

# CHAPTER I

## INTRODUCTION

### 1.1 Background of study

Nepal is a landlocked country, situated between two large countries, India and China. Both of them are economically strong and geographically large. Nepal is an underdeveloped country and the pace of development is in creeping motion. There is situation of economically crisis and long trend of inflation along with deficit balance of payment. At the same time the financial sector is playing a very vital role in upgrading the national economy. Despite of political instability, ineffective financial and monetary policy, various financial institutions via commercial banks, development banks, insurance companies and other depositary intuitions are still attempting to balance the economical development of nation. Among these, Commercial banks are legally formed financial institution, which accept deposits and makes loan for commercial and non commercial purpose .the history of commercial bank is not very long .the growth of commercial banks last two decades remained phenomenal particularly financial sector reformation in 1990's. The concept of the banking formally begun with the establishment of the Nepal bank Ltd. in 1994 B.S. in 2014B.S,the central bank named Nepal Rasrtiya bank Ltd. was established with the objective of supervising ,guiding and protecting the functions of banking sectors. As a result, the growth of commercial banks in Nepal has been mushroomed. The number of banks has increased as per the requirement under the different acts like Agriculture development bank under the Agriculture development acts in 2024 B.S. commercial banks under the commercial acts in 2031 B.S. Nepal Arab bank Ltd is the first join venture bank in Nepal which was established in 2041B.S. presently. There are twenty three commercial banks with more than 450 branches over the

national frontier operating in Nepal .banking sector is the most vibrant part of economy which has been playing very vital role in mobilizing the financial resources from the saver to users. It, in general, collects the idle funds from different savers and accumulated funds is further proceeds to the needy centers like households sectors, business sectors. It is the heart of trade, commerce and industry. It makes the smooth flow of funds in the circulation body of the economy. It makes various functions like assets and liabilities transformation, security trading, agency functions, and economies of scale, corporate social responsibilities, and other day to day banking functions.

## **1.2 Focus of study**

Generally, risk and return analysis is concerned to identify the sustainable position of financial sector. Risk and return is the basic concept in the corporate finance and it guides the other modern theories and principal as well as it assists in taking various financial and qualitative financial decisions. The relationship between risk and return can be defined by the investors' perception about risk and the demand for compensation. No investor will take any investment position in risky assets unless they are convinced of adequate compensation for the percept risks. In fact, there is inverse relation between risk and return. Risk has been defined as the chance that the actual return deviation from the expected returns and risk is the percept fact of life that is the product of uncertainty and it's magnitudes depending upon the degree of variability in future's uncertain cash flows. Risk and return is an indication of opportunity of losing investment value. It is insensible to talk about returns without talking about risks because investment decision involves the tradeoff between risk and return and the trade off between these two variables is positive. There is positive

relation between risk and return. Thus an investor, in general, can attain more return through the selection of dominating assets that involves high risks.

Risk in a stock reflects the uncertainty about the future return i.e., actual return may be less than the expected return. The main source of uncertainty about future return is that, the price at which the stock can be affected by economic factors such as interest rates, economic growths, inflation liquidity, Marketability, financial performance and strength of the dollar. The risk of stock can be measured by the price volatility. One of the main sectors of financial market is capital market where stocks and bonds are traded. Among all, stocks market is deemed to very active markets and basically concerned to maximize the wealth of stockholders. It plays vital role in the economy. Financial market is the mechanism designed to facilitate the exchange of security by bringing buyer and seller in the trading floor. It allows supplier and demanders of funds to make transaction. Capital market is important intermediary through the networks of funds with in the economy can be made active. In general capital markets refers to the markets for he capital to allocate optimally where various long-term securities are issued and traded for the tradeoff between liquidity position risk of their prospective portfolio in the response to availability of information and marketability of securities and its prices. If the capital market is efficient, the current stock price fully reflects available information but full efficient market is very difficult to meet in the real corporate world. So, investor should learn fully and carefully as possible as about actual investment world. Political, legal, economical, social, and technological factors affect the capital market. All the financial institutions are also affected by capital market. Many financial institutions are listed with Nepal Sock Exchange (NEPSE). The total number of listed companies in F/Y 2007/8 was 240. There were 25 companies listed under commercial bank group, similarly there were 34 companies

in development bank group, 21 companies in manufacturing and processing group, 4 companies in hotel group, 4 in trading and other group. But the present study included only listed commercial banks and study has mainly focuses on the risk and the return analysis of common stocks investment. (SEBON, 2006).

### **1.3 Statement of the problem**

Generally, investors purchase financial assets such as stocks or bond because 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 been grown rapidly after the establishment of the security market named NEPSE with in the very short period of time. However, the attitudes and knowledge of the most investors have not changed yet. They are influenced by liquidity position rather than information in the financial market. Investor usually lacks any idea of risk and return because most of the investors appear to be least familiar with the financial market. They can make irrational investment decisions based on the hunches rather than as real term analysis. Though some of few investors follow the rational investment procedure and portfolio analysis but they still lack a very perfect awareness about the risk and return factors. Without getting theoretical knowledge about the risk associated with investment, most of the investors are making investment on the stocks. This may be termed as ill practices.

If the financial institutions issue shares, there becomes huge demand more than the supply but if other sectors such as hotels and manufacturing companies issue new shares, the investors do not show similar enthusiasm to invest their money. In Nepalese context, most people deposit their savings in banks instead of making investment in the financial assets available in the capital markets like investment in

shares, debenture and other derivative securities. Many investors are irrational towards their investment decision. They do not know how to make rational 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 institutes issue only the common stocks and capital market is also dominated by the trading of the stocks. On the basis of this, the study is to seek to answer following questions.

1. What is the level of systematic risk of commercial banks?
2. What is the level of unsystematic risk of commercial banks?
3. What is the average return of commercial banks?
4. What is the total level of risk and return of listed commercial banks?

#### **1.4 Objectives of the study**

The basic objective of the present study is to analyze the risk and return of listed commercial banks in Nepal.

The specifics objectives of the present study are list down below:

1. To analyze the systematic risk of commercial banks listed in NEPSE.
2. To analyze the unsystematic risk of commercial banks listed in NEPSE.
3. To analyze the risks and return of commercial banks.
4. To analyze whether the selected common stocks are over or under priced.
5. To recommend the findings for the future analysis.

#### **1.5 Significance of the study**

The study is to point out the risk and return position of investing shares of commercial banks in Nepal. The study will be helpful for investors as well as commercial banks. It also provides proper guidelines for making choices of stocks and bonds on the basic of risk and return. It is also importance those people who is interested to know about risk and return. The study will be beneficial for those people who are interested to

know about capital market in Nepal .it provides the consolidated basic data and information about the NEPSE and commercial banks under study.

## **1.6 Limitations of the study**

Every research study has its own limitations. The present study has following limitations.

1. There are 26 commercial bank in Nepal that are in operation, among them 25 banks are listed in NEPSE. But the study does not include the entire listed commercial bank.
2. The study is based upon the secondary data.
3. The study is basically concerned only with the risk and return of the listed commercial banks i.e., other aspects of the banks have not been taken under the consideration.
4. The study hasn't included those banks which was listed after 15<sup>th</sup> July 2009 AD.
5. This study incorporates the data from 15<sup>th</sup> July 2000 to 15<sup>th</sup> July 2009.

## **1.7 Organization of the study**

For the systematic presentation of the study, the present study has been divided into five chapters.

### **Chapter I**

This chapter is *introduction chapter* and it includes general introduction, focus of the study, statement of the problem, objectives of the study, significance of the study, limitation of the study, and organization of the study.

## **Chapter II**

The second chapter is *review of literature*. It includes theoretical review of the study and other relevant materials. It also gives brief explanation about the previous research done on this topic and fundamental review.

## **Chapter III**

The third chapter is *research methodology*. It includes research design, population and sample size, source of data, data collection procedure and data analysis tools.

## **Chapter IV**

The fourth chapter is *data presentation and analysis*. It includes data analysis and its interpretation based on the collected data and with the use of various financial tools and techniques. It further analyzes and interprets the data using figures and graphs and tables. At last, it includes major findings of the study.

## **Chapter V**

The fifth chapter is *summary and conclusion*. It summarizes the whole study, draws the conclusions and forwards the necessary recommendations.

## **CHAPTER II**

### **RIVIEW OF LITERATURE**

#### **2.0: Introduction**

This chapter presents with the discussion related to various theories and research studies that are closely related with the recent studies and provides valuable inputs to conduct the present studies successfully. The whole chapter has been divided mainly into two parts- theoretical review and the research review. Theoretical review includes the definition of summary of different books and authors and research review includes the review of published articles in different journals and past studies.

#### **2.1: Theoretical Review**

##### **2.1.1: Concept of capital market**

Capital market is also called security market as well as financial market. Capital market is the mechanism designed to facilitate the exchange the financial assets or securities by bringing buyers and seller of securities together. Precisely speaking, security market allows suppliers and demanders of funds to make transactions. It can be various types' and forms classified as different bases like capital market and money market, share and debenture market. For our research concern, capital market id the market defined as any body of the individuals, whether incorporated or not, constituted for the purpose of regulating or controlling the business of selling or dealing securities. According to Brigham& Eharadt, 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 equals to five years and more than five years .capital market consists of the security markets and non security market implies mobilization of the funds through issuance of securities like share,



debentures, and other derivative securities. These securities traded in the markets are generally negotiable and hence can be traded in the secondary market. Non security market refers to the mobilization of the non- financial resources. Basically capital market can be divided into two parts:

### **1. Primary capital market**

### **2. Secondary capital market**

#### **Primary capital market**

Primary market is the market through which the funds are transferred from saver to demander. Hence, the transaction of securities issued first times takes place in the primary markets. The primary markets for securities is new issue market, which brings together the supply and demand or source and use for new capital funds. In this market, the principal source fund is domestic saving of individuals and firm, other suppliers include foreign investors and government. In highly developed capital market, the largest proportion of saving reaches the new issue market indirectly via a financial intermediary. For example, investment bankers and other similar nature institutions, in contrast most of the investors are unfamiliar with new issue markets and its institutions such as underwriting and selling syndicates which serve middlemen between the corporate demanders of funds and the individual investors.

#### **Secondary capital market**

Once the securities have been issued in the primary market, investors may sell or trade them in the secondary market called secondary capital market. It deals with previously issued share mainly traded through the stock exchange, Over the counter (OTC) market and the through the direct dealing. The majority of all security transaction generally occurs in the secondary market. Proceed amount from the sale of securities in this market doesn't go to underlying company who has issued the

underlying securities. In other words, securities traded among the individuals as well as the institutional investors. Transaction in existing securities represents a shifting among owners that don't provide any additional funds to finance capital formation for the underlying company. The basic economic function of the secondary market is to provide the liquidity and marketability for the long-term investment, there by the supply of equity and long-term debt capital for the financing of the business enterprises. Once the investors purchase security in the primary market, they may need the place to sell those securities and the place is obviously secondary market. It can be categorized in two parts i.e. organized stock exchange and over the counter (OTC) market. Organized stock market is dedicated to provide active market place for corporate shares and other listed securities. Over the counter market is for those securities which are not listed on the stock exchange. For such securities broker, dealers negotiate directly with one another and their activities are monitored by National Association of Security Dealer (NASD).

### **2.1.2: Development of Capital Market in Nepal**

Capital market in Nepal is in infancy position .stock investment practices in Nepal developed after the establishment of the Biratnagar Jute Industry and Nepal bank Ltd. in 1937 AD. Till 1980's the majority of shares issuing companies would belong to the government ownership. Initial Public Offerings (IPO's) was hardly found in practices and funds were collected through the direct placement of bonds. The prime objectives of the raising the fund would be the development of the infrastructure and public welfare programs. It has helped flourishing the primary government bond market .on the other hand, the shares of Nepal bank Ltd. Were in existence but limited to ownership of the RANA's (khadka, 2004).government had issued treasury bills in 1962 AD for the first time to finance the infrastructure development. Furthermore, it

was followed by the by the issuance of the development bonds in 1964AD. Industrial policy has opened the door for the establishment of the institution named Security Market Center (SMC) in 1977 AD with its prime objective of developing the capital market for securities in the country under the joint venture of Nepal Rastra bank (NRB) and Nepal Industrial Development Corporation (NIDC), it was converted into Security Exchange Center (SEC) in 1976 AD. Security Exchange Act (SEA) was approved by legislation and came into existence with effect from 13th, April, 1984 AD. The former Securities Exchange Center was converted into Nepal stock Exchange (NEPSE) with the major objective of arranging marketability and liquidity of to the government and corporate securities. Floor trading through market intermediaries such as brokers and market makers has also evolved; restoration of democracy following the political movement of 1990 has brought lots of reforms in the finance sector. Liberalization in the real sense was initiated. Nepal launched 'Extended Adjustment Program' in 1992 AD by taking Extended Structural Adjustment Facility (ESAF) through the amendment in the SEA. This has led to the establishment of the Securities Exchange Board Nepal (SEBO/N) and it was given he responsibility of regulating and developing the transactions of the stocks and bonds in the floor through its member intermediaries where NEPSE to facilitate the transactions of the stocks and bonds in the floor through its member intermediaries. NEPSE presently has 27 brokers and 11 issue managers and 2 portfolio mangers that is dealer in the secondary market. Currently there are 240 listed companies but this number is subject to change. Similarly NEPSE is planning to increase the share broker number by 27 to make 50 in total in near future. Some processes are already made for this. Similarly, Non Residence Nepalese (NRN) has declared to establish a multipurpose mutual fund investment company with the amount of Rs. 10 billion in

nearer future which help to grow the capital market in Nepal. In addition to this, various state-owned enterprises like Nepal Electricity Authority (NEA) has already issued bond and Nepal Telecom Corporation (NTC) has offered initial public offering with premium. Thus market share to the general public which is encouraging for the capital market encouraging and alternative investment sectors for the investors.

### **2.1.3 Meaning of Risk**

Different investors define risk in different ways. In general risk can be defined as the likelihood that actual return from an investment will be less than the forecast return.

Stated differently, it is the variability of return from an investment (Hampton, 1998) .

Risk is defined in the Webster's dictionary "as a hazard a peril: exposure to loss of injury". Thus, risk refers to chance that some unfavorable events occur. If u bet on the horses, we are risking our money. If we invest in speculative stocks we are taking a kind of risks in a hope of making appreciable returns (Brigham, Capeskin and Erhards, 2001).

Risk is the variability of possible returns around the expected returns of an investment each investor has his/her own attitudes towards risks and how much he/she can tolerate. Since, investment have risks associated with them, the investors must determine combination of alternatives matches that tradeoff the risk and compensation for percept risks (Basnet, 2006).

In reality risk occurs when we cannot be certain about the possible future outcomes of particular activity or events. So, we are not sure that will occur in the future consequently. Risk results from the fact that the action such as investment can provide the more than one outcome in future.

"A major objective of the financial management is to increase the Financial Institutions' return for its owners. They often come however at the cost of increased

risk. The effective management of this risk is central to a financial institutions' performance. Indeed, it can be argued that the main business of financial institute is to manage the risk for the purpose of maximization of return. So financial institution manager must devote the significant e time to understanding and managing the various risks to which their financial institutions are exposed" (Saunders and Cornett, 2002)

In real sense, risk is the chance of losing future return and investment amount in future. Assets having grate chance of loss are viewed as more risky than lesser chance of loss. More formally, the term risk is used interchangeably with uncertainty to refer the variability of return associated with the given assets.

Risk is measured in many ways but commonly three methods are viewed as useful standard. These are:

### **Beta coefficient**

This is a mathematical value that measures the risk of one asset in term of its effect on the risk of group of assets called portfolio. It is concerned solely with market related risk as would be the concern for the investor holding stocks and bonds. It is derived mathematically so that a high beta indicates a high level of risk; allow beta represents a low level of risk.

### **Standard deviation**

This is the measurement of the dispersion of forecast returns when such returns approximate a normal probability distribution. It is a statistical concept and widely used to measure risk from holding a single asset. The standard deviation is derived so that a high standard deviation represents a large dispersion of return is a high risk. On other hand, a low standard deviation is a small dispersion and represents low risk.

## **Subjective estimates**

A subjective risk measure occurs when qualitative rather than quantitative measures are used to measure dispersion. We will use the definition of risk that deals with dispersion of return. We will also note that mathematical approaches can be used to estimate such dispersion.

### **2.1.4: Sources of risk**

An investment is commitment of money that is expected to generate addition money. Every investment entails some degree of risks. a major objectives 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 to understanding and managing the various source and kinds of risks factors with its different natures and complexities. The primary risks factors that create investment uncertainties are as follows;

#### **Interest rate risk**

Asset transformation function is the key functions of financial institution. It involves buying primary securities or assets and issuing secondary securities or liabilities to fund assets purchase. The primary security purchased by financial institutions often has maturity and liquidity characteristics which are different from these of secondary security that financial institutions sell. In mismatching the maturities of asserts and liabilities as part of their asset transformation function. Financial institutions potentially expose themselves the interest rate risks. Suppose when interest rate increases and maturity period of assets is greater than the maturity period of liabilities. At that time, the interest rate increases, makes more in the market value of

assets in comparison of its liabilities. So, interest rate is defined as the potential variability of return caused potential variability of return caused by the changes in its market rate interest rate. Interest rate can be demonstrated. If we consider the single period return formula for the bond and stock. In interest rate risk, if market interest rate raises the investment values and market prices falls and vice-versa. The variability of return results interest risk. The interest rate risk affects the prices of bonds, stocks, real estate, gold and other derivatives securities.

### **Bull-Bear market risks**

Market risk is risk incurred in the trading of assets and liabilities due to changes in markets forces like interest rates, exchange rates. Furthermore, market risk is the risk related to uncertainty on the earning on its trading portfolios caused by changes in the market condition.

Saunders and Cornett in tenth addition have outlined two comments on market risk. These are as follows:

*Comment 1:* market risk is value at risk (VAR) which is related to uncertainty.

*Comment2:* market risk is caused due to four major market forces. These are price of assets, interest rate, market volatility, market liquidity.

Market risk can be also cleared in Bull- Bear approach. This approach advocates that risk can rise from the variability of the market return resulting from the alternating bull and bear market forces. When security index arises fairly and consisting from also point called trough for a period of time, the bull market ends when the market index reaches a peak and starts downward trend. The period during which the market declines to the next trough is called a bear risk.

## **Credit risk**

It is also called default risk. Default risk is probability that the borrower is unable to fulfill the term promised under the loan agreement. Saunders and Cornett have outlined three principles as follows:

*Principle 1:* It is the risk losing principal and interest amount.

*Principle 2:* when financial institution makes loans or buys securities with longer maturities. There is chance of higher credit risk where principal plus interest caused has may not recovered adequate in full amount.

*Principle 3:* credit risk can be firm specific and systematic risk.

## **Liquidity risk**

Liquidity risk is sudden surges in liability with drawl may leave as financial institution in a position of having to liquidate assets in a very short period of time and at low prices. Liquidity risks arises when on its liability holders such as depositor or insurance policy maker etc demand immediate cash for the financial claim they hold with financial institution or when holders of loan commitment or credit line suddenly exercise their right to borrow or draw down their right their loan commitments. At that situation the financial institutions must either borrow additional funds or sells assets to meet the demands for the withdrawal of funds. In most cases financial institution has to face the liquidity crisis at the time when liability holder demands higher cash consequently. In other sense, liquidity risk is that position of an assets total variability of return which results from the prices discount given on sales. Commission paid in order to sale with out delay. Perfectly liquid assets are highly marketable either price discounts must be given or these cost must be incurred by seller, in order to find a new investor for an assets is the larger the prices discount



and/or commission which must be given up by the seller in order to affect a quick sale.

### **Callability risk**

Some bonds and preferred stocks are issued with a provision that allows the issuer to call them in for repurchase. Issuer like the call provision because it allows them to buyback outstanding preferred stock and/on bond with funds from a newer issue if market interest rate drop below the level being paid on the outstanding securities. That portion of a security's total variability of returns and derives from the possibility that the issue may be called is the callability risk. Callability risk commands a risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue will be called increase.

### **Convertibility risk**

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

### **Industrial risk**

An industry may be viewed as a group of companies that compete with each other to market homogenous products. Industry risk is that portion of risk that can be an investment variability of return caused by events that affects the product and firms that make up of an industry. The stage of industry cycle, international tariffs and/or quotas on the product produced by an industry related taxes, industry wide labor

union problems, environmental restriction, raw materials acts and affect all the firms in the industry simultaneously. As a result of these commonalities, the prices of the securities issued by competing firms tend to rise and fall together.

### **Political risk**

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

### **Other risks**

Besides these above mentioned risks, there are other risks like off balance sheet risks, technological and operational risk, country and sovereign risk, insolvency risk etc.

### **2.1.5: Types of risks**

Total risk or total variation of the rate of return for an individual security or portfolio is measured by the standard deviation or variance of the rate of return. According to Capital Asset Pricing Model (CAPM), total risk can be divided into two parts i.e. systematic risk and unsystematic risk.

### **Systematic risk**

It is the also called non- diversifiable 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, long-term changes, etc, which are beyond the control of company management. It affects all firms in the market. The portion of risk is non- diversifiable and cannot be

reduced. 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 most a small number of assets. The principle of diversification has an important implication to a diversified investor, only systematic risk matters. It follows that in deciding whether or not buy a particular individual asset, a diversified investor will only concerned with that asset's systematic risk. This is a key observation and it allows us to say great deal about the risks and returns on individual assets, in particular, it is the basis for a famous relationship between risk and return called the security market line. To develop the SML, we introduce the equally famous Beta coefficient one of the enterprises of modern finance. Beta coefficient and SML are the key concepts because to get supply us with at least part of the answer to the question of how to go about determining the required return on an investment.

### **Unsystematic risks**

The unsystematic risk is non market factors related. In other word, it arises from the project specific factors for example inefficiency of management failure in new product in production, employee strikes, lawsuits and any other event that is unique to the company. It is inherent individual companies or projects. This portion of risk is diversifiable and it is possible to reduce or eliminate through diversification of the investments. It is called unique or asset specific risk

### **2.1.6: Meaning of Return**

The meaning of return is defined as different investors. The rate of return from capital investment is a concept that has different meaning to different investors. Some competitive seek near term cash inflow and give less value to more distant returns. Return can be expressed by cash dividend or capital gain or loss. Still some investors

measure return using financial ratios. Single period return may be defined as all possible future cash flows that can be earned holding securities up to holding period. It can be also defined as the changes in the value plus any cash distribution expressed as a percentage of the beginning of the period of investment value. An investor can obtain two kind of income from the investment is a share or bonds. They are as follows.

1. *Income from price appreciation or losses from price depreciation. It is called capital losses and gain.*
2. *Cash flows income from cash dividend or coupon interest payment.*

Return shows financial position of any organization. The company position of any organization may be better if it has higher return. Return is rewards for an investor from his or her organization. Investors always want to maximize expected return subject to their tolerance for risk. Return is motivating forces and it is the key method available to investors in capering investment alternatives. Realized rate of and expected rate of return which are often used in language of investment. Realized rate of return is after the fact return that was earned or it is the historical return.

The return on investment can be measured as the total gain and losses expressed on the behalf of owner over the given period of time. It is commonly stated as the change in value plus any cash distribution expressed as percentage of the beginning period investment value. The expression for calculating the rate of return ( $K_t$ ) earned any assets over the period ( $t$ ) is commonly defined as

$$K_t = \frac{P_t - P_{t-1} + C_t}{P_{t-1}}$$

Where,

$K_t$  = actual or expected or require rate of return

$P_t$  = price or value of asset at time ( $t$ ) or beginning price.

$P_{t-1}$  = price or value of assets at time t-1 or a the ending price

$C_t$  = cash flows received from the investment in the time period t-1 to t

### **2.1.7: Expected rate of return**

The expected rate of return or holding period return is based upon the expected cash receipts over the holding period and expected ending or selling price. Depending upon the assumption made about cash receipts and ending price, a number of expected returns rate are possible. These possible rates of return estimated by the investors are summarized in the expected rate of return. According to (Cheney and Moses, 1995) "the expected rate of return must be greater or equal to the required rate of return in order for the investor to find the investment acceptable."

### **2.1.8: Capital Asset Pricing Model (CAPM)**

CAPM provides a framework for measuring the systematic risk of an individual security and relate it to the systematic risk of well diversified portfolio. CAPM is used in finance frequently to analyze the relationship between the risk and rate of return. The conclusion of the CAPM is: the relevant risk of an individual stock is contribution to risk of a well-diversified portfolio.

In deed, the 1990, the greatest world prize the Nobel Prize was awarded to the developers of CAPM, Professor Harry Markowitz and William F. Sharpe. In the context of CAPM, the risk of individual security is defined as the volatility of the security returns vis-à-vis the return of market portfolio. CAPM is simple concept and has real world applicability. The model describes the relationship between risk and return or expected return. In this model, a security's expected return is the risk free rate plus a premium based on systematic risk of the security. Beta coefficient is the heart of CAPM model. It is the better measure of risk, the most important aspect of risk is the overall risk significantly affects investment opportunities and even more

important, the owner wealth. The basic theory that links together risk and return for all assets is called Capital Asset Pricing Model. The CAPM equation on security market line (SML) is usually written as;

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

Where,

$E (R_J)$  = the expected or ex- ante return on the assets

$R_F$  = the rate of return of risk free assets

$E (R_M)$  = the expected or ex-ante return on the market portfolio

$B_J$  = a measure of the non-diversifiable risk of the  $J_{th}$  security called assets beta. It can be calculated as,

$$B_J = \frac{COV (R_J R_M)}{VAR (R_M)} \quad \text{Where,}$$

$COV (R_J R_M)$  = covariance between risk free return and market return

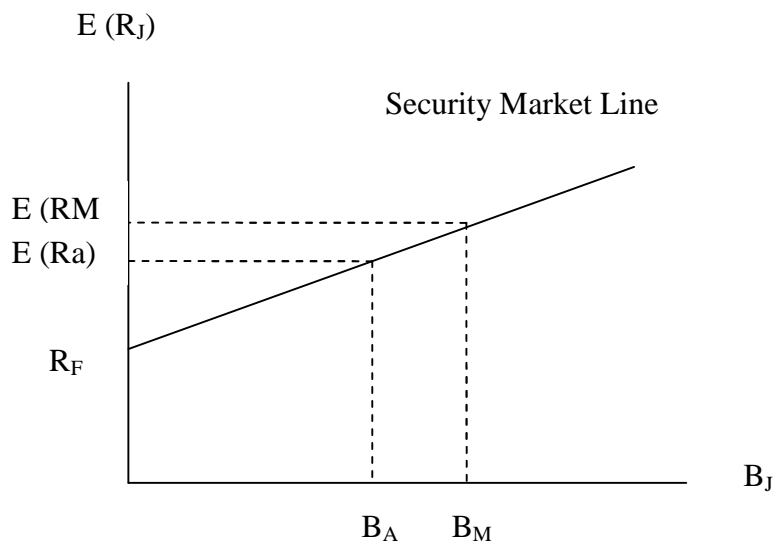
$VAR (R_M)$  = variance of market returns

There are some assumptions under the CAPM model. According to (Sharpe, Alex, and Bailey 1998) has outlines eight assumptions as follows.

1. *Investors evaluate portfolio by looking at the expected return and standard deviation of the portfolio over one period horizon.*
2. *Individual assets are infinitely divisible. It implies that an investor can buy a fraction of a share of s/he so desires.*
3. *There is a risk free rate at which an investor may lend i.e. invest money or borrow money.*
4. *taxes and transaction costs are irrelevant*
5. *All the investors have the same one person horizon.*
6. *The risk free rate is the same for all investors.*

7. *Information is freely and instantly available to all the investors.*
8. *Investors are homogenous expectations. It implies that everyone has same perception in regard to the expected returns, standard deviation and covariance of the securities.*

CAPM provides a measure of risk and return. The systematic risk or market risk of a security is measured in term of its sensitivity to the market movement. This sensitivity is referred to security's Beta (B). Beta reflects systematic risk that can not be eliminated. Investor can eliminate unsystematic risk when they invest their wealth in a well diversified portfolio. A beta of 1.00 indicates average level of risk while more than 1.00 means that of market portfolio. A zero beta coefficient means no risk. The graphical presentation of CAPM is called the Security Market Line (SML).



In graph, risk is measured by Beta (B), is plotted on the X-axis and required rate of return ( $R_M$ ) are plotted on the Y-axis security market line has drawn from the middle of Y-axis.

### **2.1.9: Over, Under and Fairly Pricing of Securities**

The securities can be either under priced or over priced. It can be known calculating through calculating the expected rate of return and average rate of return. When average return exceeds the expected return then the securities is under priced and vice versa.

### **2.2: Review of related studies**

These days information highway or the internet has become to the most easily accessible medium to gain information in subject matter. Different books and article have been consulted while conducting the research to derive the comparative and analytical conclusion of this study. The study has also used the reference of PERI database available in the central library of Tribhuvan University. The review of relevant articles publish in different journals are available online on International Network for the Availability of Scientific Publication (NASP). In this section has been reviewed and presented.

Financial economics has been defined as the application of economics theory to financial markets (Smith, 1996). It is a large body of theory including such well-known models as modern portfolio theory (Markowitz, 1952), the capital asset pricing model (CAPM) (Sharpe, 1964), the efficient market hypothesis (Samuelson and Fama, 1965) and option pricing model (Black and Scholars 1973). Though these models are all included in institute of faculty education limited in 1995, their acceptance or use is controversial.

Akhigbe and Whyte (2004) in their research paper, "*the Gram-Leach-Billey Act*" of 1999: *Risk implications for the Financial Service Industry* have focused on risk implication of banking and private sectors. The research paper has included many other studies some of the studies find that bank expansion into banking activities can



affect of events that permitted only Ltd entry by banks into non-banking activities. The study is conducted on systematic, unsystematic and total risk, such risk are calculated by using statistical tools i.e. variance, standard deviation, T-statistical and signed rank which is recently by Aminud, Delong and Saunders in 2002. The study has included 340 banks for the samples size then they partition two sub- samples: 46 large banks and 294 small banks. 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 but a significant increase in total and unsystematic risk for the banks and insurance company. This study has included five years period data. The study also found that bank and insurance companies are less risky than the other securities business so if security firms want 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 the new era of financial modernization to mitigate adverse effects from the increase in risk.

Pagano's (2001) has a study on *how theories of Financial Intermediation of Corporate Risk- Management Influence Bank Risk- Taking Behavior*. This paper has based on the relation for risk taking and risk management behavior from both a corporate finance and banking perspective. That data set covers the period from 1986-94, 1986-90 and 1991-94 but overall time of the study in 9 years. In this study, the research scholar has used mathematical tools that are the model beta, standard deviation, total risk (systematic and unsystematic risk), and interest rate risk. The main objective of the study is to examine the relation for risk-taking and risk management behavior for both corporate financial and a banking perspective. After

combining the theoretical insights from the corporate finance and banking literatures related to hedging and risk taking the paper reviewed empirical tests based on these theories to determine which of these theories are best supported by the data.

Management incentives appear to be the most consistently supported rationale for the describing how banks manage risk. In particular, moderate/high levels of equity ownership reduced bank risk while positive amounts of stocks 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's ability to trade these risks in a component financial market.

Berkowitz and Brien's (2002) in their research paper "*How Accurate are Value-At-Risk Models at Commercial Banks*" has focused on the first direct evidence on the performance of value at risk model for trading firms. The result shows that VAR forecasts for six large commercial banks have exceeded nominal coverage levels over the past two years and for some banks, VARs were substantially removed from the lower range of trading P&L. While such conservative estimates imply higher levels of capital coverage for trading risk, the reported VARs are less useful as a measure of actual portfolio risk.

They have used standard deviation, means, correlation coefficient VAR correlation coefficient, and Beach Mark and Portfolio model. To a certain extent, the study is limited by the fact that banks only forecast a single percentile of the portfolio distribution significant more could be learned about the empirical performance of internal valuation models if density forecasts were recorded. Density forecast evaluation techniques described in Diebold, Gunther and Tay (1998) and Berkowitz (2001) provide researchers with substantially more information to assess the dimension in which models need improvement and those in which models do well.

### **2.2.1 Review of Related Thesis**

Bhatta's study on assessment of the performance of listed companies in Nepal (1996) has based on the data of ten listed companies from 1990 to 1995. One of the major objectives of this study is to analyze the performance of listed companies in terms of risk and return and internal rate of return, systematic risk and diversification of the risk through portfolio context. The major finding of the study is that a highly significant positive correlation has been addressed of the between risk and return character of the company. Investors expect higher return from those stocks that associates higher risk, Nepalese capital market is not sufficient one, so the information relating to market and company itself. Neither investor's analyze the overall relevant information of the stocks nor does the member of stocks exchange try to disseminate the information. Therefore, the market return and risk both may not show high priced stocks.

Pandey, Sigapathi (2000) has conducted a study on risk and return analyze of common stock investment by taking six insurance companies as sample. She has used analytical tools like rate of return standard deviation, coefficient of variance, beta coefficient and t- test has used. According to this studies the main objectives are calculate the risk and return of the common stocks and portfolio and also to understand and identify the problem faced by the individual investor and insurance companies. The major findings of the study are generally public have least understand the risk of the investments which may be due to poor education, lack of adequate information, etc, that may obstruct the development of stock market. There is no significant different between the performance of common stock of insurance companies and overall market portfolio. The study has covered five years period.

Sapkota (2000) has a study on risk and return analysis in common stock investment. The main objective of the study is to analyze the risk and return of common stock in Nepalese stock in Nepalese stock market. But the study is very closely related to common related to common stocks commercial bank.

On the findings, expected return on the common stock of Nepal bank has maximum and SBI Bank Ltd has found minimum common stock of NBL is most risky and NSB is least risky. In the context of industries, expected return of finance and insurance industry has focused highest so that common so that common stock of Nepal Ltd is best for investment. Mr. Sapkota in his study has conducted that, commercial stock is the most risky security and lifeblood of stock market because of the higher expected return, common stock holders are the passive owners of the company.

Pandey (2000) has a study on risk and return analysis of common stock investment. The main objective of the study is to analysis the risk and return of common stock investment in banking and financial sectors. The study also related to insurance companies. In the study, she has taken six insurance companies in account. To measure the risk and return, she has used standard deviation, expected return, variance coefficient and beta. On her study, concludes 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 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.

Misra (2001) analyzed risk and return on common stock investment of commercial bank in Nepal with special reference to five listed commercial banks. The main objective of the study was to promote and distribution of the securities and purchase, sales or exchange of securities. He also tried to render contribution to the development of capital market by making securities transaction fair, healthy, efficient and responsible. In this study, the researcher has used mathematical tools that are expected return, standard deviation, coefficient of variance, dividend per share, portfolio return beta coefficient, required rate of return. The period of the study was taken six years data from (2051-2057). On his study, it was notified that there is 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 whole information about the prevailing market situation and the company. It was also noticed that investors do not have any idea about the procedures of securities issuance. Neither company nor the stockbrokers transmit any information to the investor about the current market situation and hence it becomes difficult for a common investor to invest in the securities.

Misra also has focused that Nepalese banks and government should try to promote healthy practices so that the stockbrokers do not give false information to the investor to the investor for their personal benefit, which is a common practice in Nepal. Investors should get regular information about the systematic risk (beta), return on equity and P/E ratio of various listed companies in the same way as it has given in economies times of companies listed in Indian stock exchange.

Upadhaya (2001) conducted a research entitled risk and return on common stock investment of commercial banks in Nepal. His research study is based on descriptive and analytical research design, which covers the five years period from 1994-1999. The main objective of the study was to analyze the risk and return of the common stock of commercial banks in Nepalese stock market, the study focused on the common stock of commercial banks, one of the objectives that are related to this study was to evaluate common stock of listed commercial banks in term of risk and return. The major finding of the study is that expected return on the common stock of the NGBL has maximum, which is very high rate of return. Other common stock of living higher return of NBBL and EBL with more than 59 percent expected return. Expected return of NABIL is least risky. Mr. Sudeep has focused on changing environment of Nepalese business and economy but did not focus on relationship between closing MPS and EPS.

Satyral (2002) has a study on risk and return analysis of listed companies for the analysis, among listed companies eight are taken in to account. Among them two are from banking sectors, two finance companies, two insurance companies, one trading and one manufacturing and processing company. The main objectives of the study were to analyze risk, return and other relevant variables that help in making decision about investment on securities of the listed companies and to examine the movement of market price of share, also to provide suggestions on the basis of findings.

He has used holding period return and expected rate or return to calculate the returns of the companies. Calculations of standard deviation, coefficient variation (CV) and beta were used to measure risk and CAPM for portfolio analysis. The expected return of Nepal investment bank is 36 percent, CV is 1.06 and risk is 38.3 percent. The beta

of its share is 0.66. Expected return of Himalayan bank Limited is 52.66 percent, risk is 29.3 and CV is 0.556. The beta is 1.567 so HBL is less risky than NIB. For the study, the researcher has taken 5 years period.

Shreshta (2003) has a study on risk and return on common stock investment of banking sectors in Nepal. The main objective of the study was to analysis the systematic and unsystematic risk associated with security. The study was covered six years data from 1996-2001.

In this study, the researcher has used analytical tools i.e. return of common stock, expected return, standard deviation, beta coefficient, CAPM, coefficient of determinants and hypothesis (t-test).the major finding of his study are, NBBL's common stock is yielding the highest realized rate of return with 71.80 percent where as it is the lowest 26.6 percent incase of NIB Ltd. The banking industry average 47.85 percent, the commercial banks NBBL, BOKL and EBL respectively rate of return are 71.8 percent, 67.6 percent and 65.6 percent. All the e commercial banks required rate of return is less than expected rate of return which means that they are all under price therefore it will be beneficial to the investors who are going to purchase the companies. Common stock from the study it has found that investment in banking sectors is beneficial instead of other financial sectors.

Tamang (2003) has a study on risk and return analysis of commercial banks in Nepal. The main objectives of the study is to determine whether the share of the commercial banks are correctly priced or not by analyzing the required rate of return using the capital asset pricing model also to measure the systematic and unsystematic risk of the commercial banks. In this study, the researcher has used mathematical tools i.e. market model, single period return, expected rate of return, standard deviation,

coefficient of variation, Beta coefficient (B). The period of the study has taken 5 years data from 1996- 2001. The major finding of the study, the systematic risk of Nepal Arab bank has the highest unsystematic risk but total risk or variance of Bangladesh is the highest i.e. 10 percent. From the study, it was also found that the shares of Nepalese commercial banks are heavily trade in NEPSE. None of the shares price is correctly priced.

Joshi (2004) has conducted a research on risk and return analysis of common stock of five listed commercial banks. The main objective of the scholar's stuffy was to assess the risk associated with return on common stock investment of the basis of selected tools. For the study, the researcher is used five years data 1998 to 2002.

He has used arithmetic mean to calculate the return, standard deviation and coefficient of variations, which are used to measure unsystematic risk and beta coefficient. The measurement explains sensitivity or volatility of the stock with market and individual banks. Correlation is a statistical tool i.e. is used to measure relationship between risk and return. The researcher also used t-test to calculate hypothesis. The major findings of his study are that banking sector has the expected return is 21.77 percent, risk is 36.1 percent and CV is 1.66, similarly finance and insurance sector has 21.77 percent and 1.66, hotel sectors has 10.16 percent, 72.4 percent, 7.123, trading sectors has 6.68 percent, 80.68 percent, 11.76, other sectors has – 16.61 percent, 50.45 percent and 3.037. Market expected return of 10.2 percent and risk of 39.57 percent, CV of 3.88. SCB has maximum market capitalization and NBBL has the minimum market capitalization. Market capitalization as well as NEPSE index has heavily influenced by banking sector. If investors wish to generate higher return then they should bear higher risk and invest in the share of SCBL and if



they are risk averters and they want to invest in single assets. They can invest in the shares of NBL or HBL because these two stocks have lower risk than that of portfolio risk.

Khadka (2005) has a study on analysis of risk and return on selected Nepalese commercial banks listed in NEPSE. The main objective of the study is to measure systematic and unsystematic risk of commercial banks. The study has covered 6 years period and used expected return, coefficient to calculate the risk and return of commercial banks. The major finding of the study, based on the coefficient of variation, which measures risk/unit of the stock individually, Standard Chartered Bank Nepal Ltd has the lowest coefficient of variation i.e. 1.89 and NABIL bank has the highest one i.e. 3.35. 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 traded in NEPSE, none of the share price is correctly priced.

### **2.3 Research Gap**

Though there are several researches performed under the topic "The risk and return analysis of commercial banks in Nepal". Those analyses expressed all in the statement in the form of amount and also comparison between finance companies, development banks and banks for few years. The previous researchers did not disclose the practical comparative analysis, which is practiced by the commercial banks. Thus, to fulfill this gap the present research is conducted. It covers top four commercial banks from the source of NEPSE. The analysis is based on modern approach to evaluate the performance analysis and the research is constrained to the secondary data only.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

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 present study is based on descriptive and analytical research design. 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. Similarly analytical 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. Analytical research design evaluates the present data clearly. The study has been carried out for the ten year period from 1st July 1997 to 1st July 2008.

#### **3.2 Population and sample**

Total population of the study is for four listed commercial banks in Nepal. Total population of the study is taken on the basis of listed years of commercial banks. The study is carried out those commercial banks which are listed before 15th July 1998 A.D in NEPSE. Currently, there are 27 commercial banks in Nepal. According to SEBON, only 147 are listed in NEPSE, and 26 commercial banks are listed till the study period. The sampled banks have been selected from the random sampling

technique. The study covers overall 25 percent of total population. Total population and sample size has been shown in the Appendices 1.

### **3.3 Source of data**

The data for the study only depends upon the secondary sources. The main source of data is the reports of NEPSE, reports of the SEBO/N, websites, and annual reports of commercial banks and periodical published data of NRB. Annual report of NEPSE has been used to take financial statement of and trading report of listed commercial banks. The data has been taken from NEPSE to with draw the opening and closing prices. Similarly, SEBO/N has been visited to collect annual report of sampled banks. Websites have been clicked to take the operational data of commercial banks.

### **3.4 Data collection techniques**

All the data for the present study have been collected from secondary sources. The annual reports of commercial banks have been taken from SEBO/N. similarly; NEPSE price and sector price have been taken from NEPSE. NRB was visited to collect the Treasury-Bills rate and banking and financial statistics. After that 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 developed 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 related to the required rate of return. Other things 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 an asset 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

$$E(R_J) = \text{Risk free rate} + \text{risk premium}$$

$$E(R_J) = \text{Risk free rate} + \text{quantity of risk} \times \text{price of risk}$$

$$E(R_J) = R_F + B_J [E(R_M) - R_F] \text{ Where,}$$

$E(R_J)$  = the expected or ex-ante return on the assets

$R_F$  = the rate of return of risk free assets

$E(R_M)$  = the expected or ex-ante return on the market portfolio

$B_J$  = a measure of the non-diversifiable risk of the  $J^{\text{th}}$  security called

assets Beta. It can be calculated as,

$$B_J = \frac{\text{COV}(R_J, R_M)}{\text{VAR}(R_M)}$$

Where,

$\text{COV}(R_J, R_M)$  = covariance between risk free return and market return

$\text{VAR}(R_M)$  = variance of market returns

### 3.5.1.2: Risk premium

Risk premium is a reward for bearing risk. In other word, risk premium as the different between the return on a risky investment and that a risk free investment. To calculate risk premium use Treasury bill rates (TBs). 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:

$$\text{Risk premium} = R_J - R_F$$

Where,

$R_J$  = year end return on risky assets

$R_F$  = 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 period return: for the one year holding period, the benefit associated with ownership included the cash dividend paid during the year with its price appreciation in market price or the capital gain, realized at the end of the year. Thus, the expected on realized or ex- post rate of return can be calculated as follows:

$$\text{Expected rate of return (RJ)} = \frac{\text{Ending price} - \text{Beginning price}}{\text{Beginning price}}$$

### 3.5.1.4: Beta coefficient

The beta coefficient is an idea of systematic risk. It may be used for ranking the systematic risk of different assets. If beta is large 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,

$$\beta_J = \frac{\text{COV}(j,m)}{S_M^2}$$

Where,

$\beta_J$  = the beta value of security J

$S_M^2$  = variance of market

COV (j, m) = covariance between security J and market. It can be calculate as follows,

$$\text{Covariance of } (R_J, R_M) = \frac{S \left[ R_J - \bar{R}_J \right] \times \left[ R_M - \bar{R}_M \right]}{N-1}$$

### 3.5.1.5: Systematic risk

It gives us the proportion of risk that can not 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,

$$\text{Systematic risk} = \beta^2 \times S_M^2$$

### 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 between risk and expected return. Microsoft Excel is used to calculate correlation between risk and return. It can be calculates as follows,

$$\text{Correlation Coefficient between security 'J' and market 'M'} (r_{JM}) = \frac{\text{COV}(j, m)}{S_J \times S_M}$$

## 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.

$$\text{Average rate of return (RJ)} = \frac{R_J}{N}$$

Where,

$R_J$  = summation of all annual reports

$N$  = 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 the dispersion of returns around the mean.

The formula for calculating the standard deviation is,

$$s_J = \left[ \frac{\sum (R_J - \bar{R}_J)^2}{N-1} \right]^{1/2}$$

Where,

$s_J$  = standard deviation of return on stock J during the time period N

$R_J$  = expected rate of return

$\bar{R}_J$  = the average rate of return

N = number of observation

### 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,

$$CV = \frac{s_J}{\bar{R}_J} \text{ Where,}$$

$s_J$  = standard deviation of return on stock J during the time period N

$\bar{R}_J$  = the average rate of return of stock J



## **CHAPTER IV**

### **PRESENTATION AND ANALYSIS OF DATA**

#### **Introduction**

This chapter focuses on the data analysis and data presentation of the sampled banks. The study covers ten years period from 15<sup>th</sup> July 1998 to 15<sup>th</sup> July 2008. This chapter consists of historical return, average return of, 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, year end return and average return are used to evaluate the return position of sampled banks. It has also demonstrated the figures and table to analyze the present data. The last of this chapter has deals with the major finding of the study.

#### **4.1 Data Presentation and Analysis**

##### **4.1.1 Analysis of Historical Return of Sampled Banks**

The present study includes four commercial banks listed with NEPSE. They are NABIL, HBL, NIB, and EBL. The study periods covers 15<sup>th</sup> July 2000 to 15<sup>th</sup> July 2008. To analyze the risk and return of commercial; banks, return figures and tables has been used. Historical return of sampled banks is calculated by using dividend per share and 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 over the study period, closing price of common stock per share and total dividend which is sum of cash and stock dividend; converted into

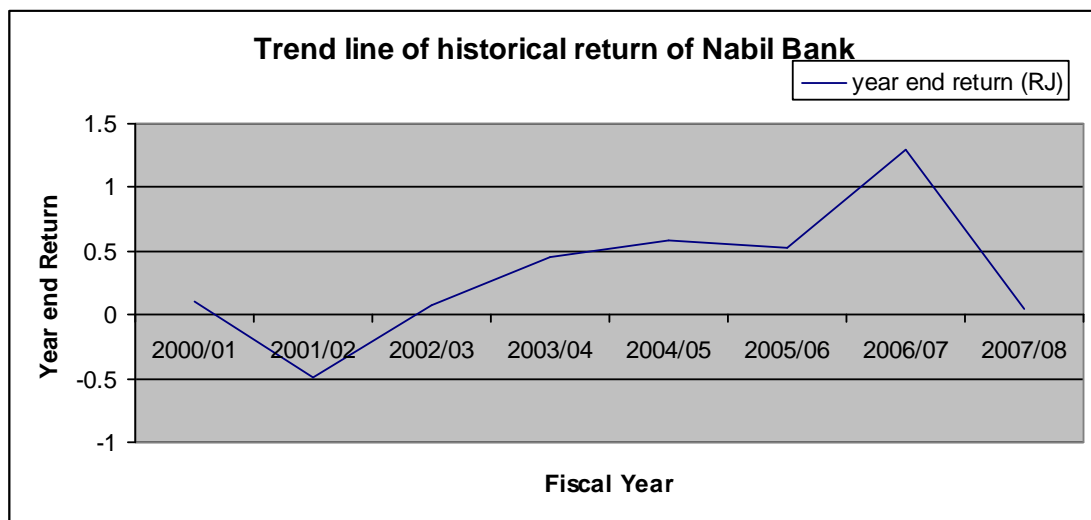
monetary value based on market price of respective year hav2 been presented in Table 4.1

**Table 4.1: Historical Return and Average Rate of Return on common stock of NABIL Bank**

years	closing price(Rs)	dividends(Rs)	year end return (R <sub>J</sub> )
1999/00	1400	405	
2000/01	1500	40	0.1
2001/02	735	20	-0.49
2002/03	735	50	0.07
2003/04	1000	65	0.45
2004/05	1505	70	0.58
2005/06	2240	70	0.53
2006/07	5050	85	1.29
2007/08	5275	40	0.05
			2.58

$$\text{Average rate of return (R}_J\text{)} = \frac{\text{SRJ}}{\text{N}} = 32.25 \text{ percentage}$$

Closing market price per share is highest in year 2008i.e. Rs 5275 and minimum in year of 2001 which is Rs 735. In year 2002, closing price has doubled than previous year. However, bank had declared the stock dividend in year 2000 and results high year end return in this. The fig. 4.1 exhibits the graphical representation of the year end return with its time line.



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 2006 i.e. 129 percentages and least return is in 2002 i.e. – 49 percentages which is negative.

#### **4.1.1.2 Analysis and Historical Return on common stock of Himalayan Bank**

The year end return of HBL 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

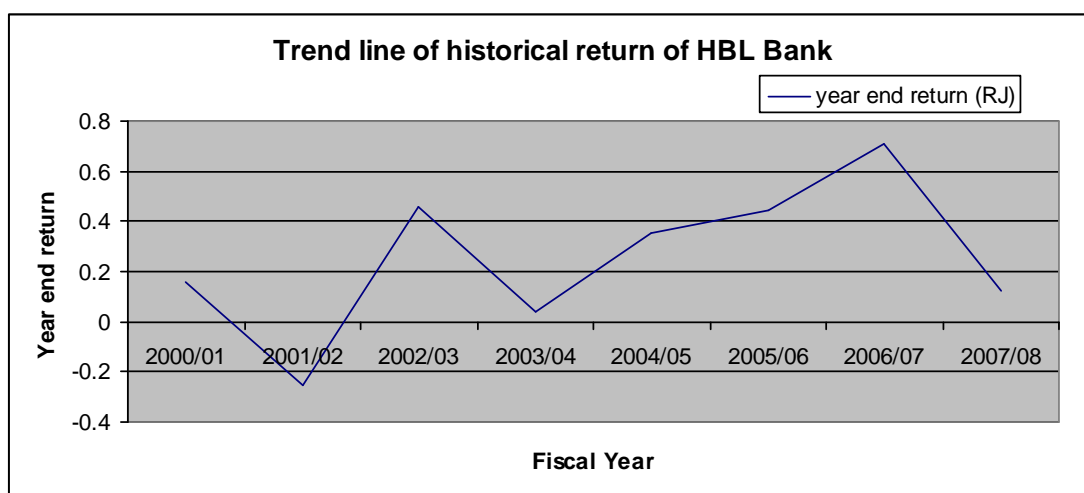
**Table 4.2: Historical Return and Average Rate of Return on common stock of HBL Bank**

years	closing price	dividends(Rs)	year end return (R <sub>j</sub> )
1999/00	1700	475	
2000/01	1500	475.5	.16
2001/02	1000	125	-0.25
2002/03	836	210.32	0.46
2003/04	840	30	0.041
2004/05	920	199.58	0.356
2005/06	1100	230.32	0.446
2006/07	1760	118	.7073
2007/08	1980	118	0.125
			1.6313

$$\text{Average rate of return (R}_j\text{)} = \frac{\text{SRJ}}{\text{N}} = 20.39 \text{ percentages}$$

Closing market price per share is highest in year 2008 i.e. Rs 1980 and minimum in year of 2002 which is Rs 836. The bank has been adopting a policy of distributing stock dividend for a number of fiscal year except in year 2003. On an average the bank is able to earn 20.39 percent return over the period. The fig. 4.1 exhibits the graphical representation of the year end return with its time line.

**Fig4.2: Trend line of historical return on common stock of HBL Bank**



Historical return of HBL is seemed to be fluctuating ups and down over the sampled period enormously and highest rate of return is in fiscal year 1999/00 which is 117.5 percents and lowest rate of return over the period is in year 2001 which is negative and bank has almost downward trend of earning historical return over the period of time how ever there is slight increase in return in the succeeding years. The banks return is going on very variable trends.

#### **4.1.1.3 Analysis and Historical Return on common stock of Nepal Investment Bank**

The year end return of NIB 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

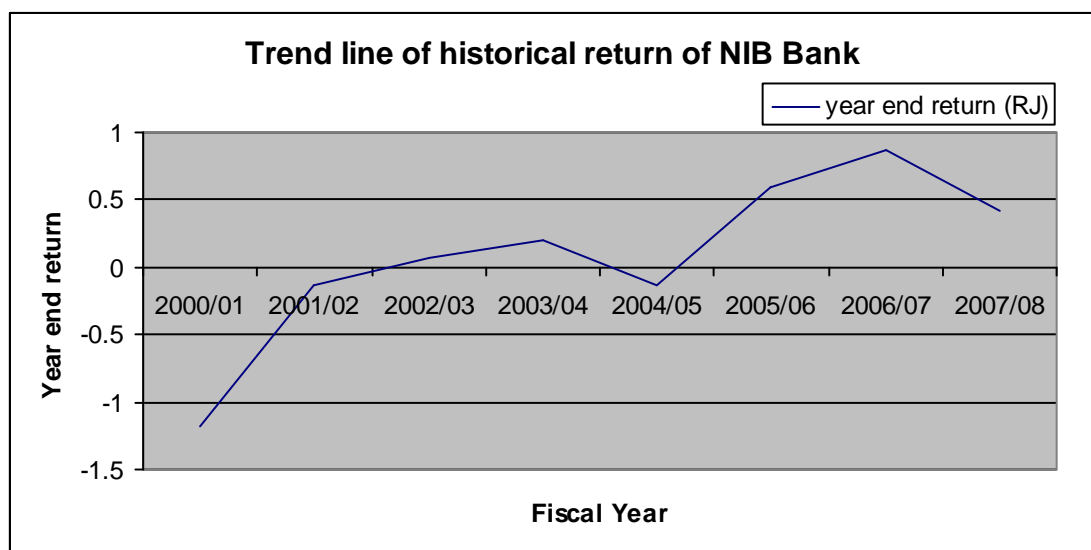
**Table 4.3: Historical Return and Average Rate of Return on common stock of NIB Bank**

years	closing price	dividends(Rs)	year end return (R <sub>J</sub> )
1999/00	1401	377.75	
2000/01	1150	0	-1.18
2001/02	760	228	-0.14
2002/03	795	20	0.07
2003/04	940	15	0.20
2004/05	800	125	-0.14
2005/06	1260	12.5	0.59
2006/07	1729	625.15	0.87
2007/08	2450	16.73	0.42
			0.69

$$\text{Average rate of return (R}_J\text{)} = \frac{\text{SRJ}}{\text{N}} = 8.63 \text{ percent}$$

Closing market price per share is highest in year 2008 i.e. Rs 2450 and minimum in year of 2001 which is Rs 760. the price of stock per share is in increasing trend in very minimal way. On an average the bank is able to earn 8.63 percent return over the period. The fig. 4.1 exhibits the graphical representation of the year end return with its time line.

**Fig4.3: Trend line of historical return of NIB Bank**



Historical return of NIB is seemed to be fluctuating slightly ups and down over the sampled period and highest rate of return is in fiscal year 2006/07 which is 87 percents and lowest rate of return over the period is in year 2000 which is negative and bank had earned negative years in year 2000, 2001 and 20004, after then is again started to increase till the year 2006.

#### **4.1.1.4 Analysis of Historical Return on common stock of Everest**

##### **Bank**

The year end return of EBL 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 EBL Bank**

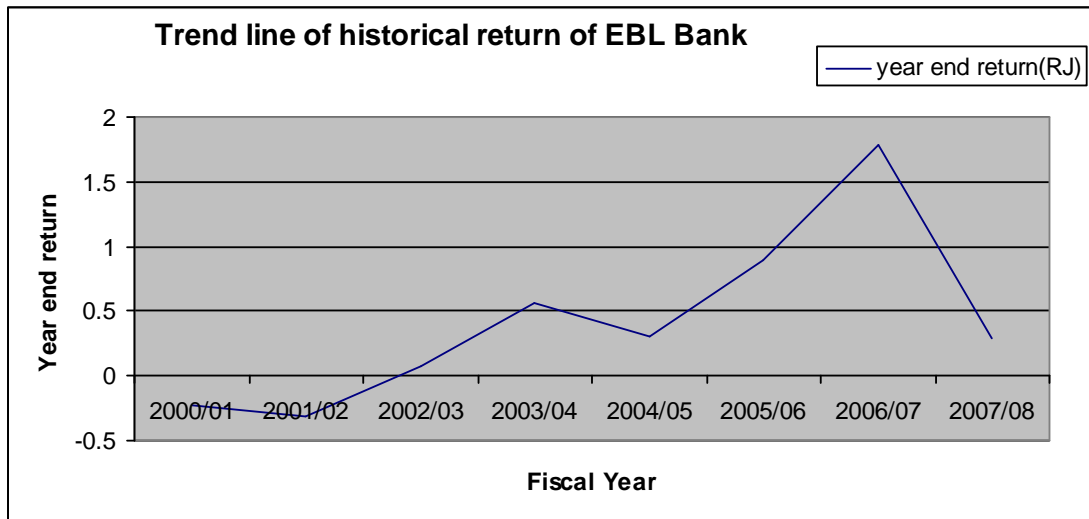
years	closing price	dividends(Rs)	year end return(R <sub>J</sub> )
1999/00	980	195	
2000/01	750	-	-0.23
2001/02	430	86	-0.312
2002/03	445	20	0.08
2003/04	680	20	0.57
2004/05	870	20	0.31
2005/06	1379	275.8	0.90
2006/07	2430	25	1.78
2007/08	3132	-	0.29
			2.391

$$\text{Average rate of return (R}_J\text{)} = \frac{\text{SRJ}}{\text{N}} = 29.89 \text{ percentages}$$

Closing market price per share is highest in year 2008 i.e. Rs 3132 and minimum in year of 1998 which is Rs 184. In year 1999, closing price has been increased almost three times than previous year. However, bank had declared the stock dividend in year 1999 and 2005. Moreover the bank has not provided any dividend in year 1997 and in

2000.the price of share has been increased steadily over the period though there was little bits ups and down over the period. On an average the bank is able to earn highest rate of average return among sample banks that is 55.70 percent. The fig. 4.4 exhibits the graphical representation of the year end return with its time line.

**Fig4.4: Trend line of historical return on common stock of EBL Bank**



Historical return of EBL is seemed to be fluctuating significantly at the beginning of the years and reached at minimum in year 2001 and then again started to fluctuate moderately in increasing trends in the successive years. 2008. It has not provided any sorts of dividend in year 2000 and price of stock has been declined at the same time. As a result, bank has to earned negative rate of historical return in the respective year.

#### **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

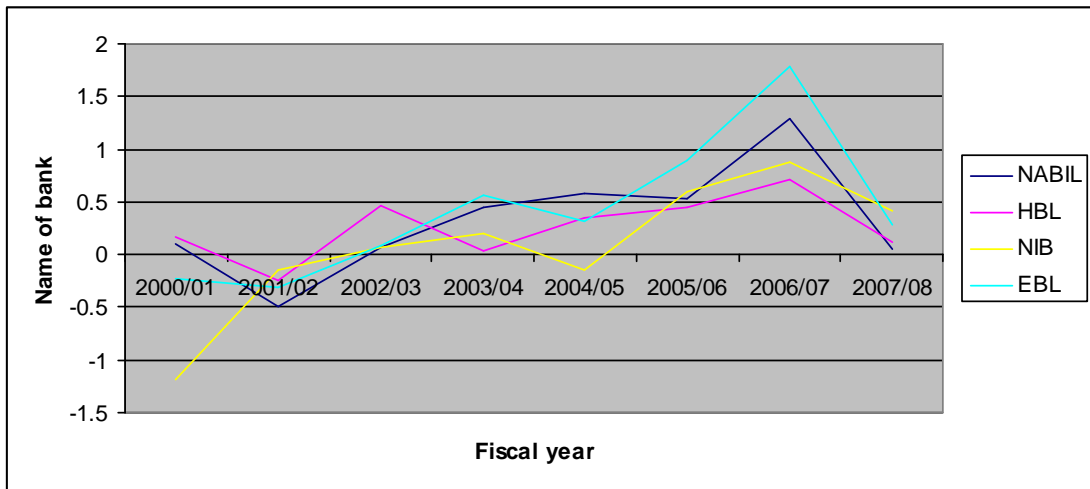
**Table 4.5: Comparative Analysis of Historical Return on common stock of Sampled Banks**

<b>year</b>	<b>NABIL</b>	<b>HBL</b>	<b>NIB</b>	<b>EBL</b>
2000/01	0.1	0.16	-1.18	-0.23
2001/02	-0.49	-0.25	-0.14	-0.312
2002/03	0.07	0.46	0.07	0.08
2003/04	0.45	0.041	0.20	0.57
2004/05	0.58	0.356	-0.14	0.31
2005/06	0.53	0.446	0.59	0.9
2006/07	1.29	0.7073	0.87	1.78
2007/08	0.05	0.125	0.42	0.29
<b>Average</b>	<b>2.58</b>	<b>1.6313</b>	<b>0.69</b>	<b>2.391</b>

From this table, it is revealed that NABIL has the highest average rate of return that is 2.58 percent and NIB has the lowest rate of return that is 0.69 percent, based on the study periods of time. All of sampled banks have earned negative rate of return in the fiscal year 2001/2002. Highest rate of historical return is earned by EBL in year 2006 and lowest rate of return is earned by NIB which is minus 118 percent. It can be further presented in line chart to make a comparative analysis of historical returns of sampled banks.



**Figure No 4.5: Comparative Analysis of Historical Return on common Stock of sampled Banks**



This line chart presents the overall overview of historical return of all sampled banks and its common trend in the financial market. When figure has been taken under consideration then it can be seen that all of the banks have the same trends of the up and down fluctuation. First of every bank's return has an increasing trend as all the curves are moving upward slope till the fiscal year 2000 and then the curve line starts to slope downward up to year 2001 where each bank is able to earn minimal or negative rate of return but after the fiscal year 2001 there is an increasing trend of historical return of each and every bank but the increasing ratio is not the same which is reflected by the curve line of returns of different banks which has again started to move in upward sloping. If we see the curve then, it can be easily seen that EBL has the highest return and NIB has the lowest return.

### 4.1.3: Analysis of commercial bank return on common stock with market rate of return

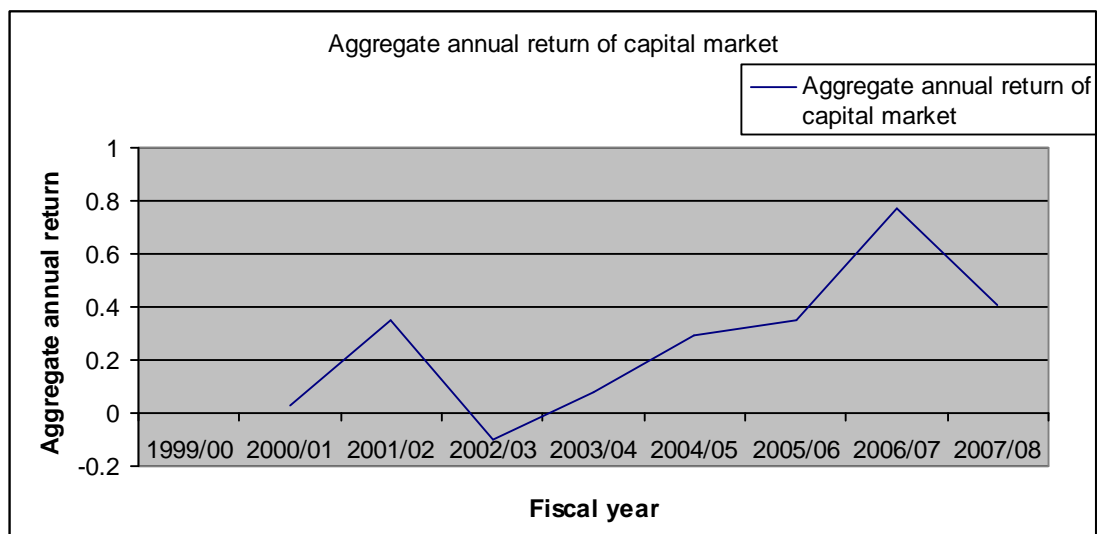
Capital market indicates overall share price of listed companies where 147 companies were listed till the study period but commercial banks sector index indicates share price of listed commercial banks only. In this section, the study has described the relationship between market index and commercial 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 Table 4.6

**Table 4.6: expected market return and commercial banks return on common stock**

year	closing NEPSE index	Aggregate annual return of capital market	Commercial banks closing index	Aggregate annual return of commercial banks( $R_m$ )
1999/00	360.7		392.71	
2000/01	348.43	0.03	384.04	0.03
2001/02	227.54	0.35	212.68	0.45
2002/03	204.86	-0.1	200.67	0.05
2003/04	222.04	0.08	231.97	0.16
2004/05	286.67	0.29	304.64	0.31
2005/06	386.63	0.35	437.49	0.84
2006/07	683.95	0.77	639.93	0.47
2007/08	963.36	0.41	985.65	0.54
total		1.42		1.79
average		0.1775		0.2238

In year 2007/08, NEPSE index and commercial bank index have maximum value. Both commercial banks sector and capital market return is negative in year 2002/03. Commercial banks sector index has maximum I year 2007 as well as overall market index return is also maximum in same year. it is seemed that overall market index is

highly affected by the commercial banks index because in year 2001 both sector has negative return and there is significant increase in there return of both index in year 2006/07 and 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 EPSE. Commercial banks index and overall market return index has been presented in figure 4.6



#### **4.1.4: comparison between average rate of return on common stock and required rate of return of commercial bank index in Nepal.**

Capital asset pricing model (CAPM) has been used to evaluate required rate of return of sampled banks which is given in research methodology 3.5.2.1. To calculate required rate or return, average rate of return has been taken from table 4.7 and excess return has calculated by using average required rate of return. Risk free rate of return has been taken from NRB and given in Appendix 2 It is average rate of Treasury bill of 364 days of past nine 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 rates of return and expected rate of return on common stock of commercial banks**

<b>Banks</b>	<b>Average rate of return</b>	<b>Required rate of return</b>	<b>Excess return</b>	<b>Over and under priced</b>
NABIL	2.58	0.317146	0.3171	under priced
HBL	1.6313	0.274985	1.356315	under priced
NIB	0.69	0.2696	0.4204	under priced
EBL	2.391	0.3457	2.0453	under priced

Table 4.7 exhibit annualized expected rate of return on stock of commercial banks. It also exhibits required rate of return of commercial banks on stocks. The required rate of return of NABIL, EBL, NIB and EBL is 0.31746, 0.275, 0.27 and 0.3457 respectively. Average rate of return of NABIL bank has accessed by 31.71 percent 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 135.63 percent , so stock of this bank is also under priced. Investment bank NIB bank has also higher average rate of return to required rate of return. So, NIB bank stocks are under priced and excess average rate of return of EBL is 204.53 percent , so stock of this bank is under priced.

#### **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) id negative.

#### **4.1.5.1: Risk Analysis of NABIL Bank**

Risk analysis of NABIL bank over the study period has been presented in Table 4.8

**Table 4.8: Risk Analysis of NABIL Bank**

<b>Indicators</b>	<b>NABIL Bank</b>
Variance	0.2728
Standard deviation	0.5223
Beta Coefficient	0.8441
Coefficient variation	1.6195
Systematic Risk	0.1166
Unsystematic Risk	0.1562
Average Rate of return	0.3225
covariance	0.1381

Source : Appendix 7,8,9 and 10

Beta of NABIL is 0.8441. It reveals that the stock has positive correlation with market i.e. NEPSE. As Beta of the stock is measured 0.8441, the positive changes in NEPSE. If it will be one percent, the stock will have positive response by 0.8441 from the view point of volatility, the stock is less volatile than the market .the stocks their fore; can be categorized as defensive stock. There is 52.23 percent chance of deviation around the average rate of return. It means there is chance of variability in return by 52.23 percent. NABIL would bale to minimize the unsystematic risk by 15.62 percent only.

#### **4.1.5.2: Risk Analysis of HBL Bank**

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

**Table 4.9: Risk Analysis of HBL Bank**

<b>Indicators</b>	<b>HBL Bank</b>
Variance	0.0859
Standard deviation	0.2929
Beta Coefficient	0.5520
Coefficient variation	1.4364
Systematic Risk	0.0498
Unsystematic Risk	0.0361
Average Rate of return	0.20391
covariance	0.0903

Source : Appendix 7,8,9 and 10

Beta of HBL is 0.5520. It reveals that the stock has positive correlation with market i.e. NEPSE. As Beta of the stock is measured 0.5520, the positive changes in NEPSE. If it will be one percent, the stock will have positive response by 0.5520. From the view point of volatility, the stock is less volatile than the market. The stocks therefore; can be categorized as defensive stock. There is 29.29 percent deviation around the average rate of return. It means there is chance of variability in return by 29.29 percent. HBL has the lowest diversifiable risk i.e. 0.0361. The risk per unit return is 1.4364. It means an investor could hold 1.4364 unit risks to earn one unit of return.

#### **4.1.5.3: Risk Analysis of NIB Bank**

Risk analysis of NABIL bank over the study period has been presented in Table 4.10

**Table 4.10: Risk Analysis of NIB Bank**

<b>Indicators</b>	<b>NIB Bank</b>
Variance	0.3855
Standard deviation	0.6209
Beta Coefficient	0.9260
Coefficient variation	7.1988
Systematic Risk	0.1403
Unsystematic Risk	0.2452
Average Rate of return	0.08625
covariance	0.1515

Source : Appendix 7,8,9 and 10

Beta of NIB is 0.9260. It reveals that the stock has positive correlation with market i.e. NEPSE. As Beta of the stock is measured 0.9260, the positive changes in NEPSE. If it will be one percent, the stock will have positive response by 0.9260. From the view point of volatility, the stock is less volatile than the market. The stocks therefore; can be categorized as defensive stock. There is 62.09 percent deviation around the average rate of return. It means there is chance of variability in return by 62.09 percent. NIB has the lower diversifiable risk i.e. 0.2452. The risk for per unit return is 7.1988.

#### **4.1.5.4: Risk Analysis of EBL Bank**

Risk analysis of NABIL bank over the study period has been presented in Table 4.11

**Table 4.11: Risk Analysis of EBL Bank**

<b>Indicators</b>	<b>EBL Bank</b>
Variance	0.1953
Standard deviation	0.4419
Beta Coefficient	0.9389
Coefficient variation	1.4804
Systematic Risk	0.1442
Unsystematic Risk	0.0511
Average Rate of return	0.2985
covariance	0.1536

Source : Appendix 7,8,9 and 10

Beta of EBL is 0.9389. It reveals that the stock has highly positive correlation with market i.e. NEPSE. As Beta of the stock is measured 0.9389, the positive changes in NEPSE. If it will be one percent, the stock will have positive response by 0.9389. From the view point of volatility, the stock is less volatile than the market. The stocks therefore; can be categorized as defensive stock. There is 44.19 percent deviation around the average rate of return. It means there is chance of variability in

return by 44.19 percent. EBL has the high diversifiable risk i.e 0.0511. The stock has to bear 0.0511 unit risk to earn per unit rate of return. It is lower than the NIB.

#### **4.1.5.5: Comparative Analysis of Four Sampled Banks**

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

**Table 4.12: Comparative Analysis of Four Sampled Banks**

<b>Indicators</b>	<b>NABIL Bank</b>	<b>HBL Bank</b>	<b>NIB Bank</b>	<b>EBL Bank</b>
Variance	0.2728	0.0859	0.3855	0.1953
Standard deviation	0.5223	0.2929	0.6209	0.4419
Beta Coefficient	0.8441	0.5520	0.9260	0.9389
Coefficient variation	1.6195	1.4364	7.1988	1.4804
Systematic Risk	0.1166	0.0498	0.1403	0.1442
Unsystematic Risk	0.1562	0.0361	0.2452	0.0511
Average Rate of return	0.3225	0.20391	0.08625	0.2985
covariance	0.1381	0.0903	0.1515	0.1536

Source : Appendix 7,8,9 and 10

Table 4.12 has been presented overall risk indicators of all sampled banks. NABIL has the highest rate return of 32.25 percent with standard deviation of 52.23 percent. NIB has maintained the lowest expected rate of return i.e. 8.62 percent with standard deviation of 62.09. The expected rate of return of EBL and HBL is found 0.2985 percent and 0.20391 percent with standard deviation of 44.19 and 29.29 respectively. From it seems the NIB has higher risk relative to the return. As coefficient of variation reflects the risk for per unit return, HBL has the lowest variance so that this bank has less risky. Contrast, NIB has the highest coefficient variation .so it has risk on its common stocks.



## 4.2: 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 Program. Correlation between risk and expected return has been presented in Table 4.13.

**Table 4.13: Correlation between risk and expected return**

<b>Banks</b>	<b>Expected return</b>	<b>Standard deviation</b>
NABIL	0.3225	0.5223
HBL	0.20391	0.2929
NIB	0.08625	0.6209
EBL	0.2985	0.4419

Correlation coefficient between risk and return = 0.957421795

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

## 4.3 Major Findings of the study

- Average rate of return of NABIL, HBL, NIB, and EBL are 32.25%, 20.39%, 8.625% and 29.85%, respectively. Among four sampled banks, NABIL Bank has the highest rate of return and NIB has lowest return.
- In beginning year, all the sampled banks have negative annual return or no return. Annual return of NABIL, HBL, NIB, EBL is -49%, 25%, 14%, -31.2% respectively and in the same year NEPSE index movement is also negative i.e. -0.03.

- Standard deviation of NABIL, HBL, NIB and EBL are 52.23, 29.29, 62.09 and 44.19 represent respectively and Beta coefficient of NABIL, HBL, NIB and EBL are 0.8441, 0.5520, 0.9260 and 0.9389 respectively. The standard deviation of NIB is highest and HBL has lowest.
- Coefficient of variation of NABIL, HBL, NIB and EBL is 1.6195, 1.4364, 7.1988 and 1.4804 respectively. Coefficient of NIB is highest and HBL has lowest.
- According to CAPM theory, has the highest required rate of return that is 32.25 percent of Nabil Bank and NIB has lowest i.e. 8.625 percent and All sampled bank's has under priced.
- Systematic risk of NABIL, HBL, NIB and EBL are 0.1166, 0.0498, 0.1403 and 0.1442 respectively. Similarly, risk of NABIL, HBL, NIB and EBL is 0.1562, 0.0361, 0.2452 and 0.0511 respectively.
- The average rate of return and standard deviation of return are highly positively correlated that is 0.957421795.

## CHAPTER V

### SUMMARY, CONCLUSION & RECOMMENDATION

#### 5.0 Introduction

An investor holds shares with an intention to earn money. Finance theory states that in every return, 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 of 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 with in 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 the 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 and theoretical review and related studies review 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.

## **5.2 Conclusion**

Following conclusion from study has been drawn.

**5.2.1:** While considering the systematic risk of commercial banks, HBL has least systematic risk and EBL has highest one. Systematic risk is the risk which can not be diversified.

- 5.2.2:** When unsystematic risk is considered it can be found HBL having minimum risk and NIB is highest one. Unsystematic risk is risk which we can able to diversify through the effective controlling mechanism.
- 5.2.3:** At the same time when total risk is considered, HBL is considered lowest risky and NABIL has the highest risk.
- 5.2.4:** Beta coefficient of NIB has highest and HBL has Lowest. It shows HBL is least risky and NIB is top most one.
- 5.2.5:** If relative risk measurement through coefficient variation is considered then, NIB has the highest per unit variation with it's per unit return. It means NIB has lower rate of return with one unit of risk.
- 5.2.6:** Looking at only return factors, average return of NABIL is highest and NIB is lowest rate of return.
- 5.2.7:** According to CAPM model, EBL has the highest required rate of return. And NIB has lowest one. All the sampled banks are under priced. So it is concluded that it is better to purchase for the investors above banks share as there is chance high price appreciation.
- 5.2.8:** It is found that return is highly correlated with risk and it proves that with out bearing risk there is less chance of earning return.
- 5.2.9:** From the study is found that all banks share price is rightly determined as all the banks' average rate of return is more than the required rate of return for the investors

### **5.3 Recommendations**

Above conclusion have prescribed following recommendations.

- i) There is unrealistic relationship between required rate of return and expected rate of return of sampled banks' securities. Excess return of banks is more than

20 percent which may not be realistic. So, all the investors are recommended to conduct theoretical as well as technical analysis to know the correct price of common stock.

- ii) All the sampled banks betas are nearer between 0.7 and 1.3 which indicates all banks are risky so it is recommended that sampled banks should diversify their investment policy in less risky assets.
- iii) The common stock returns of commercial banks are highly sensitive to market. They are highly positively correlated to the market. So, market should be further analyzed by the investors to balance the risk and return properly.
- iv) Generally, it is believed that higher the return, higher will be the risk. Investment risks are better covered through a large and diversified portfolio. Diversifying an investment is a way of reducing the risk so all the risky sampled banks are recommended to diversify their investment policy in less risky securities.
- v) The result of correlation between risk and return is insignificant. The result is unsatisfactory because the sample size of the study is too small and the data for the study is used from annual report and website which may not be sufficient so it is suggested that for the further researcher will recommend including sufficient sample size.
- vi) If investor is risk averter, it is recommended him or her to invest in NIB and if investor is risk seeker, then suggested to invest in EBL.

## **BIBLIOGRAPHY**

- Alibe, Akigbe, and Marie, Whyte, fall. (2004). **The Gramm-Leach Bliley Act of 1999: Risk –Implications for the Financial Service Industry**, Journal of Financial Research, XXVII, no, 3:435-446, April 3, 2006 < [www.blackwell-synergy.com](http://www.blackwell-synergy.com).
- Anthony Sander, Cornetts, Maccrion, (2002). **Financial Institution Management: 4<sup>th</sup>** Ed. New Delhi: Tata Mc Graw Hills.
- Basnet, Dinesh, Thapa, Kiran, Bhattarai, Rabindra, (2006). **Investment**, 1<sup>st</sup> Ed.: Kathmandu, Nepal, Asmita Book Center
- Bhatta. V.K. (1999). **Investment Management 6<sup>th</sup>** Ed., New Delhi: S.Chanda and Company Ltd., Ramnagar
- Bhatta, Gopal Parsad. (1995). **An assessment of the performance of the listed companies in Nepal**. Master dissertation submitted to T.U, Kathmandu.
- Brealey, Richard A. and Stewart (Myer) (1991). **Principles of Corporate Finance**, 4<sup>th</sup> Ed. New Delhi: Tata Mc Graw Hills.
- Copper, Donald. (2003). **Business Research Methods**, 8<sup>th</sup> Ed. New Delhi: Tata Mc Graw Hills.
- Everest Bank Limited. (1997-2008). **Annual report**, Kathmandu.
- Francis, Jack Clark. (1995). **Investment of Management Finance**, 5<sup>th</sup> Ed. New Delhi: Publishing Pvt. Ltd.
- Gitman, Lawrence J. (1998). **Principal of Managerial Finance**, 5<sup>th</sup> Ed. New York: Harper Collins Publications.
- Hampton, John. (1998). **Financial Decision Making**, 4<sup>th</sup> Ed. New Delhi: Prentice Hall of India Pvt. Ltd.
- Himalayan Bank Limited. (1997-2008). **Annual report**, Kathmandu.

- Jeremy Berkowitz. (2002). **How accurate are Value at Risk Model at commercial Banks?** Journal of Finance, LVII, no.3: April, 13, 2006 < <http://www.blackwell-synergy.com/doi/pdf/10.1046/j.1410.2002.00712>.
- Joshi, Deepak Raj. (2004). **Risk and Return Analysis of Common Stock of Five Listed Insurance Companies.** Master Dissertation submitted to T.U. Kathmandu.
- Khadka, Ram Hari. (2003). **Analysis of Risk and Return on selected Nepalese Commercial Banks Listed in NEPSE.** Master Dissertation submitted to T.U. Kathmandu.
- Kothari, CR. (1991). **Quantitative Techniques.** 2nd Ed. New Delhi: Vikash Publishing House Pvt. Ltd.
- Kothari, CR. (1989). **Research Methodology: Methods and Techniques.** 2<sup>nd</sup> Ed. Vikash Publishing House Pvt. Ltd.
- Listed Company. (2009). **Nepal Stock Exchange Ltd.** <<http://www.Nepalstock..Com/69/txt>.
- Michael, Pagano, Dee. (2001). **How Theories of Financial Investment of Corporate Risk – Taking Management Influence Bank Risk- Taking Behavior,** journal of financial market 10. No, 5: 277- 323, April 3, 2006, <http://www.blackwell-synergy.com/doi/pdf/10.1046/j.1410.2002.00712>.
- Mishara, Shankar Kumar. (2001). **Risk and Return on common stock investment in Nepal with special reference of five listed commercial banks .** Master Dissertation submitted to T.U. Kathmandu.
- Nabil Bank Limited. (1997-2008). **Annual report,** Kathmandu
- Nepal Rastra Bank. (2008). **Banking and Financial statistics,** Mid-July 2006 No.45, Banks and Financial Institutional Regulation Department, NRB.:Kathmandu.



- Nepal Rastra Bank. (2008). **Quarterly Economic Bulletin** Mid-July 2008 VOL, XXXX, No.4 NRB.:Kathmandu.
- Nepal Stock Exchange Limited. (1997-2008). **Trading Reports**, Vol5-10, Kathmandu, NEPSE
- Nepal Stock Exchange Limited.(2008). **Financial Statement of Listed Company**, Kathmandu, NEPSE
- Nepal Investment Bank. (1997-2008). **Annual report, Kathmandu.**
- Pandy, P. Sijapati. (2000). **Risk and Return Analysis of Common Stock Investment**, Master Dissertation submitted to T.U. Kathmandu.
- Pradan, Surendra.(1991). **Basic of Financial Management**, 1<sup>st</sup> Ed. Kathmandu: Educational Enterprises.
- Security Board of Nepal. (2007/08). **Annual report**, Katmandu: SEBO/N
- Sharpe, William F, Gordon J. Alexander and Jeffery V, Bailey (1998). **Investment**, 5<sup>th</sup> Ed. New Delhi: Prentice Hall of India Pvt. Ltd.
- Tamang, Buddi Raj. (2003). **Risk and Return Analysis of Development Bank in Nepal** Master Dissertation submitted to T.U. Kathmandu.
- Van Horn, James. (1997). **Financial Managemnet and Policy**, 11<sup>th</sup> Ed. New Delhi: Prentice Hall of India Pvt. Ltd.
- Weston, J Fred and Thomas. E. Copeland. (1990). **Managerial Finance**, 9<sup>th</sup> Dolan of Florida: The Dryden Press.
- Wolff, Howard K and Prem R. Pant. (2003). **A Hand Book for Social Science Research and Thesis Writing**. 3<sup>rd</sup> Ed. Kathmandu: Buddha Academy.

## APPENDIX 1

### Commercial Banks Operating in Nepal

S.N	Names of banks	Operating date(OD)	Listing Date
1	Nepal Bank Limited	11/15/1937	
2	Rasiya Banijya Bank	01/23/1966	
3	NABIL Bank Limited	16/07/1984	24/11/19885
4	Nepal Investment Bank Limited	27/02/1986	22/07/1986
5	Standard Chartered Bank Limited	03/01/1987	04/07/1988
6	Himalayan Bank Limited	18/01/1993	05/07/1993
7	Nepal SBI Bank Limited	07/07/1993	17/01/1995
8	Nepal Bangladesh Bank Limited	05/06/1993	24/12/1995
9	Everest Bank Limited	18/10/1994	07/04/1996
10	Bank of Kathmandu Limited	12/03/1995	17/07/1997
11	Nepal Industrial and commercial Bank Limited	21/07/1998	13/06/2000
12	Machhapuchchhre Bank Limited	03/10/2000	28/05/2003
13	Laxmi Bank Limited	03/04/2002	20/04/2004
14	Kumari Bank Limited	03/04/2001	29/07/2004
15	Lumbini Bank Limited	17/07/1998	10/11/2004
16	Nepal Credit and Commerce Bank Limited	14/10/1996	31/01/2005
17	Siddhartha Bank Limited	24/12/2002	24/02/2006
18	Development Credit Bank Limited	23/01/2001	13/06/2002
19	NMB Bank Limited	26/11/1996	20/06/2001
20	Global Bank Limited	02/01/2007	26/03/2009
21	KIST Bank Limited	21/02/2003	28/12/2004
22	Bank of Asia Limited	12/10/2007	25/05/2009
23	Citizens Bank Int'l Limited	21/06/2007	25/05/2009
24	Prime Commercial Bank Limited	24/09/2007	
25	Sunrise Bank Limited	12/10/2007	
26	Agriculture Development Bank Limited	16/03/2006	

Source: NEPSE and NRB

- \*Sample of study
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## APPENDIX 2

### Commercial Bank Index

Year 15 <sup>th</sup> July	NEPSE index (closing)	Commercial bank index (closing)	Treasury Bills Rates
2000/01	348.43	384.04	4.9535
2001/02	227.54	212.68	4.717
2002/03	204.86	200.67	3.4975
2003/04	222.04	231.97	3.7273
2004/05	286.67	304.64	4.2882
2005/06	386.63	437.49	4.3962
2006/07	683.95	639.93	4.7348
2007/08	963.36	985.65	3.8350

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

## APPENDIX 3

### NABIL Bank Limited

year	Closing prices(Rs)	Opening prices(Rs)	Cash dividend (%)	Stock dividend (%)
1999/00	1400	-	55	-
2000/01	1500	1400	40	25
2001/02	735	1500	30	-
2002/03	735	735	50	-
2003/04	1000	735	65	-
2004/05	1505	1000	70	-
2005/06	2240	1505	70	-
2006/07	5050	2240	85	-
2007/08	5275	5050	0	40

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

## APPENDIX 4

### Himalayan Bank Limited

year	Closing prices(Rs)	Opening prices(Rs)	Cash dividend (%)	Stock dividend (%)
1999/00	1700	-	50	25
2000/01	1500	1700	27.1	30
2001/02	1000	1500	25	10
2002/03	836	1000	1.32	25
2003/04	840	836	20	-
2004/05	920	840	11.58	20
2005/06	1100	920	10	10
2006/07	1760	1100	85	5
2007/08	1980	1760	15	25

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

## APPENDIX 5

### Nepal Investment Bank Limited

year	Closing prices(Rs)	Opening prices(Rs)	Cash dividend (%)	Stock dividend (%)
1999/00	1401	-	27.5	25
2000/01	1150	1401	-	-
2001/02	760	1150	-	30
2002/03	795	760	20	-
2003/04	940	795	15	-
2004/05	800	940	12.5	-
2005/06	1260	800	12.5	-
2006/07	1729	1260	20	35
2007/08	2450	1729	7.5	33.30

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

## APPENDIX 6

### Everest Bank Limited

year	Closing prices(Rs)	Opening prices(Rs)	Cash dividend (%)	Stock dividend (%)
1999/00	980	-	-	
2000/01	750	980	-	-
2001/02	430	750	-	20
2002/03	445	430	20	-
2003/04	680	445	20	-
2004/05	870	680	20	-
2005/06	1379	870	-	20
2006/07	2430	1379	25	-
2007/08	3132	2430	20	30

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

## APPENDIX 7

### Calculation of standard deviation, variance, coefficient of variation and Beta coefficient of NABIL Bank Limited

year	$R_J$	$R_M$	$(R_J - R_J)$	$(R_J - R_J)^2$	$(R_J - R_J) \times (R_M - R_M)$	$(R_M - R_M)$	$(R_M - R_M)^2$
2000/01	0.1	-0.03	-0.2225	0.04951	0.05646	-0.25375	0.064389063
2001/02	-0.49	-0.45	-0.8125	0.66016	0.81782	-0.67375	0.453939063
2002/03	0.07	-0.05	-0.2525	0.06376	0.16548	-0.27375	0.074939063
2003/04	0.45	0.16	0.1275	0.01626	0.00736	-0.06375	0.004064063
2004/05	0.58	0.31	0.2575	0.06631	-0.0031	0.08625	0.007439063
2005/06	0.53	0.84	0.2075	0.04306	0.01984	0.61625	0.379764063
2006/07	1.29	0.47	0.9675	0.93606	0.1008	0.24625	0.060639063
2007/08	0.05	0.54	-0.2725	0.07426	-0.0862	0.31625	0.100014063
Total	2.58	1.79		1.90935	1.07846		1.1451875
Average	0.3225	0.22375					

**Source:** calculated on the basis of data extracted from NEPSE and annual report of bank

## APPENDIX 8

### Calculation of standard deviation, variance, coefficient of variation and Beta coefficient of HBL Bank Limited

year	$R_J$	$R_M$	$(R_J - R_J)$	$(R_J - R_J)^2$	$(R_J - R_J) \times (R_M - R_M)$	$(R_M - R_M)$	$(R_M - R_M)^2$
2000/01	0.16	-0.03	-0.04391	0.00193	0.01114	-0.25375	0.06439
2001/02	-0.25	-0.45	-0.45391	0.20604	0.30582	-0.67375	0.45394
2002/03	0.046	-0.05	-0.15791	0.02494	0.04323	-0.27375	0.07494
2003/04	0.041	0.16	-0.16291	0.02654	0.01039	-0.06375	0.00406
2004/05	0.356	0.31	0.152088	0.02313	0.01312	0.08625	0.00744
2005/06	0.446	0.84	0.242088	0.05861	0.14919	0.61625	0.37976
2006/07	0.7073	0.47	0.503388	0.2534	0.12396	0.24625	0.06064
2007/08	0.125	0.54	-0.07891	0.00623	-0.025	0.31625	0.10001
Total	1.6313	1.79		0.6008	0.63189		1.14519
Average	0.20391	0.22375					

**Source:** calculated on the basis of data extracted from NEPSE and annual report of bank

## APPENDIX 9

### Calculation of standard deviation, variance, coefficient of variation and Beta coefficient of NIB Bank Limited

year	$R_J$	$R_M$	$(R_J - R_J)$	$(R_J - R_J)^2$	$(R_J - R_J) \times (R_M - R_M)$	$(R_M - R_M)$	$(R_M - R_M)^2$
2000/01	-1.18	-0.03	-1.26625	1.60339	0.3213109	-0.25375	0.06439
2001/02	-0.14	-0.45	-0.22625	0.05119	0.1524359	-0.67375	0.45394
2002/03	0.07	-0.05	-0.01625	0.00026	0.0044484	-0.27375	0.07494
2003/04	0.2	0.16	0.11375	0.01294	-0.007252	-0.06375	0.00406
2004/05	-0.14	0.31	-0.22625	0.05119	-0.019514	0.08625	0.00744
2005/06	0.59	0.84	0.50375	0.25376	0.3104359	0.61625	0.37976
2006/07	0.87	0.47	0.78375	0.61426	0.1929984	0.24625	0.06064
2007/08	0.42	0.54	0.33375	0.11139	0.1055484	0.31625	0.10001
Total	0.69	1.79		2.69839	1.0604125		1.14519
Average	0.08625	0.22375					

**Source:** calculated on the basis of data extracted from NEPSE and annual report of bank

## APPENDIX 10

### Calculation of standard deviation, variance, coefficient of variation and Beta coefficient of EBL Bank Limited

year	$R_J$	$R_M$	$(R_J - R_J)$	$(R_J - R_J)^2$	$(R_J - R_J) \times (R_M - R_M)$	$(R_M - R_M)$	$(R_M - R_M)^2$
2000/01	-0.23	-0.03	-0.5285	0.27931	0.1341069	-0.25375	0.06439
2001/02	-0.312	-0.45	-0.6105	0.37271	0.4113244	-0.67375	0.45394
2002/03	0.08	-0.05	-0.2185	0.04774	0.0598144	-0.27375	0.07494
2003/04	0.57	0.16	0.2715	0.07371	-0.017308	-0.06375	0.00406
2004/05	0.31	0.31	0.0115	0.00013	0.0009919	0.08625	0.00744
2005/06	0.9	0.84	0.6015	0.3618	0.3706744	0.61625	0.37976
2006/07	0.78	0.47	0.4815	0.23184	0.1185694	0.24625	0.06064
2007/08	0.29	0.54	-0.0085	7.2E-05	-0.002688	0.31625	0.10001
Total	2.388	1.79		1.36733	1.075485		1.14519
Average	0.2985	0.22375					

**Source:** calculated on the basis of data extracted from NEPSE and annual report

of bank

**THE END**