

## **CHAPTER- I**

### **INTRODUCTION**

#### **1.1 Background of the study**

Common Stock is a security that represents ownership in a corporation. It is a type of equity share issued by a corporation or entity. The buyers of common stock are referred to as shareholders. Common Stocks are fractional shares or a percentage equity ownership of an entity. A share represents a proportional stake in the company's net worth, income, cash flow, dividend, etc. Shareholder privileges usually include voting rights on issue that require shareholder approval and electing the directors of the entity. When a company needs to raise capital for starting or growing their business they can borrow the money or sell investor's (shareholder) shares or ownership in the company. Owners of common stock have no guarantees, but are accepting the risk in exchange for potential greater gains than other safer investments. However, the shareholder's liability is limited to the price paid for the common stock. All investors with a long term investment horizon should consider owning common stock. The advantages of owning stock far outweighs the risks for investors who are willing do their homework, look for value and accept a long term investment horizon (Gautam, 2014).

The sustainable development of any nation depends on its economic condition. Economy is a backbone for an overall development of a nation. In fact, the growth of economy is only possible when there is well financial development. Economic growth and financial development are closely related. The interaction between them is crucial. Financial institutions basically facilitate the transfer of funds from surplus units in the societies. Nepalese Financial system is composed of deposit taking and contractual saving institutions. The deposit taking financial institutions includes commercial banks, development banks, micro- credit development banks, financial companies, financial cooperatives, non-government organization (financial) performing limited banking activities (Shakya 2015).

Investment decision depends upon two factors, i.e Risk and Return. They are like two sides of one coin. In the investing world, risk can be defined as the chance that an investment's actual return will be different than expected. Technically, it is measured

in statistics by the standard deviation. Risk is the product of uncertainty whose magnitude is depends upon the degree of variability in certain cash flow. Low levels of uncertainty (low risk) are associated with low potential returns. High level of uncertainty (high risk) is associated with high potential returns. Similarly, the return on the other hand, it is the reward of waiting and compensation for risk bearing. Researchers have shown that the most of investors are risk avoider. So it can be concluded that most of People invest their belongings in those opportunities where there is higher return with lower level of risk. The main problem of investment is to select the security having low risk but having returns. Even the investor can't increase the return substantially they can reduce the risk by diversification of the investment funds in different securities making a portfolio. Portfolio analysis is to minimize the risk at the given rate of return (Sapkota, 2015).

In the Context Of Nepal, investors and shareholders are hardly bother to know about risk and return behaviors of the stocks before making investment in securities. Most of the general Nepalese investors invest only in a single security and that too without any analysis of risk return. Through some of the investors invest their funds in different securities on the basis of logic and effect of portfolio, they suffer from great loss. In addition to this, the investors are also afraid to invest in the securities. So it necessary to make them well acquired with these tools along with their practical implications on investment decision and evaluation (Poudel, 2002).

A systematic and scientific, investment process should be followed to win the stock market. The process of investment aware us about, how an investor should take decision relating to investment.

A five step procedure for making decision forms the basis of investment process are (i) set the investment policy, (ii) perform security analysis, (iii) construct a portfolio (iv) revise the portfolio and (v) evaluate the performance of the portfolio.

## **1.2 Statement of the problem and research question**

Most of the commercial banks invest their resources in the limited area to achieve the highest amount of Profit. Under the prevailing economic situation in the country, the financial investment is in significant particularly in agriculture, industrial and other productivity sectors which is quite unsatisfactory to meet the economic growth of the present period. They hesitate to invest in the long term projects and intend to adopt conservation loan policy. Investors couldn't get enough informational related to risk return and as well as portfolio analysis of investing sectors.

After the emerged of NEPSE in 1993 A.D., it keeps them in dilemma, whether they should invest in the stock or not and all this conditions make them not to utilize their funds as a result investors have no much more alternatives for investments. Therefore, everyone is making investment in security market. Only few companies are listed in NEPSE, which still limits the opportunities of investment. This trend makes the market imbalance and unfair. If any banks will issue share, there is become huge demand rather than supply but if any manufacturing and processing companies will issue shares very little investors make investment.

The main research problem for this study is risk and return analysis of commercial banks. More specifically the research question are:

- (i) How can investor diversify the risk?
- (ii) How can one get higher return through lower risk?
- (iii) How do they know about the magnitude of risk?
- (iv) What are the criteria for evaluation that the common stock they are holding will give them favorable return?
- (v) What are the effects of risk and return decision to the total earning of sample banks?

## **1.3 Purpose of the study**

The main objective of the study is to access the risk and return on common stock investment of listed commercial bank. The specific objectives of the study are as follows:

- (i) To analyze the common stock in term of risk and return.
- (ii) To examine the sensitivity of the stock price of commercial paper.
- (iii) To identify whether stock of the selected bank is overpriced, under priced and equilibrium price.
- (iv) To identify optimum portfolio of the bank.

- (v) To study the risk and return of the sampled commercial banks and also analyze their coefficient of variation.

#### **1.4 Significance of the study**

The expected return from any investment proposal will be linked in fundamental relationship to the degree of risk in the proposal. In order to be acceptable a higher risk proposal must offer a higher forecast return than lower risk proposal.”The observe difference in both the levels and variability of the rate of return across securities are indicative of the underlying risk and relation in the market”(Loric, Dodd &S Kempton, 1985). An element of high risk is involved in common stock investment due to its low priority of claims at Liquidation. When investors buy common stock they receive certificate of ownership as a proof to being a part of the company. The certificate states the number of shares purchased and their value per, the sensitivity of expected return to those factors, and share (Bhalla, 1997). Edwin J. Elton (1999) conducted an article entitled “Expected Return, Realized Returns and Assets Pricing Tests “. In this paper he points out the fundamental issues in finance like that what the factors are that affect expected return on assets, the sensitivity of expected return to those factors are that affect expected return on assets, the sensitivity of expected return to those factors and the reward for bearing this sensitivity. There is a long history of testing in this area and it is clearly one of the most investigated assess in finance.

#### **1.5 Limitation of the study**

As every research are suffered by some limitations. Same way, also this study is not free from limitations. Some limitations of the study as follow:

- Data published from various sources are differing from the figure published by NEPSE and respective commercial banks. However, in this study respective Banks published annual repeats data is makes into accounts as the basis sources of data.
- The analysis is based on the structural and financial tools, which are divided according to an efficient market condition.
- The study is based on two commercial banks only.
- The study only focuses on the analysis of risk on common stock. The study is based on the performance of listed sampled banks for the period of five years starting from fiscal years 2013/14- 2017/18 (A.D.)

- As all data are collected from secondary source, the report may be influence to another direction if the collected data are in correct.

## **1.6 Chapter plan**

The whole study will be divided in to five chapters are as follows:

**Chapter One:** The first chapter is the introduction chapter. It consists of general background, statement of problem and research question, purpose of the study, significance of the study, limitation of the study and chapter plan.

**Chapter Two:** This chapter is concerned with literature review this chapter mainly deals with the historical aspect as the conceptual understanding of financial statement. The past research studies have been reviewed in brief some of the journals and reports have been reviewed too.

**Chapter Three:** The research methodology, which is very important aspect of any research work, is presented separately in the third chapter. It expresses the way and use technique, while studying applied in research process is also includes in this chapter.

**Chapter Four:** this chapter has covered the presentation and analysis of data with presenting charts, figure and other statistical tools, mathematical tools and financial tools. Data collected from different sources also being presented and meaningful manner as per the demand and need of this study.

**Chapter five:** This study is concluded in the fifth chapter with the finding and some suggestion made for improvement. This chapter is concerned with outcomes of thesis as a summary, conclusion and recommendation. This is presented in the last along with appendices.

## **CHAPTER– II**

### **LITERATURE REVIEW**

In this part, the review of previous studies, articles and conceptual framework for the related studies are included. More analysis is not sufficient to present real framework of the study. So review of related materials should give the clear vision, idea and technique. Previous study and knowledge makes foundation to the present research.

Review of literature includes the following topics:

- Conceptual framework
- Reviews of Journal articles
- Review from theses

#### **2.1 Conceptual framework**

Various books relating to theoretical aspect of risk and return are taken into consideration. In general senses, investment means to money paid to another for the fixed time span for the purpose of extra return but in the broadest sense, investment a present commitment for the future return or outcome. While the commitment takes place with certainty, the future benefits are shrouded in uncertainty. The uncertainty creates risk to investors and they desire to minimize return by minimizing such risk (Joehnic, 1985).

Therefore, taking decision about proper investment is critical to the every investor and it requires a specific investment decision process, analysis of securities, identification of overpriced and underpriced of securities, making appropriate investment strategies as well as construction of efficient portfolio.

So Investment is process of proper management of an investor's wealth. Investment can be made real or financial assets. Investment in real assets is known as a real investment and on financial assets is called financial investment. Real investment means investment on the real assets like land, building and machinery etc. Financial investment means the investment on financial assets like shares, debentures, warrants, convertibles etc.

"Investment is a commitment of funds made in the expectation of some positive rate of return. If the investment is properly undertaken the return will be commensurate with the risk the investor assumes". Return risk and time are the elements of investment (Fisher & Jordar, 1995).

### **2.1.1 Common stock**

Common Stock, sometimes called capital stock, is the standard ownership share of a corporation. In other words, it's a way to divide up the ownership of a company; so one share of common stock represents a percentage ownership share of a corporation.

Common stock is recipient of the residual income of the corporation. Through the right to vote, holders of common stock have legal control of the corporation. An element of high risk is involved with common stock investment due to its low priority of claims at liquidation. When investors buy common stock they receive certificate of ownership as a proof to their being part of the company. The certificate states the number of shares purchased and their value per share" (Bhalla, 1997).

Common shareholders have certain rights within the organization. They have the right to vote on business matters as well as board members according to their ownership percentage. This means that the one percentage in our previous example would be able to cast a one percentage vote at the corporate meetings.

A company should not issue stock at a price less than par value because stock holders who bought stock for less than par value would be liable to creditors for the difference between the below par price they paid and the par value (Van Horne, 1997).

But in Nepal, as per the provision of Nepal Company Act 2000 A.D., no common stocks are allowed to issue without par value. Generally the par value of common stock is Rs. 100. Common stock one of the important money market instruments for long run.

### **2.1.2 The Return of common stock**

The concept of return has different meaning according to different in investor's attitude and perception. Some investors seek near term cash flows and give less value to more distant return. Such an investor might purchase the stock of other firm that pays a large cash dividend.

Return is known as a future outcome for the sacrificing current funds. An investment includes both current income and capital gain or loss that arises by the increase or decrease of the common stock price. Return is the extra money received from an investment by change in market price. It's expressed as a percent of beginning price of the investment, the overall rate of return can be decomposed into two parts as capital gain and dividend. Capital gain is the difference between ending value and beginning value of an investment.

Return is defined as the dividend yield plus the gain or loss. The relationship between different levels of return on their relative frequencies is called a probability distribution. We could formulate a probability return over the previous period but we know that history never repeats itself exactly Hence after analyzing relative frequencies of historical data plus the analysis for the outlook for the economy and the outlook for the industry, the outlook for the firm in its industry and other factors.

For investors, return is known as the main attraction for the investors to invest in a risky security as a stock (equity) accepting a varying degree of risk. "The return from holding an investment over some period says a year is simply and cash payments received due to ownership plus the change in market price dividend by the beginning price. Thus the return comes from source, income and price appreciation".

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

$$\text{HPR or Simple 'R'} = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$$

Where,

R = Annual rate of return

$P_t$  = Price of a stock at time t

$P_{t-1}$  = Price of stock at time t-1

$D_t$  = Cash dividend received at time

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



Holding period return measures mentioned above is useful with an investment horizon of one year or less. For longer periods, it is better to calculate rate or return as an investments yield. The yield calculated is present value based and this considers the time value of money.

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

The simple arithmetic means:

$$\overline{\text{HPR}} = \sum_{t=1}^n \frac{\text{HPR}_t}{n}$$

The Geometric mean

$$\overline{\text{HPR}}_g = \sum_{t=1}^n (1 + \text{HPR}_t)^{1/2} - 1$$

Where  $\text{HPR}_t$  is the individual period return,  $n$  is the number of period and  $\sum$  represents the product (or the result of multiplication) (Cheney, 1996).

### **2.1.3 The risk on common stock**

#### **2.1.3.1 Risk**

Risk is defined as the chances of harm or suffering harm of loss. The terms risk is relating to investment which means unexpected and unwanted outcomes, which are very harmful for the business in future. In investment there is a chance of loss it is the risk. So risk is defined as the chance of unfavorable event will occur in investment. Investment risk is related to the probability of earning a return less than the expected return.

Risk is a complicated subject and needs to be properly analyzed. The relationship between risk and return is described by investor perception about risk and their demand for compensation. Generally, Investors are mostly interested in the project yielding higher returns in less risk. Therefore, it is the investors required risk premium that establishes a link between risk and return. In a market dominated by rational investor higher risk will command by rational investor's higher risk will be commanded by rational premium and the trade-off between the two assumed linear

relationships between risk and risk premium. The observed difference in both the levels and variability of the rates of return across securities are indicative of the underlying risk and return relation in the market (Loric, Dodd & Kimpton, 1985).

Risk defines most generally is the probability of the occurrence of unfavorable outcomes. But risk had different meaning in the different context in our context; two measure developments from the probability distribution have been used as initial measure of return and risk. There are the mean and the standard deviation of the probability distribution (Weston & Brigham, 1982).

There are many ways to measure risk. The following three models are commonly used (Van Horne, 1998).

### **Beta Coefficient**

The Beta Coefficient measures the volatility of the return on a financial instrument in relation to the market as a whole. A security that responds strongly to changes in the market is assigned a high beta, while a security that has a minimal response to changes in the market is assigned a low beta. Securities with high beta values are considered to have a strong potential return, but also a higher risk of loss. Securities with a low beta are considered to be safer, but also have a low probability of experience high returns. Mathematically, " $\beta_j$ " denotes it.

### **Standard Deviation**

Standard deviation is the measure of dispersion of a set of data from its mean. It measures the absolute variability of a distribution; the higher the dispersion or variability, the greater is the standard deviation and greater will be the magnitude of the deviation of the value from their mean. Mathematically, it is denoted by  $\sigma_j$

### **Subjected Estimates**

It is the subjective measurement of risk of qualitative rather than quantitative estimates. A subjective risk measure occurs when qualitative rather than quantitative estimates are used to measure dispersion. The subjective may be related with business risk or financial risk. As an example: an analyst may estimate that a proposal offers a "low" level of risk. This means that, in the analyst's view – the dispersion of return will not be very wide. Similarly, a "high" risk level will accompany a project whose forecast return may be a great deal.

With the overall definition of risk as dispersion of return, there are two components of risk may be identified.

#### **1. Business Risk**

Business risk is the risk that a business' future operating profits may drop due to adverse change in operations. It arises from fluctuations in the business' revenue and is magnified by the business' operating leverage. There are two types of business risk- sales risk and operating risk;

Business Risk = Sales risk + Operating Risk

Sales risk is the risk of drop in revenue while operating risk is the risk of adverse movement in costs. The higher the ratio of fixed costs of a business to its total costs, the more the fluctuation in the business' operating earnings.

#### **2. Financial Risk**

The Possibility that a corporation or individual's cash flow will be inadequate to cover their financial needs. Financial risk increases when companies issue interest

Bearing debt instruments like bonds and commercial paper rather than obtaining market financing by issuing stock.

#### **Sources of Risk**

Every investment involves uncertainty that contribute to investment risk are as follows: (Cheney & Moses, 1996.

**Interest Rate Risk**

Interest rate risk is the risk or volatility associated with bonds or long term debt as their interest rates, coupon yield to maturity and maturity dates move within the market.

**Purchasing Power Risk**

Inflation risk, also called purchasing power risk, is the chance that the cash flows from an investment won't be worth as much in the future because of changes in purchasing power due to inflation.

**Bull-Bear Market Risk**

The term "bull market" refers to a stock market that has been rising, a "bear market" is one where prices have been falling. In both cases, the zoological terms tend to kick in when prices rise or fall by 20% or more. When it comes to individual investors, a "bull" expects stocks to rise, while a "bear" acts on the assumption they will fall.

**Management Risk**

In business, risk management is defined as the process of identifying, monitoring and managing potential risks in order to minimize the negative impact they may have on an organization. Example of potential risks includes security breaches, data loss, cyber attacks, system failures and natural disasters. An effective risk management process will help identify which risks pose the biggest threat to an organization and provide guidelines for handling them. The risk management process consists of three parts: risk assessment and analysis, risk evaluation and risk treatment.

**Default Risk**

Default Risk can be defined as the risk that the counter party to a transaction does not honor its obligation. Default can be both in terms on monetary and non monetary terms, and it's a part of every transaction. For a bank or any other financial institution, the default risk refers to the risk of default on payment obligations, such as loans and other financial transactions.

While referring to payments defaults on banks and bonds, the default risk is called credit risk. This means that the counter party does not make the payment when it is due.

**Liquidity Risk**

Liquidity, which we define broadly as the availability of cash or equivalent resources, is the lifeblood of every commercial and sovereign entity. Liquidity allows expected and unexpected obligations to be met when needed so that daily business affairs can proceed uninterrupted. In the absence of sufficient cash resources, activities may be jeopardized; more importantly, the probability of encountering severe financial distress increases.

**Political Risk**

Any event that may apply as a force major for your customers in other countries, resulting in them being unable to pay their invoices these include:

- i. Political events, such as war, revolution or insurrection
- ii. Natural disaster such as earthquakes, volcanic eruptions or tidal waves
- iii. Economic difficulties such as shortage of foreign currency
- iv. Actions, decisions, or negligence's by governments.

**Industry Risk**

Industry risk refers to the dangers to a particular stock that con not from problems with the company per se but rather from far more wide ranging issues involving the entire industry that the company belongs. A simple, fictitious example of a portfolio being hit by industry risk might be what could happen to the oil majors in the extremely unlikely event that a radically successful type of solar cell is invented that overnight alters the power usage profile of our planet.

To avoid exposing yourself to industry risk, the easiest thing you can do is invest in a well-managed pooled investment like a mutual fund or unit trust fund. Such action will protect you from industry risk unless you make the mistake of purchasing only targeted industry – specific funds that subsequently suffer a meltdown because of some industry wide cataclysm.

**2.1.3.2 The Risk on Common Stock**

Investing in our shares of common stock may be considered speculative and involves a high degree of risk, including the risk of a sustainable loss of investment. See the “Risk Factors” section of our prospects to read about the risks you should consider before buying our shares including the risk of leverage.

Annual expense ratio calculated as set forth in the prospectus and based on public offering price in effect on such data. Please consult the prospectus and read it carefully

- i. You should not expect to be able to sell your shares of common stock regardless of how we perform.
- ii. If you are able to sell your shares of common stock, you will likely receive less than you purchase price.
- iii. Because of our common stock will not be listed on a securities exchange, you may be unable to sell your shares and as a result, you may be unable to reduce your exposure on any market downturn.
- iv. We intend to finance our investments with borrowed money, which will magnify the potential for gain or loss on amounts invested and may increase the risk of investing in us.
- v. There are significant potential conflicts of interest that could affect our investment returns.

The practice is to translate the uncertainty into a mathematical value which represents the uncertainty. The best estimate of all uncertain value. But risk is treated differently. Although risk arises from uncertainty, its magnitude depends upon the degree of variability in uncertainty cash flows, and it is measure in term of standard deviation. In project analysis, the project risk indicates the probability of return is being less than exceed value-higher the probability of such loss or less return, higher the project risk" (Pradhan, 1992).

#### **2.1.4 Relationship between Risk and Return**

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

"The observe difference in both the levels and variability of the rate of return across securities are indicative of the underlying risk and relation in the market" (Loric, Dodd & Kempton, 1985).

Generally, the higher the potential return of an investment, the higher the risk. There is no guarantee that you will actually get a higher return by accepting more risk. Some investments are riskier than others – there's a greater chance you could lose some or

all of your money. Stocks have a potentially higher return than bonds over the long term, but they are also riskier. Bond investors are creditors. As a bond investor, you're legally entitled to fixed amounts of interest and principal and are repaid in priority if the company goes bankrupt. However, if the company is successful, you won't earn more than the fixed amounts of interest and principal. Shareholders are owners. As a shareholder, if the company is unsuccessful, you could lose all of your money. But if the company is successful, you could see higher dividends and a rising share price.

### 2.1.5 Portfolio

A Portfolio is a grouping of financial assets such as stocks, bonds, commodities, currencies and cash equivalents, as well as their fund counterparts, including mutual, exchange-traded and close funds. A Portfolio can also consist of non publicly tradable securities like real estate art and private investments. Portfolios are held directly by investors and/ or managed by financial professionals and money managers. Investors should construct an investment portfolio in accordance with their risk tolerance and their investing objectives. Investors can also have multiple portfolios for various purposes. It all depends on one's objectives as an investor.

Capital appreciation is a rise in the value of an asset based on a rise in market price. It occurs when the assets invested commands a higher price in the market than an investor originally paid for the assets. The Capital appreciation portion of the investment includes all of the market value exceeding the original investment or cost basis. The weighted average return of a portfolio (the weight must sum to 100 percent or 1). The general formula for expected return of a portfolio ( $R_p$ ) is as follows.

$$\bar{R}_p = \sum_{j=1}^n W_j \bar{R}_j$$

Where,

$\bar{R}_p$  = Expected return of a portfolio

$\bar{R}_j$  = Expected return for security j

$W_j$  = Proportion of total funds invested in security j

n = Total no. of different securities in the portfolio

When the term is used in reference to stock valuation, capital appreciation is the goal of an investor seeking long term growth. It is growth in the principal amount invested, but not necessarily an increase in the current income from the asset. The Standard deviation of probability distribution of possible portfolio return  $\sigma_p$  is

Where,

- $n$  = Total no. of different securities in the portfolio.
- $W_j$  = Proportion of total funds invested in security j.
- $W_k$  = Proportion of total funds invested in security k.
- $Cov(jk)$  = Covariance of return.

Covariance is a measure of the directional relationship between the returns on two risky assets. A positive covariance means that assets returns move together while a negative covariance means returns move inversely. Covariance is calculated by analyzing at-return surprises (standard deviations from expected return) or by multiplying the correlation between the two variables by the Standard deviation of each variable.

$$r_{jk} = \frac{Cov(j,k)}{\sigma_j \cdot \sigma_k}$$

Covariance of Return  $Cov(jk) = r_{jk} \sigma_j \sigma_k$

Where,

- $r_{jk}$  = Correlation coefficient between possible return for security j and k
- $\sigma_j$  = S.D. of the security j.
- $\sigma_k$  = S.D. of the security k.

A correlation coefficient is a measure of the strength of the relationship between the two variables and has a range from -1 to +1. The sample correlation  $r$  lies between the values -1 and 1, which correspond to perfect negative and positive linear relationships, respectively. A value of  $r=0$  corresponds to no linear relationship, but other nonlinear associations may exist. Spearman's rank correlation is a nonparametric statistics, as its value is unchanged by transformations of the data, such as taking the logarithm, which preserve the ranks.



### **2.1.6 Systematic Risk and Unsystematic Risk**

Systematic Risk is a Part of total market risk which arises due to external factors like economic factors, political factors and sociological factors. Systematic risk does not have a specific definition but is inherent risk existing in the stock market. These risks are applicable to all the sectors but can be controlled. If there is an announcement or event which impacts the entire stock market, a impacts the entire stock market, a consistent reaction will flow in which is a systematic risk.

The systematic risk which highlights the possibility of a collapse of the entire financial system or the stock market causing a catastrophic impact on the entire system in the country It refers to the risks caused by financial system instability, potentially catastrophic or idiosyncratic events to the interlinked and other interdependencies in the overall market. Generally, investors who are risk averse will prefer a portfolio of beta less than 1 so that they have to incur lower losses in case of sharp market decline. On the other hand, risk takers will prefer securities with high betas aiming for higher returns.

The unsystematic risk is non-market factors related. This portion of risk is diversifiable and possible to reduce. It is unique to a particular company or industry. It is independent of economic, political and other factor that affect all securities in systematic manner. A wild cat risk may affect only one company a new competitor may begin to produce essentially the same product or a technological breakthrough can make an existing product absolute. "For most stocks, unsystematic risk accounts for between 60 to 70 percent of stocks total risk or standard deviation (Van Horne and Wachowicz, 1995).

The relationship among systematic, unsystematic and total risk are shown below:

$$\text{Total risk } (\sigma_j) = \text{Systematic Risk} + \text{Unsystematic Risk}$$

Systematic Risk and unsystematic Risk can be written as:

### Systematic Risk (SR)

$$SR = \frac{\text{Cov}_{j,m}}{\sigma_m}$$

Where,

SR = Systematic Risk

$\text{Cov}_{j,m}$  = Covariance between the return of assets j and Market

$\sigma_m$  = Standard Deviation of Market

### Unsystematic Risk (USR)

$$USR = \sigma_j \times (1 - r_{jm})$$

$\sigma_j$  = Standard Deviation of Stock j

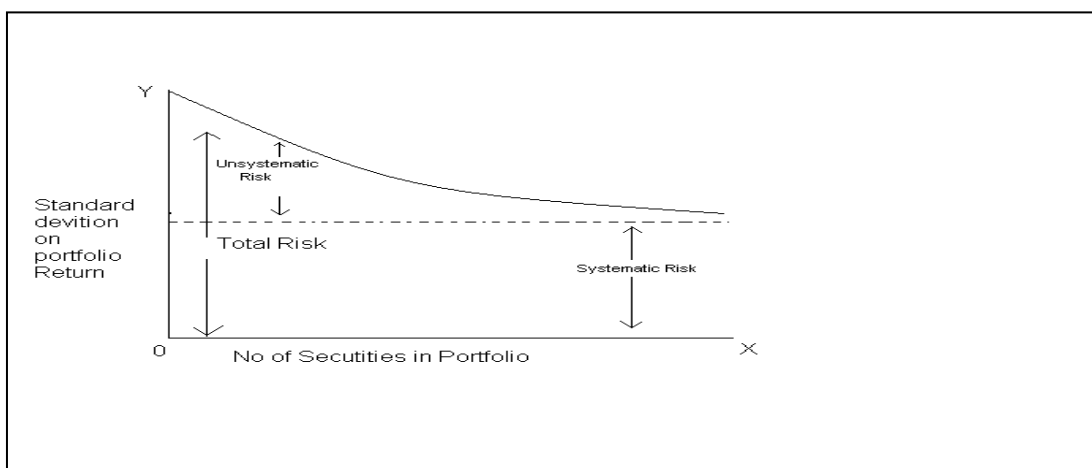
$r_{jm}$  = Correlation between the return of Assets j and market m

$$\text{Proportion of SR} = \frac{SR}{TR}$$

Where,

TR = Total Risk

**Figure 2.1: Proportion of USR**



### **Proportion of USR= 1 –Proportion of SR**

Where, systematic risk =  $\sigma_j P_{jm}$  and unsystematic risk =  $\sigma_j (1-P_{jm})$ . Here  $P_{jm}$  is the Correlation coefficient between the return of given stock (j)k and the return on market portfolio.

However, unsystematic risk can be reduced and eliminated forever if diversification is optimal with the help of the diversification. Therefore, not all the risk involved in holding a stock is relevant since part of their risk can be diversified away. The important risk of stocks is its unavoidable systematic risk. Investor will be compensated for bearing this systematic risk. They should not however expect the market to provide may extra compensation for bearing avoidable risk. It is the large that lies behind Capital Assets Pricing Model (CAPM).

#### **2.1.7 Capital Asset Pricing Model (CAPM)**

The Capital Asst Pricing Model (CAPM) is a model that describes the relationship between the expected return and risk of investing in a security. It shows that the expected return on a security is equal to the risk-free return plus a risk premium, which is based on the beta of that security. CAPM is calculated according to the following formula:

$$E(R_j) = R_f + [E(R_m) - R_f]\beta_j$$

Where:

$E(R_j)$  = Expected return on a security

$R_f$ = Risk-Free rate

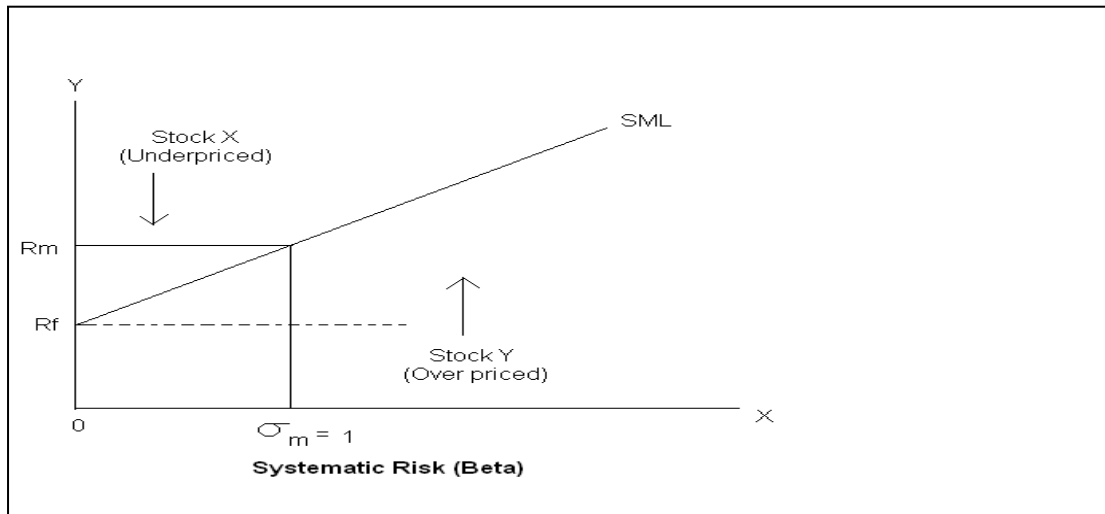
$\beta_j$ = Beta of the security

$E(R_m)$ = Expected return of the market

The CAPM formula is used for calculating the expected returns of an asset. It is based on the idea of systematic risk (otherwise known as or non- diversifiable risk) and that investors need to be compensated for it in the form of risk premium. A risk premium

is a rate of return greater than the risk free rate. When investing, investors desire a higher risk premium when taking on more risky investments.

**Figure 2.2: Capital Asset Pricing Model (CAPM)**



Above figure clarifies that stock X is under priced relative to the security market price while stock Y is overpriced. As a result stock X is expected to provide a rate of return greater than that required based on its systematic risk. In contrast stock Y is expected to provide a lower return than that required to compensate for its systematic risk. Investors seeing the opportunity for the superior return by investing in stock X will rush.

The CAPM formula is widely used in the finance industry. It is vital in calculating the weighted average cost of capital (WACC) as CAPM computes the cost of equity.

WACC is used extensively in financial modeling. It can be used to find the present value (NPV) of the future cash flows of an investment and to further calculate its enterprise value and finally its equity value.

## 2.2 Reviews of journal and articles

In the field of finance in Nepal it is very difficult to get advanced and research based journal. There are very limited numbers of journals available in the subject of management and it is also hard to find any article in the subject matter of finance. Almost no articles about the risk and return analysis on common stock investment are found. Hence some foreign well known recently, published journals of finance has

been reviewed here. However, it helps to build the conceptual framework on this topic. At first, let us begin with the history of finance.

"Financial economics is defined by Smith (2016) as the application of economic theory to financial markets. It is a large body of theory including. Such well known models as "Modern Portfolio Theory" of Markowitz (2017), The Capital Asset Pricing Model (CAPM) of sharp(2014), the efficient market Hypothesis (EMH) of Sannikov (2016) and Fama (2015) and the option pricing model of Black and Scholes (2015). Although these models are all included in institute of faculty education Ltd. (2014), their acceptance or use is controversial (Bhouse, 2016).

An article entitled "Expected return, Realized returns and asset pricing tests" by Edwin J. Elton as journal of finance in the year 2016 is relevant to this study. In this paper he points out the fundamental issues in finance like that what the factors are that affect expected return on assets, the sensitivity of expected return to those factors, and the reward for bearing this sensitivity. There is a long history of testing in this area and it is clearly one of the most investigated-areas in finance.

Almost all of the testing he being aware of using realized returns as a process for expected returns. The use of an average realized return relies on a belief that information surprises tend to out over the period of a study and realized returns are therefore an unbiased estimate of expected returns. However, he believes that there is ample evidence that this belief is misplaced. There are periods longer than 10 years during which stock market realized returns are on average less than the risk free rate (2012 to 2016). There are periods longer than 50 years in which risk long-term bonds on average under perform the risk free rate (2010 to 2016). Having a risky asset with expected return above the risk free rate is an extremely weak condition for realized returns to be an appropriate process for expected return, and 11 and 50 years is an awfully long time for such a weak condition not to be satisfied. In the recent past, the United States has had stock market returns of higher than 30% percent per year while Asian Markets have had negative returns.

The journal of finance, published by American Finance Association for many decades is taken into account. In its recent volume of August 2016, an article "Local Return factors and Turnover in Emerging stock Markets" by Greet Rou Warhorse has been reviewed here. This paper examines the sources of return variation in emerging stock

markets. Compared to the developed markets the correlation between most emerging market and stock market has been historically low and until recently many emerging country restricted investment by foreign investor.

He attempts two set of question to answer. The first set of three questions concern the existence of expected return premiums, (i) Do the factors that explain expected return difference in developed equity markets also describe the cross section or expected returns of emerging market firms? (ii) Are the returns factors in Emerging markets primarily local or they have global components as well? (iii) How does the emerging market evidence contribute to the international evidence form developed markets that similar return factors are present in markets around the world? The set of questions of the paper included, (IV) is there a cross sectional relation between liquidity and average, returns in emerging markets? Are the return factors in emerging markets cross section ally correlated with liquidity?

Total returns are calculated in the form of the dividend return are rice appreciation using prices scaled by a capital adjustment factor, which the IFC computers to correct for price effects associated with stock splits, stock dividends and right issues. Many emerging market have firms with multiple share assess are treated as a single value weighted portfolio of the outstanding equity securities (Rouwenhorst; 2016).

In this proper Roowenhorst has been made detail analysis of the date, and he interprets the result in each section. Lastly, he has concluded his findings as "The first conclusion is that the return factors in emerging markets are qualitatively similar to those in developed markets: Small stocks out performs growth stocks and emerging market stocks exhibit momentums. There is no evidence that local market betas are associated with average returns. The low correlation between the country return factors suggest that the premium have a strong local character. Furthermore, global exposure cannot explain the average factor returns of merging market. This is little evidence that the correlation between the local factor portfolios have increase, which suggests that the factors responsible for the increase of emerging market country correlation are separated from those drives the difference between expected return within these markets. A Bayesian analysis of Premiums in developed and emerging markets shows that unless one has strong prior belief to the Contrary. The empirical evidence favors the hypotheses that size, momentum and values strategies are

compensated for in expected returns around the world. Finally, the paper documents the relationship between expected returns and share turnover and examines the turnover characteristics of the local factors portfolios. There is no evidence of relation between expected returns and turnover, in emerging markets. However, beta, size momentum and value are positively cross section ally correlated with turnover in emerging markets. This suggests that return premium do not simply reflect a compensation for liquidity.

After reviewing, an article entitled American Association of Individual Investors, Investing basis reveals importance to understand how personal circumstance affect investment decision. (If these factors make no difference we could simply publish one suggested portfolio for everyone to follow). Investment profile is the beginning of the asset allocation process, which consists of dividing portfolio among the major asset categories of stocks, bonds and cash. The asset allocation decision will have a far more effect on portfolio return.

Make allocation decision with the major categories. For instance stock portfolio can be divided among large capitalization stocks, small capitalization stocks and international stocks. Once these decisions are reached, you will be ready to make selection among the various investment options. Lastly, once you have set up your investment portfolio you must monitor it, making changes when appropriate.

Every investor wants the highest assured return possible. Both as we have seen, returns are not certain and different investors have varying degree of uncertainty that they are willing to accept.

In order to reduce overall risk, it is best to follow diversification of assets that are not related. "The technical term for this is not putting all you eggs in one basket. In that way if you trip, you won't break all the eggs The creation of a portfolio by combining two assets that behave exactly the some way cannot reduce the portfolio's overall risk below the risk of the least risky asset.

Fluctuations expose you to wide uncertainty in your overall returns and even to the risk of permanent loss of principal. CAPM is an effective model in finance but it is not far off from argument. It has also got it good points as well as bad points.

It tells us where to invest, how to invest and what discount rate to use for project cash flows. Not only that, it is a disarmingly simple model. The expected return of a security depends upon a simple statistics;  $\beta$ . The relationship between risk and return is linear. Calculation of portfolio risk trivial at the sometime, the CAPM is revolutionary. It tells us that the variance of a project is not a factor in determining the appropriate risk adjusted rate. It turns financial research from roll-up-your sleeves fundamental analysis into a statistical problem. In short, the CAPM turned Wall Street on its head.

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### **2.3 Reviews from Theses**

However risk and return is not a new concept for financial analysis, in context of Nepal and its very slow growing capital market, few studies are made regarding this topic. Some studies related to the topic of risk and return has been conducted for the fulfillment of master degrees in T.U. In this study only relevant subject matters are reviewed which are as follows:

(Bhatta, 1996) Assessment of the Performance of Listed Companies in Nepal An Unpublished MBS Thesis submitted to Thakur Ram Multiple Campus, T.U. Birgunj, is related to this study to some extent. Bhatta's study is performance of listed companies is based on 10 listed companies' data from 1990 to 1995. One of the major objectives that concern with this research topic is "to analyze the performance of listed companies in terms of risk and return i.e. expected rate or return and company specific risk, required rate of return and internal rate of return, systematic risk and diversification of risk through portfolio context. Bhatta addressed the following findings in risk return behavior from the analysis of different stock.

A highly significant positive relationship has been addressed between risk and return character of the company. Investor expects higher returns from those stocks, which associates higher risk. Nepalese capital market is not efficient one, so the stock price does not contain all the information relating to market and company itself. Neither investor analyzes the overall relevant information shows high priced stocks such as BBC, NIB, NIC has higher beta than others. These companies required higher returns to satisfy the investors for their risk premiums.

Investors in Nepal have not yet practice to invest in portfolio of securities. Portfolio shows that risk can be totally minimized if correlation is perfectly negative. In this situation, the risk can totally be diversified but when there is perfectly positive correlation between the return of the two securities, the risk is undiversifiable. The analysis shows some has negative correlation and some has positive. Negative correlation between security return is preferred for diversification of risk.

On the basis of findings Bhatta concluded: “An Analysis of risk and return shows that many companies have higher unsystematic or specific risk. There is a need of expert institution, which will provide consultancy services to the investors to maximize their wealth through rational investment decision.

Lastly, Bhatta found the following points to improve market efficiency:

- Develop institutions to consult investors for risk minimization.
- Establish an information channel in NEPSE.
- Make proper amendment of Trading Roles.

To some extent Bhatta focused in the analysis of risk and return in common stock investment. But due to so many other aspects of analysis investor cannot easily assess the result. Indeed, study did not focus the viewpoint of investor rather in concentrates the companies and stock market. However, this study also explores some dimension for further research in this subject.

Manandhar, (2003) Analysis of Risk and Return on Common Stock Investment of Commercial Banks in Nepal With Special Reference to Five Listed Commercial Banks in Nepal. An Unpublished MBS Thesis submitted to Central department of Management, T.U. Kathmandu .The main objective of the study is to examine risk and return of common stock in Nepalese stock market, the study is focused on the common stock of commercial banks.

In her findings “Banking industry is the biggest one in F/Y 2001/2002, A.D. , in terms of market capitalization and turnover expected return of the common stock of BOKL is maximum (i.e. 1.1267) due to effect of unrealistic annual return and Capital Structure of NIBL is found minimum. In the context of industries, expected return on banking sector (i.e. 67.39) is highest and other sector is the least (0.65 percent).

Expect NIBL, other banks other banks common stocks are more volatile (aggressive with market stocks). All banks in the study are said to be under priced. Capital Structure of BOKL is most risky and Capital Structure is least risky. Stocks have greater volatility risk than other investment, which take a random and unpredictable path. Stock market is risky in the short term and it is necessary to prepare the investors for it. One of the most important things to consider when choosing investment strength is the balance between risk and return that you are comfortable with Investors should diversify their fund to reduce risk with the help of optimal portfolio concept. It is better to say something that is going up and sell something that is going down. Investor's attitude, perception and risk handling capacity also play essential role is rational investment decision.

Khadka (2004) Analysis of Risk and Return on Selected Nepalese Commercial Banks Listed in NEPSE. An Unpublished MBA Thesis submitted to central Department of Management, T.U. Kathmandu .With special reference to 7 listed commercial banks is also relevant to this study. The main objective of the study is to analyze the risk, return and other relevant variables that help in making decision about investment on securities of the listed commercial banks. This study will also target to determined whether the share of commercial banks are correctly priced or not by analyzing the required rate of return using the CAPM. Khadka addressed the Following findings in risk return behavior from the analysis of different stock:

The share of Bangladesh Bank offered highest realized rate or return. Amongst them NABIL bank is the lowest having 5.23 percent which is less than required rate or return. NBL, which is hard hit by the events (Return = -0.8809), the ranking of the bank is placed as the highest return earner. The study showed that the realized rate or returns of the samples banks do not have the same features being within the range of 5.23 percent to 16.12 percent. Return on the average tock is 5.51 percent over the period. All the shares under review generated higher rate of return than the market portfolio except NABIL Bank Ltd. The price of shares of banks under review except NABIL Bank Ltd. is under priced. The unsystematic risk of NBL is the highest one amongst the shares under review which is 95.59 percent and SCB of Nepal has the lowest one being 45.14 percent. The negative correlation coefficient of NBL (-0.21) revealed that the return on the bank goes down if the market goes up. The rest of the

shares moved in the direction the market moves. By observing the individual shares beta coefficient, most of the shares appear to be defensive as beta coefficient are less than one. However, beta of the stocks NB bank SCB are greater than one indicating that the shares are more riskier than the market.

On the basis of finding, Khadka concluded that in Nepalese capital market, the contribution of real sector is negligible. Though the shares of commercial Banks of Nepal are heavily traded in NEPSE, none of the share NABIL Bank will have positive trend towards the equilibrium. Adoption of comprehensive and Advance Regulatory framework Awareness campaign for the investor Regular publication of financial information Improvement in the infrastructure facilities effective use of banking system deregulation of foreign exchange.

(Manandhar 2005), A Study of Risk and Return Analysis on Common Stock Investment with Special Reference to Six Listed Commercial Banks An Unpublished MBS Thesis submitted to Central department of Management, T.U. Kathmandu, with special reference to four listed commercial banks. The major objective of this study was to promote and protect the interest of the investor by regulation the issuance sales and distribution of securities and purchases, sale or exchange of securities. He also intends to supervise and monitor the activities of the stock exchange and of other related firms carrying on securities business. In addition he tried to render contribution to the development of capital market by making securities transactions fair health, efficient and responsible.

It was noticed that there is a positive correlation between risk and return character of the company. Nepalese capital market being inefficient, the price index itself is not sufficient to give the information about the prevailing market. Situation and the company proper regulation should be introduced so that there is more transparency in issuance, sales and distribution of the securities. Investors do not have any idea about the procedures of the securities issuance. Neither company nor the stock brokers transmit any information to the investors about the current market situation and hence it becomes difficult for common investors to invest in the securities. Both government authorities and the stock exchange regulator body should try to promote healthy practices so that the stock brokers do not give false information to the investors for their personal benefit which is a common practice in Nepal. Investors should get

regular information about the systematic Risk (Beta), Return on Equity and P/E Ratio of various listed companies in some way; it is given in economic times for the companies listed in Nepal Stock Exchange. Security exchange Board of Nepal should make this mandates that it is easier for the investors to calculate risk and return of portfolio and transparency is increased.

Sapkota (2010) on "Risk and Return Analysis and Optimal Portfolio Creation of Common Stock Investment (With References to SBI, NABIL, BOK, NIC, EBL and SCBL), Unpublished MBS Thesis submitted to Mahendra Multiple Campus, T.U. Nepalgunj. The main and basic objectives of the study are to find out the condition of risk and return analysis of common stock investment and suggestion how to create a portfolio among the selected commercial banks. To analyze risk and return of investment in common stock of commercial Bank. To determine relation of each bank with the industry index. To explain portion of systematic risk and unsystematic risk from the total risk. To evaluate common stock price under CAPM method. To analyze how to create optimal portfolio combination using selected Commercial banks. To shows the current market movement, banking index movement and selected commercial banks price movement in trend line.

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

This Research of Gautam was mainly concerned with examining system of profit planning In HBL .The time period covered by this research was five year i.e. FY 2058/059 to 2062/063. The data and other necessary Information were collected by using Secondary data. To analyze the effectiveness of profit plan and practices of Himalayan Bank Limited. To analyze the profit trends and determine the variables. To enumerate the variance between budgeted and actual performance. To provide appropriate recommendation to improve the situation (Gautam, 2014).

In this research, he has pointed various findings. Some remarkable findings are as follows:

HBL performs SWOT analysis before preparing profit plan. HBL has three types of core planning team to make plan, policy program and budget. HBL has adopted two types of planning formulation methodology. One is seminar at head office and other is seminar at regional level of offices. The main objective of profit plan of HBL is to achieve 4 percent profit on outstanding.

A Risk and Return Analysis of the Commercial Banks. An Unpublished MBS Thesis submitted to Central department of Management, T.U. Kathmandu. With special reference to 6 Commercial Banks is also relevant to this study. The time period covered by this research was five year. The data and other necessary information were collected by using secondary data. To study the risk and return of the samples commercial banks (6 out of 27 banks) and also analyze their coefficient of variance. To perform the comparative analysis of the risk and return on the common stocks as the selected banks. To find out how sensitive the stock price of the selected commercial banks and the banking sector as whole with that of the NEPSE. To provide the valuable suggestion about the risk and return on stock of the commercial banks that could be the deciding factor for the investor in their investment (Shakya, 2015).

Shares of commercial banking sector are more lucrative for the investor to invest. It is safer for the Nepalese investor to invest in this sector. The covariance and beta coefficient of commercial banking sector with that of the market are also good enough for the general investor to invest in this sector. Among the commercial banking sector too, investor should invest in shares of EBL as their coefficient of variation are good than other sampled commercial banks. However NABIL, NIBL and BOK are

more risky at the present time to invest in its share than other selected banks. Analysis of personal risk, attitude, needs and requirements will be helpful before making an investment in stock market. Investor should make several discussions with stock holder before reaching at the decision. Investor should make their decision on the basis of reliable information rather than the imagination and romers (khadka, 2016).

### **2.5 Research Gap**

Risk and return is a broad topic in finance and investment. It is a continuous process of analyzing and interpreting the results that are obtained from the research. Investment is a dynamic process and investors required various information regarding the stock market and individual company as soon as possible.

Investors and the fact to carry out this thesis is to provide investors real, accurate and updated information as soon as possible.

## **CHAPTER-III**

### **METHODOLOGY**

A research method is a systematic plan for doing research. It is a systematic plan for conducting research. Sociologists draw on a variety of both qualitative and quantitative research methods, including experiments, survey research, participant, observation and secondary data. Quantitative methods aim to classify features, count them and create statically models to test hypotheses and explain observations. Qualitative methods aim for a complete detailed description of observation, including the context of events and circumstances.

#### **3.1 Research Design**

Research design is defined as a framework of methods and techniques chosen by a researcher to combine various components of research in a reasonably logical manner so that the research problem is efficiently handled. This study has been based on the data extracted from the annual reports of sample banks. The data are taken from 2013/014-2017/018 A.D. The descriptive research design has been used for this study. Secondary data is used the research design that are taken from their sources. Research can be conducted on the basis of secondary data. In this study, all the data are secondary and those data are analyzed using appropriate financial tools are holding period return, expected rate of return, standard deviation, coefficient of variation, beta coefficient, correlation coefficient , return on market are etc. as well as statistical tools a hypothesis. Outcomes are presented in simple way in this study on the research design; data collection procedures and analysis are described serially.

#### **Descriptive and analytical**

The research design use in this study is both descriptive and analytical. Descriptive research design is used for describing the effect of EPS, DPS and P/E ratio on stock price from tables, graphs, and figure with basic calculation of present collect data. Similarly analytical research design is used for analyzing the expected rate of return, standard deviation correlation coefficient of sampled bank research design focuses on the data collection methods, the research instrument utilize and the sampling plan to be used.



as a sample, those banks are

- Nepal Investment Bank Limited (NIBL)
- Nabil Bank Limited (NABIL)

### **3.2 Population and sample**

All the items in any field of inquiry (research) constitute a universe or population. Sampling is the process by which inference is made to the whole and examines only one part. The method of selecting a portion of the population with the view to draw conclusion about the population under the study is known as sampling. All listed commercial banks will consider as the total population, out of them this study is concerned with three commercial banks.

### **3.3 Sources of Data**

This study is mainly based on secondary data of commercial bank; Nepal Rastra Bank, NEPSE and different library are the providers of the data. The review of literature of the bank proposal study was based on the text book, official publication, journals, unpublished thesis etc the necessary data and information at macro level relevant institutions and authorities such as NRB, ministry of Finance, NEPSE and the respective publication. Similarly the required micro level data derived from annual reports of selected banks and the website of the bank. In addition to the above, supplementary data and information were collected from the periodical economic journals and from other published and unpublished reports. The major sources of data and information are as follows:

- Economy survey, ministry of finance.
- Quarterly economic bulletin, NRB
- Banking and Financial statistics, NRB.
- Website Of NEPSE.
- Journal of Finance.
- Journal Of business etc.

### 3.4.1.1 Market price of Shares (MPS)

The market price is the current price at which an asset or service can be bought or sold. The economic theory contends that the market price converges at a point where the forces of supply and demand. In financial markets, the market price can change their bid or offer prices, or as sellers hit the bid or buyers hit the bid or buyer hit the offer. In securities trading, the market price is the current price as dictated by the last recorded trade. This may vary from the current bid and offer. The market price in the bond market is the last reported price excluding accrued interest; this is called the clean price. The market price for goods and services is the current price it can be bought or sold for.

### 3.4.1.2 Dividend per Shares (DPS)

The total payout amount for the entire year, divided by the number of outstanding common shares, is the dividend per share amount. Dividend per share (DPS) is the sum of declared dividends issued by a company for every ordinary share outstanding. The figure is calculated by dividing the total dividends paid out by a business, including interim dividends over a period of time by the number of outstanding ordinary shares issued. Dividend is the return for the investors for sacrificing current funds and taking risk. Dividend per share is the proportion of total dividend paid and no of shares outstanding. Symbolically DPS is expressed as follows:

$$\text{DPS} = \frac{\text{Total amount of dividend paid}}{\text{No. of common shares outstanding}}$$

Dividend per share and the formula provided may be used by individuals who are evaluating various stocks to invest in and prefer companies who pay dividends. This Formula alone doesn't necessarily provide an overall outlook on a company as some companies retain their earnings for growth instead of paying dividends. A company with a low dividend payout ratio i. e a company, who pays a smaller percentage of their net income to stockholders, will reinvest their net income which may lead to an increase in the value of the company due to expansion.

Dividend is relevant during computation of rate of return that is rewarded to their shareholders for their investment. Dividend is distributed as a cash dividend as well as stock dividend. If company declares only cash dividend there is no problem while taking the extra amount of dividend that is relevant. But if the company declare stock

dividend it is little bit difficult to calculate dividend amount. So to get Total dividend following formula should be used:

Total dividend amount = Cash Dividend + Stock Dividend percent  $\times$  Next Year MPS

Where, MPS = Market price per share.

The various financial and statistical tools used are as follows:

### 3.4.2 Financial Tools

#### 1. Holding Period Return (HPR)

Holding Period return is the total return received from holding an asset or portfolio of assets over a period of time, generally expressed as a percentage. Holding period return is calculated on the basis of total returns from the asset or portfolio. It is particularly useful for comparing returns between investments held for different periods of time. The formula for calculate the HPR on investment during the time period is follows:

$$\text{HPR or Simple 'R'} = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$$

Where,

- R = Annual rate of return
- $P_t$  = Price of a stock at time t.
- $P_{t-1}$  = Price of stock at time t-1.
- $D_t$  = Cash dividend received at time t.

#### 2. Expected Rate of Return

The expected rate of Return is the return on investment that an investor anticipates receiving. It is calculated by estimating the probability of a full range of returns on an investment, with the probabilities summing to 100 %.

Symbolically,

$$\bar{R}_j = \frac{\sum R_j}{n}$$

Where,

- $\bar{R}_j$  = Expected rate or return on stock j.
- n = Number of years that the return is taken.
- $\Sigma$  = sign of summation.

### 3. Standard Deviation

A measure of the dispersion of a frequency distribution that is the square root of the arithmetic mean of the squares of the deviation of each of the class frequencies from the arithmetic mean of the frequency distribution. It is a parameter that indicates the way in which a probability function or a probability density function is centered around its mean and that is equal to the square root of the moment in which the deviation from the mean is squared. It is symbol denoted by ( $\sigma$ ) sigma. It is the measure the risk on stock investment.

$$\sigma_j = \sqrt{\frac{\sum [R_j - E(R_j)]^2}{n-1}}$$

If data is probability distribution

$$\text{or, } \sigma_j = \sqrt{\sum_{t=1}^n [R_j - E(R_j)]^2 P_j}$$

Where,

$\sigma_j$  = Standard deviation on of return stock j during the time period

$P_j$  = Probability distribution of the observation.

$R_j$  = Probability distribution of the observation.

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

$n$  = Number of years that the returns are taken.

### 4. Coefficient of Variation (C.V.)

The coefficient of variation (CV) is the ratio of the standard deviation to the mean. The higher the coefficient of variation, the greater the level of dispersion around the mean. It is generally expressed as a percentage. Without units, it allows for comparison between distribution of values whose scales of measurement are not comparable. Generally, it is expressed as

$$C.V. = \frac{\sigma_j}{E(R_j)}$$

Where,

C.V. = Coefficient of variation of stock.

$\sigma_j$  = Standard deviation of return on stock j.

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

### 5. Beta Coefficient ( $\beta$ )

Beta Coefficient is a measure of sensitivity of a company's stock price to movement in the broad market index. It is an indicator of a stock's systematic risk which is the undiversifiable risk inherent in the whole financial system. Beta coefficient is an important input in the capital asset pricing model (CAPM). Beta coefficient of a particular stock will be less than equal or more than 1, but the beta for market will be always 1.

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

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

Where,

$\beta_j$  = Beta coefficient of stock j.

$\text{COV}(jm)$  = Covariance between return on stock j and return on market.

$\sigma_m^2$  = Variance of market return.

### 6. Correlation Coefficient

The correlation coefficient is a statically measure that calculates the strength of te relationship between the relative movements of two variables. The values range between -1 and 1.0. A calculated number greater than 1 or less than -1 means that there was an error in the correlation measurement. A correlation of -1.0 shows a perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. A correlation of 0.0 shows no relationship between the movement of the two variables.

Correlation coefficient and covariance are related by the following equation.

$$\text{Cov}_j = \sigma_i \sigma_j \rho_{ij}$$

$$\rho_{ij} = \frac{\text{Cov}_{ij}}{\sigma_i \sigma_j}$$

Where,

$\sigma_i$  and  $\sigma_j$  are the standard deviations of returns for assets i and j and  $\rho_{ij}$  is correlation coefficient for asset i and j. there are various cases of correlation and risk condition which are presented below:

#### **Perfectly Positive Correlation ( $\rho_{ij} = +1$ )**

Perfectly Positive correlation is a relationship between two variables in which both variables move in tandem- that is, in the same direction. A positive correlation exists when one variable decreases as the other variable decrease or one variable increases while the other increase.

#### **Perfectly Negative Correlation ( $\rho_{ij} = -1$ )**

Perfectly Negative Correlation means that there is an inverse relationship between two variables when one variable decreases, the other increases. The vice vers is a negative correlation too, in which one variable correlation are studied in statistics as a means of determining the relationship between two variables.

#### **No Relation between Return ( $\rho_{ij} = 0$ )**

A zero correlation suggests that the correlation statistic did not indicate a relationship between the two variables. It's important to note that this all; it simply means that there is not a linear relationship.

#### **Intermediate Risk ( $\rho_{ij} = +0.5$ )**

Most of the stocks are positively correlated but not perfectly. On average the returns on two stocks would lie on the range of +0.4 and +0.75 under this condition combining stock into portfolio reduced risk but not eliminate it completely.

### **7. Return on Market ( $R_m$ )**

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

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

Where,

$\sum$  = sign of summation.

$R_m$  = Market return

$n$  = Number of samples period

## 8. Portfolio Risk and Return

Portfolio return refers to the gain or loss realized by an investment portfolio containing several types of investments. Portfolios aim to deliver returns based on the stated objectives of the investment strategy, as well as the risk tolerance of the type of investors targeted by the portfolio. Portfolio returns seek to meet the stated benchmarks, meaning a diversified, theoretical portfolio of stock or bond holdings and in some cases a mix of the two asset classes. Investors typically have one or more types of portfolio among their investments, and seek to achieve a balanced return on Investment over time.

### Portfolio Return

Portfolio return refers to the gain or loss realized by an investment portfolio containing several types of investments. Portfolio aim to deliver returns based on the stated objectives of the investment strategy as well as the risk tolerance of the type of investors targeted by the portfolio.

$$E(R_p) = W_i E(R_i) + W_j E(R_j)$$

Where,

$E(R_p)$  = Expected return on portfolio.

$W_i$  = Proportion of wealth invested in i assets.

$W_j$  = Proportion of wealth invested in j assets.

$E(R_i)$  = Expected return on i assets.

$E(R_j)$  = Expected return on j assets.

### Portfolio Risk

Portfolio risk is a chance that the combination of assets or units, within the investments that you own, fail to meet financial objectives. Each investments within a

portfolio carries its own risk, with higher potential return typically meaning higher risk.

$$\Sigma R_p = \sqrt{\sigma_i^2 w_i^2 + \sigma_j^2 w_j^2 + 2w_i w_j \text{cov}(R_i, R_j)}$$

Where,

- $\sigma_p$  = Standard deviation of stock i & J
- $w_i$  = Proportion of asset i
- $w_j$  = Proportion of assets j
- $\sigma_i^2$  = Variance of assets i
- $\sigma_j^2$  = Variance of assets j
- $\text{cov}(ij)$  = Covariance between the return of assets i & j

### 9. Portfolio Beta

The beta of a portfolio is the weighted sum of the individual asset beta. Accordingly to the proportions of the investments in the portfolio. Portfolio beta describes relative volatility of an individual securities portfolio taken as a whole, as measured by the individual stock betas of the securities making it up.

The beta of portfolio can be easily estimated by using beta of individual assets it includes. Symbolically, it is represented by:

$$\text{Portfolio beta } (b_p) = \sum_{j=1}^n w_j b_j$$

Where,

- $w_j$  = proportion of the portfolio
- $b_j$  = beta coefficient of asset j
- $b_p$  = portfolio beta coefficient

### 10. Risk Minimizing Portfolio

It is that type of portfolio risk that will minimize the possible unsystematic risk. The risk-minimizing portfolio is calculated by using following formula:



$$W_A = \frac{\sigma_B^2 - \text{Cov}(R_A, R_B)}{\sigma_A^2 + \sigma_B^2 - \text{Cov}(R_A, R_B)}$$

Where,

$W_A$  = Weight of proportion of stock A that minimize the portfolio risk.

$$W_A + W_B = 1,$$

$$W_B = 1 - W_A$$

## 11. Required Rate of Return

The required rate of return is the minimum return an investor will accept for owning a company's stock, as compensation for a given level of risk associated with holding the stock. The RRR is also used in corporate finance to analyze the profitability of potential investment projects. The required rate of return is also known as the hurdle rate, which like RRR denotes the appropriate compensation needed for the level of risk present. Riskier projects usually have higher hurdles rates or RRRs than those that are less risky.

There are a couple of ways to calculate the required rate of return. If an investor is considering buying equity shares in a company that pays dividends, the dividend discount model is ideal. The dividend discount model is also known as the Gordon growth model. The dividend- discount model calculates the RRR for equity of a dividend- paying stock by utilizing the current payment per share and the forecasted dividend growth rate.

The required rate of return is calculated by using following formula.

$$E(R_j) = R_f + [E(R_m) - R_f]\beta_j$$

Where,

$E(R_j)$  = Required rate of return for stocks j

$R_f$  = Risk free rate

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

$\beta_j$  = An index of systematic risk of stock j (beta coefficient)

### 3.4.3 Statistical Tools

#### Test of Hypothesis (T-test)

All the companies listed in the NEPSE index are population of this study, which in other words can be said market. The sample is the selected companies. At the sample for the study is less than 30, t-test is the study is less than 30, t-test is the best way for testing the hypothesis.

#### (a) Testing of Hypothesis (I)

The first hypothesis is based on the test of significance for difference of mean (t-test)

Null Hypothesis ( $H_0$ )

$\bar{R}_i = \bar{R}_m$ , i.e. there is no significant difference between the expected return of selected banks and overall market return.

Alternative Hypothesis ( $H_1$ )

$\bar{R}_i \neq \bar{R}_m$ , i.e. there is significant difference between the expected return of selected banks and overall market return.

Under the  $H_0$

The test statistics (t) is  $t = \frac{\bar{R}_i - \bar{R}_m}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$

Where,

$\bar{R}_i$  = Average return of the portfolio of C.S. of Selected banks

$\bar{R}_m$  = Average return of market

$S^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$

$n_1 = n_2$  = Number of observation.

$s_1^2$  = Variance returns of selected banks.

$s_2^2$  = Variance of market returns.

Test result: If t calculated value is less or equal to tabulated value, the null hypothesis is accepted and vice versa.

### **3.5 Methods of Analysis and Presentation**

All the methods of analysis and presentation are shown as simple as possible. Proper financial and statistical tools are used and results are presented in table and also shown in diagram. Interpretation is made in very simple way detail of calculation which cannot be shown in the main body part, are presented in appendices at the end, summary, conclusion and recommendation are presented finally.

## **CHAPTER- IV**

### **RESULTS**

This chapter is the main body of the study, where collected data are presented and analyzed. In this chapter the effort has been made to analyze "Risk and Return of common stock" in commercial banks. With the help of various financial and statistical tools, movements of Nepalese stock market of listed commercial banks are tried to evaluate. In this study data of MPS, DPS, EPS, and P/E ratios of selected commercial banks as well as NEPSE index of each industry is presented and their analysis is done. With the help of figures and tables results have been try to make simple and easy to understand.

#### **4.1 Analysis of Individual Commercial Banks**

The study is focused on analyzing the common stock of listed commercial banks separately as the scope of the study concentrated only on listed commercial banks of Nepal. Among them 3 commercial banks are taken as a sample for the study. They are NIBL Nepal Limited (NIBL), Nabil Bank Limited (NABIL) and. Common stock of each listed commercial banks, their risk and return analysis are included in this study.

##### **4.1.1 Nepal Investment Bank Limited (NIBL)**

NIBL was established on February 27, 1986 A.D. The bank was rechristened as NIBL after merger of NIBL bank with bank of Asia Nepal on 30<sup>th</sup> June 2013A.D. The paid of capital is Rs.8031.117 million. The par value per share is Rs.100. It has is branches all over the country in operation. And becomes as a one of the largest private sector commercial bank of Nepal in terms of capital base, balance sheet size , number of branches And customer base. The investment banks employ investment bankers who help corporations, governments and other groups plan and manage large projects, saving their client time and money by identifying risks associated with the project before the client moves forward.

#### 4.1.1.1 Analysis of Total Dividend

**Table 4.1: MPS, Dividend, EPS and P/E Ratio of NIBL**

Fiscal Year	Closing MPS	Cash DPS (Rs.)	Stock Dividend (%t)	Total Dividend (Rs.)	EPS	P/E ratio
2013/14	970	15	15	107.55	35.98	26.96
2014/15	617	2.05	39	313.27	25.59	24.11
2015/16	798	1.37	26	117.07	28.31	28.19
2016/17	445	1.05	20	64.25	23.06	19.30
2017/18	316	0.526	10	32.13	16.62	19.01

Source: AGM Report of NIBL

According to table 4.1 NIBL in paying cash dividend as well as stock dividend in every year. Highest total dividend is paid in the year 2014/2015 A.D Rs.313.27 and lowest is in the year 2017/2018 A.D Rs.32.13.

**Figure 4.1: Year and Price Movement of the Common Stock of NIBL**

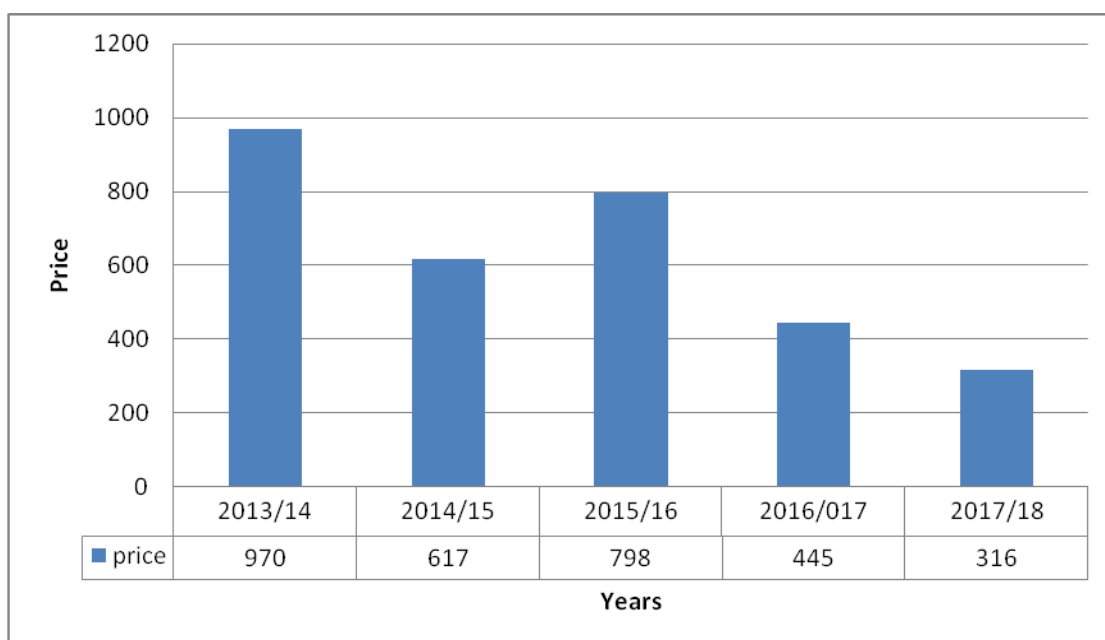


Figure 4.1 shows the interesting trend in the price line of the stock. It is clearly presented that there is slow growth in the year 2015/16 only and slowly decreasing stock price in 2013/14-2017/18 except 2015/16. There is minimum price of stock Rs.316 in the year 2017/18 and maximum price of stock Rs.970 in the year 2013/14.

#### 4.1.1.2 Expected Return ( $\bar{R}_j$ ), Standard Deviation ( $\sigma_j$ ) and Coefficient of Variation (C.V.) of NIBL

**Table 4.2: Expected Return, S.D. and C.V. of C.S. of NIBL**

Fiscal Year	Closing MPS	Total dividend	$R_j = \frac{Dt + Pt - Pt-1}{Pt}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2013/14	970	107.55	0.9451	0.7838	0.6144
2014/15	617	313.27	-0.0409	-0.2023	0.0409
2015/16	798	117.07	0.4831	0.3218	0.1036
2016/17	445	64.25	-0.3629	-0.5243	0.2749
2017/18	316	32.13	-0.2177	-0.3791	0.1438
			$\sum R_j = 0.8067$		$\sum (R_j - \bar{R}_j)^2 = 1.1776$

Note: MPS of 2012/13 is Rs.554

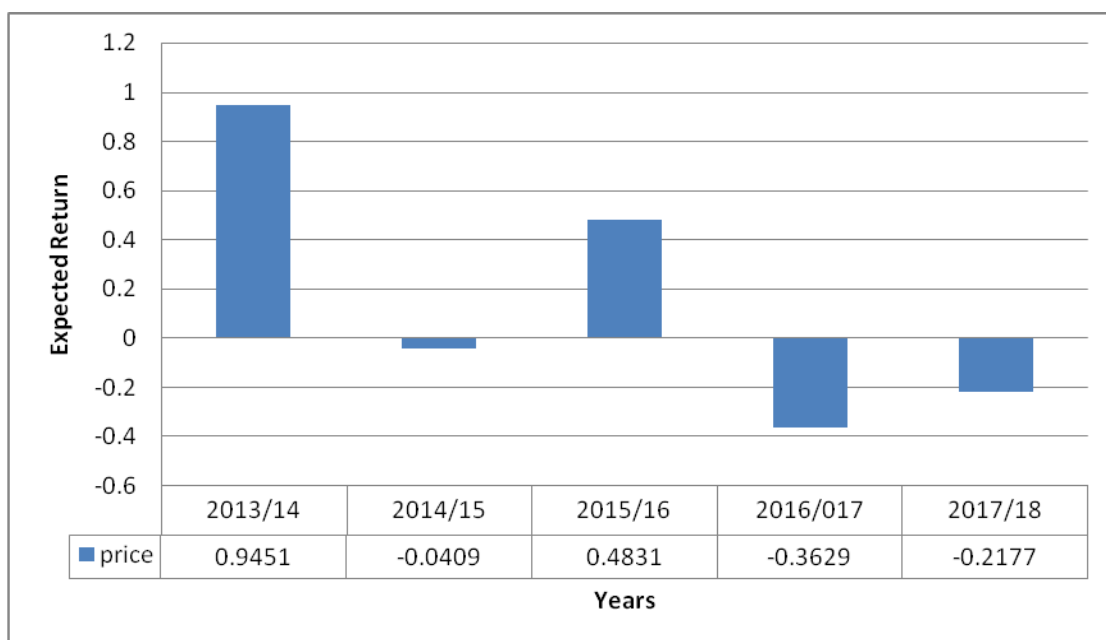
Where,

$$\text{Expected return } (\bar{R}_j) = \frac{R_j}{n} = \frac{0.8067}{5} = 0.16134$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{1.1776}{5-1}} = 0.5426$$

$$\text{Coefficient of variation (C.v)} = \frac{\sigma}{\bar{R}_j} = \frac{0.5426}{0.16134} = 3.363$$

The figure shows that the rate of return of common stock of NIBL is in increasing trend in only 2013/14 and 2015/16 while remaining year's rate of return in minus decreasing trend. Expected return of NIBL is 0.16134 with total risk of NIBL is 0.5426 and S.D of NIBL is 3.363 which denotes that to get per unit return 3.363 risk must be sacrifice. So, higher the C.V. higher will be the return.

**Figure 4.2: Annual Rate of Return Common stock of NIBL**

The figure 4.2 shows that the annual rate of return of common stock of NIBL is increasing as well as decreasing trend. The rate of return is maximum on 2013/2014 which shows highest return profitable while the return in 2014/15, 2016/17 and 2017/18 is in negatively.

#### **4.1.2 Nabil Bank Limited (NABIL)**

Nabil Bank Limited was established in July 12, 1984 Kathmandu. The main objectives of the bank are to contribute to nation building. The authorized and paid-up capital is Rs.10,000 million and Rs.8152,555,851 respectively. The par value of per share is Rs. 100.

The promoter shares are 51.10 percent of the paid-up capital and remaining 49.90 percent of the paid-up capital is public shares.

#### 4.1.2.1 Analysis of Total Dividend

**Table 4.3: MPS, Dividend, EPS and P/E Ratio of NABIL**

Fiscal Year	Closing MPS	Cash DPS (Rs.)	Stock Dividend (%)	Total Dividend (Rs.)	EPS	P/E Ratio
2013/14	510	0	0	0	11.03	46.22
2014/15	395	1.13	21.50	161.95	19.27	20.50
2015/16	748	0	33.33	131.99	23.93	31.26
2016/17	396	0	15.00	34.50	16.96	23.63
2017/18	230	11.50	0	11.50	18.13	12.69

Source: AGM Report of NABIL

The table shows that, NABIL is paying cash dividend in years 2014/15 and 2017/18 and stock dividend in years 2014/15-2016/17. Highest total dividend is paid in the year 2014/15 and lowest is in the year 2017/18. P/E ratio of NABIL is maximum in the year 2013/14 and minimum of year 2017/18. The closing mps of NABIL is maximum of Rs.748 in year 2015/16 and minimum of 230 in the year of 2017/18.

**Figure 4.3 M year and price movement of common stock of NABIL**

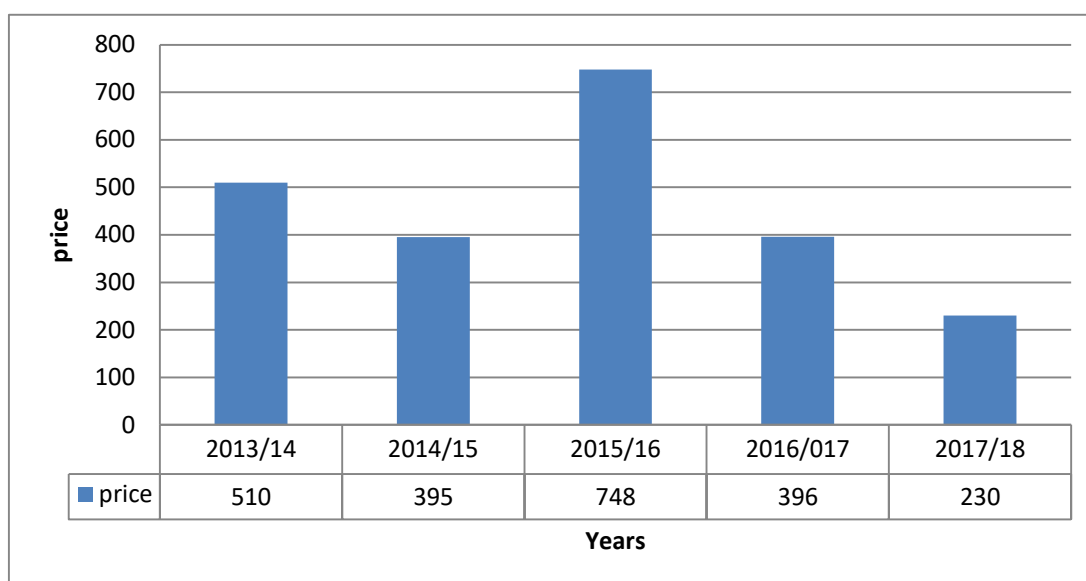


Figure 4.3 shows the trend line of price of MPS of NABIL which is in decreasing trend. The minimum is in the year 2017/18 and maximum in the year 2015/16. It is



shown that there is slow growth in year 2015/15 and in other years in decreasing trends.

#### 4.1.2.2 Return ( $\bar{R}_j$ ), Standard Deviation ( $\sigma_j$ ) and Coefficient of Variation (C.V.) of common stock of NABIL

**Table 4.4**  
**Expected Return, S.D. and C.V. of C.S. of NABIL**

Fiscal Year	Closing MPS	Total Dividend	$R_j = \frac{D_t + P_t - P_{t-1}}{P_{t-1}}$	$(R_j - \bar{R}_j)$	$(R_j - \bar{R}_j)^2$
2012/13	510	0	1.1983	0.8575	0.7354
2013/14	395	161.96	0.0921	-0.2487	0.0612
2014/15	748	131.99	1.2279	0.8871	0.7869
2015/16	396	34.50	-0.4245	-0.7653	0.5857
2016/17	230	11.50	-0.3902	-0.7310	0.5344
			$\Sigma R_j = 1.7036$		$\Sigma (R_j - \bar{R}_j)^2 = 2.7036$

Note: MPS of 2012/13 is Rs.232

Where,

$$\text{Expected Return } (\bar{R}_j) = \frac{R_j}{n} = \frac{1.7036}{5} = 0.3408$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma (R_j - \bar{R}_j)^2}{n-1}} = \sqrt{\frac{2.7036}{5-1}} = 0.8222$$

$$\text{Coefficient of variation } (C.v) = \frac{\sigma}{\bar{R}_j} = \frac{0.8222}{0.3408} = 2.42$$

The expected return of NABIL is 0.3408 with the total risk (Measured by S.D.) of 0.8222. The C.V. of NABIL is 2.42 which indicate that 2.42 risks must be bearded to get per unit return. It can be shown clearly in the figure 4.4.

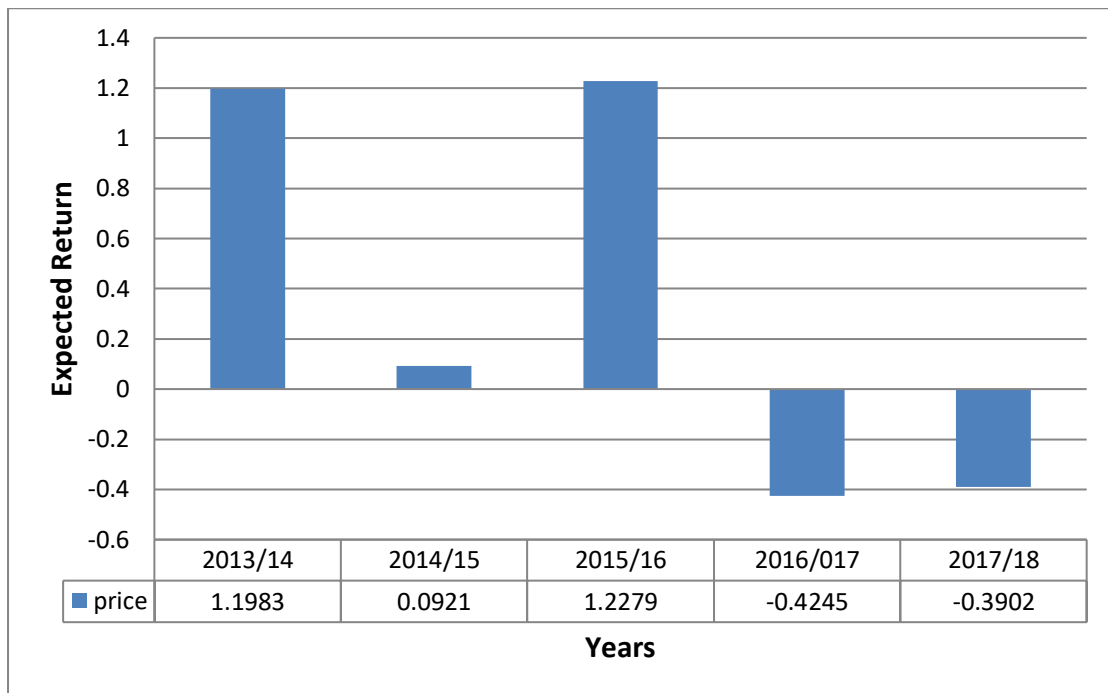
**Figure 4.4: Annual Rate of Return of common stock of NABIL**

Figure 4.4 shows returns of NABIL in every year. There is positive and negative fluctuating return in years. The highest return is in the year 2015/16 i.e. 1.2279 and lowest return of 2015/15 i.e. 0.0921.

#### 4.2 Inter Sampled Bank Comparison

According to the result from analysis part, a comparative analysis of return, total risk and risk per unit performed here. Expected return, standard deviation of return and coefficient of variation of each bank for the year 2013/14 to 2017/18 are given in the table.

**Table 4.5: Expected Return, S.D. and C. V. of each Bank**

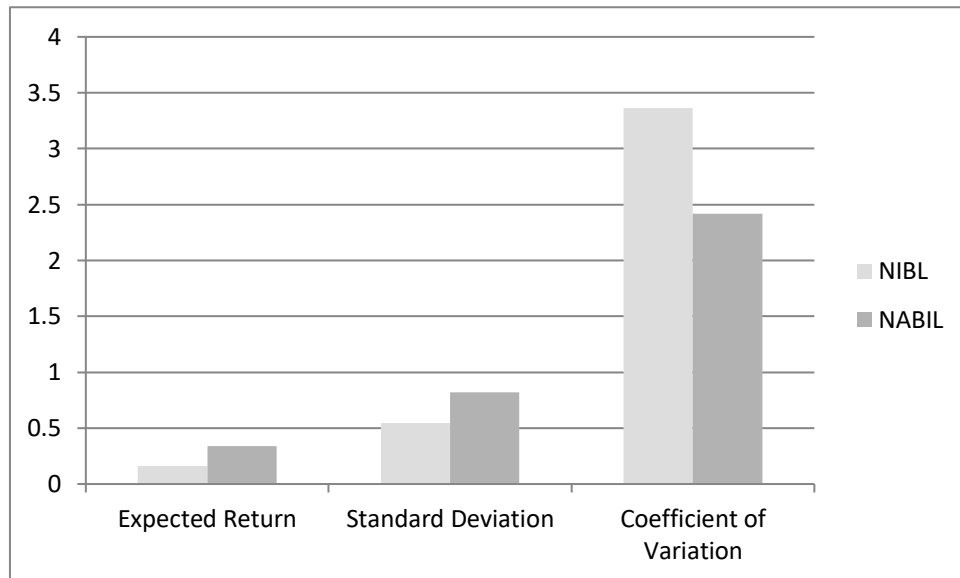
Bank	Expected Return ( $\bar{R}_j$ )	Standard Deviation( $\sigma$ )	Coefficient of Variation (C.V.)	Remarks		
				Return	Risk	C.V.
NIBL	0.16134	0.5426	3.363	-	Lowest	-
NABIL	0.3408	0.8222	2.420	Highest	Highest	Lowest

The above table shows the overall return and risk of the individual banks. Here, the investor can get the highest return from NABIL i.e. 0.3408. Total risk (measured by standard deviation) is observed maximum of the Common stock of NABIL i.e. 0.8222 and minimum of NIBL i.e. 0.5426. This means that quantitative of total risk is very

high in NABIL. Investment in NABIL is desirable because its return is higher and risk is lowest compared to others.

To make the comparison easily understandable Figure is presented below:

**Figure 4.5: Expected Return, S.D. and C.V. of Sampled each Commercial**



The above figure clarifies the expected return, standard deviation and coefficient of variation of each individual bank. It is showing the comparison of these banks in terms of risk and return.

### 4.3 Market Capitalization

On the basis of Market Capitalization at the end of 2017/18, size of each bank is presented in table 4.8 that NIBL has highest market capitalization with Rs.13601.10 million among these three companies at 2017/18. So, NIBL is the biggest and NABL is the smallest company on the basis of market capitalization. The table 4.8 shows that the comparative proportion of the market capitalization of listed three banks.

**Table 4.6: Market Capitalization of listed Banks at July 9, 2019**

Bank	Market capitalization (In millions)	Percentage
NIBL	34,541.84	66.44 percent
NABIL	17,446.47	33.56 percent
Total	51,988.31	100.00 percent

Source: Trading Report (2019 March) SEBON

Comparative proportion of market capitalization of listed three commercial banks is shown in given in the following figure.

**Figure 4.6: Comparative Proportion of Market Capitalization of Listed Commercial Banks**

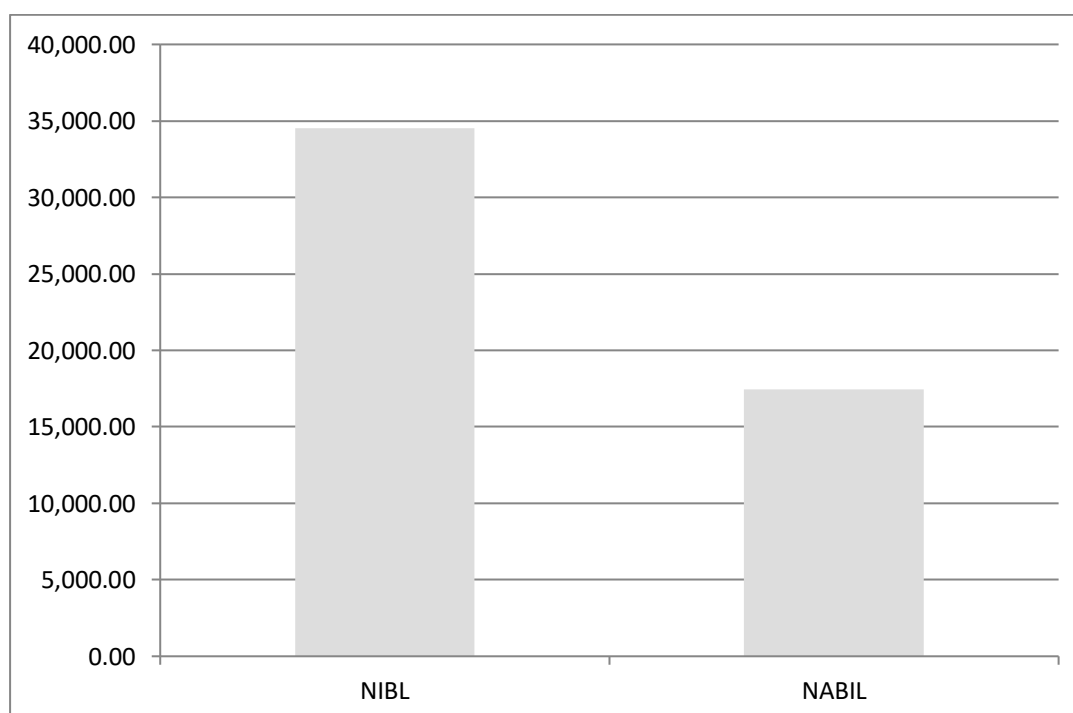


Figure 4.8 shows the share of each bank in the market. NIBL is in the highest position by occupying 52.67 percent share in the market among others.

#### 4.4 Comparison with Market

##### 4.4.1 Market Risk and Return Analysis

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

**Table 4.7: Calculation of Return, S.D. and C.V. of Overall Market**

Fiscal Year	Market Index	$R_m = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2013/14	222.04	0.0807	-0.0912	0.0084
2014/15	286.67	0.2911	0.1192	0.0143
2015/16	638.83	1.2285	1.0566	1.1165
2016/17	386.95	-0.3945	-0.5664	0.03209
2017/18	252.87	-0.3465	-0.5184	0.2688
		$\sum R_m = 0.8593$		$\sum (R_m - \bar{R}_m)^2 = 1.7289$

We have,

$$\text{Expected return } (\bar{R}_m) = \frac{R_m}{n} = \frac{0.8593}{5} = 0.1719$$

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum (R_m - \bar{R}_m)^2}{n-1}} = \sqrt{\frac{1.7289}{5-1}} = 0.6575$$

$$\text{Coefficient of variation } (C.v) = \frac{\sigma}{\bar{R}_m} = \frac{0.6575}{0.1719} = 3.824$$

The above table shows the return of market in several years. There is highest return of market in the year 2015/16 i.e. 1.2285 and there is lowest return of market in the year 2013/14 is 0.0807.

The expected return of the market is 0.1719 with the total risk (Measured by S.D.) of 0.6575. C.V of market is 3.824 which means, 3.824 risks must be sacrificed to get per unit market return.

#### 4.4.2 Market Sensitivity Analysis

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

**Table 4.8: Beta coefficient of common stock of NIBL**

Fiscal Year	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m)(R_j - \bar{R}_j)$
2013/14	-0.0912	0.7838	-0.0715
2014/15	0.1192	-0.2023	-0.02412
2015/16	1.0566	0.3218	0.3400
2016/17	-0.5664	-0.5243	0.2970
2017/18	-0.5184	-0.3791	0.01966
			$\sum [(R_m - \bar{R}_m) \times (R_m - \bar{R}_m)] = 0.5611$

We have,

$$COV(j_m) = \frac{\sum [(R_m - \bar{R}_m) \times (R_m - \bar{R}_m)]}{n-1} = \frac{0.5611}{5-1} = 0.1403$$

$$B_j = \frac{COV(j_m)}{\sigma_m^2} = \frac{0.1403}{0.6575} = 0.2134$$

Where,

- n = number of observation
- $\sigma_m^2$  = Variance of market
- $R_j$  = Return of Sock of NIBL
- $R_m$  = Return of Market

From sensitivity analysis of NIBL, the beta coefficient is 0.2134, which is less than 1, shows that NIBL is very volatile and averter Investor can purchase this type of investment. From the side of investment, it is less risky investment.

**Table 4.9**

**Beta Coefficient of the common stock of NABIL**

Fiscal Year	$(R_m - \bar{R}_m)$	$(R_j - \bar{R}_j)$	$(R_m - \bar{R}_m)(R_j - \bar{R}_j)$
2013/14	-0.0912	0.8575	-0.0783
2014/15	0.1192	-0.2487	-0.0297
2015/16	1.0566	0.8871	0.9374
2016/17	-0.5664	-0.7653	0.4335
2017/18	-0.5184	-0.7310	0.7390
			$\sum [(R_m - \bar{R}_m) \times (R_m - \bar{R}_m)] = 2.0019$

We have,

$$COV(j_m) = \frac{\sum [(R_m - \bar{R}_m) \times (R_m - \bar{R}_m)]}{n-1} = \frac{2.0019}{5-1} = 0.5004$$

$$B_j = \frac{COV(j_m)}{\sigma_m^2} = \frac{0.5004}{0.6575} = 0.7612$$

Where,

n = number of observation

$\sigma_m^2$  = Variance of market

$R_j$  = Return of Sock of NABIL

$\beta_j$  = Beta Coefficient ( $\beta_j$ )

From sensitivity analysis of NABIL, the beta coefficient is 0.7612 which is less than 1. The company which has got less than 1 is volatile and averter investor can purchase this type of investment. From the side of investment, it is less risky investment.

**Table 4.10: Beta Coefficient of each Bank**

Banks	Beta Coefficient	Remarks
NIBL	0.2134	Least Aggressive
NABIL	0.7612	Most Aggressive

Here, as shown in the above table, NIBL and NABIL has lower beta coefficient than the beta coefficient of market. The stocks of these banks are defensive. According to the above table, the stock of NABIL has less systematic risk than the others because its beta coefficient is slightly lower than beta coefficient of other banks.

#### 4.4.3 Required Rate of Return $[E(R_j)]$ , Expected Rate of Return $(\bar{R}_j)$ and Price

##### Evaluation Analysis

CAPM is model that assumes stock's required rate of return is equal to the risk free rate plus its risk premium where risk is measured by the Beta Coefficient. Beta Coefficient plays a vital role in CAPM approach. If the required rate of return is greater than expected rate of return; the stock is said to be over priced and investors tend to sell this type of stock. For this analysis the risk free rate of return is needed which is taken from the interest rate of Treasury bill issued by NRB. NRB issued Treasury bill, 91 days duration Treasury bill rate of rate is taken as a risk free rate from website of NRB. This is approximately 5.13 percent.

**Table 4.11**

##### Required Rate of Return, Expected Return and Price Evaluation

Banks	$R_f$	E ( $R_m$ )	Beta ( $\beta_j$ )	$E(R_j)$ $= R_f + [E(R_m) - R_f]\beta_j$	$(\bar{R}_j)$	Price Evaluation
NIBL	0.051 3	0.1719	0.2134	0.0258	0.1634	Underpriced
NABIL	0.051 3	0.1719	0.7612	0.0918	0.3408	Underpriced

Where,

$R_f$  = Risk free rate of return (0.0513)

$E(R_m)$  = Market rate or return (0.1719)

$\beta_j$  = Beta of individual sample Banks.

$(\bar{R}_j)$  = Expected rate of return

In the table we get the expected rate of return is higher than the required rate of return, so all commercial banks stock are underpriced. It shows that all the banks have stock with good investment opportunity and all the stocks in the demand. Their stock's value will be increased in the near future providing the investors higher return.



Since all the stocks are underpriced, investor can gain profit from buying those stocks. These stocks are recommended to buy.

#### 4.5 Portfolio Analysis

A portfolio is a combination of investment assets. Portfolio theory was proposed by Harry M. Markowitz which gives the concept of diversification of risk by investing total funds in more than a single asset or single stock. Markowitz diversification helps the investor to attain a higher level or expected utility than with any other risk reduction technique. In a very simple way we can understand it as not keeping all the eggs in a single basket. The risk of individual securities can be reduced without losing considerable return. The main objective of portfolio is reduction of unsystematic risk from which investors can take more benefit by making efficient portfolio. Therefore a brief analysis of risk and return is extended in portfolio context. The portfolio expected return is straight forward weighted average of return on the individual securities. The weight is equal to the proportions of the total fund invested in each security (the weight must sum to 100 percent).

##### 4.5.1 Analysis or Risk Diversification

The analysis is based on two assets portfolio and the tools for analysis are presented in the third chapter (research methodology). Here the portfolio of common stock of NIBL (say stock A) and NABIL (say stock B) are analyzed.

##### Covariance between Sampled Stocks

COV(AB)	0.4217
COV(BC)	0.4702

Where,

COV (AB) = Covariance returns of NIBL and NABIL

OV (BC) = Covariance returns of NABIL and NIBL

Banks	S.D. of Stocks	Expected Return of Stocks
NIBL	$\sigma_A = 0.5426$	$E(R_A) = 0.16134$
NABIL	$\sigma_B = 0.8222$	$E(R_B) = 0.3408$

#### 4.5.1.1 Portfolio of stock NIBL (A) and NABIL (B)

The optimal portfolio weight of stock A and B, which minimizes the risk, is given below:

$$W_A = \frac{\sigma_A^2 - COV(AB)}{\sigma_A^2 + \sigma_B^2 - 2COV(AB)}$$

$$W_B = 1 - W_A$$

Where,

$W_A$  = optimal weight to invest in stock of NIBL

$W_B$  = optimal weight to invest in stock of NABIL

$\sigma_A^2$  = variance of NIBL

$\sigma_B^2$  = Variance of NABIL

Now,

$$W_A = \frac{0.5426^2 - 0.4217}{0.5426^2 + 0.8222^2 - 2 \times 0.4217} = -1$$

$$W_B = 1 - W_A = 1 - (-1) = 2$$

As we know that the proportion of stock in the portfolio is constructed with 100 percent of NIBL and 200 percent of NABIL common stock that will minimize risk and ideal proportion. In above proportion, equity shareholder can minimize risk to get maximum return.

#### Portfolio Return

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

$$\begin{aligned} \text{Expected Return on portfolio } E(R_p) &= W_A \times E(R_A) + W_B \times E(R_B) \\ &= -1 \times 0.16134 + 2 \times 0.3408 = 0.52026 \\ &= 52.21 \text{ percent} \end{aligned}$$

Where,

$E(R_p)$  = Expected Return on Portfolio of stock NIBL and NABIL

$E(R_A)$  = Expected Return of NIBL

$E(R_B)$  = Expected Return of NABIL

### Portfolio Risk

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

$$\begin{aligned}\sigma_p &= \sqrt{W_A^2 \times \sigma_A^2 + W_B^2 \times \sigma_B^2 + 2COV_{AB} \times W_A \times W_B} \\ &= \sqrt{-1^2 \times 0.5426^2 + 2^2 \times 0.8222^2 + 2 \times 0.4217 \times -1 \times 2} = 1.145 \\ &= 114.45 \text{ percent}\end{aligned}$$

Where,

$\sigma_p$  = The standard deviation of portfolio return of stock NIBL and NABL

From the above calculation the portfolio return and risk for NIBL and NABL are 52.21 percent and 114.54 percent respectively.

### 4.6 Correlation between Banks

Two variables are correlated when they are related that the change in the value of one variable is accompanied by change in the value of other. Correlation may be positive or negative. If return on two securities is positively correlated then risk cannot be reduced.

Correlation coefficient measures the relationship between two variables in quantitative terms. Correlation coefficient indicated that the return from two securities generally move in the same direction and vice versa.

Table following table shows presented below shown the various consolations between each sample banks.

**Table 4.12**  
**Correlation Matrix**

Sample	NIBL	NABIL
SCBNL	1	
NABIL		1

The above, table has shown the positive correlation between the banks. If correlation between stocks is +1, any part of risk cannot be reduced by diversification. On the other hand, if correlation between stocks are '-1' the proper combination of two

stocks can be reduces all the risk. In conclusion it can be say that as long as correlation between securities return is negative, construction of portfolio is beneficial.

Among the above correlation combination, combination between NABIL and JBNL is much better than any other combination because the combination has the lowest correlation.

#### 4.7 Segregation of Risk

The total risk involved in holdings a stock into two part i.e. systematic and unsystematic risk. Total risk for individual security measured by standard deviation or variance of rate of return.

The systematic risk i.e. caused by whole system and can't be diversified. Whereas unsystematic risk i.e. due to internal factor and can be diversified .So it is known as a avoidable risk.

Diversifiable risk can be diversified at no cost so investor should know that the portion of systematic risk and unsystematic risk because by partitioning risk investor knows what extent risk of particular stock can be diversified away by holding an optimal portfolio.

Calculation of systematic and unsystematic risk and their proportion of stock each banks as follows:

##### 4.7.1 Segregation of Risk of NIBL

Total risk measured by variance ( $\sigma^2$ ) has been segregation into systematic and unsystematic.

Variance of NIBL stock's return = Total risk of NIBL

$$\sigma_{NIC}^2 = b_{NIC}^2 \times \sigma_m^2 + Var(e)$$

$$0.5426^2 = (0.2134)^2 \times (0.6575)^2 + Var(e)$$

$$\text{Or, } 0.2945 = 0.01972 + Var(e)$$

$$\therefore Var(e) = 0.2748$$

$$\therefore \text{Total Risk} = 0.2945$$

$$(a) \text{ Systematic Risk} = 0.01972$$

$$\begin{aligned} \text{Portion of Systematic Risk on Total Risk} &= \frac{\text{Systematic Risk}}{\text{Total risk}} \\ &= \frac{0.01972}{0.2945} = 0.0669 \end{aligned}$$

= 6.69 percent

(b) Unsystematic Risk = 0.2748

$$\begin{aligned} \text{Portion of Unsystematic Risk on Total Risk} &= \frac{\text{Unsystematic Risk}}{\text{Total risk}} \\ &= \frac{0.2748}{0.2945} = 0.9322 \end{aligned}$$

= 93.31 percent

Hence, the total risk of NIBL stock consists of 6.69 percent systematic risk (undiversifiable risk) and 93.31 percent unsystematic risk (diversifiable risk) system.

Note: The systematic risk can also be measured by coefficient of determination i.e.  $r^2$  of return of stock and market return.

#### 4.7.2 Segregation of Risk of Nepal Arab Bank

Variance of Sunrise stock's return = Total risk of Sunrise

$$\sigma_{\text{Sunrise}}^2 = \sigma_{\text{Sunrise}}^2 \times \sigma_m^2 + \text{Var}(e)$$

$$0.8222^2 = (0.7612)^2 \times (0.6575)^2 + \text{Var}(e)$$

$$\text{Or, } 0.6761 = 0.2505 + \text{Var}(e)$$

$$\therefore \text{Var}(e) = 0.4256$$

$$\therefore \text{Total Risk} = 0.6761$$

(a) Systematic Risk = 0.2505

$$\begin{aligned} \text{Portion of Systematic Risk on Total Risk} &= \frac{\text{Systematic Risk}}{\text{Total risk}} \\ &= \frac{0.2505}{0.6761} = 0.3706 \end{aligned}$$

= 37.06 percent

(b) Unsystematic Risk = 0.4256

$$\text{Portion of Unsystematic Risk on Total Risk} = \frac{\text{Unsystematic Risk}}{\text{Total risk}}$$

$$= \frac{0.4256}{0.6761} = 0.6294$$

= 62.94 percent

Hence, The total Risk of sunrise stock consists of 37.06 percent systematic Risk (undiversifiable risk) and 62.94 percent unsystematic Risk (diversifiable risk) system.

**Table 4.13M Proportion of SR and USR**

Bank	SR	USR
NIBL	6.69 %	93.31 %
NABIL	37.06 %	62.94 %

#### 4.8 Testing of Hypothesis

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

##### 4.8.1 Testing of Hypothesis Expected Return of NIBL with overall Market Return

For NIBL Banks\_

Sample size ( $n_1$ ) = 5 years

Expected Return ( $\bar{R}_j$ ) = 0.16134

Standard Deviation ( $S_1$ ) = 0.5426

for Market

$n_2$  = 5 years

$\bar{R}_m$  = 0.1719

$S_1$  = 0.6575

**Null Hypothesis( $H_0$ )**

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

**Alternative Hypothesis ( $H_1$ )**

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

The test statistics (t) is)

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

Where,

$\bar{R}_j$  = Expected Return of Common stock of NIBL bank = 0.16134

$\bar{R}_m$  = Expected Return of market = 0.1719

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

$S^2$  = Estimated variance of population

$$S^2 = \frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1 + n_2 - 2} = \frac{(5-1) \times (0.5426)^2 + (5-1) \times (0.6575)^2}{5+5-2} = 0.3635$$

$s_1^2$  = Variance of Common stock of NIBL banks

$s_2^2$  = Variance of market return

Hence

$$t = \frac{(0.16134 - 0.1719)}{\sqrt{0.3635 \times \left(\frac{1}{5} + \frac{1}{5}\right)}} = -0.02769$$

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

Level of Significance = 5 percent

The tabulated value of t at 5 percent level of significance and 8 degree of freedom is 2.31

#### **Decision:**

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

#### **4.8.2 Testing of Hypothesis Expected Return of NABIL with overall Market Return**

##### **For NABIL Banks**

Sample size ( $n_1$ ) = 5 years

Expected Return ( $\bar{R}_j$ ) = 0.3408

Standard Deviation ( $S_1$ ) = 0.8222

##### **For Market**

$n_2$  = 5 years

$\bar{R}_m$  = 0.1719

$S_1$  = 0.6575

**Null Hypothesis( $H_0$ )**

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

**Alternative Hypothesis ( $H_1$ )**

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

The test statistics (t) is

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

Where,

$\bar{R}_j$  = Expected Return of common stock of NABIL bank = 0.3408

$\bar{R}_m$  = Expected Return of market = 0.1719

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

$S^2$  = Estimated variance of population

$$S^2 = \frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1+n_2-2} = \frac{(5-1) \times (0.8222)^2 + (5-1) \times (0.6575)^2}{5+5-2} = 0.5543$$

$s_1^2$  = Variance of Common stock of NABIL banks

$s_2^2$  = Variance of market return

Hence

$$t = \frac{(0.3408 - 0.1719)}{\sqrt{0.5543 \times \left(\frac{1}{5} + \frac{1}{5}\right)}} = 0.7618$$

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

Level of Significance = 5 percent

The tabulated value of t at 5 percent level of significance and 8 degree of freedom is 2.31



**Decision:**

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

**4.9 Major Finding**

This study gives knowledge to the investors to keep the returns they can expect and the risk they may take into better perspective. We know that Nepalese stocks market is in effect of openness and liberalization in national economy. But Nepalese individual investors cannot analyze the securities as well as market properly because of the lack of information and poor knowledge about the analysis of securities for investment.

Following are the major findings of this study:

- (I). The return is the income received on a stock investment, which is usually expressed in percentage. Expected return on common stock of NABIL is maximum 34.08%. Similarly expected return of C.S. of NIBL is 16.134%.
- (II). Risk is the variability of returns which is measured in terms of standard deviation. On the basis of S.D., common stock of NABIL is most risky since it has high S.D. i.e. 0.8222 C.S of NIBL is least because of its lowest S.D. of 0.5426, on the other hand we know that C.V. is more rational basis of investment decision, which measures the risk per unit of return. On the basis of C.V., C.S. of NABIL is best among all other banks. NABIL has 2.42 unit of risk per 1 unit of return.
- (III). Beta coefficient explains the sensitivity or volatility of the stock with market. Higher the beta higher the volatility in the contest, common stock of NABIL is most volatile I.e.  $\beta = 0.7612$  and common stock of NIBL is least volatile i.e.  $\beta = 0.2134$ . The bank's stock, having the beta less than beta coefficient of market i.e. defensive stock. We all stocks least aggressive type of common stock. Among them most aggressive seems to be NABIL with highest beta and least aggressive is NIBL with lowest beta among three bank's common stock.
- (IV). NIBL is in the highest position (52.67%) according to their interbank market capitalization comparison.

- (V). One of the main significance of beta is in Capital Asset Pricing Model (CAPM). Comparison between expected rate of return and required rate of return identify whether the stock is overpriced or under price. If the required rate of return is greater than the expected rate of return the stock is overpriced and vice versa. This study shows that all the stocks of commercial banks, which are analyzed, are underpriced. That means their stock value will increase in a near future. All the stocks are in demand. So, investor can buy the common stock of any bank. The portfolio return between NABIL is high i.e. 132.78% and NIBL is low i.e. 13.968 %.
- (VI). The portfolio risk between NABIL is high i.e. 368.00% and NIBL is low i.e. 57.58 %.
- (VII). Since the entire bank has positive correlation so bank doesn't reduce any unsystematic risk. Among them, NABIL have lower correlation, so it can be favorable for the investors.
- (VIII). Systematic risk cannot be diversified through creation of portfolio. It is occurred due to market factor. Unsystematic risk can be diversified through creation of portfolio. It is occurred due to internal management factor. This study shows that NIBL has high proportion of unsystematic risk i.e. 93.31% which can be minimized from internal management. Whereas NABIL has high proportion of systematic risk i.e. 37.06%. This cannot be minimized from internal management. C.S. of NIBL is best among these banks due to its highest proportion of unsystematic risk.
- (IX). Testing of hypothesis expected return of selected banks with overall market return. There are no significance difference between expected return of selected banks and overall market return.

## **CHAPTER-V**

### **CONCLUSION**

#### **5.1 Discussion**

Common stock is the most risky security and life blood of stock market. Because of higher expected return an investment in common stock of a corporate firm neither ensures an annual return an investment in common stock of a corporate firm neither ensures an annual return nor ensures the return of principle. Therefore, investment in common stock is very sensitive on the ground of its uncertainty nature. Dividends to common stocks holders are only paid if the firm makes profit after tax and preference share dividend. The company can return the principal in case of its liquidation only to the extent of the residual assets after satisfying to all its preference shareholders. Besides this, the investors have to sacrifice the return on their investment in common stock which would be earned investing elsewhere.

An investment is a sacrifice of the current money or other resources for future benefits. Numerous of investment opportunities available today. A good investment policy has positive impact on the economic development of the nation and the investor too but some of the sources of uncertainty that contribute to the investment risk are interest rate risk, market risk, default risk and industry risk. As an investor everyone has a wide area of the investment on the common stock of banking sector. Common stock represents the ownership position in the corporation.

Investment in common stock leads investment in the stock market and it is also main part of the investment sector. Nepalese people's participation in common stocks investment and stock trading is increasing unexpectedly. But the investment in the common stock is not so easy. Without the sound knowledge about the situation of the market and individual company may cause of loss. Unfortunately most of the Nepalese private investors cannot analyze the securities as well as market properly as a result they are bearing loss.

Portfolio means the selection of the securities among all securities. It represents the practice among the investors having their funds in more than one security and portfolio analysis considers the determination of future risk and return in holding various blends of individual's securities.

The main objective of the study is on risk and return analysis of the common stock of different listed commercial banks of Nepal. Expected return, required rate of return, CAPM model and statically models like mean, standard deviation, coefficient of variations, covariance, correlation and eta are calculated and analyzed. The study is focus on the portfolio analysis of three commercial banks of Nepal in terms of risk and return. They are

All the data used in the study are secondary data published by and collected from the NEPSE and SEBON and their respective websites, financial tools, statically tools and personal judgment are used. The data gathered for this purpose are presented in table and graphs. This study has been summarized with the help of risk diversification.

## **5.2 Conclusions**

Most of the people consider stock market investments as a investment as a black and that they have unrealistically optimistic expectations about stock market investments or perhaps a fear of the unknown. This study enables investors to put the return they can expect and the risks they may take into the better perspective. We knew that Nepalese market is in effect of openness and liberalization in national. But Nepalese investors cannot analyze the securities as well as market properly because of the lack of information and poor knowledge about the analysis of securities for investment.

The study made on risk and return analysis on common stock of listed commercial banks is based on primary as well as secondary data from fiscal years 2013/014 to 2017/018. In this study, expected rate of return of NABIL bank's stock is highest i.e. 0.3408. Likewise in the terms of standard deviation NABIL bank's stock is highest risk i.e. 0.8222. But generally standard deviation is not used to determining risk, as there may be different expected return. Therefore, the coefficient of variation is considered as the best tools to measure the risk. On the other hand, it is found that the required rate of return of all sample banks have lower than it's expected rate of return. It means that all sampled bank's stock price are underpriced.

Similarly, the study made to analyze the diversifisable and undiversifisable risk reflect that all the samples stock have less systematic risk and such risk can't be minimized. More specially, the investors demand additional reward to compensate such risk. The systematic risk is less than one in all sampled banks so we can say that these stocks are defensive stocks.

### 5.3 Implication

Recommendations are the final output of the whole study. It helps to convey positive information and proper way of improvement to the concerned people and to other invested researcher in the upcoming days. The following are the recommendations based on the basis of research work. Following are the recommendations based on the above findings, conclusions and analysis of data.

- (I). Investors must consider on the risk factors before making and investment if they want to get maximum benefit from the investment. The coefficient of variations is considered the best tool for relative measurement of risk.
- (II). Beta coefficient measures the sensitivity of the stock with market. Higher the beta greater the volatility. The beta of market should always equal to
- (III). Stock having beta coefficient more than 1 is more risky than the market. If an investor is aggressive of risk taker, he/ she can invest having beat of more than 1. Stock having beta coefficient less than 1 is less risky than the market. Risk averter investors can invest in that type of common stock. But all the sample banks have beta coefficient of more than 1 so it is recommended that the investor could not select any of the bank's stock according to their investment desire.
- (IV). The Positive relation EPS and MPS shows the better performance of the company. So on the basis of the relation between EPSS and MPS, it is recommended.
- (V). The Companies concerned must focus on decreasing systematic and unsystematic risk as it affects their business.
- (VI). Financial information must be published regularly so that existing as well as prospective investors are informed about the changes that take place.
- (VII). Banking and Financial sector seems to dominant our stock market due to which investors are also focused towards it which needs to be changed and participation of other sector must also be increased for overall development.
- VIII). Currently, the industry and share market is in declining trend and it will completely finish the present political problem follow up.

- (IX). The Corporate firm should communicate the real financial statements. Value of assets and liabilities should not be manipulated to report the under or over to maximize the value of the firm and per share.
- (X). NEPSE needs to initiate to develop different programs for private investors such as investor's meeting and seminars in different subject matter like "Trading Rules and Regulation" etc.
- (XI). Proper training should be given to staff for minimizing operational risk.
- XII). The corporate firm should disclose their actual financial condition so that insisted investors may analysis their performance and they only make a decision whether to invest on their stock or not. Value of assets and liabilities should not be manipulated to report the under or over profitability. Every decision of the corporation should be made to maximize the value of the firm and value per share.
- (XIII). The political environment of country must be silent for growing up industrial sector. Investors can invest freely with their wishes and their growing market for business.

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## APPENDICES

### Appendix - I

#### Calculation of Total Dividend

Total Dividend in (Rs.) = Cash Dividend + percent of Stock Dividend × Next Year MPS					
2013/14	= 15	+	15.00 percent	×	Rs. 617 = Rs.107.55
2014/15	= 2.05	+	39.00 percent	×	Rs. 798 = Rs.313.27
2015/16	= 1.37	+	26.00 percent	×	Rs. 445 = Rs.117.07
2016/17	= 1.05	+	20.00 percent	×	Rs. 316 = Rs. 64.25
2017/18	=0.526	+	10.00 percent	×	Rs. 316 = Rs.32.13

Here,

Total Dividend in (Rs.) = Cash Dividend + percent of Stock Dividend × Next Year MPS

OR,

Total Dividend in (Rs.) = Cash Dividend + percent of Stock Dividend × Current Year MPS

**Appendix - II**  
**Calculation of Total Dividend**

Total Dividend in (Rs.) = Cash Dividend + percent of Stock Dividend × Next Year MPS	
2013/14	= 0.00 + 00.00 percent × Rs. 395 = Rs.000.00
2014/15	= 1.13 + 21.50 percent × Rs. 748 = Rs.161.95
2015/16	= 0.00 + 33.33 percent ×Rs. 396 = Rs.131.99
2016/17	= 0.00 + 15.00 percent × Rs. 230 = Rs. 34.50
2017/18	=11.50 + 00.00 percent × Rs. 230 = Rs.11.50

**Appendix - III**  
**Calculation of Total Dividend**

Total Dividend in (Rs.)= Cash Dividend + percent of Stock Dividend × Next Year MPS	
2013/14	= 0.00 + 0 percent × 274 = Rs. 00.00
2014/15	= 0.00 + 0 percent × 450 = Rs. 00.00
2015/16	= 0.63 + 12 percent × 284 = Rs. 34.71
2016/17	= 0.00 + 14.40 percent × 170 = Rs. 24.48
2017/18	= 8.50 + 0 percent × 170 = Rs. 8.50

