 19.84% and50.81% respectively and coefficient of variation is256.04% which means for earning 1 unit of return the investor has to bear 256.04 units of risk. Since its beta is also less than 1 i.e. 0.9000, means less risky than the market or we can say defensive stock.

The average rates of return for ten years period is normal which is effect of declining annual closing price of common stock of HBL till F/Y 2005/06 after that its increasing and the annual rate of return is maximum in the year 2007/08 by 49..70% But after that from 2008\09 its decreasing till 2010/11.

Figure 2.2
Return (R_j) Calculated in above table of individual F/Y of HBL

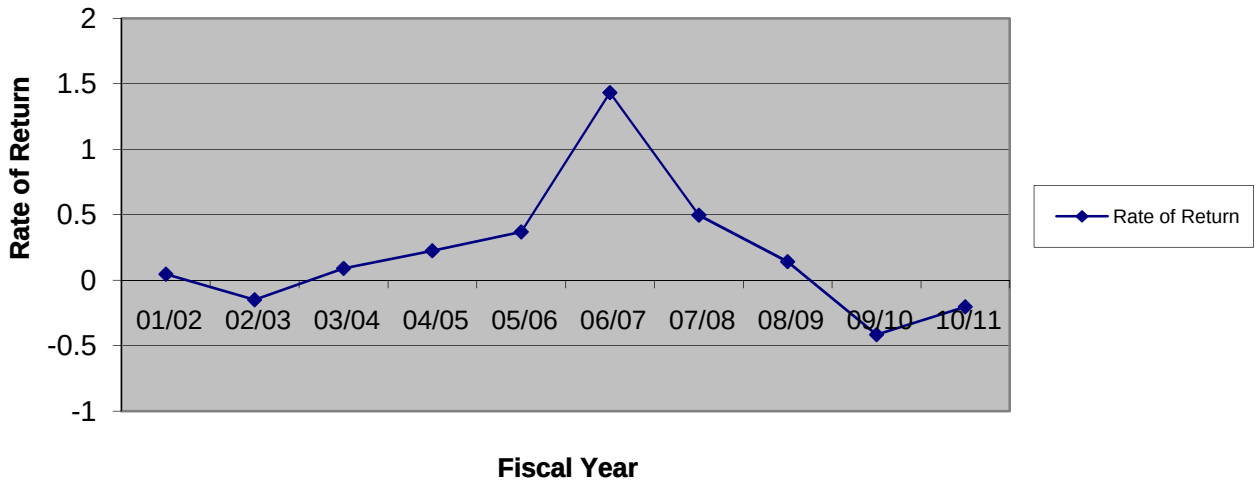

Figure 2.2 presents the rate of return. The rate of return of this Bank is very poor. It decreased in heavy amount reason of that the return of HBL is presented in negative point in F/Y 2002\03, 2009\10 and 2010\11 it shows -14.94%,-41.73% and -20.45% returns.

4.1.2 NABIL Bank Ltd.

First joint venture commercial bank, Nepal Arab Bank Ltd. is established in 1984 A.D.(2041 B.S) in Nepal and listed in NEPSE in 1986 A.D. (2042/08/09 B.S.). Initially, Dubai Bank Ltd. (DBL) invested 50% of equity share of NABIL. The share owned by DBL were transferred to Emirates Bank International Ltd. (EBIL), Dubai, later on EBIL sold its entire 50% equity holding to National Bank Ltd, Bangladesh (NBLB). NBLB is managing the bank is accordance with the technical services agreement signed between both banks on June 1995. 27 years ago NABIL pioneered professionalism in the banking industry in Nepal giving it a drive .NABIL today is a household name for quality banking, for safekeeping their hard earned moneys for catering proficiently tailored loan products for their diverse ends and intents. Authorized and paid up capital of the bank are Rs. 2,100,000,000 and Rs. 2029769400 respectively, with par value per share of Rs. 100 and total number of shareholders is 10138.Market price and dividend records of common stock of NABIL are shown in Table 2.3. Year-end price and dividend movement is shown in the Figure 2.3.

***Table 2.3*:**
Year-end price and Dividend of NABIL

F/Y	Closing MPS	DPS	Stock dividend %	Total dividend
2001/02	735	30	-	30
2002/03	735	50	-	50
2003/04	1000	65	-	65
2004/05	1505	70	-	70
2005/06	2240	85	-	85
2006/07	5050	140	40	140
2007/08	5275	100	40	100
2008/09	4899	85	50	85
2009/10	2384	70	40	70
2010/11	1252	30		30

Source: NEPSE

Figure 2.3
Year-end price and Dividend movement of the C.S. of NABIL Bank

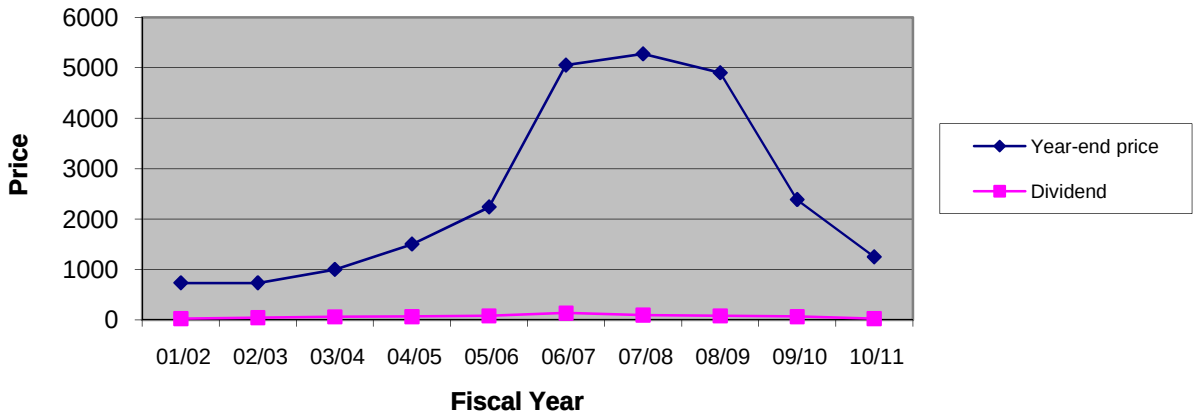

Figure 2.3 explained about closing price and dividend price distributed by NABIL. The price of the common stock of NABIL is highest in the year 2007/08 which is Rs 5275 and lowest in the year 2009/10 and 2010/11 which is 2384 and 1252. In the year 2004/05 the price of stock is slightly increased up to Rs. 1505 and starts to decline and reaches to Rs. 1252 in the year 2010/11. The closing price of stock for F/Y 2002/03 and 2003/04 is exactly same and then after it reaches to its highest point in the year 2007/08 but after its decline to till.

Table 2.4

Realized Rate of Return, Expected Return and S.D. of the C.S. of NABIL.

F/Y	Year-end price CP	Dividend (D)	$R_j = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$	$(R_j - \overline{R_j})$	$(R_j - \overline{R_j})^2$	$(R_m - \overline{R_m})$	$(R_j - \overline{R_j})(R_m - \overline{R_m})$
2001/02	735	30				-	
2002/03	735	50	0.0680	-0.13214	0.0175	-0.1973	0.0261
2003/04	1000	65	0.4490	0.24881	0.0619	-0.0138	-0.0034
2004/05	1505	70	0.5750	0.37483	0.1405	0.1934	0.0725
2005/06	2240	85	0.5449	0.34468	0.1188	0.2511	0.0865
2006/07	5050	140	1.3170	1.11680	1.2472	0.6714	0.7498
2007/08	5275	100	0.0644	-0.13581	0.0184	0.3109	-0.0422
2008/09	4899	85	-0.0552	-0.25533	0.0652	-0.3201	0.0817
2009/10	2384	70	-0.4991	-0.69925	0.4890	-0.4599	0.3216
2010/11	1252	30	-0.4622	-0.66242	0.4388	-0.3381	0.2240
Total			**2.00168**		**2.5973**		**1.5165**

Source: NEPSE

We have,

- Expected Return ($\overline{R_j}$) = $\frac{\sum R_j}{n} = \frac{2.00168}{10} = 0.20017$
- Standard Deviation (σ_j) = $\sqrt{\frac{\sum (R_j - \overline{R_j})^2}{n-1}} = \sqrt{\frac{2.5973}{10-1}} = 0.5372$
- Coefficient of variance *(c.v)* = $\frac{\sigma_j}{\overline{R_j}} = \frac{0.5372}{0.20017} = 2.68377$
- Covariance with market *(Cov_{jm})* = $\frac{\sum (R_j - \overline{R_j})(R_m - \overline{R_m})}{n} = \frac{1.5165}{10} = 0.15165$

We know,

- *Cov(jm)* = $\rho_{jm} \sigma_j \sigma_m$

  or, $\rho_{jm} \sigma_j \sigma_m$ = *Cov(jm)*

  or, $\rho_{jm} = \frac{Cov(jm)}{\sigma_j \sigma_m} = \frac{0.15165}{0.5372 x 0.4053} = 0.6966$

Again we have,

- $\beta_j = \frac{Cov(jm)}{\sigma_j \sigma_m} = \frac{\rho_{jm} \sigma_j \sigma_m}{\sigma_m \sigma_m} = \frac{\rho_{jm} \sigma_j \sigma_m}{\sigma_m^2} = \frac{0.15165 x 0.5372 x 0.4053}{0.16423} =$ 0.9234

Here, it is found that expected return of the common stock of NABIL is 20.01% and standard deviation is 53.72%. The coefficient of the variance is 2.68377 which mean for earning 1 unit of return the investor has to bear 2.68377 units of risk and since its beta is less than 1 i.e. 0.9234, means less risky than the market or we can say defensive stock.

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Figure 2.4

Return (R_j) Calculated in above table of individual F/Y of NABIL Bank

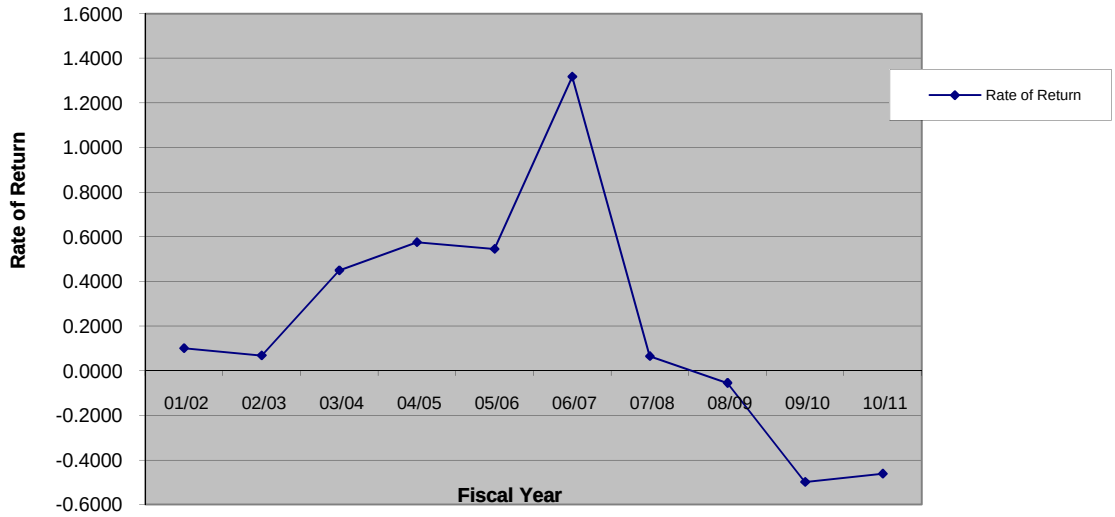


Figure 2.4 try to shed light the trend of rate of return of the NABIL bank. Its rate of return is positive in 2006/07 and then decreased and became negative in F/Y 2008/09 to 2010/11. Annual rate of return in the year 2004/05 is positive by 57.5% and maximum in the year 2006/07 but from 2008/09, 2009/10 and 2010/11 is negative because of decrease in the price of share in market.

4.1.3 Nepal Investment Bank Ltd (NIB)

NIB, previously Nepal Indosuez Bank Ltd., was established on 21 January 1986 as a third joint venture bank under the Company Act 1964. The bank is managed by Banque Indosuez, Paris in accordance with joint venture and technical services agreement signed between it and Nepalese promoters. Now, this bank is operating

under the full ownership of Nepalese promoters and shareholders. Authorized capital of this bank is Rs. 4,00,00, 00,000 and induced paid up capital is Rs. 2,40,90,97,700. Par value per share is Rs. 100. The central office of this organization is in King's way, Kathmandu.Market price and dividend records of common stock of NIB are shown in table 2.5. MPS of NIB is very high at last year. Year-end price and dividend movement is shown gained by shareholders of NIB are calculated in the same table 2.5.

Table 2.5
Year-end price and Dividend of NIB

F/Y	Closing MPS	DPS	Stock dividend %	Total dividend
2001/02	760	-	-	
2002/03	795	20	-	20
2003/04	940	15	-	15
2004/05	800	12.5	-	12.5
2005/06	1260	20	-	20
2006/07	1729	5	25	30
2007/08	2450	7.5	33.33	40.83
2008/09	1388	20	-	20
2009/10	705	25	-	25
2010/11	515	25	25	50

Source: NEPSE

Figure 2.5
Year-end price and Dividend movement of the C.S. of NIB Bank

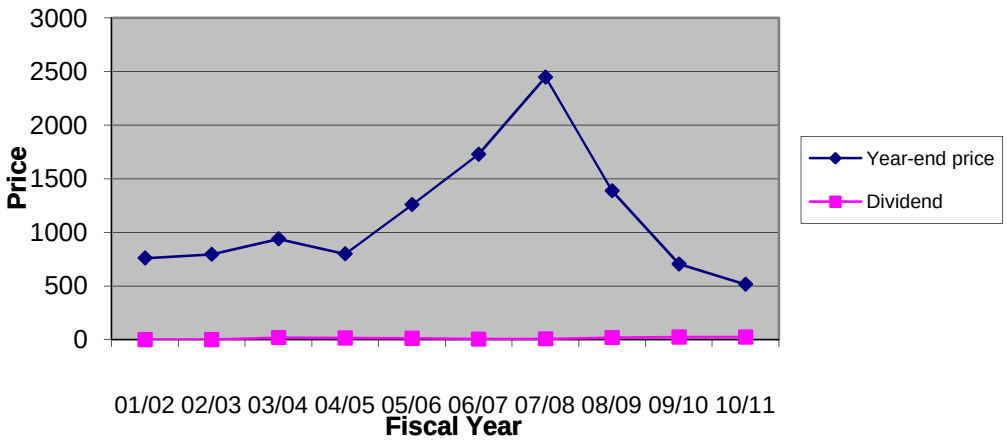


Figure 2.5 presents the trend of closing price and dividend. According to year end market price of share, the market price of the shares of NIBL in the 2007/08 is high. It starts to decline from 2008/09 the market price is in a decreasing trend to till 2010/11. The case of subsequent decline, the issue of right shares 25% cash dividend are the features of 2009/10 and 2010/11 respectively.

Table 2.6.

Realized Rate of Return, Expected Return and S.D. of the C.S. of NIBL.

F/Y	Year-end price CP	Dividend (D)	$R_j = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$	$(R_j - \overline{R_j})$	$(R_j - \overline{R_j})^2$	$(R_m - \overline{R_m})$	$(R_j - \overline{R_j})(R_m - \overline{R_m})$
2001/02	760	0	-	-	-		
2002/03	795	20	0.0724	0.03216	0.0010	-0.1973	-0.0063
2003/04	940	15	0.2013	0.16105	0.0259	-0.0138	-0.0022
2004/05	800	12.5	-0.1356	-0.17585	0.0309	0.1934	-0.0340
2005/06	1260	20	0.6000	0.55979	0.3134	0.2511	0.1405
2006/07	1729	5	0.3762	0.33598	0.1129	0.6714	0.2256
2007/08	2450	7.5	0.4213	0.38113	0.1453	0.3109	0.1185
2008/09	1388	20	-0.4253	-0.46552	0.2167	-0.3201	0.1490
2009/10	705	25	-0.4741	-0.51427	0.2645	-0.4599	0.2365
2010/11	515	25	-0.2340	-0.27425	0.0752	-0.3381	0.0927
Total			**0.4021**		**1.1858**		**0.9203**

Source: NEPSE

We have,

- Expected Return ($\overline{R_j}$) = $\frac{\sum R_j}{n} = \frac{0.4021}{10} = 0.0402$
- Standard Deviation ($\pm_j$) = $\sqrt{\frac{\sum (R_j - \overline{R_j})^2}{n-1}} = \sqrt{\frac{1.1858}{10-1}} = 0.36298$
- Coefficient of variance *(c.v)* = $\frac{\pm_j}{\overline{R_j}} = \frac{0.36298}{0.0402} = 9.02696$
- Covariance with market *(Cov_{jm})* = $\frac{\sum (R_j - \overline{R_j})(R_m - \overline{R_m})}{n} = \frac{0.9203}{10} = 0.09203$

We know,

- $Cov(jm) = \rho_{jm} \sigma_j \pm_m$

or, $\rho_{jm} \sigma_j \pm_m = Cov(jm)$

or, $\rho_{jm} = \frac{Cov(jm)}{\pm_j \pm_m} = \frac{0.09203}{0.36298 \text{ x } 0.4053} = 0.6256$

Again we have,

- $\beta_j = \frac{Cov(jm)}{\sigma_j \sigma_m} = \frac{\rho_{jm} \sigma_j \sigma_m}{\sigma_m \sigma_m} = \frac{\rho_{jm} \sigma_j \sigma_m}{\sigma_m^2} = \frac{0.09203 \times 0.36298 \times 0.4053}{0.1642} =$ 0.56035

The calculation it is found that return on the common stock of NIBL is -4.02% and risk is 36.29%. The coefficient of variation is 9.02696 which means for earning 1 unit of earning the investors has to bear 9.02696 units of risk. Its beta is also less than 1 i.e. 0.56035 than means it is defensive in nature.

Figure 2.6

***Return* (R_j) Calculated in above table of individual FY of NIB Bank**

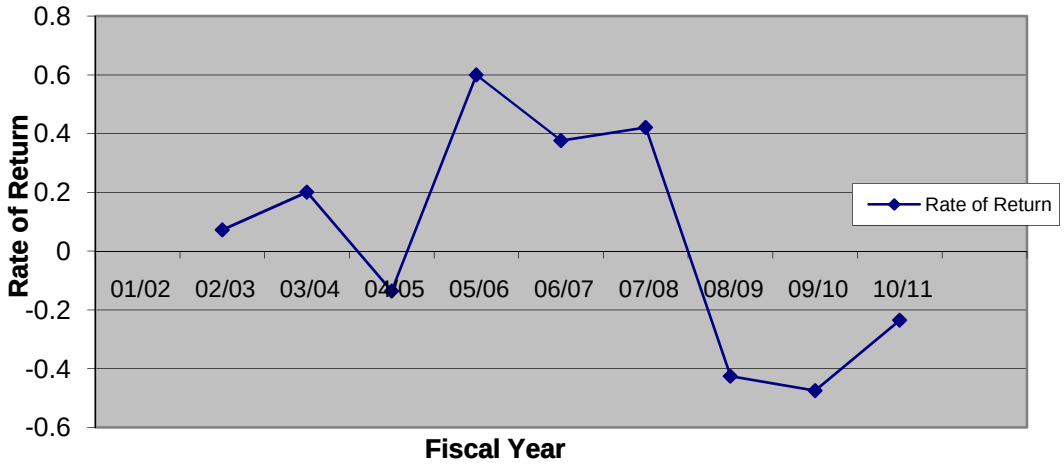


Figure 2.6 explains the level of rate of return of NIB Bank. The annual rate of return in year 2004/05, 2008/09, 2009/10 and 2010/11 is negative because of decrease in the price of share in market and distribution of minimum amount as a dividend .In 2005/06 it shows 60% return .

4.2 Inter Bank Comparison

According to the result obtained from the analyses done above, a comparative analysis of return, total risk and risk per unit is performed here. Average returns, standard deviation of the return (risk) and coefficient of variation of each bank from the year 2001/02 to 2010/11 are given in the table no 2.7.

Table 2.7
Expected Return, S.D. and Coefficient of Variation of each bank.

S. No.	Banks	Expected Return $(\overline{R_j})$	Standard Deviation (σ)	Coefficient of Variation (c.v)	Remarks
1.	HBL	0.19844	0.50808	2.56037	Lowest c.v/risk
2.	NABIL	0.20017	0.5372	2.68377	Highest return
3.	NIB	0.04021	0.36298	9.02696	Highest c.v/risk

Investment in common stock of NIB is highly risky for investors considering return, risk and coefficient of variation. Investors can get highest return from the common stock of NABIL but from the risk and the coefficient of variation point of view HBL has lowest c.v and risk. To make the comparison easily understandable from the Figure 2.7 presented below

Figure 2.7
Risk and Return of each commercial bank.

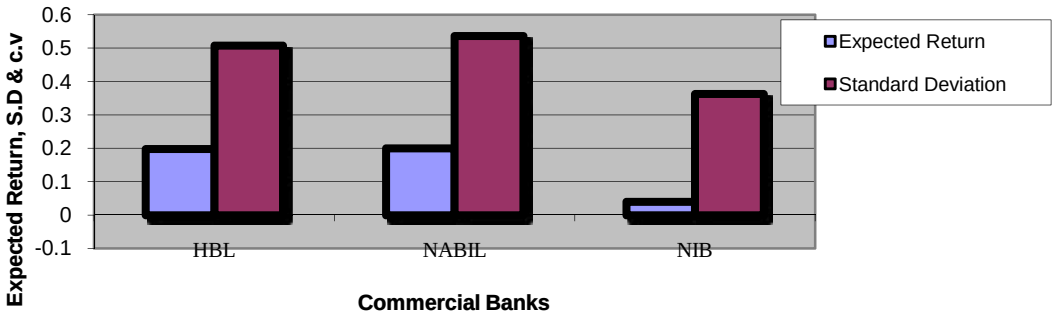


Figure 2.7 explains about the expected return, standard deviation and coefficient of variance of three banks in single Figure . It shows that the expected return and the S.D of NBIL bank have very high than others. In this Figure the trend of S.D is very higher than the expected return the reason of that may be the decrease of share price through heavy amount. And banks decrease the percentage distribution of dividend. It clarify that there is highly deviation between risk and expected return.

4.3 Comparison of selected commercial banks on the basis of Market Capitalization.

In Nepal, there is only one stock market called Nepal Stock Exchange Ltd. (NEPSE). The 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.

In this section the researcher highlights the condition as well status of sample commercial banks in terms of market capitalization rate and its index. The following table shows the market capitalization of listed securities of the three commercial banks at the end of the F/Y 2010/11.

This analysis also helps to find out the condition and positive of commercial banks in Nepal. If the market capitalization rate is satisfied, it encourage to the investor for the investment. It also provides valuable return to the investors. Market capitalization rate is the indicator for measure the condition of development of capital market capitalization rate highest and valuable, all the investors will encourage purchasing the common stock in NEPSE. So it plays the significance role to increase the goodwill and return of organization in capital market.

The main objectives of this analysis are to find out the suitable and risk less as well high returnable banks in Nepal. It can observe from the following table and presented value.

Table 2.8
Market Capitalization of three commercial banks from July 2010/11

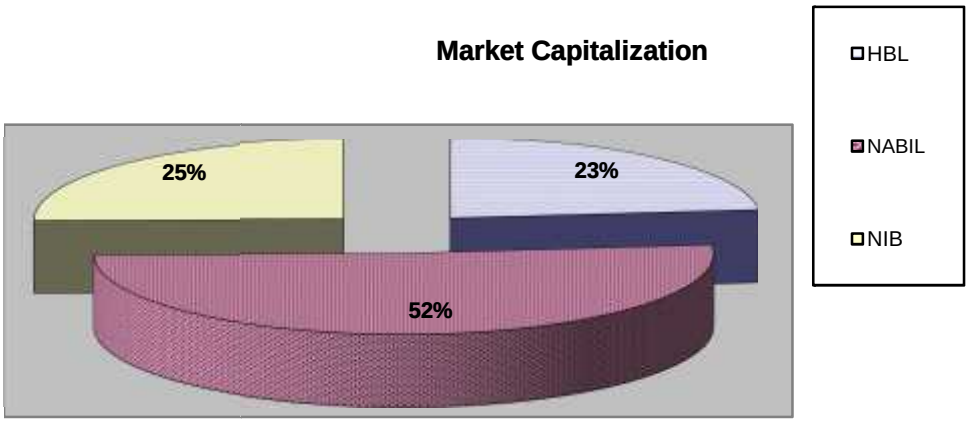
S.No.	Company	Market Capitalization	Percentage
		(Rs. in millions)	
1	HBL	11500.00	23.33
2	NABIL	25400.25	51.53
3	NIBL	12396.41	25.15
Total		**49296.66**	**100**

Source: NEPSE

The table 2.8 measures and shed light in the status of sample banks comparison with market at the end of the F/Y 2010/11. The market capitalization of NABIL is the highest by 51.53% and the market capitalization on HBL is lowest by 23.33%.

Figure 2.8

Market Capitalization of three selected commercial banks.



4.4 Inter Sector Comparison

A comparison is made on the basis of NEPSE index at the end price of each year. Each sector is shown in Table 2.9

Table 2.9

Sector wise NEPSE index at the end price of each year.

Sectors	Fiscal Year									
	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
Banking	219.35	199.90	231.97	304.64	437.49	789.21	985.65	704.35	456.93	347.05
Mfg. & Processing	273.67	250.13	255.58	276.50	301.11	348.63	423.66	434.32	427.89	591.52
Hotel	216.51	196.68	184.41	178.00	180.77	251.47	370.88	367.42	400.26	412.59
Trading	102.2	94.56	95.01	123.20	148.11	155.37	204.08	295.83	282.08	241.97
Insurance	262.29	208.14	195.99	228.39	261.37	612.46	817.25	656.41	548.52	407.14
Others	77.34	48.56	142.65	347.65	410.00	818.12	768.26	738.99	540.48	492.31
Market	**227.54**	**204.86**	**222.04**	**286.67**	**386.83**	**683.95**	**963.40**	**749.10**	**477.73**	**362.85**

Source: NEPSE

The table 2.9 determines the movement of the NEPSE index of each sector and weighted average of all, which we call NEPSE index. Index of commercial bank is

fluctuating differently. In the initial F/Y it is in decreasing trend, from 2005/06 to 2007/08 in those years index of CB shows increasing tendencies but in 2008/2009 to till its again decreasing trend. Index of manufacturing and processing also seems fluctuating differently. It increases first and then decreases. But from the fiscal year 2008/09 its shows decline. NEPSE index of Hotel industry is decreasing slowly and continuously. But in 2010/11 it slightly increases. Index of the trading is decreasing slowly and continuously too except in the last two years. The index of insurance is also shows ups and down tendency. NEPSE index of other category is decreasing continuously from F/Y 08/09.

The detail calculation of realization return (R), expected return $(\overline{R})$, standard deviation and coefficient of variation of commercial bank is shown below.

Table 2.10
Realized return, expected return, standard deviation and coefficient of variation of banking sector

Year	Year-end Index	Return (R)	$(R - \overline{R})$	$(R - \overline{R})^2$
2001/02	219.35			
2002/03	199.9	-0.08867	-0.18337	0.03362
2003/04	231.97	0.16043	0.06573	0.00432
2004/05	304.64	0.31327	0.21858	0.04778
2005/06	437.49	0.43609	0.34139	0.11655
2006/07	639.93	0.46273	0.36804	0.13545
2007/08	985.65	0.54025	0.44555	0.19852
2008/09	704.35	-0.28540	-0.38009	0.14447
2009/10	456.93	-0.35127	-0.44597	0.19889
2010/11	328.70	-0.28063	-0.37131	0.13787
Total		**0.90679**		**1.02105**

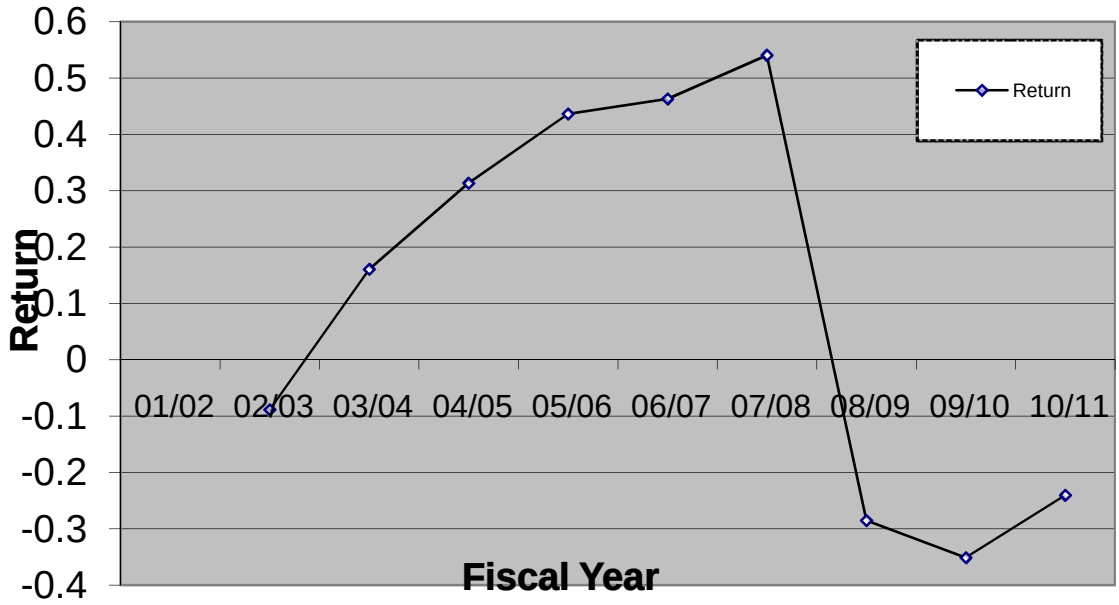
Source: Table 2.9

We have,

- Expected Return ($\overline{R_j}$) $= \frac{\sum R_j}{n} = \frac{0.90679}{10} = 0.090679$

- Standard Deviation ($\pm_j$) = $\sqrt{\frac{\sum (R_j - \overline{R_j})^2}{n-1}}$ = $\sqrt{\frac{0.90679}{10-1}}$ = 0.10038
- Coefficient of variance *(c.v)* = $\frac{\pm_j}{\overline{R_j}}$ = $\frac{0.010038}{0.090679}$ = 1.1069

Figure 2.9
Annual rate of return of banking sector *(on the basis of index)*



The detail calculation of realized return, expected return, standard deviation and coefficient of variation of each sector are shown at appendix table Appendix-1 at the end of the study.

4.5 Comparison with Market

4.5.1 Market Risk and Return

In Nepal, there is only one stock market called Nepal Stock Exchange Ltd (NEPSE). The 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 2.11

Calculation of Realized rate of return, S.D, Average Return and C.V of overall market.

Year	Year-end Index	$R_m = \frac{NI_1 - NI_{t-1}}{NI_{t-1}}$	$(R_m - \overline{R_m})$	$(R_m - \overline{R_m})^2$
2001/02	227.54			
2002/03	204.86	-0.0997	-0.1973	0.0686
2003/04	222.04	0.0839	-0.0138	0.0015
2004/05	286.67	0.2911	0.1934	0.0051
2005/06	386.63	0.3487	0.2511	0.0428
2006/07	683.95	0.7690	0.6714	0.8295
2007/08	963.4	0.4086	0.3109	0.0929
2008/09	749.1	-0.2224	-0.3201	0.0182
2009/10	477.73	-0.3623	-0.4599	0.2832
2010/11	362.85	-0.2405	-0.3381	0.1363
Total		**0.9764**		**1.4781**

Source: Annual trading report NEPSE.

We have,

- Expected Return ($\overline{R_j}$) = $\frac{\sum R_j}{n}$ = $\frac{0.9764}{10}$ = 0.09764

- Standard Deviation ($\pm_j$) = $\sqrt{\frac{\sum (R_j - \overline{R_j})^2}{n-1}}$ = $\sqrt{\frac{1.4781}{10-1}}$ = 0.4053

- Coefficient of variance *(c.v)* = $\frac{\pm_j}{\overline{R_j}}$ = $\frac{0.4053}{-0.09764}$ = 4.15065

The expected rate of overall return market is 9.764 % by the end of F/Y 2010/11.

During ten year period the NEPSE index is highest in the year 2007/08(base year) by 963.4 and minimum in the year 2003/04 by 204.86.

Figure 2.10
Year-end NEPSE Index of overall market

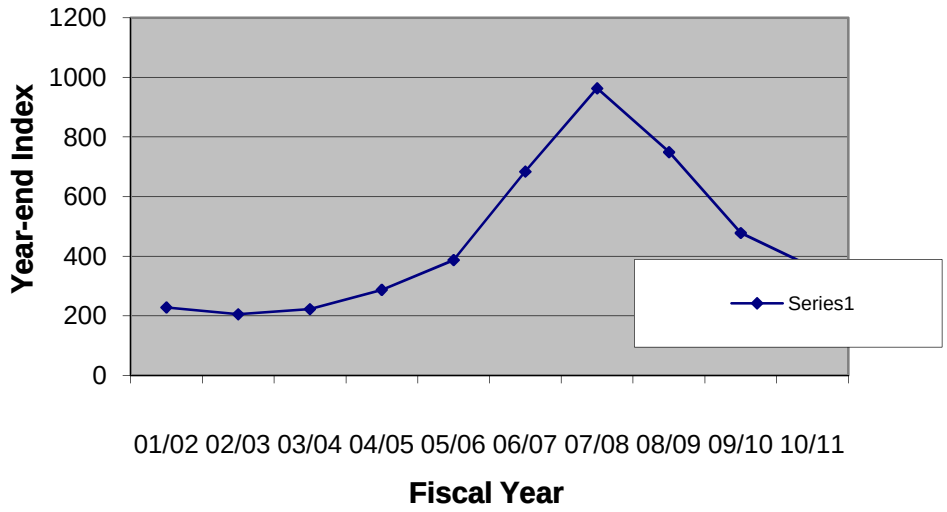


Figure 2.10 explains about the market/NEPSE index. It is an indicator of measurement of Development of capital market, risk in capital market or market etc. In the F/Y 2007/08 is the highest point of NEPSE index. Then it stars to decrease and reach to 326.85 in the F/Y 2010/11. The reason may be unfavorable time of capital market, unstable politics, risk in investment, lack of awareness, etc.

Figure 2.11
Market Return (R_m) Movement

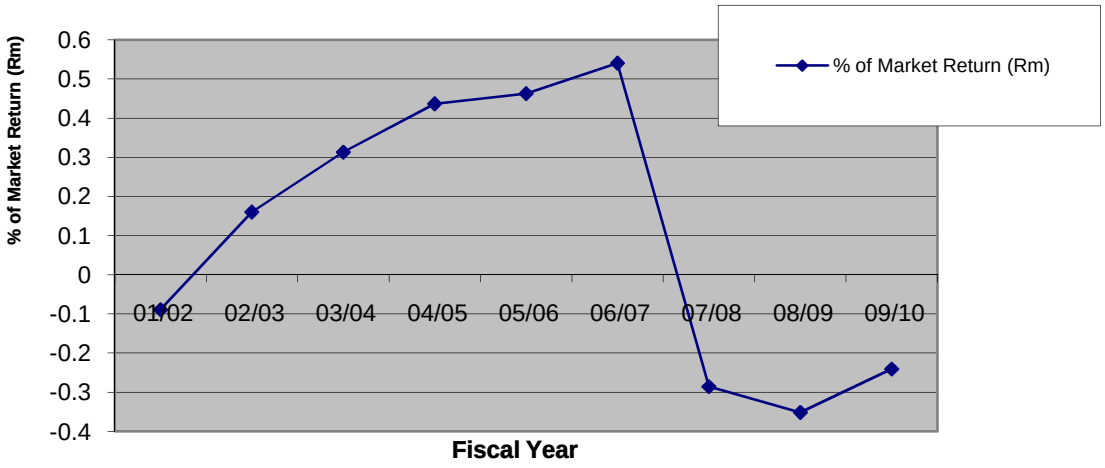


Figure 2.11 explains about the market return (R_m). It indicates of measurements and comparison of rate of return of the individual commercial banks. It presents the trend of return in overall capital market investment. In the initial F/Y it shows negative return like -0.2224, -0.3623 and -0.2405 respectively. The reason for this is the

nominal investment, unfavorable time, lack of awareness, decreases the NEPSE index, risk full market etc. To improve increase in NEPSE index, heavy investment, stable politics, etc. is necessary.

4.5.2 Analysis of Market Sensitivity

The correlation coefficient measures the relation association between two variables within the limit of +1 to -1. Covariance measures how the return on common stock of individual company and market move.

Likewise, the variability of a security's return with the return of the overall market, say NEPSE, return is called systematic risk. CAPM says that the securities expected return should relate to its degree of systematic risk and not to its degree of total risk. Systematic risk is the issue that matters to investors holding a well-diversified portfolio. Market sensitivity of stock is explained by its beta coefficient, measure of systematic risk which cannot be avoided and it is measured in terms of beta. The beta of market is always equals to 1. So beta of stock less than 1 is less risky or defensive investment and beta if stock more than 1 is more risky or aggressive investment.

We have,

- $_{j} = \frac{Cov(jm)}{\pm_{j}\pm_{m}} = \frac{\circ_{jm}\pm_{j.}\pm_{m}}{\pm_{m.}\pm_{m}} = \frac{\circ_{jm}\pm_{j.}\pm_{m}}{\pm_{m.}^{2}}$

Where,

β_j = Beta coefficient of stock j.

Cov(j m) = covariance between returns on stocks j and return of market

Where,

ρ_{jm} = Correlation between market return and stock J return.

Here, $\beta_m = \frac{Cov(R_m R_m)}{\pm m^2} = \frac{\pm_m \pm_m \circ_{mm}}{\pm_{m^2}} = \rho_{mm} = 1$

Hence, beta coefficient of market is always 1.

Table 2.12
Beta coefficient of each bank

S.No.	Bank	Beta Coefficient	Remarks
1	HBL	0.9000	Least aggressive
2	NABIL	0.9234	Least aggressive
3	NIB	0.5604	Least aggressive

Source: NEPSE

For and individual stock, the beta could be less than, equal to or more than 1 depending upon the volatility of that stocks return relative to the market return. The different values of beta are defined as: the beta equals to 1 implies, the average market risk and commands the average market risk premium. The beta less than 1 implies that stock's return is less sensitive to market fluctuation and such stock is considered to be the defensive type. The beta greater than 1 implies the opposite case of beta less than 1.

Since the NIBL has higher beta coefficient of market, the stock of the banks are aggressive. NIB has lowest beta and its share is least aggressive. Remaining bank HBL have nominal beta, so they are defensive stock than others.

Beta is used to determine the required return of an assets using CAPM. Higher the Beta or systematic risk higher will be the required rate of return an investor demands for bearing higher level of systematic risk on his investment. Comparison of an equilibrium expected rate of return (required rate of return) with the expected rate of return provides a basis for investment decision. If the required rate of return is higher than expected rate of return, the stock is overpriced and an investor sold the hold stock or may involved in short selling strategy. If the required rate of return is lower than expected rate of return, the stock is under priced and an investor makes buying strategy for this type of stock. The required rate of return and its expected return is presented below.

Table 2.13

Required Rate of Return, Expected Return and Price evaluation.

Banks	Average Rate of Return	$\overline{R_m}$	$_j$	Expected Return	Price Evaluation
HBL	0.22	0.0976	0.900	0.1984	Under Priced
NABIL	0.22	0.0976	0.9234	0.2002	Under Priced
NIBL	0.04	0.0976	0.5604	0.0402	Over Priced

We have,

- $\overline{R_m}$ = Market rate of return (NEPSE) = 0.0976

From the table it can be inferred that out of three commercial banks only NIBL is overpriced and remaining 2 commercial banks are under priced. If the expected rate of return is less than required rate of return then the stock is overpriced and vice versa. The under priced securities are recommended to buy and overpriced securities to sell; but other dimension of analysis are also essential for efficient decision.

4.6 Correlation between banks

Most stocks are positively correlative not perfectly. In this condition, some risk can be reduced. Correlation between the return of the two securities plays a significant role in risk reduction, by construction. Here, correlation between each banks are presented below.

Correlation between HBL and NABIL (PAB):

We have,

- $PAB = \frac{Cov(R_a R_b)}{s_a \pm_B} = \frac{0.2377}{0.508079 \text{ x} 0.5372} = 0.8707$

Where,

PAB = Correlation of return between HBL and NABIL

$Cov(R_A R_B)$ = Covariance between HBL and NABIL

$\pm_A$ = Standard deviation of HBL

$\pm_B$ = Standard deviation of NABIL

The table presented below shows the various correlations between each banks.

Table2.14
Various correlations between each bank.

Banks	HBL	NABIL	NIBL
HBL	1	0.8707	0.6294
NABIL		1	0.6533
NIBL			1

Source: Appendix-2

From the Table 2.14 it is noted that there are positive correlation and near to one. In positive correlation, some risk can be reduced but in perfectly positive correlation (i.e. +1) any part of risk cannot be reduced by diversification. On the other hand, if the correlation is perfectly negative (i.e.-1) then the proper combination of two securities can reduced all the risk. So, as long as correlation between securities return is negative, construction of portfolio is available.

4.7 Portfolio Analysis

Portfolio theory was introduced by Harry M. Markowitz which minimizes risk by investing total funds in more than a single asset or single stock. The portfolio analysis is performed to develop a portfolio that has the maximum return at whatever level of risk, an investor deems appropriate. Previous analysis of risk and return are based on the investment in single security i.e. held on isolation. In this section various portfolio are constructed to measure the impact on risk and return. As mention in the research methodology, optimum proportion of wealth is determined in order to attain optimum portfolio effect. The detailed calculation of optimal proportion of wealth, portfolio risk, portfolio return and correlation of Himalayan Bank Ltd (stock A) and Nepal Investment Bank Ltd (Stock B) is presented as a sample.The present study is based on only two assets portfolio. The portfolio risk, portfolio return and correlation among securities are presented below. Table 2.10 shows the calculation of covariance of the returns of given two stock cov (R_A R_B) and the proportion of stock A (WA) that minimizes the risk.

We have,

- $WA = \frac{\pm^2 B - Cov(R_A R_B)}{\pm^2 A + \pm^2 B - 2Cov(R_A R_B)}$

Where,

$\pm^2_A$	=	Standard deviation of C.S HBL
$\pm^2_B$	=	Standard deviation of C.S NIBL
$Cov(R_A R_B)$	=	Covariance of return between C.S of HBL and NIBL
WA	=	Proportion of the C.S of HBL
WB	=	Proportion of the C.S of NIBL

Table 2.15
Covariance ($R_A R_B$) and WA of Stock A and WB of Stock B.

F/Y	$\left(R_A - \overline{R_A}\right)$	$\left(R_B - \overline{R_B}\right)$	$\left(R_A - \overline{R_A}\right)\left(R_B - \overline{R_B}\right)$
2001/02			
2002/03	-0.34791	0.03216	-0.01119
2003/04	-0.10912	0.16105	-0.01757
2004/05	0.02644	-0.17585	-0.00465
2005/06	0.17061	0.55979	0.09550
2006/07	1.23548	0.33598	0.41510
2007/08	0.29862	0.38113	0.11381
2008/09	-0.05684	-0.46552	0.02646
2009/10	-0.61583	-0.51427	0.31671
2010/11	-0.40302	-0.27425	0.11053
Total	**-**	**-**	**1.04470**

We have,

- $\pm^2_A$ = 0.2581
- $\pm^2_B$ = 0.1318
- $Cov(R_A R_B) = \frac{\sum\left(R_A - \overline{R_A}\right)\left(R_B - \overline{R_B}\right)}{n-1} = \frac{1.04470}{10-1} = 0.1161$

And to minimize the risk the proportion of stock A in the portfolio is given as:

- $WA = \frac{\pm_B^2 - Cov(R_A R_B)}{\pm_A^2 + \pm_B^2 - 2Cov(R_A R_B)} = \frac{(0.3630)^2 - 0.1161}{(0.5081)^2 + (0.3630)^2 - 2x0.1161} = 0.099 \approx 0.10$

- WB = 1-0.10 $= 0.90 \approx 0.90$

If the portfolio is constructed with 10% of HBL common stock and 90% of NIBL common stock, constructed portfolio will minimize the risk and will be ideal portfolio.

And portfolio return will be,

- $\overline{R_p} = WAx\overline{R_A} + WBx\overline{R_B}$

  = 0.10 x 0.1984 + 0.90 x 0.04021

  = 0.056

  = 5.60%

Where, the portfolio risk is given as:

- $\pm_p = \sqrt{WA^2 x s_A^2 + WB^2 x \pm_B^2 + 2WAWB \pm_A \pm_B Cov(R_A R_B)}$

  =

  $\sqrt{0.1*0.1x0.2581 + 0.9*0.9x0.1318 + 2x0.10x0.90x(0.2581/2)*(0.1318/2)x0.1161}$

  = 0.3309

  = 33.09%

Using the diversification, we can reduce the risk. Standard deviation of HBL and NIBL was 0.5081 and 0.36298 respectively before the diversification. But after portfolio construction, which is lower than the risk is 0.3309, which is lower than the risk before diversification.

This calculation prove and demonstrate that portfolio investment minimize risk so portfolio investment concept is better in future and it will be more secure and lower level risk. It is a sample calculation of portfolio investment likewise other combination or portfolio will minimize the risk and maximize the return. It gives enough information and theory.

4.8 General environment factors on risk and return.

This section is the analysis of primary data. In first part the analysis of secondary data provide the results of sample commercial banks. It studies about the level of risk, return and other factors, comparison with market and other variables. The result of first part (secondary data) is influence from various factors which is run in the environment it also changes in time to time. So, analyze the impact and long term effect of environment factors to the risk and return or investment in common stock is the crucial and important factors which help to minimize risk and maximize return in the investment. The reason of this study (primary data) is the causes and effects of the result on the secondary data analysis. It is a fundamental component to minimize the risk on common stock. For the purpose here is study of primary research. Especially the primary research study helps to fulfill the second part of this thesis report. It is a work or field base study. It analyzes the general environmental factors which help to minimize the risk and maximize return on investment in common stocks. This study helps to understand about trend of investment, positive and negative factors related to the common stock. It also studies about attitude, objectives, public awareness and opportunity of respondents. This section explains the different concept about the respondents. The respondents are involve from shareholders, financial experts (manager, director, professor), share brokers, issue managers, NEPSE and SEBO officers, owners of company and research students.

The primary data is collected from the questionnaire method. To gather necessary information, a number of questions were put up by means of 50 copies of questionnaires consisting 12 questions all together.

100% i.e. 50 copies of the questionnaires were collected during study period. For the convenience of the respondent, questions were divided into 3 types:

i. Yes/No questions
ii. Opinion type questions
iii. Multi-choice questions.

Analysis of primary data:

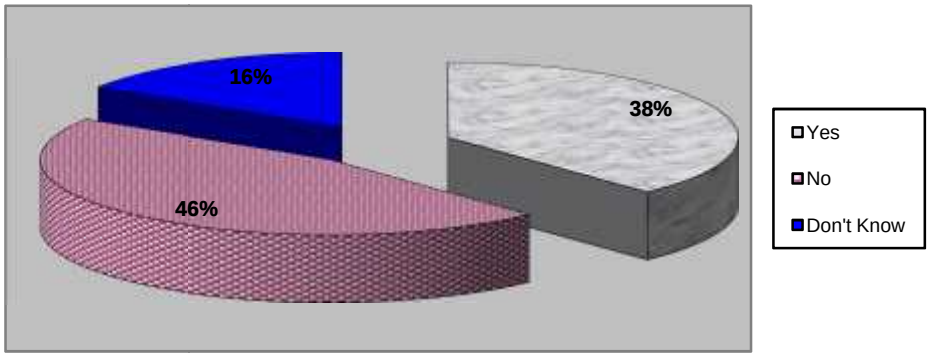
1. Investors Awareness Analysis

When investors are asked whether they are aware of Nepalese stock market or not, 46% of them replied "No", 38% of them replied "Yes" and remaining 16% did not answer the question. Regarding the awareness most of the investors said that they were not familiar with stock markets, brokers, trading mechanism. The following table and Figure explain the fact.

Table2.16
Analysis of Investors awareness about Stock Market

Research Variables	No. of Investors	% of Investors
Yes	19	38
No	23	46
Don't Know	8	16
Total	**50**	**100**

Figure 2.12
Analysis of Investors awareness about stock market



2. Preferential sector for investment

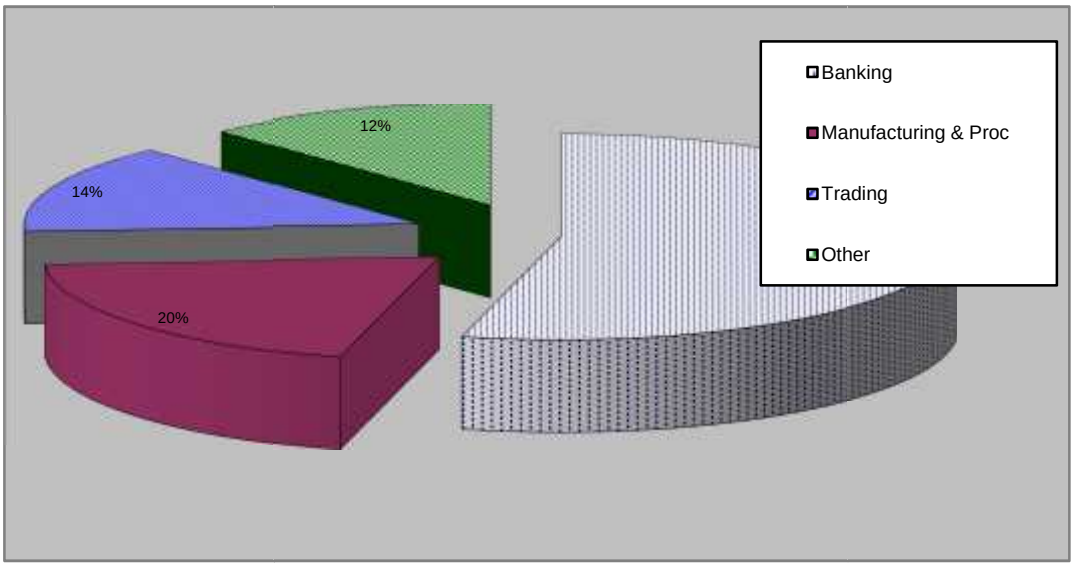
Regarding the sector of investment, the investors were asked which sector they like most for the share investment, 54% investors were interested in banking sector, 20% of them were interested in manufacturing & processing sector, trading and other sectors were preferred by 14% and 12% of investors respectively. From the table and

Figure presented below show the fact that major portion of the investors i.e. 54% would like to invest their money in banking sector.

Table 2.17
Preferential sector for investment

Research variables	No. of investors	% of investors
Banking	27	54
Manufac. & Proc.	10	20
Trading	7	14
Other	6	12
Total	**50**	**100**

Figure 2.13
Preferential sector for investment



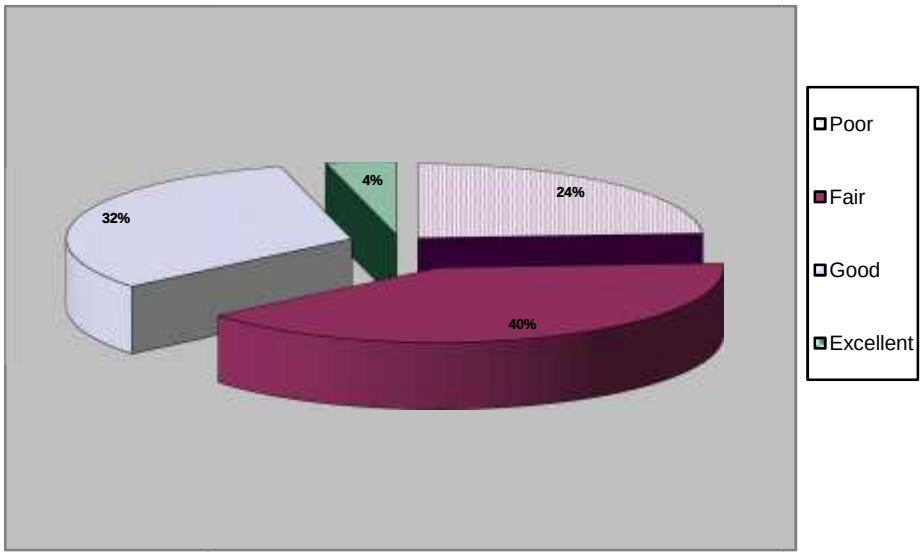
3. Investors view on performance of banking sector

Investors were asked, whether the banking sector is performing good or not. 40% of them said its performance is fair, 32% said well, 24% said poor and only 4% of investors said that the performance of banking sector is excellent. From above findings, we can say that the banking sector performing in average.

Table 2.18
Performance of banking sector

Research variables	No. of investors	% of investors
Poor	12	24
Fair	20	40
Good	16	32
Excellent	2	4
Total	**50**	**100**

Figure 2.14
Performance of banking sector



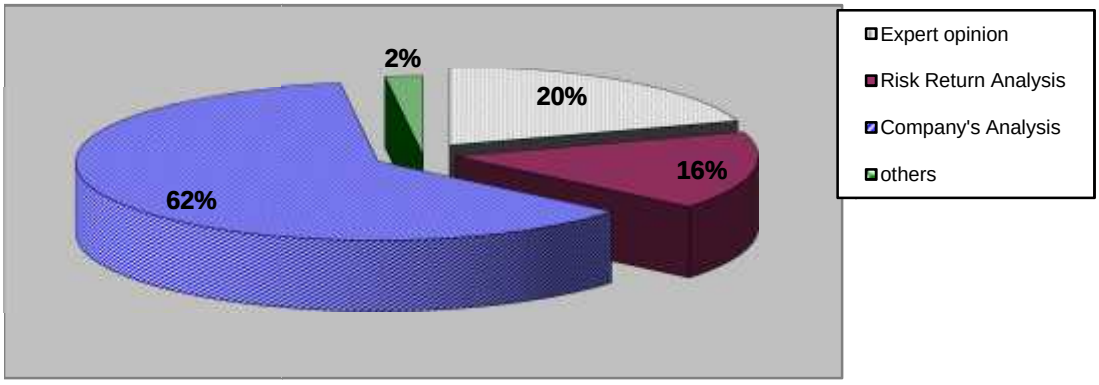
4. Basis for purchase share

When respondents were asked on what basis they choose the specific company's share, we found 62% of respondents purchased shares because of company's reputation, 20% of respondents purchased shares by taking expert's opinion, 16% of the respondents purchased shares by analyzing risk and return of the stock and 2% of the respondents buy the shares on other basis.

Table 2.19
Basis for purchase share

Research variables	No. of investors	% of investors
Expert Opinion	10	20
Risk Return Analysis	8	16
Company's reputation	31	62
Others	1	2
Total	**50**	**100**

Figure 2.15
Basis for purchase share



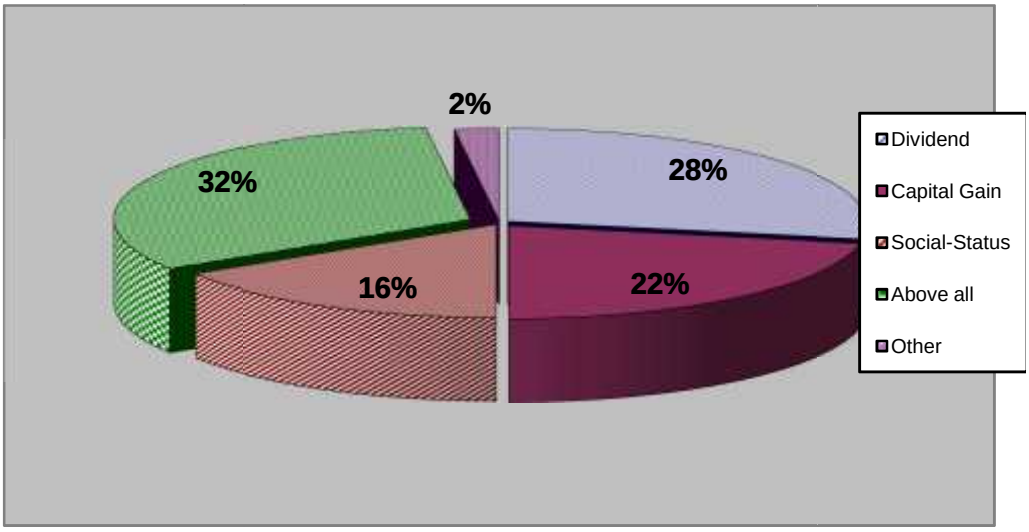
5. Purpose of holding share of company

When investors are asked what factor insists them to hold the stock of any company, 32% of them replied for the option above all i.e. Dividend, capital gain and social status, and 28% of investors hold the share for dividend. Likewise, 22% hold the share for capital gain, 16% hold to share for social status and remaining 2% gave no response.

Table 2.20
Purpose of holding share of Company

Research variables	No. of investors	% of investors
Dividend	14	28
Capital Gain	11	22
Social-status	8	16
Above all	16	32
No response	1	2
Total	**50**	**100**

Figure 2.16
Purpose of holding share of Company



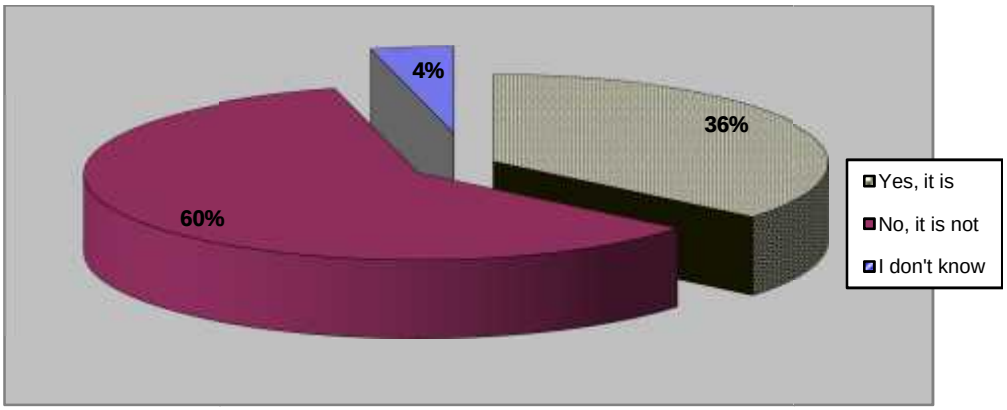
6. Tax imposed on dividend

When respondents were asked if tax imposed by the government on dividend is applicable, 60% of the investors gave negative response about tax impose by the government on dividend. But 36% of the investors gave positive response and remaining 4% have no idea about it. The analysis refers that most of the investors do not want to pay tax on dividend.

Table 2.21
Tax imposed on dividend

Research variables	No. of investors	% of investors
Yes, it is	18	36
No, it is not	30	60
I don't know	2	4
Total	**50**	**100**

Figure 2.17
Tax imposed on dividend



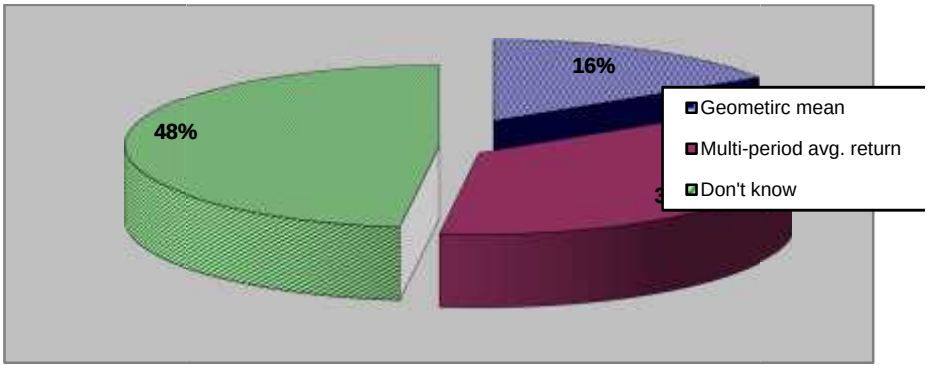
7. Method use for calculation of return

Regarding the method use by respondents to calculate return, 48% of respondents didn't know how to calculate return on stock, 36% of respondents used multi-period average for return calculation, and 16% of respondents used geometric mean for calculating return on stock. From the above finding we can conclude that the investors buy the stock without calculating return on it.

Table 2.22
Method use for calculation of return

Research variables	No. of investors	% of investors
Geometric mean	8	16
Multi-period avg. return	18	36
Don't know	24	48
Total	**50**	**100**

Figure 2.18
Method use for calculation of return



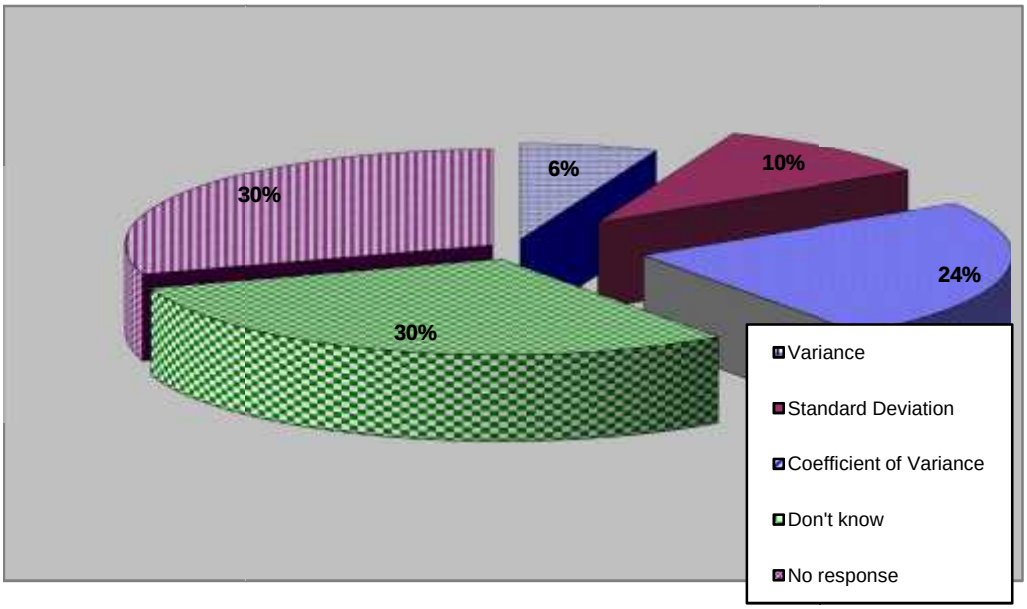
8. Method for risk measurement

Respondents are asked which method they use to calculate the risk associated with the stock. 24% used c.v, 10% of respondents used s.d, 30% had no idea and 6% used variance and remaining 30% didn't know how to calculate risk consisting on stock.

Table 2.23
Method for risk measurement

Research variables	No. of investors	% of investors
Variance	3	6
Standard Deviation	5	10
Coefficient of Variance	12	24
Don't know	15	30
No response	15	30
Total	**50**	**100**

Figure 2.19
Method for risk measurement



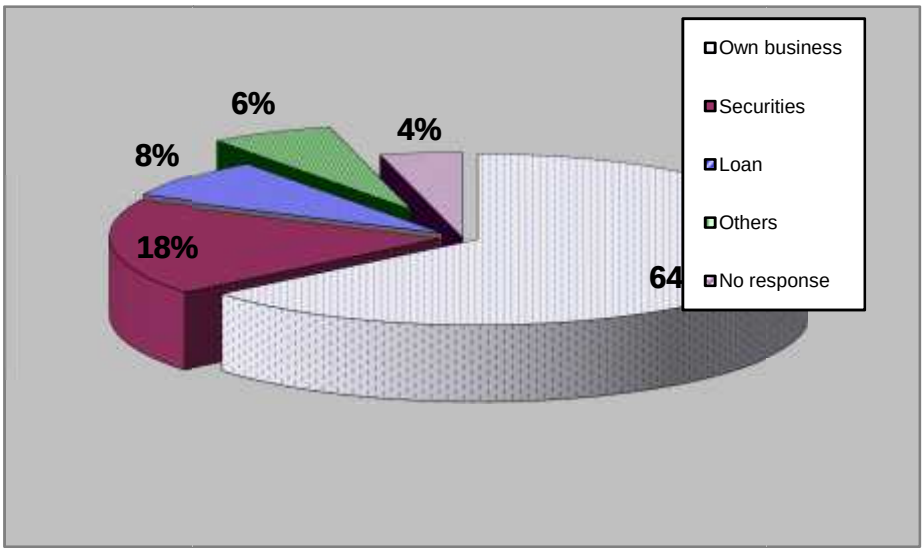
9. Analysis of investment decision

Regarding the question, where would they like to invest? 64% of respondents like invest in their own business, only 18% of respondents liked to invest in securities, 8% of the respondents liked to invest in loan and 6% liked to invest in other stuffs and remaining 4% of respondents gave no response.

Table 2.24
Best investment decision

Research variables	No. of investors	% of investors
Own business	32	64
Securities	9	18
Loan	4	8
Others	3	6
No response	2	4
Total	**50**	**100**

Figure 2.20
Best investment decision



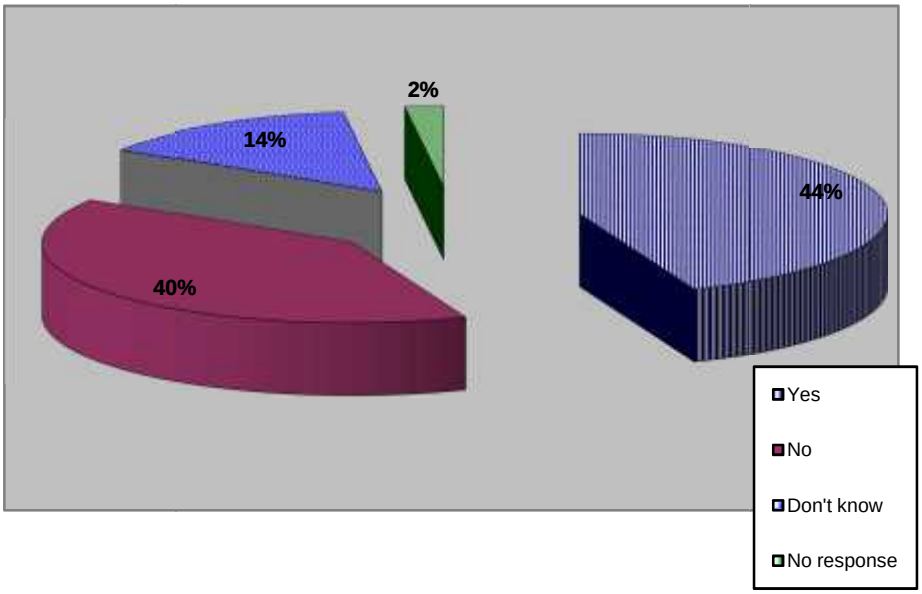
10. Satisfaction from investment

When investors were asked whether they are satisfied with their investment decisions or not; 44% respondents replied they are satisfied, 40% said they were not satisfied, 14% respondents had no idea and 2% of respondents showed no response.

Table 2.25
Investor's satisfaction analysis

Research variables	No. of investors	% of investors
Yes	22	44
No	20	40
Don't know	7	14
No response	1	2
Total	**50**	**100**

Figure 2.21
Investor's satisfaction analysis



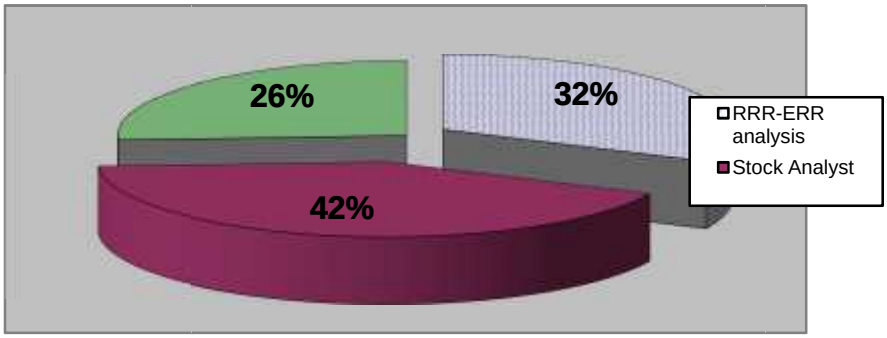
11. Method to determine share price situation

When respondents asked, how they determine whether the stock is under-priced or over-priced. Most of the respondent i.e. 42% replied that they analyzed with the help of stock analyst, 32% of them analyzed with the help of RRR-ERR analysis, and 26% of the respondents had no idea about it.

Table 2.26
Method to determine share price situation

Research variables	No. of investors	% of investors
By the help of RRR-ERR analysis	16	32
By the help of stock Analyst	21	42
Don't know	13	26
Total	**50**	**100**

Figure 2.22
Method to determine share price situation



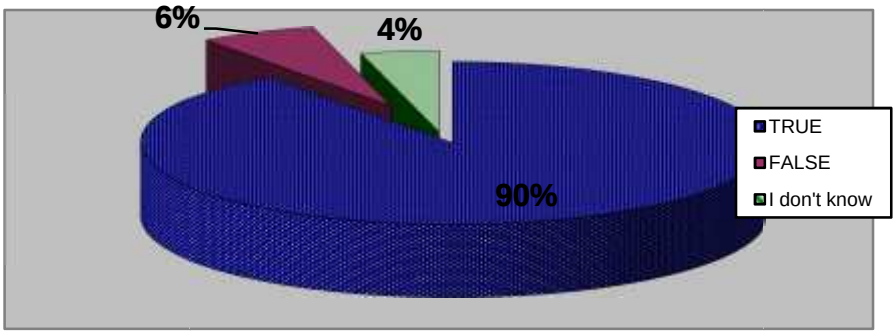
12. NEPSE index shows the current market situation.

Investors were asked whether NEPSE index shows the current market situation or not; 90% of investors said that NEPSE index shows the current market situation. But 6% of them had no idea about NEPSE index and 4% of them said that NEPSE index does not show the current market situation.

Table 2.27
NEPSE Index shows the current market situation

Research variables	No. of investors	% of investors
True	45	90
False	2	4
I don't know	3	6
Total	**50**	**100**

Figure 2.23
NEPSE Index shows the current market situation



4.9. Major findings of the study

In general, most people see stock market investment as a black art that they know little about it. Many people have unrealistically optimistic or pessimistic expectations about stock market investment or a fear of the unknown. This study enables investors to know the returns they can expect and the risks they may take into better perspective. Having completed the basic analysis required for the study, the final and the most important task of the researcher is to enlist the findings of the study. The main findings of the study are derived on the basis of financial analysis of HBL, NABIL and NIB, which are given below

a. Among more than 24 commercial banks are listed with NEPSE. Among listed commercial banks, 3 commercial banks i.e. HBL, NABIL and NIB are taken into consideration.

b. The return is the income received on a stock investment, which is usually expressed in percentage. The expected return of, HBL, NABIL and NIB are 19.84%, 20.01%, and 4.02% respectively. NABIL bank has highest expected return and NIB has lowest as compared to each others.

c. Risk is the variability of returns, which is measured in terms of standard deviation. On the basis of standard deviation, the common stock of NABIL has the highest risk with 53.72% and the common stock of NIB has the lowest risk with 36.29%. It is generally not suitable for comparing investment with different expected returns. In this case, the coefficient of variance is more rational basis of investment decision because it provides a better measure of risk. On the basis of coefficient of variance HBL are the best among all the banks. But NIB has the highest risk per unit.

d. Beta coefficient is a measurement of sensitivity of a stock's return to change in the average market return. This study shows that the common stock of NABIL is most aggressive and the beta coefficient of common stock of NIB is lowest by 0.560351. But considering other HBL have beta coefficient 0.9000 means less sensitive with market return and is called defensive stock with compare to other three banks so these two stocks are the best among all banks' stock.

e. Considering market capitalization of three commercial banks the market capitalization of HBL, NABIL and NIB are 23.33, 51.53 and 25.15 respectively in the year 2010/11. The market capitalization of NABIL is maximum at 51.53 and the market capitalization of HBL is minimum at 23.33.

f. The comparison between expected rate of return and required rate of return identify whether the stock is overpriced or under priced. If the required rate of return is lower than expected rate of return, the stock is known as under priced and vice versa. This study shows that all the stock of selected commercial banks is under priced except the NIBL. It means the bank's entire stock price will be increased in near future and all the stocks are in demand except for the NIBL. So investor can buy stock of two banks.

g. Portfolio analysis indicates that portfolio's construction is helpful in reducing the risk. If investors select the securities for investment, which have highly negative correlation of return, the risk can be totally reduced. If the correlation between the returns of two stocks is perfectly positive, the risk reduction is not so significant. So, portfolio between the same industries cannot reduce risk properly.

   In this study all the banks have positive correlation among their returns. NABIL and HBL bank have highly positive correlation between their returns. So, the portfolio construction of the common stocks of these 2 banks will not reduce any risk, which is not favorable as portfolio construction is concerned. In fact the portfolio investment helps to reduce the risk in the return; it is proved by the data analysis in portfolio investment of HBL bank and NIBL bank.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The study of managerial finance and investment analysis are an exciting and dynamic area and its importance to long run success of today's business is unquestioned. Financial analysis consists on the acquisition, utilization, control and administration of funds.

Capital market plays an important role for the economic development by the process of collection saving and stimulating capital formation. For the development of efficient capital market, it is essential to gear up saving and create suitable investment atmosphere as well as a sound corporate culture. With a well-developed capital market, it is possible to take better advantage of opportunities. Nepalese capital market is not well developed; however its performance is showing a slow improvement for providing investors the opportunity to participate in primary and secondary market activities. Although stock market investing is assumed the least understood, investor's attitude towards financial investment has been increasing and the demand is high especially for common stock.

The main objective of finance is to mobilize the investment into those sectors where return can be maximizing with low risk. So the central focus of finance is the tradeoff between risk and return. The relation between risk and return is described by investor's perception about risk and their demand for compensation. No investor will like to invest in risky assets unless he/she is assured of adequate compensation for the acceptance of risk hence risk plays a central role in the analysis of investments. Risk and return are now receiving considerable attention in the field of financial management.

The investors willingly offer more capital at higher rate of return whereas users of capital always show their readiness to use more capital at lower rate. Common stock is a source of capital which is considered to be riskier and lifeblood of stock

market. Therefore, investment in common stock is very sensitive on the ground of its uncertainty nature. Dividends to common stocks holders are only paid if the firm makes profit after tax and preference shareholder dividend. The company can return the principal in case of its liquidation only to the extent of the residual assets after satisfying to all its preference shareholders. Besides this, the investors have to sacrifice the return on their investment in common stock which would be earned investing elsewhere.

There are many objectives of this study which are to analyze the risk and return in common stock investment, coefficient of variation, total risk, beta coefficient, status of share price in market, correlation between risk and return, application and useful of portfolio investment and to identify general environmental factors on risk and return. The study is focused on the common stock of listed commercial banks and analysis of primary data collected form primary research. Hence, listed banks are taken as 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 qualitative analysis have performed by using statistical tool as well as personal judgment. Likewise, secondary data are collected from the NEPSE, NRB, SBON and other related banks. Other subjective types of information are collected through the discussion with private investors, financial executives of companies and officials of NRB, SEBON and NEPSE.

5.2 Conclusion

Stock market is the backbone of investment sector of the country. There is only one stock market in Nepal i.e. Nepal Stock Exchange (NEPSE). All the securities (besides government securities) are traded in such stock market. To make share transactions, the company should be first listed in the NEPSE. Nepal stock market has been passing through the transitional phase and has to face various obstacles and hindrances. Nepalese capital market is gradually growing or showing improvement. Although the stock market investment is assumed least understood, investor's attitude regarding financial investment is increasing, especially investment in common stock due to high return associated with it. Among all the sectors listed in NEPSE, banking sector plays vital role in stock market in terms of

market capitalization, volume of share traded and amount of share traded. Because of limited industries in Nepal, there are limited investment opportunities. Due to lack of proper information and alternatives, investors in Nepal are making blind investment. Following are the major conclusion summarized:

a. The return is the income received on common stock investment, which is usually expressed in percentage. Expected return on the common stock of NABIL is maximum (i.e. 20.01%) which is nominal rate of return and expected return of NIBL is negative (4.02%) which is minimum among selected commercial banks.

b. Risk is associated with return and it is variability of returns which is measured in terms of standard deviation. Common stock of NABIL is most risky, since it has the highest standard deviation and common stock of NIBL is less risky because of its lowest standard deviation.

c. On the other hand, coefficient of variation is more rational basis of investment decision which measures the risk per unit of variation, common stock of HBL is the best among all selected commercial banks. HBL has 2.560374 unit of risk per unit of return whereas common stock of NIBL has highest risk considering per unit return (i.e.9.02696 unit)

d. Considering different investment sectors like banking sector, finance, hotel, manufacturing and processing, trading and other sectors, expected return of other sector is not good now.

e. Investment on common stock of asset with highest coefficient of variation is risk and the return on those investment is more volatile and which has lowest coefficient of variation is less volatile return with the help of different investment sectors of Nepalese capital market.

f. Standard deviation measures unsystematic risk which is not defined by the market. Another aspect of the risk is systematic risk which is defined by the

market and measured by beta coefficient. Beta coefficient measures the sensitivity or volatility of the stock with market.

g. CAPM describes the relationship between risk and required rates of return. Summation of risk free rate and premium based in the systematic risk of the security is required rate of return of that common stock. Comparison between required rate of return and expected rate of return helps to predict whether the stock is over-priced or under-priced. If the required rate of return is greater than expected rate of return, the price of stock is over-priced or vice versa. The study shows that common stock of NIBL is overpriced and rests of all are under priced. This means that there stock price will be increased in near future. All the stocks are in demand and investor can buy the stock of NABIL and HBL.

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

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

j. From the study, it is found that none of the banks share price is rightly determined as all the banks average rate of return is more than the required rate of return for the investor. This brings the difference of market prices from the intrinsic value.

k. Most of the investors conduct market analysis and financial analysis together. At the same time, a few investors conduct either of one analysis. Most of the Nepalese investor is reported lack of adequate awareness on risk and return involved in the share investment in commercial bank.

5.3 Recommendations

The main objective of the study is risk and return analysis of common stock investment. The recommendations of the study may provide significant information for those who are involved in common stock investment directly or indirectly. Hence, the following recommendations can be outlined.

a. Traditionally, the purchase of land, construction of building and saving on the bank has been the major areas of investment for the people but their attitudes are changing towards shares, debentures and other new securities. So, the government policies and programs should direct towards the development of domestic stock market (over the counter market) for mobilizing saving and providing equitable investment opportunities for the people of all regions.

b. There is unrealistic relation between required rate of return and expected rate of return of sampled bank's securities .Excess return of banks in more than 20 percent which may not realistic. So, all the investors are recommended to conduct technical analysis as well as fundamental analysis to know the correct price of common stock .Technical analysis reveals stock's future performance based on the market price trend and investor's future expectation.

c. Proper analysis of individual security, industry and overall market are 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 proved by the present political situation of Nepal. It caused a great deterioration in share prices. To win the market, sale shares when the market is rising and buy shares when market is falling and hold share, which will perform better than market.

d. Different financial and statistical tools are considered to analyze the data in this study.

e. Investor needs to diversify their wealth to reduce risk. Proper way of construction of portfolio will reduce considerable potential loss, which is defined in terms of risk. But portfolio is a dynamic job. It changed according to the change in environment of the country or market movement. For optimal portfolio, select a stock having high return with not correlated i.e. negatively correlated stocks. A correlated stock cannot diversify risk properly.

f. Analysis of personal risk attitude, needs and requirements will be helpful before making and investment decision in stock market. Investors should make several discussions with stock broker before reaching at the decision. Investors should make their decision on the basis of reliable information rather than the imagination and rumors.

g. Investment clubs are good way to exchange and share investment ideas. In Nepal, there are no any such types of club. Mutual fund is worthwhile for people with little invest in investment. So, sharing experience, ideas and taking view of export will be of greater help.

h. NEPSE needs to initiate to develop different programs for private investors such as investor's meetings and seminars in different subject matters like "Trading Rules and Regulations" etc. On the other hand, NEPSE is following "Open Cry System" of trading even in the age of digital technology like On-line Trading System (which helps to trading process from other city of country on same time). It should be modernized. It needs to develop efficient and effective information channel and to provide up to date.

i. Corporate organizations must publicize the financial statements, value of assets and liabilities should not be manipulated. Each and every managerial decision of organization must be made to maximize shareholders wealth.

j. All investors are strongly suggested that further study should be conducted on this topic and also would like to suggest including maximum number of samples. Hence, it is recommended to carry out further more researches on common stock investment to enhance growth and development of the capital market in the country.

k. Nepalese investors are request to develop an appropriate basis for their investment on common stock as per the requirement. They are recommended to invest their fund by performing multiple analyses.

l. As risk and return are positively correlated they are requested to assess these factors as an important and recommended to analyze these factors with different financial tools and techniques.

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www.nabilbank.com

www.himalayanbank.com

www.nibl.com

www.studyfinance.com

www.researchfinance.com

www.nepalsharemarket.com

APPENDIX - 1

Calculation of covariance and correlation between different combinations of sample commercial banks

1. Covariance (R_AR_B) and correlation (ρ_{AB}) of HBL and NABIL (Stock A & B)

Fiscal Year	$\left(R_A - \overline{R_A}\right)$	$\left(R_B - \overline{R_B}\right)$	$\left(R_A - \overline{R_A}\right)\left(R_B - \overline{R_B}\right)$
2001/02			
2002/03	-0.34791	-0.13214	0.04597
2003/04	-0.10912	0.24881	-0.02715
2004/05	0.02644	0.37483	0.00991
2005/06	0.17061	0.34468	0.05881
2006/07	1.23548	1.11680	1.37978
2007/08	0.29862	-0.13581	-0.04056
2008/09	-0.05684	-0.25533	0.01451
2009/10	-0.61583	-0.69925	0.43062
2010/11	-0.40302	-0.66242	0.26697
Total			**2.13887**

We have,

- $Cov(R_AR_B) = \frac{\sum\left(R_A - \overline{R_A}\right)\left(R_B - \overline{R_B}\right)}{n-1} = \frac{0.213887}{10-1} = 0.23765$
- Correlation $\left(\rho_{AB}\right) = \frac{Cov(R_AR_B)}{\sigma_A \sigma_B} = \frac{0.23765}{0.508079 \text{x} 0.537205} = 0.8707$

2. Covariance (R_AR_B) and correlation (ρ_{AB}) of HBL and NIBL (Stock A & B)

Fiscal Year	$\left(R_A - \overline{R_A}\right)$	$\left(R_B - \overline{R_B}\right)$	$\left(R_A - \overline{R_A}\right)\left(R_B - \overline{R_B}\right)$
2001/02			
2002/03	-0.34791	0.03216	-0.01119
2003/04	-0.10912	0.16105	-0.01757
2004/05	0.02644	-0.17585	-0.00465
2005/06	0.17061	0.55979	0.09550
2006/07	1.23548	0.33598	0.41510
2007/08	0.29862	0.38113	0.11381
2008/09	-0.05684	-0.46552	0.02646
2009/10	-0.61583	-0.51427	0.31671
2010/11	-0.40302	-0.27425	0.11053
Total			**1.04470**

We have,

- $Cov(R_AR_B) = \frac{\sum\left(R_A - \overline{R_A}\right)\left(R_B - \overline{R_B}\right)}{n-1} = \frac{1.04470}{10\text{-}1} = 0.1161$
- Correlation $\left(\rho_{AB}\right) = \frac{Cov(R_AR_B)}{\sigma_A \sigma_B} = \frac{0.1161}{0.5081 \text{x} 0.3630} = 0.6294$

3. Covaraince($R_A R_B$) and correlation (ρ_{AB}) of NABIL and NIBL (Stock A & B)

Fiscal Year	$(R_A - \overline{R_A})$	$(R_B - \overline{R_B})$	$(R_A - \overline{R_A})(R_B - \overline{R_B})$
2001/02			
2002/03	-0.13214	0.03216	-0.00425
2003/04	0.24881	0.16105	0.04007
2004/05	0.37483	-0.17585	-0.06591
2005/06	0.34468	0.55979	0.19295
2006/07	1.11680	0.33598	0.37522
2007/08	-0.13581	0.38113	-0.05176
2008/09	-0.25533	-0.46552	0.11886
2009/10	-0.69925	-0.51427	0.35961
2010/11	-0.66242	-0.27425	0.18167
Total			**1.1464**

We have,

- $Cov(R_A R_B) = \frac{\sum (R_A - \overline{R_A})(R_B - \overline{R_B})}{n-1} = \frac{1.1464}{10-1} = 0.1274$
- Correlation $(\rho_{AB}) = \frac{Cov(R_A R_B)}{\sigma_A \sigma_B} = \frac{0.1274}{0.6372 \text{x} 0.3630} = 0.6533$

APPENDIX - 2

1. Calculation of weighted beta of banking sector

S.No.	Banks	Beta coefficient (β_j)	Market Capitalization	Weight (Wt)	(Wt x β_j)
1	HBL	0.9000	1150.00	0.2333	0.2010
2	NABIL	0.923395	2540.02	0.5153	0.4758
4	NIBL	0.560351	1239.64	0.2515	0.1409
		Total	**4929.66**		**0.8267**

The beta of a portfolio is a weighted average of betas of the individual assets that includes $b_p = \sum W_j \times \beta_j = 0.8267$

2. Calculation of estimated population (s.d) of beta

S.No.	Banks	Beta coefficient (β_j)	$\left(_j - \overline{\ }_j \right)$	$\left(_j - \overline{\ }_j \right)^2$
1	HBL	0.9000	-0.794582	0.63136
2	NABIL	0.923395	0.128813	0.01659
4	NIBL	0.560351	-0.234231	0.05486
	Total	**2.3837**		**0.703**

We have,

- Expected beta $\left(\overline{\ }_j \right) = \frac{\sum \ _j}{n} = \frac{2.3837}{3} = 0.79458$
- Standard deviation $(\pm) = \sqrt{\frac{\sum \left(_j - \overline{\ }_j \right)^2}{n-1}} = \sqrt{\frac{0.7031}{3-1}} = 0.5928$

QUESTIONNAIRES

Dear respondent,

For the completion of MBS, T.U. program, I am preparing a thesis report on Analysis of Risk & Return on common stock of Commercial Banks in Nepal, an emerging prospect in Nepal. My survey cannot be considered fair unless I get your help to fill up your opinions. I would be very much grateful if you could fill up this questionnaire.

I assure your opinions and information will be kept confidential.

Sample No. ☐

Name : _____

Gender : Male ☐ Female ☐

Occupation :

Age Group : 16-22 ☐ 23-28 ☐ 29-35 ☐ Above 35 ☐

Education : SLC ☐ Certificate ☐ Bachelor ☐ Master ☐
10+2
Other (Please specify)_____

Specific Group

1. Do you know about NEPSE?
   - ☐ Yes
   - ☐ No

2. Which sector do you prefer for investment?
   - ☐ Trading
   - ☐ Manufacturing
   - ☐ Banking
   - ☐ Others

3. What do you think about the performance of banking sector in Nepal?
   - ☐ Poor
   - ☐ Moderate
   - ☐ Excellent

4. In your opinion, how should you choose the specific company's shares?
   - ☐ Expert's Opinion
   - ☐ Risk and Return Analysis
   - ☐ Company's Reputation
   - ☐ If Others (Please Specify)_____

5. Which of the following factors insist you to hold share of the company?
   - ☐ Dividend
   - ☐ Capital Gain
   - ☐ Social status
   - ☐ All above

6. Tax imposed by the government on dividend is applicable.
   - ☐ Yes, it is.
   - ☐ No, it is not.
   - ☐ Don't know

7. How do you calculate return on a stock?
   - ☐ Geometric mean
   - ☐ Multi period average return
   - ☐ Don't know

8. What do you think is the most reliable tool for measure of risk?
   - ☐ Variance
   - ☐ Standard Deviation
   - ☐ Coefficient of Variance
   - ☐ Don't know

9. When you think you made the best investment decision?
   - ☐ In own Company
   - ☐ Securities
   - ☐ Loan
   - ☐ If Others (Please Specify)_____

10. Are you satisfy with your investment decision?
    - ☐ Yes
    - ☐ No
    - ☐ Don't know

11. How do you determine whether the stock is under or over priced?
    - ☐ RRR-ERR analysis
    - ☐ Stock Analyst
    - ☐ Don't know

12. Is it true that security market indexes show that current situation of market?
    - ☐ True
    - ☐ False
    - ☐ Don't know

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