## CHAPTER - I

## INTRODUCTION

### 1.1 General Background

Return is the main aim of investment and a certain degree of risk is associated with it. Finance mostly deals on the monetary risk and return, which is the most affecting subject matter for an individual to large corporation. In recent years the field of finance has truly undergone a revolution and its one of the leading sector, stock market has become a global phenomenon.

Return is known as something extra amount generate then own capital in other word exceeds amount then investment amount. Risk is known as the variability about the risk or the investment amount is decreasing then capital probability is risk. All investor want to their amount will increase in future then present so they use different methods to analysis capital. Investment has significant role for the well development of a country, which is the final result of the income, expenditure of the saving. Saving is impossible without earning, earning is impossible without investment and investment is completely depends upon the mobilization of savings either directly by the savers or indirectly through the financial intermediaries.

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.

Banks are one of the major players in the economic growth of the country and hence it needs proper attention to run successfully. Normally Banks play at public money that's why people pay their attention whether their money is properly utilized or not and whether the Bank is running at profit or loss. The existence of profit to any business firm is the basic factor. If there is no profit a business firm will become unable to provide its facilities in the long run.
"Banking plays a significant role to the development of national economy. Bank is a financial institution, which primarily deals in borrowing and lending. Modern Bank performs many other varieties of functions. The world "Bank" is derived from

Italian word "BANCA" which means a counter tables or bench used by medieval money exchange. Oxford dictionary defines Bank as "an establishment for the custody of money". The Bank operates in the modern and competitive business environment. A Bank is one who is the ordinary course of his business, receives money which he repays by honoring cheque of persons from whom or on whose account he receive it". (Bradford: 1995).

Security market refers both to money market and capital market. Money market may be defined as short-term financial assets market, which facilitates liquidity and marketability of securities. It includes the market for short term debt instrument having maturity of less than one year. The functions of money market interest rates are reflecting the demand and supply of funds in the competitive market. The instruments used in money market are treasury bills, negotiable, certificate of deposit, municipal bands, Banker accepter etc. (Bhattarai: 2007).

In Nepalese context, some financial institutions have been involved in capital market. They are: Nepal Rastra Bank, Commercial Banks, Agriculture Development Bank, Nepal Industrial Development Corporation, Employees Provident Fund, Citizen Investment Trust, Cooperative Agencies, Non-Government Organizations (NGOs), some hotels, manufacturing and trading agencies etc.

These institutions play a vital role on the development of capital market. Nepalese capital markets are classified into two sector 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.

Securities raise funds in the capital market that certainly helps to expand the national economy. There are different types of securities such as Treasury bill, longterm government bonds, long term corporate bonds, common stock etc. Among these, this study concerns only with common stock. Common stock has one important investment characteristics and one important speculative characteristic.

Common stock holders of the company are its ultimate owners. Collectivity they own the company and ultimate risk is associated with their ownership. So the
common stock is known as risky security. As the common stock is riskier it will yield higher return. People typically buy common stock expecting to earn dividends plus a capital gain when they sell their shares at the end of some holding period.

Common stock is easier to describe but hard to analysis. Common stock represents equity or ownership position in a corporation. Hence common stock is known as risky security. It is regarded as most expensive form of long term financing. This is because dividends are not far deductible and it is risky security. Investing is a process of making decision today whose result will not be known until tomorrow. The motivation for investment in stock market is desired to increase the wealth.

Generally, investment is risk, the assets having great returns with the least amount of risk. Investor must be able to identify the securities having low risk but high return. One way in which investor can reduce the risk is by spreading their capital across a range of investment. This is the principle of diversification or not putting the eggs in one basket. Diversification involves constructing the investor's portfolio in such a manner that risk is minimized.

Risk cannot be avoided if investor is seeking higher rate of return. Higher the risk of security, higher the rate of return demanded by the investor. Since ordinary share is more risky, investor will require highest rate of return on their investment in common stock performance share is more risky than debt. Therefore risk return relationship for various securities is different.
"Risk plays a central role in the analysis of investments. Investors often ask about the total risk they will be assuming in an investment and like to know whether the risk premium provided to them is enough or not. But they are also concerned about many other issues. First of all, it is necessary to see the total risk associated with a single asset is relevant for them. Second, they need to know the actual contribution of an assets risk to portfolio risk" (Pradhan: 2001).
"The concept of risk and return are the determinant for the valuation of securities. However, risk means that we do not know what is going to happen even though we occasionally have a good idea of the range of possibilities that we face. In the most basic sense, risk can be defined as the chance of loss. Assets having greater chances of loss are viewed as more risky than those with lesser chances of loss. More
formally, the term risk is used interchangeably with uncertainty to refer to the variability of returns associated with a given assets" (Gitman: 2001).

### 1.2 Statement of the Problem

Generally, investors purchase financial assets such as stocks or bonds for their desire to increase their investment wealth i.e. earn positive rate of return on their investment. Risk and return analysis is worked out to identify the sustainable position of any organization and financial institution.

Capital market in Nepal has grown rapidly after the establishment of the security market named NEPSE within the very short period of time. However, the attitudes and knowledge of the most investors have not changed yet. They do not have idea of risk and return. They are influenced by liquidity position rather than information in the financial market. Investors usually lack any idea of risk and return because most of the investors appear to be least familiar with the financial market. They can make wrong investment decisions based on the hunches rather than on real term analysis. Though some investors follow the rational investment procedure and portfolio analysis but they still lack perfect awareness about the risk and return factors. Without getting theoretical knowledge about risk associated with investment, most of the investors are making investment on the stocks. This may be termed as improper practice. This situation motivates to undertake a research project entitled "An Analysis of Risk and Return of Commercial Banks in Nepal".

Investors need to have more knowledge about investment opportunities. They must be able to analyze the associated risk and returns of individual stock. This will increase the market efficiency. An investor must be able to design his investment and financing activities in a manner to maximize the market value of shares. There are no separate institutions, which provide information required making rational decision by the investors and on the other hand lack of good policy had discouraged the investors. There are no sources to get exact or perfect information about the future regarding risk and return on investment in Nepal. Government policy is found less encouraging in promoting common stock investment. On the other hand, usually there is positive tradeoff between risk and return. It is true that riskier assets will pay higher average rate of return to make the riskier investment. Investing funds in different securities diversifies the risks, which needs to be understood by Nepalese investors.

In Nepal, major weakness on the increment of stock market efficiency is due to lack of skills, knowledge, resources and technology. Most of the investors are not seem to be aware of financial position of the companies in term of their financial indicators in which they are going to invest their funds. Through secondary market NEPSE, the market price of common stock seems to be in accordance with the financial indicators. Instead, in determination of market price of share, there has been major influence of rumors rather than strengths of the companies.

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 if any manufacturing and processing issues shares, very little investors make investment.

In Nepalese context, most of people deposit their saving in banks instead of making investment in the financial assets available in the capital markets like investment in shares, debentures and other derivative securities. Many investors are not rational towards their investment decision. They don't know how to make rationale investment by assessing the risk percept in the investment and the level of return to compensate the percept risk. In Nepal, most of the financial institution issues only the common stocks and capital market is also dominated by the trading of the stocks. On the basis of this, the study seeks to answer the following research questions.

1. What is the level of systematic risk on common stocks of commercial banks?
2. What is the level of unsystematic risk on common stocks of commercial banks?
3. What is the average return on common stocks of commercial banks?
4. What is the total level of risk and return on common stocks of commercial banks?
5. Whether the common stocks of selected banks are over or under priced?
6. What is the investors' perception on the risk and return on common stocks of commercial banks?

### 1.3 Objective of the Study

The primary objective of the present study is to analyze the risk and return of selected commercial banks in Nepal. The specifics objectives of the present study are listed down as follows:

1. To analyze the systematic risk of the selected commercial banks.
2. To analyze the unsystematic risk of the selected commercial banks.
3. To analyze the average return on common stocks of selected commercial banks.
4. To analyze the total risks and return of selected commercial banks.
5. To analyze whether the common stocks of selected banks are over or under priced.
6. To find out whether the investors analyze the risk and return while making investment in the common stocks of commercial banks.

### 1.4 Limitation of the Study

The following are some limitations of the studies.

1. It covers only relevant data of Last Ten years from 2002-03 to 2011-12. It doesn't consider the data before 2002-03. Therefore, the resulted data may occur varies.
2. Out of 32 Commercial Banks in Nepal, only four commercial Banks are taken into consideration as a sample for the research. So, the research may not applicable to rest of unselected banks.
3. This study focuses only on analysis of risk and return of selected banks leaving other components.
4. Only selected statistical and financial tools have been employed in this study.
5. Data are both secondary and primary in nature.
6. The main focus is given to the quantitative aspects.
7. As Nepal Stock Exchange Limited is the only organized stock market in the

Country, yearly closing NEPSE index are used as the returns on market portfolio (return on average stock).
8. Average return on the 364 -days Treasury bill of past ten years has been taken as a proxy of the risk-free rate of return.

### 1.5 Organization of the Study

This study has been broadly divided in to five chapters. First chapter of this thesis covers general introduction, statement of problem, objectives, significance of study, and limitation of study etc. Second chapter covers Review of Literature which consists of the conceptual/theoretical review and review on risk and return. Third chapter cover Research Methodology. It focuses on research design, population and sample sources of data, data analysis tools and limitation of the research methodology. Fourth chapter discuss about the Data Presentation and Analysis. This chapter attempts to analyze and evaluate the data with the help of correlational and casual comparative tools and interpret the result. Lastly fifth chapter covers the Summary, Conclusion and Recommendations, this chapter attempts the results obtained through analysis and recommends some suggestions. Bibliography and Appendices is incorporated at the end of the study.

## CHAPTER - II

## REVIEW OF LITRATURE

It is very important to study the materials on the topic of research and that is called review of literature. Review of literature deals with the theoretical aspect of the topic on risk and return on common stock investment in more details and descriptive manner. The primary focus of the study is to analyze risk and return. The researcher reviews books, journals, magazines, previous thesis papers, or any type of studies, which are related to their field of the study. Research is a continuous process it never ends. The procedures and the findings may change but research continues. Main purpose of reviewing the literature is to develop some expertise in ones area, to see what new contributions can be made and to receive some ideas for developing a research design. Thus, the precious studies cannot be ignored because they provide the foundation and ideas to the present study.

### 2.1 Conceptual Review

There are numerous reasons that cause the risk and return of stock. They are economic and non-economic and other factors. The risk and return of securities is typically very sensitive, responsive to all events, both real and imagined, that cast light into the dark future. Though all factors give rise to the observed movement of share price, it would be very hard to find a completely accepted price formation theory. Now-a-days the investment sector is getting been successful in recent years as other economic sectors. Today, most of the developing countries are boosting their economic developments through the contribution of their investment sectors.

### 2.1.1 Common Stock

The common stock represents equity, or an ownership position in a corporation. It is a residual claim, in the sense that creditors and preferred stockholders must be paid as scheduled before common stockholders can receive any payments. In bankruptcy common stockholders are in principle entitled to any value remaining after all other claimants have been satisfied (However, in practice courts sometimes violate this principle). The great advantage of the corporate firm of organization is the limited liability of its owners. Common stocks are generally fully paid and non assessable, meaning that common stockholders may lose their initial investment but
not more. That is, if the corporation fails to meet its Obligations, the stockholders cannot be forced to give the corporation the funds that are needed to pay off the obligations. However, as result of such a failure, it is possible that the value of a corporation's share will be negligible. This outcome will result in the stockholders having lost an amount equal to the price paid to buy the shares (Sharpe, Alexander, Bailey: 2000).

Common stock represents an ownership position. The holders of common stock are the owner of the firm, have the voting power that among other things elects the board of directors, and have a right to the earnings of the firm after all expenses and obligation have been paid; but they also run the risk of receiving nothing if earning are insufficient to cover the obligations. Common stockholders hope to receive a return based on two sources dividends and capital gains. Dividends are received only if the company earns sufficient money and the board of directors deems it proper to declare dividends. Capital gain arises from advancement in the market price of the common stock, which is generally associated with a growth in per share earnings because earnings often grow smoothly over time. This fact points the need for careful analysis in the selection of securities for purchase and sale, as well as, in the timing of these investment decisions, for common stock has no maturity date at which a fixed value will be realized. When a company needs capital for expansion, it sells shares its stocks to the public. Most companies issue million numbers of shares so each share represents only a tiny piece of company. These shares are also transferable (Fisher: 2002).

### 2.1.2 Investment

Investment, in its broadest sense, means the sacrifice of current Rupees (Dollars) and resources for the sake of future Rupees (Dollars) and resources. In other words, it is a commitment of money and other resources that are expected to generate additional money and resources in the future. Such a commitment takes place in the present and is certain to occur but the reward comes in the future and always remains uncertain. Therefore, every investment entails some degree of risk. Investments are made in assets. Assets, generally, are of two types: real assets (land, buildings, factories etc.) and financial assets (Stocks, Bonds, and T-bills etc). These two types of investments are not competitive but complementary, highly-developed institutions for financial investment greatly facilitating real investment (Bhattarai: 2009).

### 2.1.3 Securities

A firm may promise a right to share in its profits in return for an investor's funds. Nothing is pledged, and no irrevocable promises are made. The firm simply pays whatever its directors deem reasonable from time to time. However the investor is given the right to participate in the determination of who will be the members of the board of directors. The right protects the investor against serious malfeasance. The investor's property right is represented by a share of common stock, which can be sold to someone else. Who will then be able to exercise the right? The holder of common stock is said to be an owner of the corporation and can exercise over its operation through the board of directors. In general, only a piece of paper represents the investor's right to certain prospects or property and the conditions under which he or she may exercise those rights. This piece of paper, serving as evidence of property rights, is called a security. It may be transferred to another investor with all its rights and conditions. Moreover, the security is a legal representation of the right to receive prospective future benefits under stated conditions (Sharpe, Alexander \& Bailey: 2000).

### 2.1.4 Security Market

Security Market is also known as Financial Market. Security Market is the mechanism designed to facilitate the exchange the financial assets or securities by bringing buyer and seller of securities together. Precisely speaking, financial market allows suppliers and demanders of funds to make transactions.

According to Brigham \& Ehrhardt, 10th edition, "Financial Markets brings together people and organizations needing money with those having surplus funds"

According to Van Horne \& Wachowicz Jr. 13th edition, "Financial markets are not so much physical places as they are mechanisms for channeling savings to the ultimate investors in real assets. All institutions and procedures for bringing buyers and sellers of financial instruments together."

The security market plays an important role in mobilizing savings and channeling them into productive investment for the economic development of the country. It assists for the capital formation and economic growth of the country.

It can be various types and forms classified on different bases.

- On the basis of maturity period (Manandhar, Gautam, Dhakal, Adhikari , Bhandari, Lamichhane, 2066) :

1) Money Market: It is concerned with the buying and selling of short-term (less than one year original maturity) security and corporate debt securities. e.g.: Tbill, option, right, future etc.
2) Capital Market: It deals with relatively long-term (greater than one year original maturity) debt and equity instruments. e.g.: bonds and stocks.

According to Brigham \& Ehrhardt, 10th edition, "Capital Markets are the market for intermediate or long-term debt and corporate stocks. Intermediate term refers those financial assets having the maturity periods equal to five years and more than five years".

- On the basis of securities issue and trading activities :

1) Primary Market: It is a new issue security market, where funds raised through the sale of new securities flow from the ultimate savers to the ultimate investors, in real assets.

The Primary market is concerned with the new securities which are offered to investors for the first time. This market used by the companies and the governments to raise funds for different purposes. In this market, the principal source of fund is domestic saving of individuals and firm, other suppliers include foreign investors and government.
2) Secondary Market: In this market, existing securities are bought and sold. The secondary market deals with the securities that have been already issued in the primary market, the securities are transferred between current and potential owners. It deals with previously issued share mainly traded through the stock exchange, over the counter (OTC) market and the direct dealing.

- On the basis of physical location:

1) The Organized Market (Auction Market): It consists of organized stock exchanges, which provides central market places where orders from all over the country to buy and sell securities can be executed. These stock exchange neither buy nor sell securities themselves. They merely provide the place for
their member to do so. Nepal Stock Exchange (NEPSE) is the only organized exchange to carry out secondary market operation of corporate securities in Nepal. E.g.: New York Stock Exchange, the American Stock Exchange, New York Bond Exchange, etc.
2) Over-the Counter (OTC) Market (Negotiated Market): It is an unorganized market. It operates outside the organized exchange and does not provide specific location where business may be transacted. Brokers and dealers play important role in the OTC market.

OTC market serves as part of the secondary market for stocks and bonds not listed on an exchange as well as for certain listed securities. The OTC market has become highly mechanized with market participants linked together by a telecommunication networks.

Security market exists in order to bring together buyers and sellers of securities, meaning that they are mechanisms created to facilitate the exchange of financial assets. There are many ways in which security markets can be distinguished one-way, primary and secondary markets. Here the key distinction is whether the securities are being offered for sale by issuer. Interestingly, the primary market itself can be subdivided into seasoned and unseasoned new issues. A seasoned new issue refers to the offering of an additional amount of an already existing security; where as an unsecured new issue involves the initial offering of a security to the public. Unseasoned new equity issues are often referred to as initial public offerings (IPOs). Another way of distinguishing between security markets considers the life span of financial assets. Money markets typically involve financial assets that expire in one year or less; whereas capital markets typically involve financial assets with life spans of greater than one year (Sharpe, Alexander and Bailey: 2000).

### 2.1.5 Meaning of Risk

Risk is defined in Webster's as a hazard a peril, exposure to loss or injury. Thus risk refers to the chance that some unfavorable event will occur. If you engaged in skydiving you are taking a chance with your life, sky diving is risky. If you bet on horse, you are risking your money. If you invest in speculative stocks or any stocks, you are taking a risk in hope of making an appreciable return. The greater the chance of loss or negative returns the riskier the investment (Weston and Brigham: 1992).

Instead of measuring risk the probability of a number of different possible outcomes, the measures of risk should somehow estimates the extent to which two actual outcomes is likely to diverge from the expected outcome. Standard deviation is a measure that does this since it is an estimate of the likely divergence of actual return from an expected return (Sharpe, Gordon and Bailey: 1995).

### 2.1.6 Sources of Risks

An investment is commitment of money that is expected to generate addition money. Every investment entails some degree of risks. A major objective of financial institution is to increase the returns for its owner by taking minimum risk. The effective management of the risk is central to its performance. Indeed, it can be argued that 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 (Francis, Jack Clark, 1995).

## Interest Rate Risk

It is defined as the potential variability of return caused by changes in the market interest rates. If the market interest rate rises (fall), then the present value of investment will fall (rise). Moreover the present value moves inversely with changes in the market rate of interest. This interest rate risk affects the prices of bonds, real estate, gold and other investments as well.

## Purchasing Power Risk

It is the variability of return an investor suffers because of inflation. When inflation takes place, financial assets (such as cash, stocks, bonds) may loose their ability to command the same amount of real power of the financial assets and increase investor's risk. So the real rate of return on financial assets may not adequately compensate the holder of financial assets for inflation.

## Bull-Bear Risk

Bull-bear market arises from the variability in market returns, resulting from alternating bull-bear market forces. When a security index rises fairly constantly from low point, called a trough, for a period of time, the upward trend is called bull market. The bull market ends when the market index reaches a peak and stats a downward
trend. The period during which the market declines to the next trough is called bear market.

## Default Risk

It is the portion of total of investment that results from changes in the financial integrity of the investment. The variability of returns that investors experiences as a result of changes in the credit worthiness of a rim in which they invested is their default risk. Investors loss from default risk usually results from security prices falling as the financial integrity of a firm weaken, the loss is anticipatory loss.

## Liquidity Risk

Liquidity risk is the portion of total variability of return of as asset which results from price discount given or sales commissions paid in order to sell the assets without delay. Perfectly liquid assets are highly marketable - either price discount must be given or sales commissions must be paid. The more liquid an assets is the larger the price discount or commission in which must be given up by the seller in order to affect a quick sale.

## Call Ability Risk

Some bonds and preferred stocks are sold with a provision that allows the issuer to call them for re-purchase. Issuers like the provision because it allows them to buy back outstanding preferred stocks or bonds with funds from a new issue if market rate drops below the level being paid on the outstanding securities. Investors should view the call provision as a threat that may deprive them of good investment at a time when their funds can be re invested at a lower yield. The portion of securities total variability of return that deprives the issue of the possibility may be called call ability risk. The call ability risk commands a risk premium that commands in the form of a slightly higher average rate of return.

## Political Risk

Political risk arises from the exploitation of a politically weak group for the benefit of a politically strong group with the effects of various groups to improve their relative positions increasing the variability of returns from the affected assets. Regardless of changes that causes political risk are sought by political or by economic interests. The resulting variability of returns is called political risk if it is
accomplished through legislative, judicial or administrative branches of the government (Shrestha: 1997).

### 2.1.7 Types of Risk

The total variance of the rate of return is the sum total of various risks which are primarily classified into two types.
i. Systematic Risk
ii. Unsystematic Risk
Total Risk = Systematic Risk + Unsystematic Risk

## i. Systematic Risk

It refers to that portion of the variability of an individual security's return caused by factors affecting the market as a whole as such it can be thought of being no diversifiable. It is because of this that it is also called market risk or relevant risk. The systematic risk is market related. In other words, it arises from the changes in the economy and market condition. For example, high inflation, recession, impact of political factors, wars, depression, and long term changes etc which are beyond the control of company management. It affects all the firms in the market. The systematic risk is rewarded in the form of risk premium, Sometimes; systematic risk is called market risk. Systematic risk affects almost all assets in the economy, at least to some degree, whereas systematic risk affects at a small number of assets. The principle of diversification has an important implication to a diversified investor, only systematic risk matters. Systematic risk accounts for $25 \%$ to $50 \%$ of the total risk of any security. Some of the sources of systematic risk include
a.Interest rate changes
b.Changes in purchasing power
c. Changes in investor's expectation about the overall performance of the economy.

Because diversification cannot eliminate systematic risk, this type of risk is the predominant determinant of the individual security risk premium. This risk is also called beta risk (Weston and Brigham: 1982).

## ii. Unsystematic Risk

It is also called diversifiable risk or company specific risk or unavoidable risk. It is such a risk which is unique to the firm. The unsystematic risk is non market factors related. In other word, it arises from the project specific factors. This portion of risk is possible to reduce or eliminate through diversification of their investments. It is inherent individual companies or projects. It is the variability in the security's return caused by such factors as:
a.Management capability and decisions
b.The availability of the raw materials
c.Strikes
d.The unique effects of government regulations such as pollution control
e.The effect of foreign competition
f. The particular levels of financial and operating leverage of the firm employees.
(Weston and Brigham: 1982)

### 2.1.8 Meaning of Return

Income received on an investment plus any change in market price, usually expressed as a percentage of the beginning market price of the investment. The return from holding an investment over some period - say, a year- is simply any cash payment received due to ownership, plus the change in market price, divided by the beginning price. Return comes to you from two sources: income plus any price appreciation (or loss in price).

For common stock we can define one-period return as:-

$$
R=\frac{D_{t}+\left(P_{t}-P_{t-1}\right)}{P_{t-1}}
$$

Whereas,
$\mathrm{R}=$ Actual (expected) return
$\mathrm{t}=\mathrm{A}$ particular time period in the past (future)
$\mathrm{D}_{\mathrm{t}}=$ Cash dividend at the end of time period t.
$\mathrm{P}_{\mathrm{t}}=$ Stock price at time period t

$$
\mathrm{P}_{\mathrm{t}-1}=\text { stock's price at time period } \mathrm{t}-1
$$

(Van Horne and Wachowicz, Jr. : 2009)

### 2.1.9 Expected Rate of Return

The future is uncertain. Investors do not know with certainty whether the economy will be growing rapidly or be in recession. As such, they do not know what rate of return their investments will yield. Therefore, they base their decisions on their expectations concerning the future. The expected rate of return on a stock represents the mean of a probability distribution of possible future returns on the stock. It is the rate of return to be realized from an investment, the weighted average of the probability distribution of possible assets. Thus the expected rate of return for any asset is the weighted average rate of return, using probability of each rate of return as the weight (Brigham, Eugene F., Houston, Joel F, 1996).

### 2.1.10 Required Rate of Return

The required rate of return is the minimum rate of return (expressed as a percentage) that an investor requires before investing capital. The degree of risk associated with an investment is reflected in the required rate of return. Investors and analysts often use the required rate of return as a discount rate for future cash flows from an investment. For many investors, a beginning point in stock valuation is calculating the required rate of return. On occasion, the required rate of return is confused with the internal rate of return. "The capitalization or the discount rate is defined as the required rate of return. It is the minimum rate expected by the investors to buy or hold a security." The required rate of return is composed of a risk-free interest rate and a risk premium rate (Sheridon, Titman \& Grinblantt, Mark: 1998).

### 2.1.11 Relationship between Risk and Return

The observe difference in both the levels and variability of the rate of return cross securities are indicative of the underlying risk and return in the market. Generally, here is a positive relationship between rate or return and risk. It means an investor can usually attain more return by selecting dominant assets that involve more risk. While it is not always true that a riskier asset will pay a higher average rate of return, it is usually in practice. The reason is that investors are risk averse. As a result, high-risk assets must offer investor's high return to induce them to make the riskier investment normally; investors are likely to prefer more return and less risk. It means
investors will not choose an investment that guarantee less return when investments promising higher returns in the same level of risk class are readily available (Loric, Dodd and Kempton: 1985).

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

### 2.1.12 Portfolio Theory

Portfolio theory is the best way of investment for rational investors. Normally almost all the investors are risk averse. They need high or satisfactory level of return bearing risk as low as possible. Portfolio theory gives the concept of investment in a good way that "never keeps all the eggs in a single basket." i.e. never invest your entire amount in a single asset. Investment on more than one security means diversification or minimizing risk. Therefore it is needed to extend analysis of risk and return 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

In 1952 Harry M. Markowitz proposed the concept of the portfolio theory. He gave a very new concept of investment on more than single assets to minimize risk maximize return. The portfolio theory developed by Markowitz is based on following assumption: The expected return from an asset is the mean value of a probabilities distribution of future return over some holding period. The risk of an individual assets
or portfolio is based on the variability of returns (i.e. Standard deviation or variance).Investors adhere to the dominance principal i.e. for given level of risk investors prefer assets with a higher expected return to asset with a lower expected return. For asset with the same expected return, investors prefer lower to higher risk (Cheney and Moses: 2000).

### 2.1.13 Capital Asset Pricing Model (CAPM)

As portfolio deals with the selection of optimal portfolio, capital market theory deals with an equilibrium model of assets prices. Especially capital market theory postulates the extant risk return relationship of individual assets as well as portfolio under equilibrium conditions. It measure systematic risk permits investors to evaluate an assets required rate of return to the systematic risk of the asset. In general, the CAPM indicates that assets required return should be related to the risk free rate of return plus a risk premium based on the beta of the asset.

CAPM is a model that describes the relationship between risk and return. In this model a securities expected return is the risk free rate plus a premium based on the systematic risk of the security. The model is

$$
R j=R_{f}+\left[E\left(R_{m}\right)-R_{f}\right] \beta_{j}
$$

Where,
$R_{j}=$ required rate of return on stock $j$.
$\mathrm{R}_{\mathrm{f}}=$ The nominal risk free rate of return (The real risk free rate of return plus risk Premium for inflation)
$\mathrm{E}\left(\mathrm{R}_{\mathrm{m}}\right)=$ the expected rate of return on the market portfolio.
$\beta_{j}=$ Beta coefficient of stock $j$.
Hence beta is the index of systematic risk. It measures the sensitivity of a stocks return to change in returns on the market portfolio. The beta of a portfolio is simply weighted average of the individual stock betas in the portfolio (Van Horne and Wachowicz: 1995).

The CAPM model uses the theory of security market line (SML) to show relationship between required return and beta. The SML equation shows the relationship between securities risk and rates of returns. The return required for any
security j is equal to the risk free rate plus market risk premium times the securities beta (Cheney and Moses: 1995).

### 2.1.14 The Basic Assumption of the Capital Asset Pricing Model:-

The assumptions underlying the CAPM's development are summarized in the following list:-
a. Investors evaluate portfolio by looking at the expected returns and standard deviation of the portfolio over a one-period horizon.
b. Investors are risk averse. So, when they are given two alternative portfolios they will choose one having higher expected return and lower standard deviation.
c. Capital markets are highly efficient so that all investors get market information perfectly.
d. Individual securities can be divided infinitely and can be bought in fraction as well.
e. No transaction cost occurs in capital market.
f. There is a certain risk-free rate at which an investor lends or borrows money. The risk free rate is same for all investors.
g. No investor is able to affect the market price of securities. (Thapa and Rana: 2011)

### 2.1.15 Over, Under and Fairly Pricing of Securities

The securities can be either under priced or overpriced. It can be known calculating through required rate of return and average rate of return. When average return exceeds the excepted return then, the securities is under priced and vice versa. Required rate of return can be used as a discounting factor to determine the intrinsic value of stock. It means there is inverse relationship between required rate of return and intrinsic value of stock.

### 2.2 Research Review

This part of the literature review is devoted to review of major previous studies relating to Risk and Return in detail. With review of journals, articles and major previous studies to related topic.

### 2.2.1 Review of Journals and Articles

Pagano's (2001) has concluded that the management incentives appear to be must consistently supported rational for the describing how bank manage risk. In particular, moderate/high levels of equity ownership reduce bank risk while positive amount of stock option grants increase bank risk-taking behavior. The empirical tests of theory of corporate risk management need to consider individual subcomponents of total risk and the bank ability to trade these risks in a component financial market.

Dangol (2008) concluded that Nepalese Capital market is consistent with information content hypothesis, i.e. market reflects all political events concerned with capital market. He writes, "The study has provided the evidence that the good-news leads to the positive average prediction error. Similarly, the bad-news drifts the negative prediction error on the post announcement period. Finally the data present important evidence on the speed of adjustment of market prices to new political information, i.e. in as many as 2 to 3 days from the announcement date. Thus the Nepalese stock market may be inferred to inefficient, but there is strong linkage between political uncertainty and common stock returns generation."

Eswin J. Elton (1991-1997) has discussed about the factors affecting expected returns on asset and the sensitivity of expected return to those factors, and the reward for bearing this sensitivity. The history shows almost all the testing is done taking realized return as a proxy for expected return. Using realized return as a proxy for expected return is that the unexpected returns are independent, so that as the observation interval increases they tend to a mean of zero. His research shows that, Realized Returns are a very poor measure of Expected Return. That information surprisingly highly influences a number of expected returns, and that information surprises highly influence a number of factors in asset pricing model. The empirical use of judgment and factor dependability can be used to draw implication which will govern to the great extend the pricing decision fix and accurate.

Akhigbe and Whyte (2004) in their research paper, they included many other studies some of the studies find that bank expansion into banking activities can affect of events that permitted only limited entry by banks into non-banking activities. The major finding of the study is that evidence of a significant decline in systematic risk for the banks securities firm and insurance companies but a significant increase in
total and unsystematic risk for the banks and insurance companies. The study also found that bank and insurance companies are less risk than other securities business. If security wants to decline in risk, security firm can be explained by their ability to diversify into less risky banking and insurance activities. The research paper result suggests that regulators should carefully monitor and supervise banking activities in new era of financial modernization to mitigate adverse effects from the increase in risk.

### 2.2.2 Review of Thesis

Adhikari's (2005), has concluded that "Most of the people considered stock market investment as a black art that they have unrealistically optimistic or pessimistic expectations about stock market investment or perhaps a fear of the unknown. This study enables investors to put the return they can expect and the risk they may take into better perspective. We know that Nepalese stock market is in effect of openness and liberalization in national economy. But, Nepalese individual investors cannot analyze the securities as well as market properly because of the lack of information and poor knowledge about the analysis of securities for investment.

Shrestha Sumita (2003) has made a conclusion that though the Nepalese investors in the last decade had grown investment in the share of the commercial banks, development banks and finance companies a lot, their investment decisions are merely depends upon rumors and baseless expectations. A proper analysis of firm's financial positions and its potentiality of future growth are not given much priority for the investment." It was noticed in her study that there is a positive correlation between risk and return character of the company. Nepalese capital market being inefficient, the price index itself is not sufficient to give the information about the prevailing market. Situation and the company proper regulation should be introduced so that there is more transparency in issuance, sales and distribution of the securities. Investors do not have any idea about the procedures of the securities issuance. Neither company nor the stock brokers transmit any information to the investors about the current market situation and hence it becomes difficult for common investors to invest in the securities. Both government authorities and the stock exchange regulator body should try to promote healthy practices so that the stock brokers do not give false information to the investors for their personal benefit which is a common practice in Nepal.

Chimmal (2009) concluded that risk \& return characteristics do not seem to be the same for all the shares reviewed and the portion of unsystematic risk is very high with shares having negative beta coefficient. Similarly he found out that most of the shares fall under the category of aggressive stock ( having beta coefficient more than one) while some under the defensive stock (having beta coefficient 0.99 approximately one) according to the price evaluation, the study shows that all the banks shares are under priced and hence positively correlated with market return.

Khadka (2005) concluded that the total systematic risk has related due to the individual shares and correlation coefficient with the market portfolio. The residual risk or unsystematic risk is company specific is rather than market pervasive. Though the share of commercial banks in Nepal is heavily trade in NEPSE, none of the share price is correctly priced.

Pandey (2000) concluded that among all the security common stock has known to be the most risky security. Higher the risk, higher will be the return. Most of the investors have attracted to common stock security because of its higher expected return. As for the investor, it is important to analyze each investment, company to potential returns with the risk. On average, the potential returns from an investment should compensate for the level of risk under taken. If proper allocation of assets is performed it can reduce risk and can even be eliminated if well diversified.

Mishra (2002) concluded that Nepalese capital market being inefficient, the price index itself is not sufficient to give the information about the prevailing market. Situation and the company proper regulation should be introduced so that there is more transparency in issuance, sales and distribution of the securities. Investors do not have any idea about the procedures of the securities issuance. Neither company nor the stock brokers transmit any information to the investors about the current market situation and hence it becomes different for common investors to investor in the securities. Both government authorities and the stock exchange regulator body should try to promote healthy practices so that the stock brokers don not give false information to the investors for their personal benefit which is a common practice in Nepal. Investors should get regular information about the systematic risk (Beta), return on equity and $\mathrm{P} / \mathrm{E}$ ratio of various listed in Nepal stock exchange. Security
exchange board of Nepal should make this mandates that it is easier for the investors to calculate risk and risk return of portfolio and transparent is increased.

Thapa (2007) has concluded with findings which are as follows:

- Most of the investors are found to be risk averters. They are investing in portfolio having more than four securities.
- Most preferable sector for investors is banking and finance sectors.
- Stock brokers are major source of information to the investors which show they have a remarkable role in share market.
- Increasing trends of share price and surplus money for investors are the influencing factors to buy share by investors.
- Profitability and marketability has equal influence for motivation to invest.
- The level of investor's satisfaction towards the present trading system (open-out cry system) has found low. Most investors are not satisfied with it, because whim and rumors influenced every time. Thus, most of investors wish to have automation trading system.
- The expected return of securities market as a whole by using NEPSE index is 11.72 percent. Banking and other sectors stand higher expected return then market, while Manufacturing and Processing, Finance, Insurance, Hotel and Trading sectors have lower the expected return compared to the market return.

Pandey (Sijapati) (2000) concluded that poor education and lack of adequate source of information are the major constraints for the development of stock market in Nepal. When risk and return of different industries are compared, the Finance companies and Insurance Companies are the best because they have highest expected return with higher degree of risk. However, most of trading industries have minimum return and maximum level of risk. Market sensitivity is measured by beta coefficient, which cannot be reduced by diversification. Due to the lack of specific knowledge of stock market general public invest their funds in different securities on the basis of expectation and assumption rather than analysis. The proper selection of portfolio approach is better way to get success in stock market.

### 2.3 Research Gap

Previous researchers analyzed the Risk and Return by using secondary source of information in terms of risk \& return practices. But actually speaking, risk can be determined by various factors which eventually affect the return. During the review of previous thesis, it is found that no research has been conducted by taking these samples.

There is very few research works conducted on various aspects of risk and return of commercial banks in Nepal in the field of stock market. The studies conducted in developed security markets may not entirely be relevant in the security markets of underdeveloped country like Nepal. There applicability to test in the context of smaller and underdeveloped capital market likes ours. The changes taken place after the completion of these studies might have reduce their relevance. Therefore it is necessary to test the validity of these studies and their applicability in our context.

In this study Risk and Return of selected commercial is measuring by using secondary as well as primary data applying various statistical tools and Questionnaires. Among of them, primary analysis in terms for risk and return may be the strong determinant for investing in banks. In present context, these are the heart issue in Nepalese commercial banks. Most of the investors are found to be investing in the share of banks only believing on whim and humors. The previous scholars could not submit the present facts. Present study tries to define risk and return analysis by applying those various facts. It can be very useful or important in this area. Thus, present study may be valuable piece of research work.

## CHAPTER- III

## RESEARCH METHODOLOGY

This chapter gives the theoretical foundation of data collection and analysis for the research study. It represents the highlight of research design, population, sample size, data collection techniques, sources of data and data analysis tools. It shows the framework of data collection and presentation and analysis. Research methodology has been used to fulfill the objectives of the study.

### 3.1 Research Design

The research design is a mixture of descriptive, exploratory, and analytical. A research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Current research applies descriptive, Correlational and Casual-comparative research techniques to determine the risk and return analysis of stock price. Descriptive research design is used to describe the relationship between risk and return from tables, graphs, trend lines, and figures with basic calculation of present collected data. it clarifies different aspects of investor's references. Similarly, Correlational and Casual-comparative research design is used to analyze the standard deviation, correlation coefficient, coefficient of variation, beta coefficient, risk premium, expected return, and average rate of return, of sampled banks. it uses different tools to analyze the investor's preferences toward factor affecting stock price.

### 3.2 Population and sample

The analysis of the risk and return analysis of equity price along with their pricing behavior largely depends on the number of such companies listed in the Nepal Stock Exchange (NEPSE) and the trading of their stocks on security market floor. We have already discussed that along with the various factors, the volume of trading of common stock also largely influence in shaping the price of common stock.

To arrive at logical inferences, three major sectors of the stock market are taken under consideration. Here only Banking Sector Company is taken as sample. Though there other development bank, Finance company insurance company and other sectors as well, but due to the low volume and amount of share transaction and insufficient data, other sectors (insurance, Mfg. Sector, service sector) have been ignored,
furthermore, the sampling procedures also consider financial status, size, maturity, and market value of listed companies. The samples will be taken using stratified as follows:

1) Nabil Bank Ltd (NABIL)
2) Everest Bank Ltd (EBL)
3) Himalayan Bank limited (HBL)
4) Nepal SBI Bank Limited (NSBI)

For the research work, only 4 companies as stated above, has been taken as sample companies out of total 29 population. Due to the high volume of share transactions and business volume as well as more contribution to the economy, more than $50 \%$ market cover by commercial banks. So here taken only commercial Bank only.

### 3.3 Sources of Data

The data for the study depends upon the secondary sources as well as primary data. The main source of data is the reports of NEPSE, reports of the SEBON, and annual reports of commercial banks and periodicals published data of NRB. Annual report of NEPSE has been used to take financial statement and trading report of listed commercial banks. The data has been taken from NEPSE to with draw the opening and closing prices. Websites have been clicked to take the operational data of commercial banks. For the primary data, a survey on the risk and return on common stock from the investor's perspective has been conducted. The numbers of respondents are 20 who respond the questionnaire properly.

### 3.4 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 downloaded from website. Similarly, NEPSE price and sector price have been taken from NEPSE. NRB website was clicked and file downloaded to collect the Treasury-Bills rate and banking \& financial statistics. After that collected data were recorded in mater sheet manually then data were entered to spread sheet to work out statistical and financial analysis ratios. These data are also used to prepare figures and tables. To process the data of
the present study manual and computer based program were used like Microsoft word and excel.

### 3.5 Data Analysis Tools

All the data are presented and analyzed to fulfill the objectives mentioned in the introduction chapter to illustrate the research. Worksheets and figures have been used for the data presentation to evaluate risk and returns. Categorically, the present study has used financial and statistical tools.

### 3.5.1 Financial Tools

### 3.5.1.1 CAPM or Security Market Line (SML)

Using CAPM, the investors can estimate the required rate of return of the stock. The intrinsic value of the stock is inversely relates to the required rate of return. Other thing remaining the same, the higher the required rate of return will lower the intrinsic value of the stock. CAPM helps for pricing implication of common stock.

The relationship between the expected market return and its systematic risk can be expressed by CAPM, which is also called security market line showing the relationship between the systematic risk index (beta) and the required rate of return. The equation for the CAPM or SML is

$$
\begin{aligned}
& \mathrm{E}\left(\mathrm{R}_{\mathrm{J}}\right)=\text { Risk free rate }+ \text { risk premium } \\
& \mathrm{E}\left(\mathrm{R}_{J}\right)=\text { Risk free rate }+ \text { quantity of risk } \times \text { price of risk } \\
& \mathrm{E}\left(\mathrm{R}_{J}\right)=R_{F}+\beta_{J}\left[\mathrm{E}\left(\mathrm{R}_{M}\right)-R_{F}\right]
\end{aligned}
$$

Where,

$$
\begin{aligned}
& \mathrm{E}\left(\mathrm{R}_{\mathrm{J}}\right)=\text { the required rate of return on the assets } \\
& \mathrm{R}_{\mathrm{F}}=\text { the rate of return of risk free assets } \\
& \mathrm{E}\left(\mathrm{R}_{\mathrm{M}}\right)=\text { the expected or ex-ante return on the market portfolio } \\
& \beta_{\mathrm{J}}=\text { a measure of the non-diversifiable risk of the } J_{\mathrm{th}} \text { security } \\
&
\end{aligned}
$$

Beta. It can be calculated as,

$$
\beta_{\mathrm{J}}=\frac{\operatorname{COV}\left({ }_{\mathrm{J}}, \mathrm{M}_{\mathrm{M}}\right)}{\sigma_{\mathrm{M}^{2}}}
$$

Where,
$\operatorname{COV}\left(\mathrm{R}_{\mathrm{J}} \mathrm{R}_{\mathrm{M}}\right)=$ covariance between risk free return and market return
$\operatorname{VAR}\left(\mathrm{R}_{\mathrm{M}}\right) \quad=$ variance of market returns

### 3.5.1.2 Risk Premium

Risk premium is a reward for bearing risk. In other word, risk premium is the different between the return on a risky investment and that a risk free investment. To calculate risk premium, Treasury bill rates (TBs) has been used as a risk free rate. Treasury bills are short term government securities. It can buy and sold any time, thus, they have liquidity. Also, they don't have the default risk. Treasury bills are also called risk free securities where variation is always zero. For the study, Treasury bills period has taken 364 days. The equation of risk premium can be as follows:

Risk premium $=R_{J}-R_{F}$
Where,
$\mathrm{R}_{\mathrm{J}}=$ year end return on risky assets
$\mathrm{R}_{\mathrm{F}}=$ return of risk free assets

### 3.5.1.3 The expected rate of return

The expected rate of return is the expected after tax increase in the value of initial investment over the holding period. The overall tax of return can be decomposed into capital appreciation and dividend components. Capital appreciation is the difference between investor's end of period price and the beginning of period price.

Single holding period return refers to the one year holding period return. Thus, the expected on realized or ex-post rate of return can be calculated as follows:

Expected rate of return $\left(\overline{\mathrm{R}_{\mathrm{J}}}\right)=\frac{\text { Ending price }- \text { Beginning price }}{\text { Beginning price }}$

### 3.5.1.4 Beta Coefficient

The beta coefficient is an index of systematic risk. It may be used for ranking the systematic risk of different assets. If beta is larger than 1, then the assets are more volatile than the market, which is called aggressive assets. If beta is less than 1 , the assets are considered as defensive assets as its price fluctuations are less volatiles than
market. On the other hand, if the beta is equal to 1 then the asset is said to be average as its price move proportional to the market changes. Beta of market is always one. (Clark 1997)

The beta coefficient can be calculated as follows,

$$
\beta_{\mathrm{J}}=\frac{\operatorname{COV}\left(\mathrm{R}_{\mathrm{J}}, \mathrm{R}_{\mathrm{M}}\right)}{\sigma_{\mathrm{M}}^{2}}
$$

Where,

$$
\begin{aligned}
& \beta_{\mathrm{J}}=\text { the beta value of security } \mathrm{J} \\
& \sigma_{\mathrm{M}}^{2}=\text { variance of market }
\end{aligned}
$$

$\operatorname{COV}\left(\mathrm{R}_{\mathrm{J}}, \mathrm{R}_{\mathrm{M}}\right)=$ covariance between security J and market.
It can be calculate as follows,

$$
\text { Covariance of }\left(R_{J}, \overline{R_{M}}\right)=\frac{\sum\left[R_{J}-\overline{R_{J}}\right] \times\left[R_{M}-\overline{R_{M}}\right]}{n-1}
$$

### 3.5.1.5 Systematic Risk

It gives us the proportion of risk that cannot be diversified away. In other words, it is the out of control of management. So it is called un-diversifiable risk. It can be calculated as follows,

$$
\text { Systematic risk }=\beta^{2} \times \sigma_{\mathrm{M}}^{2}
$$

### 3.5.1.6 Unsystematic Risk

It gives us the proportion of risk that can be diversified away. In other words, it is the under the control of management. So, it is called diversifiable risk. It can be calculated as follows,

Unsystematic risk $=$ total risk (variance) - systematic risk

### 3.5.1.7 Correlation Coefficient

Correlation coefficient is the relationship between two variables where one variable is independent and other variables are dependent. Correlation coefficient always lies in the range of +1 to -1 . Karl Pearson's method is used to calculate correlation coefficient. A positive correlation coefficient indicates that the returns from two securities generally move in the same direction or vice-versa. Correlation is
used to test the significant relationship between risk and expected return. Microsoft Excel is used to calculate correlation between risk and return. It can be calculates as follows:

Correlation coefficient between security ' J ' and market ' M ' $\left(\mathrm{r}_{\mathrm{jm}}\right)=\frac{\operatorname{COV}\left(\mathrm{R}_{\mathrm{j},} R_{m}\right)}{\sigma_{\mathrm{j}} \sigma_{\mathrm{M}}}$

### 3.5.2 Statistical Tools

### 3.5.2.1 Average Rate of Return

Average rate of return is calculated by using the Arithmetic mean instead of geometric mean.

$$
\text { Average rate of return }\left(\overline{R_{J}}\right)=\frac{\sum \mathrm{R}_{J}}{\mathrm{n}-1}
$$

Where,

$$
\sum \mathrm{R}_{\mathrm{J}}=\text { summation of all annual reports }
$$

$$
\mathrm{n}=\text { number of the observation (year) }
$$

### 3.5.2.2 The Standard Deviation

It is quantitative measure of the total risk of assets. It provides more information about the risk of the assets. It is a measure of the dispersion of returns around the mean. The formula for calculating the standard deviation is,

$$
\sigma_{J}=\left[\frac{\sum\left(\mathrm{R}_{\mathrm{J}}-\overline{\mathrm{R}_{\mathrm{J}}}\right)^{2}}{\mathrm{n}-\mathrm{I}}\right]^{1 / 2}
$$

Where,

$$
\begin{aligned}
& \sigma_{\mathrm{J}}=\text { standard deviation of return on stock } \mathrm{J} \text { during the time period } \mathrm{N} \\
& \mathrm{R}_{\mathrm{J}}=\text { expected rate of return } \\
& \left(\overline{R_{j}}\right)=\text { the average rate of return } \\
& \mathrm{n}=\text { number of observation }
\end{aligned}
$$

### 3.5.2.3 The Coefficient of Variation (CV)

The coefficient of variation is the ratio of the standard deviation of a distribution to mean of the distribution. It is a measure of relative risk. The formula for calculating correlation coefficient is,

$$
\mathrm{CV}=\frac{\sigma_{\mathrm{J}}}{\mathrm{R}_{\mathrm{J}}}
$$

Where,
$\sigma_{\mathrm{J}}=$ standard deviation of return on stock J during the time period N

$$
\overline{R_{J}}=\text { the average rate of return on stock } J
$$

## CHAPTER-IV

## PRESENTATION AND ANALYSIS OF DATA

This chapter focuses on the data analysis and data presentation of the sampled banks. Categorically this chapter has been divided into two sections. First section deals with the analysis of risk and return on common stocks of selected bank based on fundamental approach. For this, the required data has been obtained from the secondary source. Similarly, second section deals with the analysis of risk and return on common stocks of commercial bank from the investors' perspective. For this the required data has been obtained from the primary source.

### 4.1 Data Presentation and Analysis based on Secondary Data

First section deals with the analysis of risk and return on common stocks of selected bank based on fundamental approach. The study covers ten years period from $14^{\text {th }}$ June 2002 to $15^{\text {th }}$ July 2012. This chapter consists of historical return, average return, coefficient of variation, standard deviation, correlation coefficient and beta coefficient of sampled banks. Beta coefficient of banks is used to measure market sensitivity. The standard deviation is used to measure diversify risk. Similarly, yearend return and average return are used to evaluate the return position of sampled banks. It has demonstrated the figures and table to analyze the present data.

### 4.1.1 Analysis of Historical Return of Sampled Banks

The present study includes four commercial banks listed in NEPSE. They are NABIL, HBL, EBL, and NSBI. The study periods covers $14^{\text {th }}$ June 2002 to $15^{\text {th }}$ July 2012. To analyze the risk and return of commercial banks, various return figures and tables has been used. Historical return of samples banks is calculated by using dividend per share, closing and opening price of sampled banks. This chapter also makes the comparative analysis of return of all four sampled banks.

### 4.1.1.1 Analysis and Historical Return of NABIL Bank

The year-end return of NABIL bank over the study period, closing price of common stock per share and total dividend which is sum of cash and stock dividend: converted into monetary value based on market price of respective year have been presented in Table 4.1

Table 4.1
Historical return and average rate of return on Common stock of NABIL (F.Y.2002-03 to 2011-12)

| Years | Closing Price Per Share | DPS | Year End Return $\left(\mathrm{R}_{\mathrm{n}}\right)$ |
| :---: | :---: | :---: | :---: |
| $2002-03$ | 740 | 100 | - |
| $2003-04$ | 1000 | 130 | 0.5270 |
| $2004-05$ | 1505 | 140 | 0.6450 |
| $2005-06$ | 2240 | 170 | 0.6013 |
| $2006-07$ | 5050 | 240 | 1.3616 |
| $2007-08$ | 5275 | 160 | 0.0762 |
| $2008-09$ | 4899 | 120 | -0.0485 |
| $2009-10$ | 1252 | 100 | -0.4930 |
| $2010-11$ | 1355 | 60 | -0.4497 |
| $2011-12$ |  | 100 | 0.1621 |
|  |  |  | $\sum\left(R_{n}\right)=2.3820$ |

Average rate of return $=\left(\overline{R_{n}}\right)=\frac{\sum\left(R_{n}\right)}{n-1} 26.47$ percentage
The above table 4.1 shows the market price and dividend of NABIL bank. Closing market price per share is maximum in F/Y 2007-08 i.e. Rs 5275 and minimum in F/Y 2002-03 which is Rs. 740. From F/Y 2002-03 to F/Y 2006-07, closing price and dividend per share has been increasing. In F/Y 2007-08 closing price increasing but dividend per share decreases there after the succeeding years both closing price and dividend per share is in decreasing position. On an average, the bank is able to earn highest rate of average return among sample banks that is 136.16
percent in F/Y 2006-07. The figure 4.1 shows the graphical representation of the year end return with its trend line.

Figure 4.1
Trend Line of Historical Return on Common Stock of NABIL Bank


The above trend line 4.1 shows the average return of NABIL bank in F/Y 200203 to 2011-12. In this graph, the fiscal year and year-end return is shown in the x -axis and $y$-axis respectively. The graph reflects that NABIL bank has maximum year return is in $\mathrm{F} / \mathrm{Y}$ 2006-07, i.e. 136.16 percentages and minimum returns is in $\mathrm{F} / \mathrm{Y}$ 200910 , i.e. -49.30 percentages which is negative.

### 4.1.1.2 Analysis and Historical Return on Common Stock of Himalayan Bank <br> Limited

The year-end return of Himalayan bank over the study period, closing price of common stock per share and total dividend which is sum of cash and stock dividend; converted into monetary value based on market price of respective year, have been presented in Table 4.2

Table 4.2

## Historical Return and Average Rate of Return on Common Stock of HBL

## (F.Y.2002-03 to 2011-12)

| Years | Closing Price Per Share | DPS | Year End Return $\left(\mathrm{R}_{\mathrm{h}}\right)$ |
| :---: | :---: | :---: | :---: |
| $2002-03$ | 836 | 27.04 | - |
| $2003-04$ | 840 | 20 | 0.0287 |
| $2004-05$ | 920 | 43.16 | 0.1466 |
| $2005-06$ | 1100 | 65 | 0.2663 |
| $2006-07$ | 1760 | 55 | 0.6500 |
| $2007-08$ | 1980 | 55.56 | 0.1648 |
| $2008-09$ | 1760 | 48.68 | -0.0831 |
| $2009-10$ | 516 | 53.68 | -0.5087 |
| $2010-11$ | 653 | 41.84 | -0.2296 |
| $2011-12$ |  |  | 0.2084 |
|  |  |  |  |
|  |  |  |  |

Average rate of return $=\left(\overline{R_{h}}\right)=\frac{\sum\left(R_{h}\right)}{n-1}=7.15$ percentage
From the above table 4.2, the closing market price per share is highest in F/Y 2007-08 i.e. Rs 1980 and minimum in F/Y 2002-03, which is Rs 836. From F/Y 200203 to 2007-08, the closing market price per share is increasing thereafter following years it is decreasing. But dividend per share is in increasing and decreasing trend in every fiscal year. The figure 4.2 shows the graphical representation of the year end return with its trend line.

## Figure 4.2

## Trend Line of Historical Return on Common Stock of HBL



The above trend line shows that historical return of HBL bank is seemed to be fluctuating up and down over the sampled period enormously and highest rate of return is in F/Y 2006-07 which is 65 percent and lowest rate of return over the period is in $\mathrm{F} / \mathrm{Y}$ 2009-10 which is -50.87 percent.

### 4.1.1.3 Analysis and Historical Return on Common Stock of Everest Bank Ltd

The year-end return of Everest Bank Ltd. over the study period, closing price of common stock per share and total dividend which is sum of cash and stock dividend; converted into monetary value based on market price of respective year have been presented in Table 4.3

Table 4.3
Historical Return and Average Rate of Return on Common Stock of EBL (F.Y.2002-03 to 2011-12)

| Years | Closing price per share | DPS | Year end return $\left(\mathrm{R}_{\mathrm{e}}\right)$ |
| :---: | :---: | :---: | :---: |
| $2002-03$ | 445 | 20 | - |
| $2003-04$ | 680 | 20 | 0.5730 |
| $2004-05$ | 870 | 20 | 0.3088 |
| $2005-06$ | 1379 | 25 | 0.6138 |
| $2006-07$ | 2430 | 40 | 0.7911 |
| $2007-08$ | 2455 | 60 | 0.3094 |
| $2008-09$ | 1630 | 60 | -0.1969 |
| $2009-10$ | 1094 | 31.58 | -0.3116 |
| $2010-11$ |  |  | -0.0269 |
| $2011-12$ |  |  | (R |

Average rate of return $=\left(\overline{R_{e}}\right)=\frac{\sum\left(R_{e}\right)}{n-1} 19.65$ percentage
From the above table 4.3 the closing market price per share is highest in F/Y 2007-08 i.e. Rs 3132 and minimum in F/Y 2002-03 which is Rs 445 . The price of stock per share is in increasing trend from F/Y 2002-03 to 2007-08 thereafter succeeding years share price is in decreasing order. Dividend per share is in increasing trend every year. The figure 4.3 shows the graphical representation of the year end return with its trend line.

## Figure 4.3

Trend Line of Historical Return on Common Stock of Everest Bank Ltd.


The above trend line shows that historical return of Everest Bank Ltd is seemed to be fluctuating slightly ups and down over the sampled period and highest rate of return is in F/Y 2006-07 which is 79.11 percents and lowest rate of return over the period is in F/Y 2009-10 which is -31.16 percent and bank had earned negative returns in F/Y 2008-09, 2009-10, 2010-11 and 2011-12.

### 4.1.1.4 Analysis of Historical Return on Common Stock of Nepal SBI Bank Ltd.

The year-end return of Nepal SBI Bank Ltd. over the study period, closing price of common stock per share and total dividend which is sum of cash and stock dividend; converted into monetary value based on market price of respective year, have been presented in Table 4.4

Table 4.4
Historical Return and Average Rate of Return on Common Stock of NSBI Bank (F.Y.2002-03 to 2011-12)

| Years | Closing price per share | DPS | Year end return $\left(\mathrm{R}_{\text {sbi }}\right)$ |
| :---: | :---: | :---: | :---: |
| $2002-03$ | 255 | 16 | - |
| $2003-04$ | 307 | 0 | 0.2039 |
| $2004-05$ | 335 | 0 | 0.0912 |
| $2005-06$ | 612 | 60.18 | 0.8567 |
| $2006-07$ | 1176 | 0 | 1.0199 |
| $2007-08$ | 1511 | 22.5 | 0.2849 |
| $2008-09$ | 741 | 22.5 | -0.5982 |
| $2009-10$ | 565 | 22.5 | -0.2072 |
| $2010-11$ | 635 |  | 0.1637 |
| $2011-12$ |  |  | $\sum\left(R_{s b i}\right)=2.1016$ |
|  |  |  |  |

Average rate of return $=\overline{R_{s b i}}=\frac{\sum\left(R_{s b i}\right)}{n-1}=23.35$ percentage
From the above table 4.4 Closing market price per share is highest in F/Y 200809 i.e. Rs 1900 and minimum in F/Y 2002-03 which is Rs 255. In F/Y 2003-04, 200405 and 2007-08, the bank has not provided any dividend. The price of share has been increased steadily from F/Y 2002-03 to F/Y 2008-09 thereafter succeeding years there was little bit ups and down. The figure 4.4 shows the graphical representation of the year end return with its trend line.

## Figure 4.4

## Trend Line of Historical Return on Common of Nepal SBI Bank Ltd.



From the above trend line shows that historical return of Nepal SBI Bank Ltd. is seemed to be fluctuating significantly at the beginning of the years and reached at minimum in F/Y 2004-05 and then again started to fluctuate moderately in increasing trends in the successive years. The price of stock has been declined twice at the same time. As a result, bank has earned negative rate of historical return in the F/Y 2009-10 and 2010-11.

### 4.1.2 Comparative Analysis of Historical Return on Common Stock of Sampled

## Banks

Comparative analysis of historical returned of sampled banks over the study periods has been presented in table 4.5.

Table 4.5
Comparative Analysis of Historical Return on Common Stock of Sampled Banks
(F.Y.2002-03 to 2011-12)

| Years | NABIL | HBL | EBL | NSBI |
| :---: | :---: | :---: | :---: | :---: |
| $2003-04$ | 0.5270 | 0.0287 | 0.5730 | 0.2039 |
| $2004-05$ | 0.6450 | 0.1466 | 0.3088 | 0.0912 |
| $2005-06$ | 0.6013 | 0.2663 | 0.6138 | 0.8567 |
| $2006-07$ | 1.3616 | 0.6500 | 0.7911 | 1.0199 |
| $2007-08$ | 0.0762 | 0.1648 | 0.3094 | 0.2849 |
| $2008-09$ | -0.0485 | -0.0831 | -0.1969 | 0.2867 |
| $2009-10$ | -0.4930 | -0.5087 | -0.3116 | -0.5982 |
| $2010-11$ | -0.4497 | -0.2296 | -0.2920 | -0.2072 |
| $2011-12$ | 0.1621 | 0.2084 | -0.0269 | 0.1637 |
| Average | $\mathbf{0 . 2 6 4 7}$ | $\mathbf{0 . 0 7 1 5}$ | $\mathbf{0 . 1 9 6 5}$ | $\mathbf{0 . 2 3 3 5}$ |

From above table 4.5 it is revealed that NABIL bank has the highest average rate of return that is 26.47 percent and HBL has the lowest rate of return that is 7.15 percent, based on the study periods of time. All of sampled banks have earned negative rate of return in the F/Y 2009-10 and F/Y 2010-11. Highest rate of historical return is earned by NABIL in F/Y 2006-07 and lowest rate of return is earned by NSBI which is minus 59.82 percents in F/Y 2009/10. It can be further presented in trend line to make a comparative analysis of historical returns of sampled banks.

Figure 4.5
Comparative Analysis of Historical Return on Common Stock of Sampled Banks


The above trend line presents the overall overview of historical return of all sampled banks and its common stock price trend in the financial market. When figure has been taken under consideration then it can be seen that all of the banks has same trends of the up and down fluctuation. First of every bank return has increasing and decreasing trend in the beginning of 3 years of sample period and highest return in F/Y 2006-07 thereafter the return curve is starts moving slope downward up to F/Y 2009-10 where each bank are able to earn minimal or negative rate of return. But after the F/Y 2009-10 there is increasing trend of historical return of every banks but increasing ratio is not same which is reflected by the curve line of returns of different banks which has been again start to move in upward slopping.

### 4.1.3 Analysis of Commercial Bank Return on Common Stock with Market Rate of Return

Capital market (NEPSE) indicates overall share price of listed companies where 236 companies were listed till the study period but commercial banks sector index indicates share price of 29 listed commercial banks only. In this section, the study has described the relationship between market index and commercial index sector. The data for the study has been taken from NEPSE annual report. To calculate annual return, the study has been using opening and closing index, capital market annual
return and commercial banks sector index. Capital market annual return and commercial banks index return over the study period has been presented in below Table 4.6

Table 4.6

## Expected Market Return and Commercial Banks Return on Common Stock

(F.Y.2002-03 to 2011-12)

| Year | Closing NEPSE Index | Annual <br> Return | C. B's Closing Index | Annual <br> Return |
| :---: | :---: | :---: | :---: | :---: |
| 2002-03 | 204.86 | - | 200.67 | - |
| 2003-04 | 222.04 | 0.0839 | 231.97 | 0.1560 |
| 2004-05 | 286.67 | 0.2911 | 304.64 | 0.3133 |
| 2005-06 | 386.63 | 0.3487 | 437.49 | 0.4361 |
| 2006-07 | 683.95 | 0.7690 | 639.93 | 0.4627 |
| 2007-08 | 963.36 | 0.4085 | 985.65 | 0.5402 |
| 2008-09 | 749.10 | -0.2224 | 780.87 | -0.2078 |
| 2009-10 | 477.73 | -0.3623 | 456.93 | -0.4148 |
| 2010-11 | 362.85 | -0.2405 | 328.70 | -0.2806 |
| 2011-12 | 389.74 | 0.0741 | 358.57 | 0.0909 |
| Total |  | 1.1501 | Total | 1.0960 |
| Average |  | 0.1278 | Average | 0.1218 |

In above table 4.6, NEPSE index have maximum return in F/Y 2006-07 i.e., 76.90 percentage and commercial bank index have maximum return in F/Y 200708 .Same as both commercial banks sector and capital market return have minimum return in F/Y 2009-10 i.e. - 41.48 percentage and - 36.23 percentage respectively. It is
seemed that overall market index is highly affected by the commercial banks index because both sector has negative return in F/Y 2008-09, 2009-10, 2010-11. It reveals that there is high positive correlation between the overall market return and the bank index return. It happens due to the dominant transactions of the banking sector in the NEPSE. Commercial banks index and overall market return index has been presented in figure 4.6.

Figure No. 4.6

## Expected Market Return and Commercial Banks Return on Common Stock



In the above figure 4.6 shows that annual return of the Capital market is highest in the F/Y 2006-07 and of commercial banks index is in F/Y 2007-08. Same as lowest annual return of the capital market and commercial banks index is in same year i.e. F.Y 2009-10.

### 4.1.4 Comparison between Average and Required Rate of Return of Common Stock of Selected Commercial Bank.

Capital asset pricing model (CAPM) has been used to evaluate required rate of return of sampled banks which is given in research methodology 3.5.1.1. To calculate required rate of return, average rate of return of market index has been taken from table 4.6 and excess return has calculated by subtracting required rate of return to average rate of return. Risk free rate of return has been taken from NRB report and given in Appendix 2. It is average rate of Treasury bill of 364 days of past ten year's rate of Treasury bills. Average rate of return and required rate return over the study period has been presented in table 4.7.

Table 4.7
Comparison between average and expected rate of return on common stock of commercial banks

| Banks | Average rate of <br> return | Required rate of <br> Return | Excess <br> Return | Over \& Under <br> Pricing |
| :---: | :---: | :---: | :---: | :---: |
| NABIL | 0.2647 | 0.1626 | 0.1021 | Under |
| EBL | 0.1965 | 0.1032 | 0.0933 | Under |
| HBL | 0.0715 | 0.1146 | -0.0431 | Over |
| NSBI | 0.2335 | 0.1375 | 0.0960 | Under |

Table 4.7 exhibit average rate of return and required rate of return on stock of selected commercial banks. The required rate of return of NABIL, EBL, HBL and NSBI is $0.1626,0.1032,0.1146$ and 0.1375 respectively. Average rate of return of NABIL, EBL and NSBI Bank has excess return by 10.21, 9.33 and 9.60 percent respectively than its required rate of return. It implies that the common stock of this bank is under priced. It means the bank has expected to earn a higher rate of return is necessary to compensate and investor for the level of systematic risk he bears. Similarly, excess average rate of return of HBL is -4.31 percent, so stock of this bank is overpriced.

### 4.1.5 Risk analysis

Previous analysis has only assessed return position of individual banks but in this section, the study has analyzed risk position of individual commercial bank and its comparative analysis. The study has mainly focused on standard deviation, beta coefficient, risk indicator (systematic and unsystematic risk) and relative measurement of risk coefficient (coefficient variation). From the risk perspective, standard deviation, variation, variation coefficient is calculated. Beta is used as indicator to measure the relative risk of individual stock to market. In term of beta when beta is negative, the movement of market (NEPSE) is negative.

### 4.1.5.1 Risk Analysis of NABIL Bank Ltd.

Table 4.8

## Risk Analysis of NABIL Bank Ltd.

| Indicators | Results of NABIL Bank |
| :--- | :---: |
| Average Rate of Return | 0.2647 |
| Standard Deviation | 0.5537 |
| Variance | 0.3065 |
| Systematic Risk | 0.2417 |
| Unsystematic Risk | 0.0648 |
| Coefficient of Variance | 2.0918 |
| Covariance | 0.1694 |
| Beta Coefficient | 1.4271 |

From the above table 4.8, the average rate of return of NABIL bank is $26.47 \%$, which is expected to earn over some future period. There is 55.37 percent deviation around the average rate of return. It means there is chance of variability in return by 55.37 percent. NABIL has the high diversifiable (Unsystematic) risk i.e. 6.48. The stock has to bear 2.0918 units risk to earn per unit rate of return. Covariance of this bank is positive $16.94 \%$ which implies that the stocks return and the market return tend to move in the same direction. Beta of NABIL is 1.4271 , it reveals that the stock has positive correlation with market i.e. NEPSE. If it will be one percent, the stock will have positive response by 1.4271 . From the view point of volatility, the stock is more volatile than the market. The stocks therefore, can be categorized as aggressive stock.

### 4.1.5.2 Risk Analysis of EBL Bank Ltd.

Risk analysis of EBL bank over the study period has been presented in Table 4.9
Table 4.9
Risk Analysis of EBL

| Indicators | Results of EBL Bank |
| :--- | :---: |
| Average Rate of Return | 0.1965 |
| Standard Deviation | 0.3163 |
| Variance | 0.1000 |
| Systematic Risk | 0.0578 |
| Unsystematic Risk | 0.0422 |
| Coefficient of Variance | 1.6098 |
| Covariance | 0.0828 |
| Beta Coefficient | 0.6977 |

From the above table 4.9 the average rate of return of EBL is 19.65 \%, which is expected to earn over some future period. There is 31.63 percent deviation around the average rate of return. It means there is chance of variability in return by 31.63 percent. EBL has the low diversifiable (unsystematic) risk i.e.4.22 than the NABIL Bank. The stock has to bear 1.6098 units risk to earn per unit rate of return. Covariance of this bank is positive $8.28 \%$ which implies that the stocks return and the market return tend to move in the same direction. Beta of EBL is 0.6977 , it reveals that the stock has positive correlation with market i.e. NEPSE. If it will be one percent, the stock will have positive response by 0.6977 . From the view point of volatility, the stock is less volatile than the market. The stocks therefore, can be categorized as defensive stock.

### 4.1.5.3 Risk Analysis of HBL

Risk analysis of HBL over the study period has been presented in Table 4.10
Table 4.10
Risk Analysis of HBL

| Indicators | Results of HBL Bank |
| :--- | :---: |
| Average Rate of Return | 0.0715 |
| Standard Deviation | 0.3089 |
| Variance | 0.0954 |
| Systematic Risk | 0.0836 |
| Unsystematic Risk | 0.0118 |
| Coefficient of Variance | 4.3198 |
| Covariance | 0.0996 |
| Beta Coefficient | 0.8390 |

From the above table 4.10, the average rate of return of HBL is $7.15 \%$, which is expected to earn over some future period. There is 30.89 percent deviation around the average rate of return. It means there is chance of variability in return by 30.89 percent. HBL has the low diversifiable (unsystematic) risk i.e.1.18 than the NABIL and EBL Bank. The stock has to bear 4.3198 units risk to earn per unit rate of return. Covariance of this bank is positive $9.96 \%$ which implies that the stocks return and the market return tend to move in the same direction. Beta of EBL is 0.8390 , it reveals that the stock has positive correlation with market i.e. NEPSE. If it will be one percent, the stock will have positive response by 0.8390 . From the view point of volatility, the stock is less volatile than the market. The stocks therefore, can be categorized as defensive stock.

### 4.1.5.4 Risk analysis of NSBI Bank Ltd.

Risk analysis of NSBI bank over the study period has been presented in Table 4.11
Table 4.11
Risk Analysis of NSBI Bank Ltd.

| Indicators | Results of NSBI Bank |
| :--- | :---: |
| Average Rate of Return | 0.2335 |
| Standard Deviation | 0.4624 |
| Variance | 0.2138 |
| Systematic Risk | 0.1487 |
| Unsystematic Risk | 0.0651 |
| Coefficient of Variance | 1.9802 |
| Covariance | 0.1329 |
| Beta Coefficient | 1.1194 |

From the above table 4.11, the average rate of return of NSBI bank is $23.35 \%$, which is expected to earn over some future period. There is 46.24percent deviation around the average rate of return. It means there is chance of variability in return by 46.24 percent. NSBI has the high diversifiable (unsystematic) risk i.e. 6.51 than the EBL and HBL Bank. The stock has to bear 1.9802 units risk to earn per unit rate of return. Covariance of this bank is positive $13.29 \%$ which implies that the stocks return and the market return tend to move in the same direction. Beta of NSBI is 1.1194, it reveals that the stock has positive correlation with market i.e. NEPSE. If it will be one percent, the stock will have positive response by 1.1194 . From the view point of volatility, the stock is more volatile than the market. The stocks therefore, can be categorized as aggressive stock.

### 4.1.5.5 Comparative Analysis of Four Sampled Banks

The section has mainly focused on comparative analysis of selected four commercial banks over the study period. For the analysis, the data has been taken from the table 4.8 to 4.11. It has been presented in table 4.12.

Table 4.12
Comparative Analysis of Four Sampled Banks

| Indicators | NABIL | EBL | HBL | NSBI |
| :--- | :---: | :---: | :---: | :---: |
| Average Rate of Return | 0.2647 | 0.1965 | 0.0715 | 0.2335 |
| Standard Deviation | 0.5537 | 0.3163 | 0.3089 | 0.4624 |
| Variance | 0.3065 | 0.1000 | 0.0954 | 0.2138 |
| Systematic Risk | 0.2417 | 0.0578 | 0.0836 | 0.1487 |
| Unsystematic Risk | 0.0648 | 0.0422 | 0.0118 | 0.0651 |
| Coefficient of Variance | 2.0918 | 1.6098 | 4.3198 | 1.9802 |
| Covariance | 0.1694 | 0.0828 | 0.0996 | 0.1329 |
| Beta Coefficient | 1.4271 | 0.6977 | 0.8390 | 1.1194 |

In the above table 4.12 has been presented overall risk indicators of all sampled banks. NABIL bank has the highest expected rate of return of 26.47 percent with standard deviation of 55.37 percent. HBL has maintained the lowest expected rate of return i.e. 7.15 percent with standard deviation of 30.89 percent. The expected rate of return of EBL and NSBI Bank is found 19.65 percent and 23.35 percent with standard deviation of 31.63 and 46.24 respectively. From this, it can be found that NABIL bank has higher risk relative to the higher return. As coefficient of variation reflects the risk for per unit return, EBL has the lowest variance so that this bank has less risky than NABIL bank and NSBI Bank. Contrast, HBL has the highest coefficient variation. So, it has risk on its common stocks. Overall, EBL has almost fifty-fifty portion diversifiable and un-diversifiable risk.

### 4.1.5.6 Correlation between Risk and Expected Return

Correlation coefficient indicates the relationship between two or more variables. It shows the relation between two variables either in positive and negative dimension. The correlation coefficient has been analyzed in table 4.13. Theoretically, when risk increases return also increases and vice-versa. For the analysis, standard deviation and expected rate of return has been taken from previous calculation. And it has been calculated by using Microsoft Excel Programme. Correlation between risk and expected return has been presented in Table 4.13.

Table 4.13

## Correlation between Risk and Expected Return

| Banks | Expected Return | Standard Deviation |
| :--- | :---: | :---: |
| NABIL | 0.2647 | 0.5537 |
| EBL | 0.1965 | 0.3163 |
| HBL | 0.0715 | 0.3089 |
| NSBI | 0.2335 | 0.4624 |

## Correlation coefficient between risk and return is $\mathbf{0 . 9 6 3 1}$

It has been presented the correlation between standard deviation and expected rate of return in table. The result shows that there is perfectly positively correlation between risk and return. It indicates when risk increases then the return is also increases.

### 4.2 Data Presentation and Analysis based on Primary Data

This section deals with the analysis of risk and return on common stocks of selected banks from the investors' perspective. For this the required data has been obtained from the primary source. The research has made ample efforts to explore information about how investor's are making decision for stock investment on commercial bank from the perspective of risk and return factor. A structured questionnaire was distributed to 20 investors asking to provide their views and information on the point expressed in the question. Following section presents
analysis of investor's views and information in the same order as they were asked in the questionnaire.

### 4.2.1 Investment made on the Common Stocks of Commercial Bank

As the all questionnaire has been distributed to those respondents who have already made investment in common stock of commercial bank, $80 \%$ respondent has opined that they have invested in the common stock and $20 \%$ invested in common stocks of development banks. Due to same sector of financial institution, the response has been taken as $100 \%$.

### 4.2.2 Basis of Investment

Investment on common stocks of commercial banks has been made based on a number of means. This research has utilized this information on those variables which motivates investors to invest common stocks of commercial banks. In this research question following information from respondent has been obtained.

Figure 4.7


Figure 4.7 shows that, majority of the respondent, $30 \%$ stated that they consider financial statement review while making investment decision. At the same time, 30\% respondent opined that friends' advice is the base of their investment. Some of the respondent $25 \%$ told that Market survey was the key of their investment. And remaining $15 \%$ has mentioned that they have invested their money based on the
information obtained from market survey. It has made clear financial investment review \& friend's advice has been a reliable base of the investment on common stocks of commercial banks in Nepal.

### 4.2.3 Nature of Investor

Investor may have different kinds of nature towards their investment. In order to explore their nature they were asked what kind of investor they are by providing five options. $30 \%$ respondent have presented as a risk seeker and $30 \%$ as a risk averter. At the same time $25 \%$ are neutral between risk seeker and risk averter. And remaining $15 \%$ respondent has mentioned that they have no any idea about it.

### 4.2.4 Consideration on Return on the Common Stocks of Commercial Banks

The expected rate or return or holding period return is based upon the expected cash receipts over the holding period and expected ending or selling price. So every investor should consider the expected rate of return that can be earned from their investment on common stocks. For this, research question is designed to know whether the investor take return as decisional variable for their investment or not. The result obtained from the respondents has been presented and illustrated with the help of following figure.

Figure no. 4.8


This figure no 4.8 presents the proportion of investors' consideration on return on common stocks of commercial banks while making investment. Majority of respondents $50 \%$ has considered return on common stock while approximately one
fourth $25 \%$ respondents have reported that they has ignored return involved in their investment. Remaining respondents $25 \%$ has expressed that they were not aware about return. To sum up, it is concluded that most of investor also evaluate return and return factor while putting their money on shares.

### 4.2.5 Degree of Consideration on Return on Common Stock of Commercial Bank while making Investment

In this research question, respondents were asked to scale their consideration level of return of stock. They were given scales i.e. high, medium and low. The result obtained can be presented in the following bar diagram with detailed expansion.

Figure 4.9


From above figure 4.9 , it is cleared that $45 \%$ investors have average level consideration on return while $35 \%$ respondents put high value to return. A rest of few investors i.e. $15 \%$ has minor consideration on it.

### 4.2.6 Consideration on Risk on the Common Stocks of Commercial Banks

Risk is the variability of possible returns around the expected returns of an investment. It is an essential factor to be considered while making investment on common stock. There is no return without bearing risk in every investment. For this, respondents were asked to put their responses whether they are aware about risk or not. The result obtained can be portrayed with the following pie chart with brief description.

Figure 4.10


Figure 4.10 illustrates that $35 \%$ respondents were considered risk as major variable for their investment decision. Likewise, $40 \%$ respondents have no any consideration on risk. Remaining respondents $25 \%$ has no any idea about the risk. To conclude, risk has been taken as considerable factor in making investment decision.

### 4.2.7 Degree of Consideration on Risk on Common Stock of Commercial Bank while making Investment

In this research question, respondents were asked to scale their consideration level of risk on stock. They were given three scales i.e. high, medium and low. The result obtained can be presented in the following bar diagram with detailed expansion.

Figure 4.11


From the above figure 4.11, it is cleared that $45 \%$ investors have average level consideration on risk. $40 \%$ of the respondents put high value to risk. A few investors $15 \%$ have minor consideration on it. Comparatively, it is found that more investors consider return and risk involved in their investment decision at moderate level.

### 4.2.8 Nature of Analysis for Investment Decision

Investment decision is a process where various analyses should be conducted to construct a sound portfolio of investment in order to maximize return and minimize risk. For this purpose, this research question has been developed to obtain the information about the nature of analysis mentioning three options i.e. financial analysis, market analysis and both. $25 \%$ of the total respondents have been reported that they had conducted only financial analysis to measure the viability and profitability of their investment on stock through the banks' financial variables like risk and return calculation, dividend policy and market price per share etc. This result shows Nepalese investors are not in the position to conduct financial analysis to design better investment decision. Likewise, $25 \%$ of the respondents only conduct market analysis to measure the viability and profitability of their investment on stock through analyzing the banks' goodwill and image, share market performance, market rumor and future expectation. Besides these, maximum numbers $50 \%$ of respondents have responded that they had conducted both analyses to derive more accurate decisional variable to make their investment decision sound.

### 4.2.9 Priority assigned to the factors to be considered while conducting Financial Analysis

For the further clarification of research question number 8, this research question has been developed to prioritize the factors to be considered while conducting financial analysis. They were given four different variables namely return factor, risk factor, dividend policy and market price per share which were to be ranked in a highest important to lowest important by assigning I to the highest important and IV to the lowest important to those investors who have conducted financial analysis. Referring to Appendix 12 and table for question number 9, it has been found that investors have given highest ranking to return factor, they have given second ranking to market price per share. Likewise, they have given third and fourth to risk factor and dividend policy respectively. From this, it is observed that most of the Nepalese investors have high consideration on return factor while investing their money on the common stock of commercial banks based on the financial analysis approach.

### 4.2.10. Priority assigned to the factors to be considered while conducting Market <br> Analysis

For the further clarification of research question number 8, this research question has been developed to prioritize the factors to be considered while conducting market analysis. They were given four different variables namely market rumor, future expectation, goodwill and image of the commercial bank and share market performance, which were to be ranked in a highest important to lowest important by assigning I to the highest important and IV to the lowest important to those investors who have conducted market analysis. Referring to Appendix 12 and table for question number 10, it has been found that investors have given highest ranking to goodwill and image of the commercial bank; they have given second ranking to share market performance. Likewise, they have given third and fourth to future expectation and market rumor respectively. From this, it is observed that most of the Nepalese investors have high consideration on goodwill and image of the commercial bank while investing their money on the common stock of commercial banks based on the market analysis approach.

### 4.2.11. Degree of awareness in Nepalese Investors about Risk and Return

Finally, this research question has been asked to know whether the Nepalese investors are aware adequately about the risk and return factor or not. As it is fact that most of the Nepalese investors are investing their money in share knowingly and unknowingly and this question try to find out the position of Nepalese investors about the knowledge of risk and return. The result obtained from the respondent has been presented in following figure.

Figure 4.12


This figure shows that majority $50 \%$ of prospective investors are treated as low awareness about risk and return factors. $25 \%$ of the respondents reported that Nepalese investors have adequate awareness about risk and return factors. And the remaining $25 \%$ have expressed that they have no any prediction about the research question.

### 4.3 Major Findings of the study based on secondary data

- Average rate of return of NABIL, HBL, EBL and NSBI Bank are 26.47\%, 7.15\%, 19.65\% and $23.35 \%$ respectively. Among four sampled banks, NABIL Bank has the highest rate of return and HBL Bank has lowest return.
- In year 2009-10, 2010-11, all the sampled banks have negative annual return or no return. Annual return of NABIL, HBL, EBL and NSBI is $-49.3 \%,-50.87 \%$, $31.16 \%,-59.82 \%$ and $-44.97 \%,-22.96 \%,-29.20 \%,-20.72 \%$ respectively and in the same year NEPSE index movement is also negative i.e. $-0.3623,-0.2405$ respectively.
- Standard deviation of NABIL, HBL, EBL and NSBI are $55.37 \%, 30.89 \%$, $31.63 \%$, and $46.24 \%$ respectively and Beta coefficient of NABIL, HBL, EBL and NSBI are $1.4271,0.8390,0.6977$ and 1.1194 respectively. The standard deviation of NABIL is highest and HBL is lowest.
- Coefficient of variation of NABIL, HBL, EBL and NSBI are 2.0918, 4.3198, 1.6098 and 1.9802 respectively. Coefficient of HBL is highest and EBL has lowest.
- According to CAPM theory, NABIL has the highest required rate of return i.e. 16.26 \% and EBL has lowest i.e. $10.32 \%$ and the NABIL, EBL and NSBI are under priced and HBL is overpriced.
- Systematic risk of NABIL, HBL, EBL and NSBI are 0.2417, 0.0836, 0.0578 and 0.1487 respectively. Similarly, unsystematic risk of NABIL, HBL, EBL and NSBI are $0.0648,0.0118,0.0422$ and 0.0651 respectively.
- The average rate of return and standard deviation of return are perfectly positively correlated i.e. 0.9631 .
- Financial statement survey and friends advice are the base of investment on common stocks of commercial banks in Nepal. At the same time, same investors also make market survey to build on base for their investment.
- Majority of investors are risk seekers and risk averter who consider risk and return in their investment on common stock but the consideration level is at the middle level rather than high. Likewise, there are also some investors who consider return factors and tend to avoid high risk and consider return at middle level.
- Most of the investors expressed that they have conducted both analysis. At the same time some of investors have conducted only either financial analysis or market analysis.
- Those who have conducted either financial analysis or both type of analysis has ranked return factor in first priority and only than market price per share, risk and dividend in second, third and fourth priority.
- Those who have conducted either market analysis or both type of analysis has ranked goodwill and image of the banks in first priority and only than share
market performance, future expectation and market rumor in second, third and fourth priority.
- Majority of investors agreed that most of the Nepalese investors have not adequate awareness about risk and return factors.


## CHAPTER- V

## SUMMARY, CONCLUSION \& RECOMMENDATION

## 5. Introduction

An investor holds shares with an intention to earn money. Finance theory states that in every, there is some risk associated with it. While an investment in share has the prospects of earning good return, it also has a risk of losing large amount of equity. A stock market can be a risky place for investors if they fail to know how to protect themselves from potential losses. So, this chapter explains the overall analysis of this research study in a summarized way, draft a conclusion and provide vital recommendation to the readers.

### 5.1 Summary

Risk and return analysis is the part of the business world. If there is no risk, there is no return. Risk and return measures the performance on any corporate house. It is the key factor in the financial sector and could be a good indicator to the prospect who one to make investment on the securities of enterprises. For any investment decision, investors want to the expected rate of return from the investment and risk associated within it. The economy is growing rapidly, which forces the change in the variable of world economy in galloping manner. No investors would like to make their investment in the risky asset which holds higher risk and yield lower rate of return.

Banking sector is the most dynamic part of the economy which collects unused funds and mobilizes it in needy sector. It is heart of trade, commerce and industry. In Nepal joint venture and private sector bank has performed sound results than the government sector bank because high skill management, efficiency and proper risk management. Capital market plays vital role to develop the economic world. NEPSE in Nepal is the heart of capital market. Capital market has two wings i.e. primary capital market and secondary capital market. Various companies' securities are traded in such type of market. Most of the investor is least aware about the risk and return factor associated in each investment. They make their investment in hunches and their own intuition rather than calculating the expected rate of return and comparing it market rate of return. The present study has been analyzed the risk and return
parameter of common stock investment. Common stock is regarded most risky security and one of the major paper asset, traded in security market. The major objective of this research study is to analyze the risk and return of commercial banks in the context of Nepal especially focused in the commercial banks listed in the NEPSE.

Four listed commercial banks in NEPSE have been taken as sample and their individual risk and return were calculated and analyzed as whole to find out the performance of each bank. While analyzing risk and return in brief review of literature for the present study has been made. Theoretical review and related studies where fundamental concept has been prepared to facilitate the study more accurate and effective. The study has also included research methodology to fulfill the objective of the present study. To analyze the standard deviation, beta coefficient, required rate of return, expected rate of return, coefficient variation have been calculated on the basis of major finding. This research study has also made a survey where a structured questionnaire has been filled up by 20 respondents and the result obtained from these primary data has been analyzed and conclusion has been derived regarding the risk and return on common stock of commercial banks from the investors' perspective. Based on the derived conclusion a very useful recommendation has been made.

### 5.2 Conclusion

While considering the systematic (un-diversified) risk of commercial banks, EBL has the least systematic risk and NABIL bank has the highest one among the selected banks. When unsystematic (diversifiable) risk is considered it is be found that HBL has lowest risk and NSBI bank has the highest one. At the same time when total risk is considered, HBL is considered lowest risky and NABIL bank has the highest risk. Beta coefficient of NABIL bank has the highest and EBL has the lowest. It shows EBL is least risky and NABIL is top most one among the selected banks. If relative risk measurement through coefficient variation is considered then, HBL has the highest per unit of risk as measured by coefficient of variation.

Looking at only return factors, average return of NABIL bank is the highest and that of HBL is the lowest rate of return. According to CAPM approach, NABIL bank has the highest required rate of return and EBL has the lowest one. NABIL, EBL, and

NSBI banks are under priced and HBL is overpriced. So it is concluded that it is advisable to purchase common stock of such companies by the investors whose price is underpriced.

When correlation with risk and return of the banks are observed, it is found that return is positive correlated with risk and it proves that without bearing risk there is less chance of earning return. In other words the risk is positively related with the return.

From the study it is found that NABIL bank, EBL and NSBI bank 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.

Financial statement review and friend advice are the main source of inspiration for the Nepalese investors to make their investment decision on common stocks of commercial bank in Nepal. Though some of the investors tend to bear risk as being the risk seeker but the degree of risk consideration remain on average. Likewise most of the investors also tend to avoid risk and value high to return as decisional factor. The degree of consideration on return is also on average. Most of the investors conduct market analysis and financial analysis together. At the same time, a few investors conduct either of one analysis.

When investors conduct financial analysis, return factor and market price per share are the major inputs for further analysis. When investors conduct market analysis, goodwill and image of the commercial bank as well as market performance are the major inputs for further analysis. Most of the Nepalese investor is reported lack of adequate awareness on risk and return involved in share investment in commercial bank.

### 5.3 Recommendations for future Researchers

Based on the analysis, findings and conclusion of the study, the following recommendations are suggested to future researchers overcome weakness, inefficiency and to improve the risk and return analysis of common stock of commercial banks, which I have done.

- In this study NABIL, Everest, Himalayan and Nepal SBI Bank has been selected. Besides these banks other commercial banks also can be selected and analyze the risk and return of investment on common stock of entire commercial banks.
- It is also recommended to future researchers for additional study of the portfolio analysis.


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http://www.sebon.gov.np

## Appendix 1

## Commercial Banks operating in Nepal

| S.N. | Names of banks | Operating Date (OD) |
| :---: | :---: | :---: |
| 1 | Agricultural Development Bank Ltd. | 2024/10/07 |
| 2 | Nepal Bank Limited | 1994/07/30 |
| 3 | NABIL Bank Ltd* | 2041/03/29 |
| 4 | Nepal Bangladesh Bank Ltd | 2051/02/23 |
| 5 | Standard Chartered Bank Ltd | 2043/10/16 |
| 6 | Himalayan Bank Ltd* | 2049/10/05 |
| 7 | Nepal SBI Bank Ltd* | 2050/03/23 |
| 8 | Nepal Investment Bank Ltd | 2042/11/26 |
| 9 | Everest Bank Ltd* | 2051/07/01 |
| 10 | Bank of Kathmandu Ltd | 2051/11/28 |
| 11 | Nepal Credit and Commerce Bank Ltd | 2053/06/28 |
| 12 | Lumbini Bank Ltd | 2055/04/01 |
| 13 | Sunrise Bank Ltd | 2064/06/25 |
| 14 | Kumari Bank Ltd | 2057/12/21 |
| 15 | Laxmi Bank Ltd | 2058/12/21 |
| 16 | Civil Bank Ltd | 2067/08/10 |
| 17 | Commerz \& Trust Bank Nepal Ltd | 2067/06/04 |
| 18 | Citizen Bank International Ltd | 2064/01/07 |
| 19 | Global IME Bank Ltd | 2063/09/18 |
| 20 | Grand Bank Ltd | 2065/02/12 |
| 21 | Janta Bank Nepal Ltd | 2066/12/23 |
| 22 | Kist Bank Ltd | 2066/01/24 |
| 23 | Machhachapuchhre Bank Ltd | 2057/06/17 |
| 24 | Mega Bank Ltd | 2067/04/07 |


| 25 | NIC Asia Bank Ltd | $2064 / 06 / 25$ |
| :---: | :--- | :---: |
| 26 | NMB Bank Ltd | $2065 / 02 / 20$ |
| 27 | Prime Commercial Bank Ltd | $2064 / 06 / 07$ |
| 28 | Sanima Bank Ltd | $2068 / 11 / 03$ |
| 29 | Siddhartha Bank Ltd | $2059 / 09 / 09$ |

Source: NEPSE and NRB

- *Sample of the study


## Appendix 2

Commercial Bank Index

| Year | NEPSE Index <br> (Closing) | Commercial Bank <br> Index (Closing) | Treasury Bills Rates <br> (364 Days) |
| :---: | :---: | :---: | :---: |
| $2002 / 03$ | 204.86 | 200.67 | 4.71 |
| $2003 / 04$ | 222.04 | 231.97 | 4.15 |
| $2004 / 05$ | 286.67 | 304.64 | 4.32 |
| $2005 / 06$ | 386.63 | 437.49 | 3.95 |
| $2006 / 07$ | 683.95 | 639.93 | 3.50 |
| $2007 / 08$ | 963.36 | 985.65 | 2.49 |
| $2008 / 09$ | 449.10 | 780.87 | 5.13 |
| $2009 / 10$ | 362.85 | 456.93 | 6.97 |
| $2010 / 11$ | 389.74 | 328.70 | 7.96 |
| $2011 / 12$ |  | 358.57 | 3.13 |

Source: Calculated on the basis of the data extracted from NEPSE and annual report of sampled banks.

## Appendix 3

NABIL Bank Ltd

| Year | Closing Price (Rs) | Opening Price <br> (Rs) | Cash dividend <br> $(\%)$ | Stock dividend <br> (\%) |
| :---: | :---: | :---: | :---: | :---: |
| $2002 / 03$ | 740 | - | 50 | 50 |
| $2003 / 04$ | 1000 | 740 | 65 | 65 |
| $2004 / 05$ | 1505 | 1000 | 70 | 70 |
| $2005 / 06$ | 2240 | 1505 | 85 | 85 |
| $2006 / 07$ | 5050 | 5240 | 100 | 140 |
| $2007 / 08$ | 5275 | 5275 | 35 | 100 |
| $2008 / 09$ | 4899 | 2384 | 1252 | 30 |
| $2009 / 10$ | 1352 |  | 30 | 70 |
| $2010 / 11$ |  |  | 30 | 30 |
| $2011 / 12$ |  |  |  |  |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 4

Himalayan Bank Ltd

| Year | Closing Price (Rs) | Opening Price | Cash dividend | Stock dividend |
| :---: | :---: | :---: | :---: | :---: |


|  |  | (Rs) | (\%) | (\%) |
| :---: | :---: | :---: | :---: | :---: |
| $2002 / 03$ | 836 | - | 1.32 | 25 |
| $2003 / 04$ | 840 | 836 | - | 20 |
| $2004 / 05$ | 920 | 840 | 11.58 | 31.58 |
| $2005 / 06$ | 1100 | 920 | 30 | 35 |
| $2006 / 07$ | 1760 | 1100 | 1760 | 45 |
| $2007 / 08$ | 1980 | 1760 | 1760 | 11.84 |
| $2008 / 09$ | 816 | 816 | 16.84 | 43 |
| $2009 / 10$ | 575 | 575 | 13.42 | 36.84 |
| $2010 / 11$ | 653 |  |  |  |
| $2011 / 12$ |  |  |  | 28.42 |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 5

## Everest Bank Ltd

| Year | Closing Price (Rs) | Opening Price <br> (Rs) | Cash dividend <br> $(\%)$ | Stock dividend <br> (\%) |
| :---: | :---: | :---: | :---: | :---: |
| $2002 / 03$ | 445 | - | 20 | - |
| $2003 / 04$ | 680 | 445 | 20 | - |
| $2004 / 05$ | 870 | 680 | - | 20 |
| $2005 / 06$ | 1379 | 870 | 25 | - |
| $2006 / 07$ | 2430 | 1379 | 2430 | 30 |
| $2007 / 08$ | 3132 | 2455 | 2455 | 30 |
| $2008 / 09$ | 1630 | 1630 | 50 | 30 |
| $2009 / 10$ |  |  |  | 30 |
| $2010 / 11$ |  |  |  | 30 |


| $2011 / 12$ | 1033 | 1094 | 1.58 | 30 |
| :--- | :--- | :--- | :--- | :--- |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 6

Nepal SBI Bank Ltd

| Year | Closing Price (Rs) | Opening Price (Rs) | Cash dividend (\%) | Stock dividend (\%) |
| :---: | :---: | :---: | :---: | :---: |
| 2002/03 | 255 | - | 8 | 8 |
| 2003/04 | 307 | 255 | - | - |
| 2004/05 | 335 | 307 | - | - |
| 2005/06 | 612 | 335 | 5 | 5 |
| 2006/07 | 1176 | 612 | 12.59 | 47.59 |
| 2007/08 | 1511 | 1176 | - | - |
| 2008/09 | 1900 | 1511 | 2.11 | 42.11 |
| 2009/10 | 741 | 1900 | 5 | 17.50 |
| 2010/11 | 565 | 741 | 5 | 17.50 |
| 2011/12 | 635 | 565 | 5 | 17.50 |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 7

Calculation of Standard Deviation, Variance, Coefficient of Variation and Beta Coefficient of NABIL Bank Ltd.

|  |  | - | - | - |  | - |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| Year | $\mathrm{R}_{\mathrm{n}}$ | $\mathbf{R}_{\mathrm{m}}$ | $\left(R_{n}-R_{n}\right)$ | $\left(R_{n}-R_{n}\right)^{2}$ | ( $\mathrm{R}_{\mathrm{m}}-\mathrm{R}_{\mathrm{m}}$ ) | $\left(R_{m}-R_{m}\right)^{2}$ | $\begin{gathered} \left(R_{n}-R_{n}\right) x \\ - \\ \left(R_{m}-R_{m}\right) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002/03 | - | - | - | - | - | - | - |
| 2003/04 | 0.5270 | 0.839 | 0.2623 | 0.0688 | -0.0439 | 0.0019 | -0.0115 |
| 2004/05 | 0.6450 | 0.2911 | 0.3803 | 0.1446 | 0.1633 | 0.0267 | 0.0621 |
| 2005/06 | 0.6013 | 0.3487 | 0.3366 | 0.1133 | 0.2209 | 0.0488 | 0.0744 |
| 2006/07 | 1.3616 | 0.7690 | 1.0969 | 1.2032 | 0.6412 | 0.4111 | 0.7033 |
| 2007/08 | 0.0762 | 0.4085 | -0.1885 | 0.0355 | 0.2807 | 0.0788 | -0.0529 |
| 2008/09 | -0.0485 | -0.2224 | -0.3132 | 0.0981 | -0.3502 | 0.1226 | 0.1097 |
| 2009/10 | -04930 | -0.3623 | -0.7577 | 0.5741 | -0.4901 | 0.2402 | 0.3713 |
| 2010/11 | -0.4497 | -0.2405 | -0.7144 | 0.5103 | -0.3683 | 0.1356 | 0.2631 |
| 2011/12 | 0.1621 | 0.0741 | -0.1026 | 0.0105 | -0.0537 | 0.0029 | 0.0055 |
| Total | 2.3820 | 1.1501 |  | 2.7584 |  |  | 1.525 |
| Average | 0.2647 | 0.1278 |  |  |  |  |  |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 8

## Calculation of Standard Deviation, Variance, Coefficient of Variation and

 Beta Coefficient of Himalayan Bank Ltd.| Year | $\mathrm{R}_{\mathrm{h}}$ | $\mathrm{R}_{\mathrm{m}}$ | $\left(R_{h}-R_{h}\right)$ | $\left(R_{h}-R_{h}\right)^{2}$ | $\begin{gathered} - \\ \left(\mathbf{R}_{\mathrm{m}}-\mathrm{R}_{\mathrm{m}}\right) \end{gathered}$ | $\left(\mathbf{R}_{\mathrm{m}}-\mathbf{R}_{\mathrm{m}}\right)^{2}$ | $\left(R_{h}-R_{h}\right) x$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | $\left(\mathbf{R}_{m}-\mathbf{R}_{\mathrm{m}}\right)$ |


|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 9

Calculation of Standard Deviation, Variance, Coefficient of Variation and Beta Coefficient of Everest Bank Ltd.

| Year | $\mathbf{R e}_{\text {e }}$ | $\mathbf{R}_{\mathrm{m}}$ | $\left(R_{e}-R_{e}\right)$ | $\left(R_{e}-R_{e}\right)^{2}$ | $\left(R_{m}-R_{m}\right)$ | $\left(R_{m}-R_{m}\right)^{2}$ | $\begin{gathered} \text { - } \\ \left(R_{e}-R_{e}\right) x \\ - \\ \left(R_{m}-R_{m}\right) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002/03 | - | - | - | - | - | - | - |
| 2003/04 | 0.5730 | 0.839 | 0.3765 | 0.1417 | -0.0439 | 0.0019 | -0.0165 |
| 2004/05 | 0.3088 | 0.2911 | 0.1123 | 0.0126 | 0.1633 | 0.0267 | 0.0183 |


| $2005 / 06$ | 0.6138 | 0.3487 | 0.4173 | 0.1741 | 0.2209 | 0.0488 | 0.0922 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2006 / 07$ | 0.7911 | 0.7690 | 0.5946 | 0.3535 | 0.6412 | 0.4111 | 0.3813 |
| $2007 / 08$ | 0.3094 | 0.4085 | 0.1129 | 0.0127 | 0.2807 | 0.0788 | 0.0317 |
| $2008 / 09$ | -0.1969 | -0.2224 | -0.3934 | 0.1547 | -0.3502 | 0.1226 | 0.1377 |
| $2009 / 10$ | -0.3116 | -0.3623 | -0.5081 | 0.2582 | -0.4901 | 0.2402 | 0.0564 |
| $2010 / 11$ | -0.2920 | -0.2405 | -0.4885 | 0.2386 | -0.3683 | 0.1356 | 0.0352 |
| $2011 / 12$ | -0.0269 | 0.0741 | -0.2234 | 0.0499 | -0.0537 | 0.0029 | 0.0091 |
| Total | 1.7687 | 1.1501 |  | 1.396 |  |  | 0.7454 |
| Average | 0.1965 | 0.1278 |  |  |  |  |  |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 10

Calculation of Standard Deviation, Variance, Coefficient of Variation and Beta Coefficient of Nepal SBI Bank Ltd.

| Year | $\mathbf{R}_{\text {sbi }}$ | $\mathbf{R}_{\mathrm{m}}$ | $\left(R_{\text {sbi }}-R_{\text {sbi }}\right)$ | $\left(\mathbf{R}_{\text {sbi }}-R_{\text {sbi }}\right)^{2}$ | $\left(\mathbf{R}_{m}-\mathbf{R}_{m}\right)$ | $\left(R_{m}-R_{m}\right)^{2}$ | $\left(R_{\text {sbi- }}-R_{\text {sbi }}\right) x$ $\left(R_{m}-R_{m}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002/03 | - | - | - | - | - | - | - |
| 2003/04 | 0.2039 | 0.839 | -0.0296 | 0.0009 | -0.0439 | 0.0019 | 0.0013 |
| 2004/05 | 0.0912 | 0.2911 | -0.1423 | 0.0202 | 0.1633 | 0.0267 | -0.0232 |
| 2005/06 | 0.8567 | 0.3487 | 0.6232 | 0.3884 | 0.2209 | 0.0488 | 0.1377 |
| 2006/07 | 1.0199 | 0.7690 | 0.7864 | 0.6184 | 0.6412 | 0.4111 | 0.5042 |
| 2007/08 | 0.2849 | 0.4085 | 0.0514 | 0.0026 | 0.2807 | 0.0788 | 0.0144 |
| 2008/09 | 0.2867 | -0.2224 | 0.0532 | 0.0028 | -0.3502 | 0.1226 | -0.0186 |
| 2009/10 | -0.5982 | -0.3623 | -0.8317 | 0.6917 | -0.4901 | 0.2402 | 0.4076 |
| 2010/11 | -0.2072 | -0.2405 | -0.4407 | 0.1942 | -0.3683 | 0.1356 | 0.1623 |
| 2011/12 | 0.1637 | 0.0741 | -0.0698 | 0.0049 | -0.0537 | 0.0029 | 0.0037 |


| Total | 2.1016 | 1.1501 |  | 1.9241 |  | 1.1894 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average | 0.2335 | 0.1278 |  |  |  |  |  |

Source: Calculated on the basis of the data extracted from NEPSE and annual reports of sampled banks.

## Appendix 11

## A Survey on the risk and return on common stock from the investors' perspective

Dear respondents,
I am collecting the data concerned with risk and return on common stock from the investors' perspective for the project work in partial fulfillment of the requirements for the degree of MBS and it would be grant value of your help in this project work, if you help by filling up the following questionnaires

Name: $\qquad$
Position: $\qquad$ Institution: $\qquad$
Address: $\qquad$

1. Have you invested in the common stock of commercial banks in Nepal? (Tick one)
a. Yes
b. No
2. On what basis, you have made investment on common stocks of commercial banks? (Tick one)
a. Friends advice
( )
b. Market survey
c. Financial statement review
( ) d. Whim and rumor
3. What kind of investor are you?
a. Risk seeker
( )
b. Risk averter
c. Neither risk seeker nor risk averter ( )
d. don't know
4. Do you consider return on common stocks of commercial banks while making investment? (Tick one)
a. Yes
b. No
c. don't know
5. To what extent do you consider the return involved in investing on common stocks of commercial banks?
a. High
b. medium
c. low
6. Do you consider risk on common stock of commercial banks while making investment? (Tick one)
a. Yes
b. No
c. don't know
7. To what extent do you consider the risk involved in investing on common stocks of commercial banks?
a. High
b. Medium
c. Low
8. What kind of analysis do you conduct for your investment decision? (Tick one)
a. Financial analysis
b. Market analysis
c. Both
9. If you conduct financial analysis which of following factors do you prioritize?
(Rank the following factor according to priority given I for high priority $\qquad$ IV for low priority)
a. Return factor
()
b. Risk factor
c. Dividend policy
( ) d. Market price per share
( )
10. If you conduct market analysis which of following factors do you prioritize?
(Rank the following factor according to priority given I for high priority $\qquad$ IV for low priority)
a. Market rumor
b. Future expectation
c. Goodwill and image of the commercial bank ()
d. Share market performance
11. Do you think that Nepalese investors are aware adequately about the risk and return factors? (Tick one)
a. Yes
b. No
c. Don't know

## Thank you

## Appendix 12

RESPONSE OBTAINED ON QUESTION NO. 2

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| Friends advice | 6 | $30 \%$ |


| Market survey | 5 | $25 \%$ |
| :--- | :---: | :---: |
| Financial statement review | 6 | $30 \%$ |
| Whim and rumor | 3 | $15 \%$ |
| Total | 20 | $100 \%$ |

RESPONSE OBTAINED ON QUESTION NO. 3

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| Risk seeker | 6 | $30 \%$ |
| Risk averter | 6 | $30 \%$ |
| Neither risk seeker nor risk averter | 5 | $25 \%$ |
| Don't know | 3 | $15 \%$ |
|  | 60 | $100 \%$ |

RESPONSE OBTAINED ON QUESTION NO. 4

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| Yes | 10 | $50 \%$ |
| No | 5 | $25 \%$ |
| Don't know | 5 | $25 \%$ |
| Total | 20 | $100 \%$ |

RESPONSE OBTAINED ON QUESTION NO. 5

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| High | 8 | $40 \%$ |
| Medium | 9 | $45 \%$ |
| Low | 3 | $15 \%$ |
| Total | 20 | $100 \%$ |


| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| Yes | 7 | $35 \%$ |
| No | 8 | $40 \%$ |
| Don't know | 5 | $25 \%$ |
| Total | 20 | $100 \%$ |

RESPONSE OBTAINED ON QUESTION NO. 7

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| High | 8 | $40 \%$ |
| Medium | 9 | $45 \%$ |
| Low | 3 | $15 \%$ |
| Total | 20 | $100 \%$ |

RESPONSE OBTAINED ON QUESTION NO. 8

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| Financial analysis | 5 | $25 \%$ |
| Market analysis | 5 | $25 \%$ |
| Both | 10 | $50 \%$ |


| Total | 20 | $100 \%$ |
| :--- | :---: | :---: |

RESPONSE OBTAINED ON QUESTION NO. 9

| Research Variable | Ranking |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | I | II | III | IV |
| Return factor | 18 | 10 |  |  |
| Risk factor | 10 | 12 | 7 | 5 |
| Dividend policy |  | 9 | 10 | 6 |
| Market price per share | 15 | 12 | 9 | 3 |

RESPONSE OBTAINED ON QUESTION NO. 10

| Research Variable | Ranking |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | I | II | III | IV |
| Market rumor | 4 | 6 | 8 | 10 |
| Future expectation | 8 | 10 | 12 | 8 |
| Goodwill and image of the <br> Commercial bank | 16 | 8 | 12 | 8 |
| Share market performance | 12 | 14 | 4 | 4 |

RESPONSE OBTAINED ON QUESTION NO. 11

| Options Offered | Response Obtained | Share on Total Response |
| :--- | :---: | :---: |
| Yes | 5 | $25 \%$ |
| No | 10 | $50 \%$ |
| Don't know | 5 | $20 \%$ |
| Total | 20 | $100 \%$ |

## Appendix 13

## Highlights of Sample Banks

NABIL Bank Limited: Nabil bank is the first joint venture bank in Nepal. It was established and commencement of its operation on $12^{\text {th }}$ July 1984. During establishment, it had known as Nepal Arab bank limited but now it is known as only Nabil bank limited. The bank was listed in NEPSE in the year 1985 A.D. With initial paid up capital of NRs 28 million, which is gradually reached upto Rs 2029.769 million in fiscal year 2011/12. Over the years the bank has expanded its outreach across 72 districts of the country through a network of 48 branches, 78 ATM's and 2330 remittance agents.

Himalayan Bank Limited: Himalayan bank limited was established in 1993 in collaboration with Habib bank limited, Pakistan. It is the fourth joint venture bank in Nepal and it was listed in NEPSE in 1993. The paid up capital of the bank in fiscal year 2002/03 was only Rs 429 million, which is gradually reached up to Rs 2400 million in fiscal year 2011/12. Himalayan bank has 39 branches in year 2012 all over the Nepal

Everest Bank Limited: Everest bank limited was established in 1994 A.D. with the joint venture of Punjab National Bank Limited, India. It was listed in NEPSE in 1996 A.D. The bank has Authorized, Issued and Paid up Capital are Rs 2,000 million, Rs. 1231.6357 million and Rs. 1231.6357 million in fiscal year 2012 respectively. It has 45 branches upto year 2012 all over the Nepal.

Nepal SBI Bank Limited: Nepal SBI Bank Ltd. is a subsidiary of State Bank of India which has 55 percent of ownership and rest is held by a local partner viz. Employee Provident Fund (15\%) and general public (30\%). The bank has Authorized, Issued and Paid up Capital are Rs 3,000 million, Rs. 2102.966165 million and Rs. 2093.989769 million in fiscal year 2012 respectively. The Bank was established in July 1993 \& is now having 56 branches, 6 extension counters, 3 Regional Offices \& the Corporate Office. SBI is ranked 60th in the list of Top 1000 Banks in the world by "The Banker" in July 2012.

## A Survey on the risk and return on common stock from the investors' perspective

Dear respondents,
I am collecting the data concerned with risk and return on common stock from the investors' perspective for the project work in partial fulfillment of the requirements for the degree of MBS and it would be grant value of your help in this project work, if you help by filling up the following questionnaires.

Name: $\qquad$

Position: $\qquad$

Institution: $\qquad$

Address: $\qquad$

1. Have you invested in the common stock of commercial banks in Nepal? (Tick one)
a. Yes
b. No
2. On what basis, you have made investment on common stocks of commercial banks? (Tick one)
a. Friends advice
()
b. Market survey
( )
c. Financial statement review
( ) d. Whim and rumor
( )
3. What kind of investor are you?
a. Risk seeker
( )
b. Risk averter
( )
c. Neither risk seeker nor risk averter (
d. don't know
( )
4. Do you consider return on common stocks of commercial banks while making investment? (Tick one)
a. Yes
b. No
c. don't know
5. To what extent do you consider the return involved in investing on common stocks of commercial banks?
a. High
b. medium
c. low
6. Do you consider risk on common stock of commercial banks while making investment? (Tick one)
a. Yes
b. No
c. don't know
7. To what extent do you consider the risk involved in investing on common stocks of commercial banks?
a. High
b. Medium
c. Low
8. What kind of analysis do you conduct for your investment decision? (Tick one)
a. Financial analysis
b. Market analysis
c. Both
9. If you conduct financial analysis which of following factors do you prioritize?
(Rank the following factor according to priority given I for high priority ..... IV for low priority)
a. Return factor
( )
b. Risk factor
c. Dividend policy
( ) d. Market price per share
10. If you conduct market analysis which of following factors do you prioritize?
(Rank the following factor according to priority given I for high priority....... IV for low priority)
a. Market rumor
expectation
( ) b.
b.
()
```
    c. Goodwill and image of the commercial bank ( )
    d. Share market
performance
( )
```

11. Do you think that Nepalese investors are aware adequately about the risk and return factors? (Tick one)
a. Yes
b. No
c. Don't know

## Thank you

