RISK AND RETURN ANALYSIS OF COMMERCIAL BANKS
(With Reference to Everest Bank Ltd., Nabil Bank Ltd. and Sunrise Bank Ltd.)

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RECOMMENDATION

This is to certify that the thesis

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

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and found the thesis to be the original work of the student written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for the degree of

Master's Degree in Business Studies (MBS)

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DECLARATION

I hereby, declare that the work reported in this thesis entitled **"RISK AND RETURN ANALYSIS OF COMMERCIAL BANKS: WITH REFERENCE TO EVEREST BANK LTD., NABIL BANK LTD. AND SUNRISE BANK LTD."** submitted to Shanker Dev Campus, is my original piece of work done in the form of partial fulfillment of the requirement for the Master's Degree in Business studies under the supervision and guidance of **Rabindra Bhattarai** and Arun Neupane, of Shanker Dev Campus, T.U.

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ABBREVIATIONS

CAPM	=	Capital Assets Pricing Model
CS	=	Common Stock
CV	=	Coefficient of Variation
DPS	=	Dividend per Share
EMH	=	Efficient Market Hypothesis
EPS	=	Earning per Share
FY	=	Fiscal Year
HPR	=	Holding Period Return
JV	=	Joint Venture
MPS	=	Market Price of Share
NABIL	=	Nepal Investment Bank Limited
NEPSE	=	Nepal Stock Exchange
NRB	=	Nepal Rastra Bank
SD	=	Standard Deviation
SML	=	Security Market Line
SR	=	Systematic Risk
TU	=	TribhuvanUniversity
USR	=	Unsystematic Risk

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Even in the least develop country like Nepal ; stock market has become one of the important parts of the national economy. Stock market is the important part of the finance that encourages the development of the country's financial sector. It is assumed that the capitalistic economy expansion of stock market represents the development of the country's financial sector and it speeds up the nation's growth. In today's world, where each and every managerial decision making is based on financial analysis, stock market as important part of finance will encourage the development of the country's financial sector. In a capitalistic economy, expansion of stock market represents the developments of a country's financial sector and speed of the nation's economic growth Banks are one of major players in the economic growth of the country and hence it needs proper attention to run successfully. Banks should be established and conducted after analyzing the various factors.

Normally Banks play at public money that is why people pay their attention whether their money is properly utilized or not and whether the Bank is running at profit or loss. The existence of profit to any business firm is the basic factor. If there is no profit a business firm will become unable to provide its facilities in the long run. Financial market refers both to money market and capital market. Money market may be defined as short-term financial assets market, which facilities liquidity and marketability of securities. In includes the market for short term debt instrument having maturity of less than one year. The functions of money market interest rates are reflecting the demand and supply of funds in the competitive market. The instruments used in money market are treasury bills, negotiable, certificate of deposit, municipal bands, Banker accepter etc. In Nepalese context, some financial institutions have been involved in capital market. They are: Nepal Rastra Bank, commercial Banks, agriculture development Bank, Nepal industrial development corporation, employees' provident fund, citizen investment trust, cooperative agencies, non-government organizations (NGOs), some hotels, manufacturing and trading agencies etc.

These institutions play a vital role on the development of capital market. Nepalese capital markets are classified in to two sector organized sectors and unorganized sectors. Government agencies and other institutions are categorized as organized sectors, they provide long term fund for the development of the agriculture, industrial and commercial sectors by investing in stock, debenture and government bonds, individual investor, merchants and private sectors also helps for the development of capital markets. Rural areas are still dominated by unorganized sectors. It implies that mass poverty and exploitation from higher classes are still found in these areas.

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

Generally, investment is risk, the assets having great returns with the least amount of risk. Investor must be able to identify the securities having low risk but high return. One way in which investor can reduce the risk is by spreading their capital across a range of investment. This is the principle of diversification or not putting the eggs in one basket. Diversification involves constructing the investor's portfolio in such a manner that risk is minimized *(Sharpe et al., 1995:156).*

Securities raise funds in the capital market that certainly helps to expand that national economy. There are different types of securities such as Treasury bill, long-term government bonds, long term corporate bonds, common stock etc. Among these, this study concerns only with common stock. Common stock holders of the company are its ultimate owners. Collectivity they own the company and ultimate risk is associated with their ownership. So the common stock is known as risky security.

An investment involves sacrifice of current rupees for future rupees. The sacrifice takes place in the present and is certain while the reward comes late and it is uncertain. Investment is always associated with return and risk. People invest with an aim of earning some profits in addition to the initial amount. Investment generally involves real asset or financial assets. Financial assets are piece of paper representing

an indirect claim to real assets held by someone else. Real assets are generally less liquid than financial assets. Investment is an exchange of financial clans such as stocks and bonds etc.

There are various types of alternatives for investments. This study deals with the common stock investment. Common stock has one important investment characteristics and one important speculative characteristic. As the common stock is riskier it will yield higher return. Common stock is an ownership security. People typically buy common stock expecting to earn dividends plus a capital gain when they sell their shares at the end of some holding period.

Higher the risk of security, higher the rate of return demanded by the investor. Since ordinary share is more risky, investor will require highest rate of return on their investment in common stock performance share is more risky than debt. Therefore risk return relationship for various securities is different.

"Risk plays a central role in the analysis of investments. Investors often ask about the total risk they will be assuming in an investment and like to know whether the risk premium provided to them is enough or not. But they are also concerned about many other issues. First of all, it is necessary to see the total risk associated with a single asset is relevant for them. Second, they need to know the actual contribution of an assets risk to portfolio risk" *(Pradhan; 2001: 334).*

Return is the reward for uncertainty of risk. This is the main attraction for investors, which encouraged them to invest in risky securities as stock accepting a varying degree of risk tolerance. Return is the total gain or loss experienced on an investment ever a given period of time.

"A portfolio is a combination of investment assets. The portfolio is the holding of securities and investment in financial assets i.e. bond, stock. Portfolio management is related to the efficient portfolio investment in financial assets. The primary objective of portfolio is to maximize return and to minimize risk.

Risk presents in virtually every decision. Assessing risks and incorporating the same in the final decision is an integral part of financial analysis. The objectives in decision making is not to eliminate or avoid risk often it may be neither feasible nor necessary

to do so but to property assess it and determine whether it is worth bearing" *(Chandra; 1999: 67).*

"The concept of risk and return are the determinant for the valuation of securities. However, risk means that we do not know what is going to happen even though we occasionally have a good idea of the range of possibilities that we face. In the most basic sense, risk can be defined as the chance of loss. Assets having grater chances of loss are viewed as more risky than those with lesser chances of loss. More formally, the term risk is used interchangeably with uncertainty to refer to the variability of returns associated with a given asset"*(Gitman; 2001:237).*

Risk cannot be avoided if investor is seeking higher rate of return. Investor will require different rate of return on various securities. Since they have risk difference, higher the rate of return demanded by the investor. Since ordinary share is more risky, investor will require highest rate of return on their investment in common stock: preference share is more risky than debt therefore risk-return relationship for various securities is difference.

“Investor generally does not invest their money in only one risky asset instead; they hold a portfolio of many in the hope of diversifying the investment risk. The relevant risk of an asset is defined as the portion of its total risk that changes proportionately with the market risk. In the context of portfolio, the contribution of each asset to the portfolio risk is the portion of relevant risk of the asset. Therefore, an investor is concerned with the portfolio risk, which is the sum of the relevant risk of individual assets included in portfolio” *(Pradhan; 2001:114)*

The market risk depends on the degree of variability in the market return. The relevant risk of an asset depends on how sensitive the asset return is to the changes in the market returns. The relevant risk of individual assets is measured in term of the sensitivity of its returns to changes in the market return. It is known as systematic or beta risk. The term beta is used to measure the sensitivity of asset returns to the changes in the market returns. The total risk of an investment project is the absolute risk and it is measured in various or standard deviation. The variability of returns is one and only the cause of risk.

The homogenous stock risk of individual stocks can be eliminated if they are included in a well-diversified portfolio. When individual stocks with imperfect correlations are combined in to a portfolio the lower the return on a stock caused by the factors specific to a company or groups of homogenous stocks is usually offset by the higher return on the stocks. Thus, this part of the risk is eliminated and the portfolio risk is reduced.

1.1.1Profile of the Selected Banks

Everest Bank Limited (EBL)

EBL was founded in 1994 with an objective of extending professionalized and efficient banking services to various segments of the society. Panjab National Bank (PNB) joined hands with EBL as a Joint Venture and holds 20% equity.

The bank has 80 Branches, 113 ATM Counters, 7 extension counter and 28 Revenue Collection Counters across the country making it a very efficient and accessible bank for its customers anytime and anywhere.

NABIL Bank Limited (NABIL)

Nabil Bank Limited is a commercial bank in Nepal. Founded in 1984, the bank has branches all across the nation with its head office in Kathmandu.Nabil, the first foreign joint venture bank of Nepal, started operations in July 7, 1984.

Nabil provides a range of commercial banking services through its 51 points of representation across the country and over 170 correspondent banks across the globe. It was earlier known as Nepal Arab Bank Ltd. It has its head office located at Nabil Center, Durbar marg.

Sunrise Bank Limited (SRBL)

Sunrise Bank Limited is a commercial bank in Nepal. The bank is an ‘A’ class commercial bank licensed by Nepal Rastra Bank and has branches all across the nation with its head office in Kathmandu which provides entire commercial banking services. The bank's shares are publicly traded as an 'A' category company in the Nepal Stock Exchange.:

The bank contains 56 branches, 7 extension counters, 3 Regional Offices and Corporate Office till the end of Fiscal Year 2073/74.It has a network of 78 online ATMs in 31 districts covering all major cities in Nepal, 24 hours Mobile Banking and Internet Banking services support.

1.2 Focus of the Study

Financial analysis is the important part of the economy so that every management is making their managerial decision on the basis of financial analysis. Finance is composed of three main functions: investment, financing and dividend. All investors invest their fund with hopes of getting good profit but for the lack of necessary knowledge the investor gets result in loss. In the context of Nepal, people are ignorant about the investment opportunity and risk associated with it. Investor must consider all related factors before considering making an investment. This study is focused on analyzing risk and return associated with the shares of selected commercial Banks.

1.3 Statement of Problem

The capital market has grown rapidly within very short period after the establishment of stock exchange but the attitudes, thoughts and knowledge of investor has not changed yet. They do not have idea of risk and return. There are no separate institutions, which provide information required making national decision by the investors and on the other hand lack of good policy had discouraged the investors.

Investors need to have more knowledge about investment opportunities. They must be able to analyze the associated risk and returns of individual stock. This will increase the market efficiency. An investor must be able to design his investment and financing activities in a manner to maximize the market value of shares. There are no sources to get exact or perfect information about the future regarding risk and return on investment in Nepal. Investing funds in different securities diversifies the risks, which needs to be understood by Nepalese investors.

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

Instead, in determination of market price of share, there has been major influence of rumors rather than strengths of the companies.

At the same time there are no any institutions, which provide information required to make rational decision that can accelerate stock investment and market efficiency. Government policy is found less encouraging in promoting common stock investment. On the other had, usually there is positive tradeoff between risk and return. It is true that riskier assets will play higher average rate of return to make the riskier investment.

Investors feel more risk in stock investment than its real risk. To set up their confidence, unbiased analysis and information about it, is a must. Risk and return of individual stock and portfolio is therefore being a major requirement to increase stock investment and stock market efficiency as well. Brokers, issue manager, stock broker and all the related persons in those domains must be responsible to set the policies, and evaluate relative riskiness of their decision. Securities market and other institutional set up are yet to work towards providing knowledge and skill to investors. These are the burning issues that have influenced to carry out this study. Investment on common stock is the main sources of fund for the companies. The investors are the sources of revenue and ultimately they are the backbone of economic development of the nation. So, every policy and plan of financial institutions and government have to stipulate them to invest on common stock. For this, there is great need of such institutions, which can provide valuable information that accelerate the stock investment and market efficiency.

This study tried to address the following research questions:

- What is the risk and return of investment in common stock of commercial banks?
- What is the proportion of systematic and unsystematic risk from the total risks?
- Are the common stock of commercial banks overpriced, underpriced or at equilibrium price?

1.4 Objectives of the Study

The main objective of this study is to evaluate the risk and return on common stock investment of the selected Nepalese commercial banks. Beside this, specific objectives of the study are as follows:

- To evaluate the risk and return associated with reference to Everest bank, Nabil Bank & Sunrise Bank the common stock investment in commercial banks.
- To segregate total risks into systematic and unsystematic risks.
- To evaluate common stock's price under CAPM method.

1.5Significance of the Study

The investment analysis of any organization flashes its investment policy. The sound investment policy makes a good impact on the economy of the country. The success and the prosperity of any organization or institution rely heavily upon the successful investment policy. Successful formulation and effective implementation of investment policy is the prime requisition for the successful performance of any organization.

But, due to lack of proper and adequate knowledge, investors are investing their valuable funds through trial and error approach. So, it is necessary to establish vivid picture about the return from investing in securities after analysis the portfolio. Most of public investors i.e. existing and potential are not well known about the real financial strength and weakness of the public companies in which they are investing or going to invest their funds.

Every research work or study should be fruitful. This study gives correct information about Nepalese stock market by analyzing risk and return and will definitely contribute to increase the analytical power of the investor in stock market. In the context of Nepal, the capital market is growing very steadily. The market is not efficient, there are very few magazines or articles related to capital market and very few studies are made on the topics "Risk and Return". Because of these, some investors are investing on the capital market without any proper knowledge and information. So, the study will be more significant for exploring and increasing stock investment.

The main scopes of study are:

- This study is beneficial for the entire person who is directly related to the Nepalese stock market.
- The study is matter of crying needs to identify the possible return with responsible risk.
- The study proves beneficial to the present investors to analyze and revise their actions.
- This study helps to identify risk and return trade-off of their investment.
- This study is helpful in taking right decisions.
- The study is significant to academicians, students, researchers, teachers or persons practicing in the field of finance.
- The study helps to find out whether the shares of commercial banks in Nepal are overpriced or underpriced by analyzing the risk and return of the individual shares.
- The study acts as guidelines, suggestions and recommendations to Nepalese investors and financial institutions.

1.6 Limitations of the Study

As no study can be free from its own limitations, this study has also some limitations, which are mentioned below:

- The study is primarily based on secondary sources of data such as annual reports of concerned banks, annual reports of Nepal Rastra Bank, Nepal stock exchange, related books, magazines, journal and other concerned materials. Therefore, the consistency of findings and conclusions is strictly dependent upon the reliability of secondary data.
- The study is mainly focused on risk and return analysis of selected commercial banks.
- Among the various commercial banks in Nepal, the study emphasizes only the five Commercial banks namely EBL, NABIL andSRBL.
- The study concentrates only on those factors which are related with common stock and available in the form required for analyzing the different issues.
- This study is not sufficient for depth analysis as only the selected tools and techniques such as tables, pie-chart, trend lines and bar-diagrams are used.

1.7Organization of the Study

This study has been organized in five chapters. The titles of each of these chapters are summarized and the contents of each of these chapters are briefly mentioned below:

Chapter – I: Introduction

This chapter is introductory which includes background of the study, profile of selected banks, focus of the study, statement of the problem, objectives of the study, significance of the study and limitations of the study.

Chapter – II: Literature Review

The second chapter deals with the review of available literature which includes conceptual/theoretical review, review of journals/articles, review of other independence studies in Nepal, review of thesis and research gap.

Chapter- III: Research Methodology

The third chapter explains the research methodology used in the study. Research methodology is the systematic method of finding facts/results of the given problem more specifically and adopted to meet the objectives of this study. It includes research design, population and sample, nature and sources of data, data collection procedures and data analysis tools.

Chapter IV: Analysis and Interpretation of Data

The fourth chapter is the main body of the research. In this chapter, the data required for the study are presented, analyzed and interpreted by using different statistical tools and techniques. Tables, charts, bar-graphs, etc. will be used accordingly.

Chapter V: Summary, Conclusion and Recommendations

The last chapter of the study covers the summary of the study, the main conclusion that results from the study and offer implications on the basis of findings and provides guideline for the further study.

Besides these, the bibliography and appendices are incorporated at the end of the thesis.

CHAPTER II

REVIEW OF LITERATURE

This chapter is divided into two parts. One is conceptual review and another is review of previous related studies. In this regard, basic academic course books on finance recently published books of finance and related to the topics, journals, and other related studies/research reports were reviewed.

2.1 Conceptual Review

Central focus of the finance is tradeoff between risk and return. This study has focused on the risk and return analysis in the investment on common stock. This section of the chapter reviews the meaning and definitions of different concepts and terms used in this study.

2.1.1 Common Stock

Literally common stock is an ownership security. It is a source of long term financing. The common stock certificates are legal documents that give an evidence of ownership in a company that is organized as a corporation. Common stocks are marketable financial instruments. Sole proprietorships and partnerships are other forms of business organization, but only corporations can issue common stock.

Common stock is the 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 risk is also involved in equality ownership due to its low priority of claims at liquidation. In case, if the firm is bankrupted, common stock holders will be, in the principal entitled to any value remaining after all other climates have been satisfied. Thus risk is highest with common stock and so must be in its expected return. Common equality provides a cushion for creditors if losses occur on dissolutions. Common stocks are generally "fully paid and non assessable", meaning that common stock holder may lose their initial investment. If the corporation fails to meet its obligation, the stockholders cannot be forced to give the corporation the funds that are needed to pay off the obligations.

"Of all the forms of securities common stock appears to be the most romantic while fixed income investment revenue may be more important to most of the investor. Common stock seems to the capture their interest the most. The potential reward and penalties associated with common stock make them on interesting even exciting proposition, no wonder, and common stock investment is a favorite's topic for conversation in parties and gets together" *(Chandra; 1999:67).*

"Common stockholders of a corporation are its residual owners, their claim to income and assets comes after creditors and preferred stock holders have been paid full. As a result, stockholders return on investment is less certain than the return to lender or to a preferred stockholder. On the other hand, the share of a common stock can be authorized either with or without par value. The per value of a stock is merely a stated figure in the corporate charter and is of little economic significance"*(Van Horne; 1997:560).*

A corporation exists only when it has been granted a charter, or certificate of incorporation by a state/government. This document specifies a right and obligation of stockholders. It may be amended with the approval of the stockholders, perhaps by a majority or a two-third vote, where each share of stock generally entitles its owner to one vote. Both the initial term of charter and term of any amendment must also be approved by the state/government in which the corporation is chartered

2.1.2General Right of the Common Stockholder

There are two types of rights of common stockholders.

1. Collective rights: Certain collective rights are usually given to the common stockholders. They are as follows:
    a) Right to formulate and amend the memorandum and the articles of association.
    b) Right to elect directors.
    c) Right to authorize the sales of fixed assets.
    d) Right to authorize the merges.
    e) Right to issue preferred stock, debentures, bonds, and other securities.
    f) Right to change the amount of authorized common stock.
2. Specific rights: Common stockholders also have specific rights as individual owners. They are as follows:

a) Right to income.
b) Right to inspect the corporate books.
c) Right to vote.
d) Right to sell their stock certificates.
e) Preemptive right.

2.1.3Investment

Investment, in its broadest sense, means the sacrifice of current Rupees (dollars) and resources for the sake of future Rupees (dollars) and resources. In other words, it is a commitment of money and other resources that are expected to generate additional money and resources in the future, such a commitment takes place in the future and always remains uncertain. Therefore, every investment entails some degree of risk. Investments are made in assets. Assets, generally, are of two types: real assets (land, building, factories etc.) and financial assets (stocks, bonds, T-Bills etc.). These two types of investments are not competitive but complementary, highly developed institutions for financial investment are employment of funds with the aim of achieving addition income or growth in a value. It involves the commitment of resources that have been saved or put away from current consumption, in the hope that some benefits will accrue in the future *(Sharpe et al., 1995).*

Investment is the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing until for the time funds are committed for the expected rate of inflation and also for uncertainty involved in the future flow of the funds *(Frank and Reilly; 1992:1).*

Investment is any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generated positive returns *(Gitman&Joehnk; 2000:256).*
Investment may be defined as the purchase by an individual or institutional investor of a financial or real asset that produces a return proportional to the risk assume over some future investment period.

A banker does not prefer to invest his funds in company shared and debentures. The share and debentures may be very easily sold on the stock exchange. But the bank will incur a loss if the market value of the securities falls. Unlike the government

securities there is no maturity date for shares. The income from shares depends upon the prosperity of the company issuing the shares. If the company becomes involvement the bankers loses heavily. If a bank has certain amount of funds which can be left undisturbed for a number of years, investment in long term government securities becomes profitable proportion *(Radhaswamy; 1979:549).*

Investment choice or decision is found to be outcome of three different but related classes of factors. The first may be described as factual or information premise. The factual premise of investment decision is provided by many data, which provide an insight of the environmental condition and particular feature of the organization. The second class of factor entering in the investment decision may be described as expectation premise. Expectation relation to the outcomes of alternative investment in subjective and hypothetical in any case, but their foundation is necessarily provided by the environmental and financial fact available to investor. The third and final class of factor may be described as the valuation premises. This regularity of the income received *(Sharpe et al., 1995: 125).*

2.1.4Returns to Investors (Shareholders)

The return to shareholders has become the touchstone of much financial analysis. The expected rate of return for a portfolio of investment is simply the weighted average of the expected rate of return for the individual investment in the portfolio. The theme of enhancing shareholder value is the subject of many books, articles, and it's highlighted in the annual reports of many individual companies. The return to shareholders measures what shareholders actually earn over a period of time. This is widely used measure in making comparisons between the market returns among wide range of financial instruments. The return to shareholders is defined as the average of the sums of the dividend yield plus capital gains per year over the measurement period.

In general terms, return is the income received on investment return is defined as the after tax increase in the value of the initial investment as per Cheney & Mosses. The increase in value of assets can come from two sources: a direct cash payment to the investor or an increase in market value of the investment relative to the original purchase price. The rate of return is the relative value of benefit on Investment. The rate of return is the relative value of benefit on Investment. The rate of return concept

is important because it measure the speed at which the investor's wealth increases or decreases *(Francis; 1992:1).*

Shareholders expect two forms of return from the purchase of common stock.

1. Capital gain/ return
2. Dividend gain/ return

Return is the motivating force in the investment process, that is, it is the reward for undertaking the investment. Return on a typical investment consists of two components. The first component that usually comes to mind is the periodic cash receipts (either interest or dividends). This cash receipt is also known as an ordinary gain on investment from mature and Stable Corporation, most investors expect regular dividends to be declared and paid in common stock. This expectation takes priority over the desire to retain earning to finance expansion and growth shareholder's expectations can be fulfilled through either capital gain or dividend. Since dividends would be more attractive to stock holders, one might think that there would be tendency for corporation to increase distribution of dividends. The second component is the appreciation (or depreciation) in the price of the asset and this is commonly called a capital gain or loss. The capital gain or loss is the difference between the purchase price and the price at which the asset can be or is sold. Therefore, the total return on investment is the sum of the ordinary gain and the capital gain or loss.

Total Return = Capital Gain (Loss) + Ordinary Gain

2.1.5Holding Period Return

Single Period Return

A single period return is also known as a holding period return. A holding period or single period return is simply the total return an investor would earn during the period returns are often calculated for a period other than one year, for this reason, the length of the holding period must always be indicated for a specific single period return. In general, if the length of the holding period is not specific, it is assumed to be one year. An investment's single period return is simply the total return an investor would receive during the investing period or holding period stated as a percent of the investment price at the start of the holding period.

One Year Holding period Return = $\frac{P_{t+1}-P_t+C_t}{P_t}$

Where,

Pt+1 = market price at the end of the period

Pt = market price at the beginning

Ct = cash inflow if any

Multi Period Return and Annualized Return

Multi period return is the return earned during the multiple periods of holding the securities. To express the multiple period returns as annual return we convert the returns on an annualized basis. Such an annualized return is the mean return and there are two types of means.

I) Arithmetic Mean

The arithmetic mean return is appropriate as measure of the central tendency of a distribution consisting of returns calculated for a particular time, such as a year. The mean return in equation is as follows.

$$\bar{r} = \frac{r_1+r_2+-----+r_n}{n}$$

II) Geometric Mean

It is another method of calculating the annualized return. Geometric mean return is calculated by taking the nth root of the product of one plus individual rate of return minus one. When percentage changes in value over time are involved, the arithmetic mean of these changes can be misleading. A different mean, the geometric mean, is needed to describe accurately the 'true' average rate of return over multiple periods. The geometric mean return measures compound, cumulative returns over the growth in investment funds, that is, it measures the realized change in wealth over multiple periods. In equation,

$Gm = [(1+r_1)\ (1+r_2)\ (1+r_3)$ ---------- $(1+r_n)^{1/n}-1$

Where,

Gm = geometric mean return

r_t= single period return at time t

n = number of observation or returns.

2.1.6Expected Rate of Return

Investment decisions are based on expectation about the future. The expected rate of return for any asset is the weighted average rate of return using the probability of each rate of return as the weight. The expected rate of return is based upon the expected cash receipt over the holding period and the expected ending or selling price. The expected rate of return is an ex-ante or unknown future return *(Cheney and Moses; 1993:34).*

Unless the rate of return is guaranteed most investors recognize that several rate of return are possible. Investors summarize these possible rates of return into a single number called the expected rate of return.

If the investors can describe the possible variables that will influence each of the possible rates of returns should equal the weighted average of the various possibilities. Listing the possible investment results and assigning probabilities to each of these out comes is the same as creating a probability distribution in statistics.

Probability distributions are used to describe possible outcomes and to assign individual probabilities from zero to one, to each possible outcome. The expected rate of return is calculated by summing the products of the rate of return and their respective probability.

$$\sum(r) = \sum p_t r_t$$

Where,

P_t = Probability Distribution of Rates of Returns

r_t = Rate of Return

If an investor believes that an investment will provide different rates of return under different economic condition might create a probability distribution for those return. Various estimating technique could be used to construct and derive probability distribution. Regardless of the forecasting technique used the goal is the same the investor is attempting to describe the possible events that could influence the expected rate of return.

2.1.7Portfolio Analysis

Portfolios of assets usually offer the advantage of reducing risk through diversification. A portfolio is a combination of investment assets. The portfolio is the

holding of securities and investment in financial assets i.e. bond, stock. Portfolio management is related to the efficient portfolio investment in financial assets.

A portfolio is defined as a combination of assets. Portfolio theory deals with the selection of optional portfolio that is a portfolio that provides the highest possible return for any specified degree of risk on the lowest possible risk for any specified rate of return. Since portfolio theory has been developed most thoroughly for financial assets-stocks and bonds. However, extensions of financial asset portfolio theory to physical assets are readily made, and certainly the concepts are relevant in capital budgeting.

"The rate of return on a portfolio is always a weighted average of the returns of the individual securities in the portfolio. A fundamental aspect of portfolio theory is the idea that the riskiness inherent in any single asset held in a portfolio is different from the riskiness of that asset held in isolation. The portfolio analysis is performed to develop a portfolio that has the maximum return at whatever level of risk and investor thinks appropriate. If portfolio is being constructed they can reduce unsystematic risk without losing considerable return. Therefore, we need to extend our analysis of risk and return to portfolio context. Portfolio theory shows an investor can reach his optimal portfolio position. Portfolio theory, originally proposed by Harry M. Markowitz is based on the assumption that the utility of the investor is a function of two factors: mean return and variance or its square root, the standard deviation of return. Hence it is also referred as the mean variance portfolio theory or two-parameter portfolio theory" *(Chandra; 1994: 71)*

Three influences reduce portfolio risk in relation to the standard deviation of individual securities in isolation:

- Extend to which the correlation between the returns from the individual securities is less than one.
- Number of the securities in the portfolio and
- Proportion or weights of the individual securities in the portfolio in relation to their correlation among one another.

2.1.8 Risk

Risk is defined as the variability of the returns of a period. The one-period rate of return is the basic random variable used in measuring and investment's risk. The greater the variability of the return's the riskier the project for example, a government bound that guarantees its holders NRs 30 interest after 30 days has no risk, since there is no variability associated with the return. An equivalent investment in a firm's common stock the may earn over the same period anywhere from NRs 00 to NRs 300 is very risky due to the high variability of return. The move certain the return from an asset's the less variability and therefore the less risk.

"Risk and return are the determinant for the valuation of securities. When the firm should recognize that the forecast return may or may not be achieved. The taught part of decision-making under uncertainty is deciding how much extra return should be required to accept a measurable risk. Therefore, risk may be defined as the likelihood that the actual return from an investment will be less than the forecast return. Stated differently, it is the variability of return from an investment" *(Hampton; 1996:340-345)*

In the financial term, risk can be defined as the probability of the occurrence of unfavorable outcomes. In our context two measures developed from the probability distribution have been used as initial measures of ret urn and risk. They are the mean and standard deviation of the probability distribution.

The Webster's dictionary defined risk as a hazard: a peril; exposure to loss or injury". Thus, risk refers to the chance that some unfavorable event will occur. In real sense, if someone wishes to invest in speculative stocks, he/she is taking a risk in the hope of making an appreciable return. Risk in a simple language is an uncertainty. "Risk is typically defined as uncertainty. It arises from imperfect knowledge or from incomplete data".

2.1.9Sources of Investment Risk

Every investment has uncertainties. Uncertainties make future investment returns risk. The sources of uncertainty that contribute to investment risk are as follows:*(Kiran Thapa 2002:9-10)*

- **Interest Rate Risk**

It is the potential variability of return caused by changes in the market interest rates. If market interest rates raise, then investments values and market prices will fall, and vice versa. The variability of return that results is interest rate risk. This interest rate risk affects the prices of bonds, stocks etc.

- **Purchasing Power Risk**

It is the variability of return an investor suffers because of inflation. Inflation (or a rise in general prices over time) seems to be the normal way of life in most countries today. However, when inflation takes place, financial assets (such as cash, stock and bonds) may lose their ability to command the same amount of real goods and services they did in the past. To put this way, the real rate of return on financial assets may not adequately compensate the holder of financial assets for inflation.

- **Bull-Bear Market Risk**

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

It is the portion of an investment's total risk that results from changes in the financial integrity of the investment.

- **Liquidity Risk**

It is the portion of an asst's total variability of return that results from price discounts given or sales commission paid in order to sell the asset without delay. Perfectly liquid assets are highly marketable and suffer no liquidation costs. Illiquid assets are not reading marketable either price discounts must be given of sales commissions must be paid, or both of these costs must be increased by the seller.

- **Call ability Risk**

Some bonds and preferred stocks are issued with a provision that allows the issuer to call them in for repurchase. The portion of security's total variability of return that derives from the possibility that the issue may be called is the salability risk.

- **Convertibility Risk**

Convertibility risk is that portion of the total variability of return from a convertible bond or a convertible preferred stock.

- **Political Risk**

The portion of an asset's total variability of return caused by changes in the political environment (for example, a new tax law) that affect the asset's market value is political risk.

- **Industry Risk**

An industry is a group of companies that complete with each other to market at homogenous product. Industry risk is that portion of an investment's total variability of return caused by events that affect the products and firms that make up an industry.

2.1.10 An Approach to Risk Management

Firm often use the following for managing risks.

- Identify the risks faced by the firm: The risk manager identifies the potential risks faced by his/her firm.
- Measure the potential impact of each risk: some risks are so small as to be immaterial, where as others have the potential for doming the company. It is useful to segregate risks by potential impact and then to focus on the most serious threats.
- Decide how each relevant risk should be handled: In most situation risk exposure can be reduced through one of the following techniques.

1. Transfer the risk to an insurance company

It is often advantages to insure against risk. However, insurability does not necessarily mean that a risk should be covered by insurance. In many instates, it might be better

for the company to self insure, which means bearing the risk directly rather than paying another party to bear it.

2. Transfer the fraction than produces the risk to a third party

For example, suppose a furniture manufacturer is concerned about potential liabilities arising from its ownership of a fleet of trucks used to transfer products from, it's manufacturing plant to various points across the country. One way to eliminate this risk would be to contract with a transportation company to do the shipping.

3. Purchase derivative contracts to reduce risk

Firms use derivatives to hedge risk. Commodity derivatives can be used to reduce input risks. Similar, financial derivatives can be used to reduce risks that arise from changes in interest rates and exchange rates.

4. Reduce the probability of occurrence of an adverse event

The expected loss arising from any risk is a function of both the probability of occurrence and the dollar loss if the adverse event occurs. In some instance, it is possible to reduce the probability that an adverse event will occur.

5. Totally avoid the activity that gives rise to risk

For example, a company might discontinue a product or service because the risks out weight the rewards.

2.1.11 Market Efficiency

Market efficiency means that the market price of a security represents the market consensus estimate of the security. Capital market and market efficiency has direct and linear relationship. If the market is efficient, it uses all information available to it in setting a price. Investors who choose their information lead them to think that the security is worth at least its current market price. Those who do not purchase the stock interpret their information as a lower appraisal.

An efficient financial market exist when security price reflect all available public information about the economy, about financial market and about the specific involved. The implication is that the market price of individual security adjusts very

rapidly to new information. As a result security price are said to fluctuate randomly about their intrinsic value.

In such a world the only price change that would occur are those, which occur from new information. Since there is no reason to expect that the information would be non- random in its appearance, the period-to-period change of the stock price should be random movement, statistically independent of one another. The levels of stock price will, under these conditions describe what statisticians call a random walk and physicist calls Brownian motion. In the normal course of event, the level of price that is the summation of these random movements will show movement that will, look like cycle but in fact are not. The semi strong hypothesis centers on how rapidly and effectively market price adjusts to new publicity available information. Different financial reports an audited financial information field with the security exchange are readily available to the investor *(Sharestha; 2000:18)*.

A market is efficient with respect to a particular set of information if it is impossible to make abnormal profit by using this set of information to formulate buying and selling decision. That is in an efficient market investors should expect to make only normal profits and earn a normal rate of return on their investment. This background information about corporation provides the perspective needed to evaluate new information. Financial newspapers and news service compete to deliver new information as quickly as possible so that investor can obtain information as quickly as possible so that latest news quickly at minimum cost when news affect the value of security it causes revaluation and security trading that begins immediately and affect price at once.

Test of efficiency are essentially test of whether the three general type of information, past price, other public information and inside information can be used to make above average profit on investment.

The strong from hypothesis is concerned with whether or not certain individual or group process inside information that can be used to make above average profit. It holds that stock price react very quickly to all public and inside information. One obvious to check the validity of the strongly efficiently market hypothesis is to examine the profitability of trades in security made by insiders to see if the insiders access to valuable information allow them to ear statistically significant trading profit.

Since strongly efficient market hypothesis suggests that all information, public or not fully reflect in the security price. This idealistic economy situation result in a perfectly efficient market where price and value are always equal as they fluctuate randomly together in response to the arrival of new information *(Western & Bingham; 1982:125-127).*

2.1.12 Investment Environment

The investment environment is a combination of securities, market and intermediaries. The investment environment encompasses the kinds of marketable securities that exit and where and how they are bought and sold. Investment environment in our country is not providing favorable due to non performing character of the public limited companies. However, by definition, the investment environment refers to all internal and external forces affecting investment environment refers to all internal and external forces affecting investment decisions of investors. It covers all kind of marketable securities that they are bought and sold through the brokers' network and financial intermediaries. Thus, securities, security markets and financial institutions form the scope and coverage of investment environment.

Existence of a favorable environment is the medium, which direct the pool of saving into the productive sector. It also creates a positive effect on the saving habits, which is done for future consumption. Favorable environment leads to the availability of numerous options of investment and a defined arena to carry out the transaction *(Bhattarai; 2008:1).*

Securities

Security, in general, is a piece of paper responding the investor's rights to certain prospects or property and the conditions under which he/she may exercise these rights. The piece of paper serving as an evidence of property rights is called a security. For example; share certificate, bond, commercial paper, preferred stock, Treasury bill etc. It may be transferred to another investor and, with it, will go all its rights and conditions. Moreover, security is a legal representation of the right to receive prospective future benefits under stated conditions.

Security Markets

Securities, as we have already explained, are financial assets. Security markets are mechanism created to facilitate the exchange of financial assets. Therefore, the market exists in order to bring together the buyers and sellers of securities. The flotation of the shares and debentures by public limited companies, trading on mutual funds by an investment company and the auction of treasury bills by governments take place in security markets.

There are many ways in which security markets can be classified

I. Money market and Capital market
II. Primary market and Secondary market

Money Market and Capital Market

Money market is the type of market which is meant for a short term and for highly liquid debt securities. A money market typically involves financial assets that have a life span of one year or less. Money market instruments include short- term marketable, liquid, and low- risk securities. Money market instruments sometimes are also called cash equivalents, or just cash. A money market brings together the supplier and the demander of short- term liquid fund. A money market is created by means of short- term funds.

Capital markets are the markets meant for long- term securities issued by the government or a corporation. Capital market typically involves financial assets that have life spans of greater than one year. For example, the shares issued by the NCC Bank are traded in the capital market where as the Treasury bills issued by Nepal Rastra Bank (NRB) are traded in the money market.

Primary and Secondary Market

Market in which corporation raise a new capital is known as primary markets. When the firms need capital, they may sell new securities. These new securities are sold first primary market. Primary markets, thus, are basically concerned with the accumulation of fund. Securities Board of Nepal (SEBON), regulator of capital market, has approved 47new issues for ordinary and right shares of Rs. 6777.29 million during the

current Fiscal year 071, out of 47 issued 7 Commercial Bank 21 Development Bank,16 Finance companies and 2 were Insurance companies.

Market in which the existing, already outstanding securities are traded among investors, are called secondary markets. In other words, a secondary market is the place where already – issued securities are traded. Nepal stock exchange (NEPSE) is an example of a secondary market. During the end of current fiscal year 071, the total trading has 6665.33 million. It has been decreased by 43.76 as compared to previous fiscal year 071 *(Elton, 2012: 23).*

The decreasing trend is also followed by NEPSE index which reached to 362.85 at the end of current fiscal year 2068 which is decreased by 24.05 percent from previous fiscal year, similarly, market capitalization of 323484.34 million at the end of Ashar end 2071 is decreased of 14.17 percent as compared to Ashar end 2070. At the end of current fiscal year, there were total 207 companies listed at NEPSE which is increased by by 17.61 percent. Although some increase in secondary market indicators is observed during current year, the overall situation for the year is declining. The reason for the downfall of the market is due to political instability, investor sentiment; companies Return, capital gain tax, monitory policy, interest rate, other national and international economic factors as well as other signaling effect at market make investor to lose their confidence*(SEBON, 2072).*

2.1.13 Valuation

Section market efficiency, has described efficient market as one in which every security price equals its investment value at all time. In this definition investment value means the accurate price of security to be paid. In others term it is called as percent value, economic value or intrinsic value.

Various mathematical models have been developed to include variable that determines value. These models over simplify the valuation process. In reality many factors determine the market price of a common stock. These factors may change and the relationship between these factors may change and the relationship between these factors may change. No models can consider the complexities of the real word process. These models however can provide a useful framework for the analyses.

Mathematical models imply precision and accuracy and it is essentially a quantitative procedure. However common stock valuation is an art. Models are useful to the analyst but are not the substitute for judgment and common sense. Models can be used in making accurate forecast. Therefore models should be viewed a tools for decision making. Finance theory indicates that the value of common stock is essentially a function of future income the stock can provide and the riskiness of the income stream. Valuation model therefore takes the fro.

V_n =f (Income, Risk)

Where, V_n = Intrinsic value of the Common Stock in period n.

Since prediction of income regarding equity is very crucial. In fact equity management is based on the notion explicitly stated or implied, that the stock market is not totally efficient. In way equity management assumes that all historical and current information is not fully and correctly reflected in the current price of every stock. Hence there exist stocks that are undervalued and overvalued *(Gautam&Thapa; 2008:259).*

2.1.14 Investment Decision

Investment decision theory analyzes how to get from investors' preference to the optimal investment decisions. Decision made after the completion of analysis. The general model of decision making is to compare the estimate expected return and estimate requires holding period return *(Bhattarai; 2008:7).*

2.1.15 Investment Strategies

Investment strategies as obtained by the investors depend upon the development of the capital market. For the development of the market is sensed in the light of efficiency. As already discussed previously in the section, market efficiency about various hypotheses strategies as carried out are to outperform the assume that an investor earned risk adjusted excess return on a long position because the security was purchased as at a price below intrinsic value. The bargain purchase was possible because the seller didn't realize that the security was undervalued. The success of the buyer therefore comes at the expenses of the seller.

In a competitive market security price are likely to accurately reflect available information and responses very rapidly to available information, as degree of efficiency is the crucial matter of concern, which has to be addressed while going for an investment strategy. If the market is less than perfectly efficient some strategies may result in the risk adjusted excess return *(Bhattarai; 2008:9).*

The degree of market efficiency has been the subject of considerable debate. This debate has resulted into two strategies, passive strategies and active strategies.

Passive Strategy

In this strategy, investors believe that investing in portfolio through an analysis of securities is a wasted effort and includes high cost. A passive strategy aims to create well-diversified portfolio without attempting to find under or, over-valued stock. Passive management is usually characterized by a buy and hold strategy. The passive investors believe that the efficient market reflects all the information in stock prices and their value is fair. A passive strategies leads to earn what just the market determines it does not try to outperform the market or earn risk adjusted excess return. Investors select stocks for investment randomly since in perform efficient market the selected stock would be correctly valued. Portfolio investment strategies incur low transactional cost. The cost of trading or for acquiring and analyzing information is avoided. Passive investment strategy includes the following.

1) Index Fund

An index fund tries to match the performance of broad market Index. The fund buys shares in securities included in a particular index in proportion to each security's representation in that index. One approach to implementing a passive investment a strategy is to invest in an indexed portfolio that is designed to duplicate precisely the performance of a market index.

2) Combination Strategy

An alternative to complete to a complete passive investment strategy such as indexing is to divide the portfolio into active and passive component. Efficient market and high transaction cost suggest passive investment strategy.

Active Strategy

An active investment strategy is purchased on the ground that market inefficiency exists. Under active investment management investors believe that financial market is perfectly efficient and securities analyst can profit from finding undervalued and overvalued securities. Active strategy assumes that some investors have an advantage over other.

The following are the possible area of advantages.

1. Timing: Use of accurate time is the basic to gain extra return investors who can accurately predict movement in investment in individual security or the market can achieve superior return.
2. Selection: In efficiency leads to the existence of undervalued and overvalued stock in the market. To find out these securities, investors must processes advantage in the quality and time lines of information.
3. Investment Philosophy: Investment philosophy requires a commitment to a specific area or investment approach.

An individual has a large advantage institution and professional investors including the following. Individuals' investors engage in small trades that can be executed quickly.

- Individual have the flexibility to invest in small companies.
- If they wish individual investors can put all or most of their eggs in one basket.
- Individual have the flexibility to use short sale and margin trading *(Bhattarai; 2008:91).*

2.2 Review of Previous Studies

2.2.1 Review of Article

Farma and French (2013),In his article "*Studied on cross- section of expected stock returns*". They identified the relationship of average returns with market beta and size. They also examined the role of earning price ratio, leverage, and book to market equity in average returns. Their goal was to evaluate the joint role of market in the cross- section of average returns on NEPSE, AMEX, and NASDAQ stocks.

They found that the relationship between market beta (β), and average returns disappeared during the more recent period, even when β was used alone to explain average returns. The appendix of the study shows that the simple relation between β and average returns was also weak in the 50 years. In short, their test did not support the prediction that average stock returns are positively related to market βs. Unlike the simple relations between average return and size, leverage, E/P and look to market were strings. In multivariate tests, the negative relation between size and average return was robust to the inclusion of other variables. The positive relation between book - to market equity and average return also persisted in competition with other variables. Moreover, although the size effect has attracted more attention, book – to market equity had a consistently stronger role in average returns.

Their bottom, results area: (a) β did not seem to help explain the cross section of average stock returns and (b) the combination of size and book – to market equity seemed to absorb the roles of leverage and E/P in average stock returns, at least during their sample periods.

Goetzmenn and Jorin (2015)examined the "*ability of dividend yields to predict long horizon stock returns*". The results of study revealed that there was no strong statistical evidence indicating that dividend yields could be used to forecast stock returns.

From all the studies mentioned above, it is clear that a stock returns in the function of various fundamental financial variables. Most of the empirical studies are, however, devoted to testing the effect of fundamental variables on stock return using cross-section data. In the empirical literature, considerable attention has been paid to analyzing has been paid analyzing the relation of different financial variables such as book to market, price earnings ratios, market capitalization (size), earning yields, cash flow yield, profitability, leverage with stock returns. The findings in general reveal positive relation of book to market, earning yield or, earning price, cash flow yield and profitability leverage with stock returns. A strong negative association between sizes (i.e. market capitalization) and average return is also observed by the most of the researchers. Similarly, expected return is more accurately explained by dividend payout rather than only earnings. Through there are various studies in the context of

developed and big capital markets, their applicability and relevancy are yet to be seen in the context of small and under developed capital markets like Nepal.

Paudel, (2072)in his article *"financial statement analysis: An approach to evaluate bank's performance published in NRB samachar"* said that balance sheet, profit and loss account. The bank's balance sheet is composed of financial claims as liabilities in the form of deposits and as assets in the form of loans. Fixed assets accounts form a small portion of the total assets. Financial innovations, which are generally contingent in nature, are considered as off- balance sheet items. Interest received o loans/advance and investments and paid on deposits are the major component of profit and loss account. The other sources of income are fee, commission, discount and service charges. The users of the financial statements of a bank need relevant, reliable and comparable information, which assist them in evaluating the financial position and performance of the bank and which is useful to them in making economic decisions. The disclosure requirement of the bank's financial statement has been expressly laid down in the audited balance sheet and profit and loss account to be published in the leading newspaper for the information of general public.

Willam (2016), in his article title "*An Introduction to Investment Theory*" Finance from the investor's perspective is explained as; investor's whether they are individuals or institutions such as pension funds, mutual funds hold portfolios that are they hold a collection of different securities. Much of the innovation in investment research over the past 40 years has been the development of a theory of portfolio management, and this module is principally on introduction to these new methods. It will answer the basic question what rate of return will inventor's demands to bold a risky security in their portfolio? To answer this question we first must consider what investors what how we define return, and what mean by risk.

Elton (2016), "*Excepted Return, Realized Returns and Assets Pricing Test*" all of the testing involved using realized returns as a proxy for excepted returns. The use of a average realized return is a proxy for expected 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, the author believed that there was ample evidence that this belief was misplaced. There are periods longer than 10 years during which stock market realized returns are on average less than the risk free rate. There are periods longer than 50 years to which risky long-term bonds

on average under perform the risk free rate. Having a risky asset with expected return above the risk-less rate is an extremely weak condition for realized returns to be an appropriate proxy 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.

Pokharel (2016), "*Stock Market Doing Pretty Well*", wrote that the investment on the sharers of manufacturing and processing was more attractive than that of the Banks. He found that the shares of individual companies showed very good performance. NEPSE index showed upward trend for all the shares in this period. The author gave following reasons behind the appreciation of share price.

- Companies have rewarded shareholders.
- Reduction of interest rate of money market.
- Healthy speculation and loan has made the market interesting by providing loan to the stock investors their share as collateral.
- Investors are appearing more rational in their investment decision.
- Continuity maintained in the government policy is an added advantage to the market.

Finally the author concluded that the capital market needs more infrastructure investment than institution investment once the required infrastructure can facilitate the market, the size of the market could be made even bigger by introducing new instruments such as government.

Ghimire (2016), "*Nepal Share Market and Investor's Prospective*" pointed out some important trends to our capital market. He concluded that the Nepalese share price in decreasing because of many unbalanced factors. The major reason behind the movement in the index is the domination of the Banking sector in the Nepalese stock market transactions. Mismanagement practices cannot help the growth of share market. The general public has invested recklessly. They just believe what one broker or the investor says about the business. One of the prime motives for the investment is to earn return on it. Finally the author concluded that the general investors should be alert and aware of the situations. They must receive the financial information before they make investment rationally."

It is important to understand how personal circumstances 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.

The technical term for this is not putting all your eggs in one basket. In this way if you trip, you won't break all the eggs. The creation of a portfolio by combining two assets that behave exactly the same way cannot reduce the portfolios overall risk below the risk of the least risky assets.

Wagner (2016), in his article "*Analyzing a Bank's financial statements*" explained that the financial statements for banks present a different analytical problem than manufacturing and service companies. As a result, analysis of a bank's financial statements requires a distinct of a bank's financial statements require a distinct approach that recognize a bank's somewhat unique risks. Bank's take deposits from savers, paying interest on some of these accounts. They pass these funds on to borrowers, receiving interest on the loans. Their profits are derived from the spread between the rate they pay for funds and the rate they receive from many sources that can be lent to many different borrowers creates the flow of funds inherent in the banking system. By managing this flow or funds, banks generate profits, acting as the intermediary of interest paid and interest received and taking on the risk of offering credit.

A careful review of bank's financial statements can highlight the key factors that should be considered before making a trading or investing decision. Investors need to have a good understanding of the business cycle and the yield curve- both have a major impact on the economic performance of banks. Interest rate risk and credit risk are the primary factors to consider as bank's financial performance follows the yield curve. Which it flattens or become inverted bank's net interest revenue is put under greater pressure when the yield curve returns to a more traditional shape, a bank's net interest revenue usually improves credit risk cab be the largest contributor to the negative performance of a bank, even a causing it to lose money. In addition, management of credit risk is a subjective process that can be manipulated in the short

term investors in banks need to be aware of these factors before they commit their capital.

The investopedia dictionary defines a sinful stock as: stock from a company that is associated with (or is directly involved in) activities considered unethical or immoral. The thing with is or what is not ethical or moral. For example, one investor may view certain advertising companies as unethical and brand the product or the ad company itself a sinful investment. Another investor may see no ethical compromise in the e situation. So when we talk about sinful investing, there is some gray area in defining a stock as sinful.

2.2.2 Reviewof Thesis

In financial analysis and management, the concept of risk and return is not a new however limited studies have been carried out in this subject in Nepal due to mainly to slow growing capital market some of selective findings of those studies are presented as below:

Bhatta,(2008) "*A Study on security investment in Nepal*" is related to this study to some extent. Bhatta's study in performance of listed companies is based on 10 listed companies'. The major objective that concern with this research topic is to analyze the performance of listed companies in terms of risk and return, to analyze expected rate of 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 form the analysis of different stock.A highly significant positive co-relationship has been addressed between risk and return character of the company. Investor expects higher returns form 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 them 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 the correlation if perfectly negative. In this situation, the risk can totally be diversified but when there is perfectly positive

correlation between the return the two securities, the risk is UN diversifiable. The analysis shows some has negative correlation and some has positive. Negative correlation and some has positive. Negative correlation between security returns is preferred for diversification of risk.

On the basic 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 export institution, which will provide consultancy series to the investors to maximize their wealth through rational investment decision.Lastly Bhatta findings the following points to improve the market efficiency, Develop institution to consult investors for risk minimization. establishan 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.

Mishra, (2010) analyzed "*Risk and Return on Common Stock Investment of Commercial Banks in Nepal*" with special reference to five listed commercial Banks.The major objective of this study are to promote and protect the interest of the investor by regulating the issuance sales and distribution of securities and purchase, sale or exchange of securities, to supervise and monitor the activities of the stock exchange of other related firms carrying on securities business, to render contribution to the development of capital market by making securities transactions fair health, efficient and responsible. Following are the findings of this studyIt 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 different for common investors to investor in the securities. Both government authorities and the stock exchange regulator body should try to promote healthy practices so that the stock brokers don not give false information to the investors for

their personal benefit which is a common practice in Nepal. Investors should get regular information about the systematic risk (Beta), return on equity and P/E ratio of various listed in Nepal stock exchange. Security exchange board of Nepal should make this mandates that it is easier for the investors to calculate risk and risk return of portfolio and transparent is increased.

Manandhar, (2012), "*Analysis of Risk and Return Analysis on Common Stock Investment of Commercial Banks in Nepal*" with special reference to five listed commercial Banks. The main objective of the study is to examine risk and return of common stocks in Nepalese stock market, to focus on the common stock of commercial Banks.In her findings "Banking industry is the biggest one in F/Y 2067/68 in terms of market capitalizing and turnover expected return of the common stock of HBL is maximum (i.e. 1.1267) due to effete of unrealistic annual return and CS of NIBL is found minimum. In the context of industries, expected return on Banking sector (i.e. 67.39) is highest and other sectors is the least (.65%). Except NIBL, other Banks common stocks are more volatile (aggressive with market stocks of all Banks in the study are said to be under priced. CS of HBL is most risky and CS of NIBL is least risky. Mrs. Manandhar has findings following points,Stocks have greater volatility risk than other investment, which takes 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. Investors should diversify their fund to reduce risk with the help of optimal portfolio concept.It is better to buy something that is going up and sell something that is going down. Investor's attitude, perception and risk handing capacity also play essential role in rational investment decision.

Khadka, **(2013),** "*Analysis of Risk and Return on Selected Nepalese Commercial Banks"* is also reverent to this study. The main objective of the study, to analyze the risk, return and other relevant variables that help in making decision about investment on securities of the listed commercial Banks, to determine whether the share of commercial Banks are correctly priced or not by analyzing the required rate of returns using the CAPM. Khadka addressed the following finding in risk return behavior form the analysis of different stock. The shares of Bangladesh Bank offered highest realized rate of return. Amongst them NABIL Bank is the lowest having 5.23% 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 of returns of the samples banks do not have the some features being with in the range of 5.23% to 16.12%. Return on the average stock is 5.51% over the period. All the shares under review generated higher rate of return them the market portfolio except NABIL Bank Ltd. the prices rate of return them the market portfolio except NABIL Bank ltd. the higher rate of return them the marker portfolio except NABIL Bank ltd. the price of shares of bans under review except NABIL Bank ltd. are under priced the marker forces will causes the price of NABIL Bank to slightly fall. The unsystematic risk of NBL is the highest one amongst the shares under review which is 95.59% and SCB of Nepal has the lowest one being 45.14%. The negative correlation coefficient of NBL (-.21) revenue that the return on the Bank goes down if the market return goes up. The rest of the shares moved in the direction the market moves. By observing the individual shares moved in the direct the market moves. By observing the individual shares beta coefficient, most of the shares appear to bee defensive as beta coefficient are less them one. However, beta of the stocks of NB Bank SCB is grater than one indicating that the shares are more risky than the market. On the basis of findings, Khadka concluded that in Nepalese capital market, the contribution of real sector is negligible. Thought the shares of commercial Banks in Nepal are heavily traded in NEPSE, none of the share price is correctly priced. Therefore, the price of all the shares except shares of NABIL Bank will have a positive price trend toward the equilibrium. He outlined following recommendations such as 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.

Manandher,(2015) "*A Study on Risk and Return Analysis on Common Stock of Listed Commercial Bank in Nepal"*. The main objective of the study is to analyze the risk return and other relevant variables that help in making decisions about investment on securities of the listed commercial banks. The other specific objectives of this study was to evaluate common stock of listed commercial bank in terms of risk and return and to perform sector wise comparison on the basis of market capitalization, to identity whether the share of commercial banks are overpriced, under priced or at

equilibrium price, to identify the correlation between returns of commercial banks, to construct optimum portfolio from listed common stock, to make relevant suggestion and practical idea and materialize recommendations based on findings. The finding of the study are among all the securities common stock is known to be must risky security, higher the risk higher will be the return, most of investors attached to common stock securities because of its higher expected returns, as for the investors it is important to analyze each investment, company to pentagonal returns with the risk and average the potential returns form an investment should compensate for the level of risk undertaken.

Tiwari, (2016) conducted a research on the title of "Risk and Return Analysis of Selected Finance Companies Listed in Nepal" on the specific object to analysis the risk and return associated with the common stock of six finance companies. They are Kathmandu Finance Co. Ltd., Samjhana Finance Co. Ltd., National Finance Co. Ltd., Citizen Investment Trust, Ace Finance Co. Ltd., and peoples Finance Co. Ltd. His research has been based on the collected data from the secondary source. Nepal Stock Exchange (NEPSE) Ltd is the main organization, which provides most of the data required for the study. For analyzing the data, he has used various statistical techniques of simple liner regression as well as other financial tools.He found that, all the finance company have positive expected return as well as most of the finance company has the return near to the average, one of the most important things to consider when choosing investment strength is the balance between risk and return that you are comfortable, all the investment involved certain amount of risk (i.e. standard deviation) as well as most of the finance company have the risk less than the average, investors should diversify their fund to reduce risk with the help of optimal portfolio concept, it is better to buy something that is going up and sell something that is going down.

Sharma, (2016) conducted a research on *"Risk and Return on Common Stock Investment of listed Commercial Banks in Nepal".* The basic objectives of this study are to assess the risks associated with return on the common stock investment on the basis of selective tools. The other specific objectives of this study are to examine risk and return of common stock of listed commercial Banks, to analyze risk and return of selected portfolios, to analyze risk and return relationship of individual stock with that

of market, to study systematic risks and unsystematic risk associated with security and to provide suggestions and recombination for the betterment of the selected Banks. The findings of this study was the return is the income received on a stock investment which is usually expressed in percentage. The highest return is seemed with EBL (i.e. 81.35%) which is maximum in the selected banks and the least return is seemed with HBL (31.34%) which is minimum of the selected banks.Risk is the variability of returns which is measured in terms of standard deviation. On the basis of Standard deviation C.S. of EBL is most risky. Since it has highest S.D. (i.e. 110.34%) and C.S. of HBL is least risky because of it has lowest S.D. (i.e. 18.12%) among the selected listed commercial banks.By analyzing the C.V, it is found that the C.V. of EBL (i.e. 135.64%) is highest and C.V. of HBL (i.e. 57.82%) is lowest among the selected listed commercial banks. We know that the coefficient of variation is more rational basis of investment decision which measures the risk per unit of return. On the basis of C.V. C.S. of HBL is best among all the studied banks. HBL has 0.5782 unit of risk per unit of return. But C.S. Of EBL has the 1.3564 unit of risk per unit of return.Correlation coefficient between all banks is positive that indicated there is high degree of positive correlation between them.

Neupane (2017), has done a *study on "Analysis of Risk and Return of Commercial banks",* the main objectives of the study are to assess the risk and return on common stock investment of listed commercial banks. The specific objectives of the study was to analyze the common stock in terms of risk and return, to identify whether stock of selected commercial banks are overpriced, under priced and equilibrium price, to identified optimum portfolio of the banks, to analyze the diversifiable and undiversifiable risk of the banks.The major finding of the study were the return is the income received on a stock investment, which is usually expressed in percentage. Expected return on common stock of EBL is maximum (52.97%). Similarly expected return of C.S. of HBL is (29.52%) and NIBL is 37.95%.Risk is the variability of returns which is measured in terms of standard deviation. On the basis of S.D., common stock of NIBL is most risky since it has high S.D. i.e. 0.6167 C.S of HBL is least because of its lowest S.D. of 0.4671, 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 EBL is best among all other banks. EBL has 1.0392 unit

of risk per 1 unit of return. But C.S. of NIBL has the highest risk per unit of return.NIBL is in the highest position (Rs. 32,001.08 in million) and EBL is in lowest position (Rs. 14525.78 in million) according to their inter bank market capitalization comparison.The portfolio return between NIBL and EBL is high i.e. 46.78% and NIBL & HBL is lower i.e. 30.41%.

2.3 Research Gap

There are number of research works performed by various researchers on the topic of "*Risk and Return Analysis of Nepalese Commercial Banks*". Some researchers used very few sample size which may not cover the whole population and other researchers used nominal fiscal period which may not provide the whole scenario of market. Some researchers used only statistical tools and techniques to analyze the risk and return of assets or securities of corporations. This research work on the topic of *"Risk and Return Analysis of Common Stock Investment of Nepalese Commercial Banks with References to EBL, NABIL and NEPAL SRBL"* has taken the five years data from F/Y 2069/70 to F/Y 2073/74 and five Commercial banks as sample. Thus, this study is different from other research works.

In the study of few thesis on the similar topic by past researchers, there has been found a poor analysis of risk and return. The previous researchers used the NEPSE Index, but this study finds out the conclusions using industry index i.e. banking index which is a sub-index. Banking index is computed on the basis of listed commercial banks. The main gap of this thesis is that it provides an idea about how to analyze the risk and return and conclude the under or overvaluation of common stock. The previous researchers only analyzed about the risk and return. They didn't give any suggestions about undervalued or overvalued stock. Thus, the present study provides more reliable and accurate conclusion than previous research works.

CHAPTER III

RESEARCH METHODOLOGY

The research methodology is the systematic way of solving research problems. Research methodology refers to the overall research processes, which a researcher conducts during his/her study. It includes all the procedures from theoretical foundation to the collection and analysis of data. As most of the data are quantitative, the research is based on the scientific models. It is composed of both parts of technical aspect and logical aspect on the basis of historical data.

3.1Research Design

Research design is a plan that specifies the sources and types of information relevant to the research problem. The research design of this study is descriptive. Descriptive in the sense that all the available data are analyzed by using various statistical tools and techniques such as return, standard deviation, coefficient of variation, correlation coefficient etc. This study is based on historical data. So, it is a historical research which covers the five years period data from the FY 2069/70 to FY 2073/74.

3.2Population and Sample

Population or universe refers to the entire group of people, events or things of interest that the researcher wishes to investigate. The population of this study is 28 companies listed in NEPSE under commercial banks groupat the end of Ashad,2075.A sample is a collection of items or elements from a population or universe. Hence, a sample is only a portion or subset of the universe or population. It comprises some observations selected from the population. Here, researcher has used cluster sampling to select the sample.The sample banks were chosen from Joint Venture Banks in Nepal which are performing better in the financial and stock market. The sample consists of 5 selected banks. Thus, these banks are chosen as sample for the study. The selected sample banks for the analysis are:

- NABIL Bank Limited (NABIL)
- Everest Bank Limited (EBL)
- Sunrise Bank Limited (SRBL)

3.3Data Collection Procedures

It shows the sources of data and how they are collected. Most of the data necessary for the research is collected from the secondary sources. Data related to the market prices of stocks, NEPSE index etc. is taken from the trading report published by NEPSE. Financial statements of commercial banks and their annual reports are also collected. The collection procedure is summarized below:

- Financial documents provided by the related banks on their website.
- Trading Report published by Nepal Stock Exchange Limited.
- Related websites of banks.
- Materials published in papers and magazines.
- Other related books and booklets.

3.4Data Analysis Tools

For the accomplishment of the envisaged objectives of this research study, various financial and statistical tools have been employed in the course of the analysis of data. These tools are;

3.4.1Standard Deviation and Variance

Investment in shares or stocks is always associated with risks. The extent of such risk has, therefore, been measured in terms of Harry Markowitz's "mean-variance" concept which states that returns were measured by mean return and the risk by the standard deviation or its square, variance. Standard deviation is a measure of the variability of the distribution of returns around its mean value, and hence shows the total risk involved in a single stock. In the symbolic form, standard deviation is;

$$\sigma_j = \sqrt{\frac{\sum(R_j - \bar{R}_j)}{n-1}}$$

Where,

σ_j = Standard deviation of the returns on the stock 'j'

R_j = Annual rate of return of stock 'j'

$\bar{R}_j$ = Average (Expected) rate of return of stock 'j'

n = number of observations.

Apart from the standard deviation, variance has also been used to measure the extent of risk in a stock. Variance is the square of the standard deviation, and as "mean-variance" concept states, higher the value, higher is the risk associated with the individual stock. In the symbolic form, variance is;

Variance (σ_j^2)= Variance of stock 'j'

3.4.2 Coefficient of Variation (C.V)

The standard deviation can sometimes be misleading in comparing the risk, or uncertainty, surrounding alternatives if they differ in size. In this case, the coefficient of variation is used to measure risk. It is the measure of relative dispersion (risk). It measures the risk per unit of return. Higher the coefficient of variation, greater is the risk.

Mathematically,

$$C.V = \frac{\sigma_j}{\bar{R}_j}$$

Where,

C.V= Coefficient of Variation

σ_j= Standard deviations of returns of stock 'j'

$\bar{R}_j$ = Expected return on stock 'j'.

3.4.3 Covariance (COV_{jm})

Covariance is a statistical measure of the degree to which two variables, such as 'R_j' and 'R_m' move together. The covariance between two variables, in this case is;

$$COV(R_j, R_m) = \sum (R_j - \vec{R}_j)(R_m - \vec{R}_m) \Big/ n-1$$

Where,

$COV(R_j, R_m)$ = covariance between the individual stock 'j' and the market 'm'

R_j= Annual rate of return of individual asset 'j'

R_m = Annual rate of market return

$\bar{R}_j$ = Expected rate of return of asset 'j' and

$\bar{R}_m$ = Expected rate of return of the market

n = number of observations

3.4.4 Correlation Coefficient (r_{jm})

The other measure for the extent of relationship and its direction between the single stock return and the market rate of return is the correlation coefficient. It can be directly derived from the covariance as;

$$r_{jm} = \frac{Cov_{jm}}{\sigma_j \sigma_m}$$

Where,

r_{jm} = Correlation coefficient between stock 'j' and market 'm'

Cov_{jm} = Covariance between stock 'j' and market 'm'

σ_j = Risk of the stock 'j'

σ_m = Risk of the market 'm'

The covariance may have any positive or negative value whereas the value of the correlation coefficient ranges from +1 to -1.

In the case of the covariance, if it is positive, 'j' and 'm' move together. Conversely, if it is negative, the two variables, 'j' and 'm', tends to move the opposite direction. The covariance, however, does not affect the portfolio's expected return.Unlike the covariance, correlation coefficient reveals the degree or strength of relationship between the returns two variables i.e. 'j' and 'm'. A positive correlation coefficient indicates that the returns from two variables generally move in the same direction, whereas a negative correlation coefficient implies that they generally move in opposite directions. The stronger the relationship, the higher the correlation coefficient is to one of the two extreme values. A zero correlation coefficient implies that the returns from two variables are uncorrelated; they show no tendency to vary together in either a positive or negative linear fashion.

3.4.5 Beta Coefficient

Beta coefficient (β), therefore, measures the co-movement of a security in relation to the market. Hence, it shows the market sensitivity of stock. Higher the beta (β), greater is the sensitivity and reaction to the market movement. Beta coefficient of a particular stock may be <1, =1 and>1 ($1 \leq \beta \leq 1$), whereas beta coefficient of the market is always equal to 1. A stock with $\beta > 1$ is considered to be aggressive and more

risky than market. A stock with β<1 is considered to be defensive and as such less risk than market. Mathematically,

$$B_j = \frac{Cov(R_j, R_m)}{\sigma_m^2}$$

Where,

β_j= beta coefficient of the stock 'j'

$COV(R_j, R_m)$ = Covariance of return of stock 'j' and return of the market 'm'

σ^2_m= Variance of the market return

3.4.6 Systematic and Unsystematic Risk

Standard deviation of an individual stock, however, does not indicate its contribution to the risk and return of a diversified portfolio so it can be segregate to systematic and unsystematic risk.

Total risk (σ_j) can also be defined as the sum of systematic risk plus unsystematic risk. Systematic risk has its source factors that affect all marketable assets and thus cannot be diversified away. The sources of systematic risk are market-pervasive. Unsystematic risk can be reduced through diversification. The relationships among total risk, systematic risk and unsystematic risk are shown below as described in Sharpe index model.

Total risk (σ_j) = Systematic risk + Unsystematic risk

Systematic risk (SR) = $\beta_j \times \sigma_m$

Unsystematic risk (UR) = $TR - SR$

Where,

β_j= Beta of stock 'j'

σ_m= Standard deviation of market

TR = Total Risk

SR = Systematic Risk

3.4.7CAPM

Apart from analysis of risk and return on stock, the investor also needs to know about pricing of stock. Investor generally buys the stock with undervalued. For this, CAPM model can be used. It is a model that describes the relationship between risk and expected (required) return. If the expected return using the CAPM is higher than the investor's required return, the security is undervalued and the investor should buy

it.Ifthe expected return using the CAPM is lower than the investor's required return, the security is overvalued and should be sold.If we assume that unsystematic risk is diversified away, the required rate of return for stock 'j'is

$$R_j = R_f + (\overline{R}_m - R_F)\beta_j$$

Where,

R_j= Required rate of return for stock 'j'

R_f = Risk Free rate

$\overline{R}_m$ = Market Expected return

β_j = Beta of Stock 'j'

3.5 Data Description and Sources

Data are collected for analysis. The data can be analyzed by using financial and statistical tools. A brief description of the terms used in this study is as follows:

3.5.1 Market Price of Stock

The major data of this study is market price of stock. The market price of a firm's stock represents the value that market participants place on the company. It is taken from the annual reports of all four sample banks used in analysis of this study.

3.5.2 Dividend

Dividend is return to the shareholders for their investment. It can be given in the form of cash or shares or both. Apart from cash dividend, if company offers dividend in the form of shares, its monetary valuation is hardly possible and creates difficulties. However the formula for the valuation of the total dividend has been specified as:

$$TD_t = CD_t + SD_t\% \times MPS_{(t+1)}$$

Where,

TD = Total Dividend

CD = Cash Dividend

SD = Stock Dividend

MPS= Market Price per Share

t = Time period

3.5.3 Annual return on Common Stock Investment

Annual return on common stock is also known as single period rate of return. It has been calculated as the ratio of received on investment plus any the market price of the proceeding period. Mathematically,

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

Where,

R_t=Actual Rate of Return of common stock at time‘t’

D= Cash dividend attime‘t’

P_t= MPS at time't'

P_{t-1} = MPS at time't-1'

3.5.4 Expected Rate of Return on Common Stock

Expected rate of return is simply the arithmetic mean of the actual rate of return. This is an average return on common stock. Mathematically,

$$\overline{R}_J=\frac{\sum R_j}{n}$$

Where,

$(\overline{R}_j)$ = Expected rate of return on stock ‘j’

n = Number of years that the return is taken

Σ = Sign of summation

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

This chapter is the main body of the study. The chapter includes analysis of collected data and their presentation. In this chapter, secondary data are analyzed in table, figure, chart and diagram form. Detail data of market price of stock, earning per share, dividend of each bank and relevant data of NEPSE index are presented and their interpretation and analysis is done. With reference to various readings and literature review in the proceeding chapter, effort is made to analyze and establish the relationship between risk and return of stock investment with a special reference to listed commercial banks. This chapter also analyzes the systematic and unsystematic risk of each commercial Bank. The main objective of the study is to present data and analyze them with the help of various financial and statistical tools.

4.1 Analysis of Market Movement

Index is one of the most important indicators of secondary market which is regarded as mirror of the economy of the country. NEPSE index group consists of different indices and they are computed as per market capitalization. Among them, overall NEPSE index is the oldest one which is being calculated from the initial days of NEPSE. There is only stock market in Nepal, known as Nepal Stock Exchange, shortly NEPSE. In the context of Nepalese financial market, average market movement is represented by the NEPSE index and average return or market return can be found by using NEPSE index. NEPSE index is calculated by considering all listed shares including that of promoter share of all listed companies at NEPSE.The NEPSE index is adjusted and changed continuously.

Table 4.1

NEPSE Index Movements

Fiscal Year	NEPSE Index Movement	% change in NEPSE Index
2069/70	518.27	-
2070/71	1036.11	49.98
2071/72	961.23	-7.79
2072/73	1718.15	44.05
2073/74	1582.67	-8.56

Source: NEPSE, 2074

Figure 4.1

NEPSE Index Movement

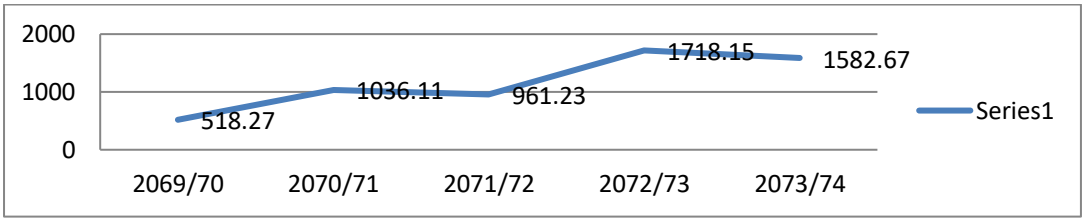


Figure 4.1 shows that the NEPSE index is 518.27 in the initial year which sharply increases and reaches to 1036.11 in the year 2070/71. In 2071/72 the NEPSE index decrease to 961.23 and then again begin to increase to 1718.15. In the year 2073/74 the index decreases to 1582.67.

4.2 Analysis of Banking Industry Index Movement

Commercial Banking index is a sub-index of NEPSE, which is computed only on the basis of commercial banking sector. The number of listed companies under commercial banks group by NEPSE is 28 at the end of FY 2073/74. The study takes sample of five Commercial banks for the analysis. Banking index is the mirror of the growth and development of the banking field.

Table: 4.2

Commercial Banking Industry Index Movement (Market Return)

Commercial Bank Index				
Fiscal Year	Index	Annual return (R_m)	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2069/70	504.48	0.4069	0.3287	0.1081
2070/71	945	0.8732	0.7950	0.6321
2071/72	831.35	-0.1203	-0.1984	0.0394
2072/73	1573.71	0.8930	0.8148	0.6639
2073/74	1418.81	-0.0984	-0.1766	0.0312
		$\sum R_m = 0.3909$		$\sum(R_m - \bar{R}_m)^2 = 1.4746$
Expected Return ($\bar{R}_m$)				**0.0782**
Variance (Market)				**0.3687**
Risk (σ_m)				**0.6072**
Coefficient of Variation (CV)				**7.7666**

Source: Annual report of NEPSE from and Appendix I

Table 4.2 shows the commercial banking industry movement in different years. The highest point of Banking index is 1573.71 in the year 2072/73and that of the lowest was 504.48 in the year 2069/70. Thereafter, it shows the increasing trend until the F/Y 2071/72 and later shows the decreasing trend till 2073/74.

Similarly, table 4.2 also shows that the expected rate of return are 0.4069, 0.8732, -0.1203, 0.8930 and -0.0984 respectively. The expected rate of market return of the market is 0.0782, while risk of the market is 0.6072.

4.3 Risk and Return Analysis of Selected Banks

As the study has taken a special reference to listed commercial banks, common stock of listed commercial bank are analyzed here separately. Among the listed banks, the study has focused on the five Commercial banks:

- Everest Bank Limited (EBL)
- NABIL Bank Limited (NABIL)
- Sunrise Bank Limited (SRBL)

4.3.1 Year wise MPS of Sampled Banks

Table 4.3

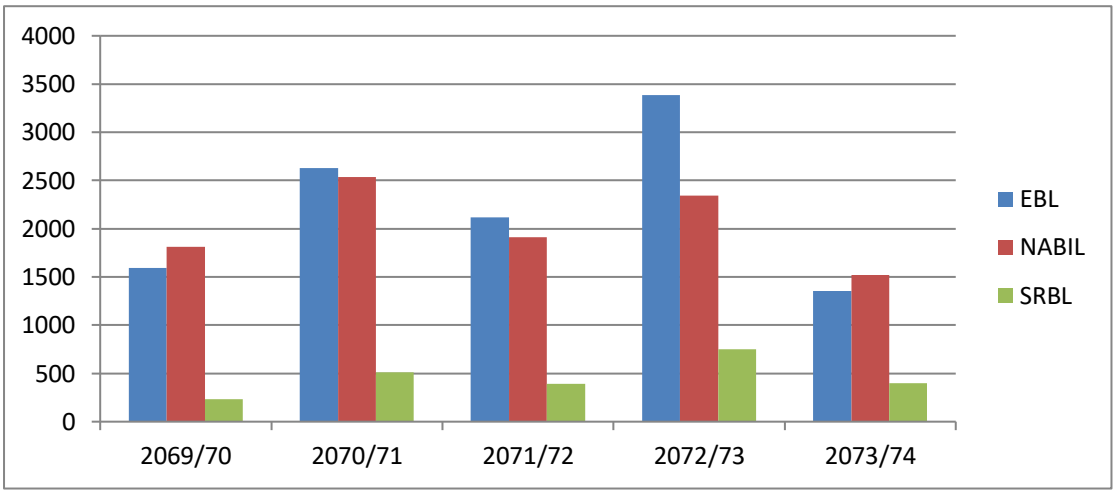
MPS of the Sampled Banks

Fiscal Year	EBL	NABIL	SRBL
2069/70	1591	1815	232
2070/71	2631	2535	510
2071/72	2120	1910	395
2072/73	3385	2344	748
2073/74	1353	1523	396
Mean	2216	2025.4	456.2
SD	732.58	366.38	170.69
CV	0.33	0.18	0.37

Source: Annual Report of the Selected Commercial Bank

Figures 4.2

MPS of the Sampled Banks



The above table shows that the average MPS of the EBL is the highest with the value of 2216, while SRBL has the lowest. However SRBL has the lowest standard deviation of 170.69. Nabil has the lowest CV of 0.18 making it the most predictable bank among all three banks.

Table also reflects the closing MPS of EBL. It is maximum in the F/Y 2072/73(i.e. Rs. 3385and the minimum in the F/Y 2073/74 i.e. Rs1353. The market price of EBL drops from the F/Y 2070/71 to 2071/72. However, it rises in the F/Y 2072/73 and then again declines in the F/Y 2073/74.

Similarly Table also reflects that the MPS of NABIL. It is maximum in the F/Y2070/71 i.e. Rs. 2535 and that of minimum of Rs. 1523 in the F/Y 2073/74. The market price of NABIL in the F/Y 2069/70is 1815and thereafter rises to Rs. 2535,Rs. 1910andRs. 2344 in the F/Y 2070/71, 2071/72and2072/73 respectively. It again decreases in the F/Y 2073/74 to Rs. 1523.

Similarly, Table reflects that the market price per share of SRBL is the highest (Rs.748) in the F/Y 2072/73 and the lowest (Rs. 232) in the F/Y 2069/70. From the F/Y2070/71, it is in rising trend and reachRs. 510 and decreases into Rs. 395 in the F/Y 2071/72 and again increases to Rs. 748 in the F/Y 2072/73, and thereafter it decreases and reaches to Rs. 396 in the F/Y 2073/74.

From the above table and figure we can see that highest Market Price per share is of EBL except in the year 2069/70. The lowest market Price per share is of the SRBL.

There has been a huge fluctuation in the MPS in all three banks. The highest MPS of EBL and SRBL is in the fiscal year 2072/73 while Nabil has the highest MPS in the year 2071/72.

4.3.2 Year wise EPS of Sampled Banks

Table 4.4

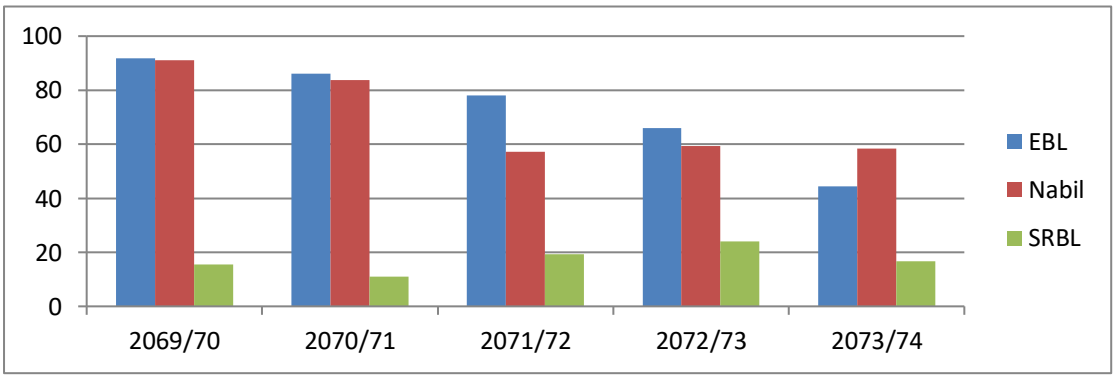
EPS of the Sampled Bank

Fiscal Year	EBL	NABIL	SRBL
2069/70	91.88	91.05	15.46
2070/71	86.04	83.68	11.03
2071/72	78.04	57.24	19.27
2072/73	65.97	59.27	23.93
2073/74	44.32	58.41	16.76
Mean	73.25	69.93	17.29
SD	16.87	14.43	4.26
CV	0.23	0.20	0.24

Source: Annual Report of the Selected Commercial Bank

Figures 4.3

EPS of the Sampled Banks



Average Earning per share of the Nabil is the highest among all three banks. SRBL has the lowest average of 17.29. The standard deviation of the SRBL is the lowest and the EBL being the highest. Nabil has the lowest CV of 0.20 making it the most predictable bank among all three banks.

The EPS of SRBL is the lowest in the F/Y 2070/71 (i.e. Rs. 11.03) and that of the highest of Rs. 23.93 in the F/Y 2072/73. The EPS of NABIL is minimum in the F/Y 2071/72 i.e. Rs. 57.24and the maximum of Rs. 91.05 in the F/Y 2069/70.

There is a decreasing trend of the EPS of the EBL, while NABIL and SRBL has the fluctuating trend.

4.3.3 Year wise PE Ratio of Different Banks

Table 4.5

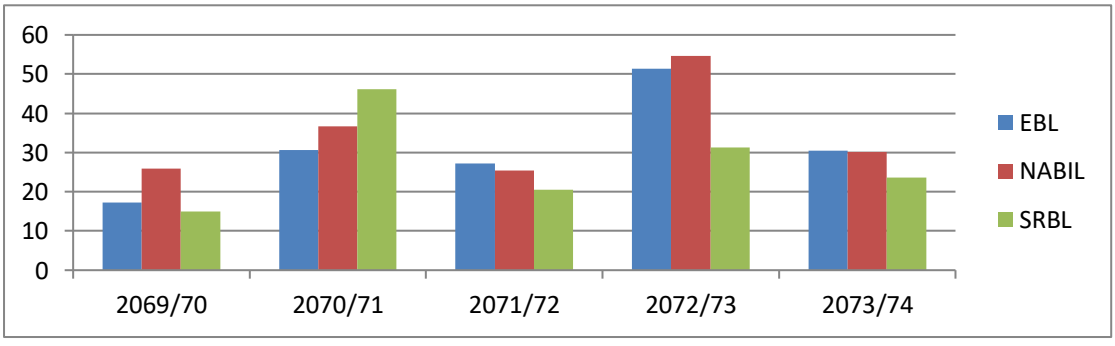
PE Ratio of the Sampled Banks

Fiscal Year	EBL	NABIL	SRBL
2069/70	17.32	25.95	15
2070/71	30.58	36.75	46.22
2071/72	27.17	25.46	20.5
2072/73	51.31	54.68	31.26
2073/74	30.53	30.22	23.63
Mean	31.38	34.61	27.32
SD	11.08	10.82	10.81
CV	0.35	0.31	0.40

Source: Annual Report of the Selected Commercial Bank

Figures 4.4

PE Ratio of the Sampled Banks



The maximum and the minimum P/E ratio of EBL are 51.31 times and17.32 times in the F/Y 2072/73and2069/70 respectively. Similarly, EPS fluctuates every year. It is Above table shows that EBL pays both the cash and stock dividend in each fiscal year. However, stock dividend fluctuates more than cash dividend. The highest cash

dividend is paid in the F/Y 2069/70 and 2071/72 respectively (i.e. Rs. 50 per share) and in the fiscal year 2071/72 the cash dividend per share is 5.

the highest in the F/Y 2069/70 (i.e. Rs. 91.88) and the lowest in the F/Y 2073/74 i.e. Rs. 44.32. The P/E ratio of SRBL is maximum (46.22) in the F/Y 2070/71 and the minimum (15 times) in the F/Y 2069/70. The P/E ratio of NABIL is the highest in the F/Y 2072/73and that of the lowest in the F/Y 2071/72 i.e. 54.68 times and25.46 times respectively.

4.3.4 Year wise Total Dividend of Sampled Banks

Table 4.6

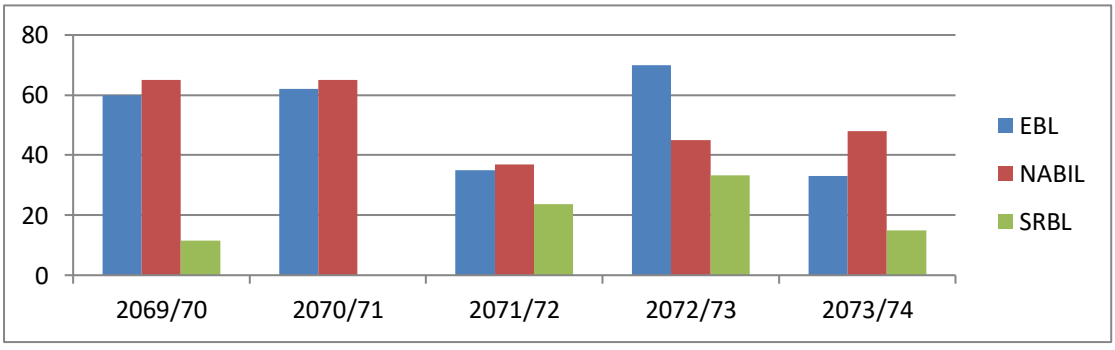
Total Dividend of the Sampled Banks

Fiscal Year	EBL	NABIL	SRBL
2069/70	60	65	11.58
2070/71	62	65	0
2071/72	35	36.84	23.63
2072/73	70	45	33.33
2073/74	33	48	15
Mean	56.75	52.96	17.14
SD	15.09	11.25	11.25
CV	26.58	21.24	65.64

Source: Annual Report of the Selected Commercial Bank AND Appendix II,III & IV

Figures 4.5

Total Dividend of the Sampled Banks



Above table represents that the NABIL bank pays the cash dividend and stock dividend in each fiscal year. The bank pays the cash dividend of Rs. 40 in the F/Y 2069/70andRs. 45 in F/Y 2070/71and thereafter decreases to Rs. 6.84 by 2071/72. Thereafter, it increases to Rs. 15 in the F/Y 2072/73. Finally it increases in the final year to Rs. 18.

Above table reveals that the SRBL pays cash dividend and stock dividend in each F/Y. The cash dividend is Rs. 0.58 in the F/Y 2069/70 and 1.13 in the year 2071/72. Other than those years, SRBL has not paid the cash dividend.

4.3.5 Overall Risk and Return Results of EBL

The overall risk and return of EBL is tabulated below:

Table: 4.7

Overall Risk and Return Results of EBL

Variables	**EBL**	**NABIL**	**SRBL**
Expected Return ($\overline{R}$)	0.4779	0.3504	0.6198
Risk (σ)	0.6513	0.4365	0.7409
Variance $(\sigma)^2$	0.4242	0.1906	0.5489
Coefficient of Variation (CV)	1.13629	1.2460	1.1953
Covariance between return on Banking industry and return of EBL (COV)	0.2771	0.1623	0.3409
Correlation between return of EBL and return of Banking industry (r)	0.7006	0.6123	0.7577
Beta Coefficient (β)	0.7516	0.4402	0.9246
Systematic Risk (SR)	0.4563	0.2673	0.5614
Unsystematic Risk (USR)	0.1950	0.1692	0.1795

Source: Appendix VII-VIII

Above Table reveals that the expected rate of return of EBL is positive (i.e. 0.4779) with the S.D of 0.6513and CV of 1.13629. This represents that to receive per unit return 1.13629 unit of risk must bear.

The beta coefficient of EBL is 0.7516 which is lower than 1 and therefore, this is a defensive stock and found to be less risky. Correlation coefficientbetweencommercial banking index and EBL is 0.7006 which is positive and it shows the positive relation.

The EBL has 0.4563 systematic risks and0.1950 unsystematic risks out of total risk of 0.6513.

EBL has 0.1950 unsystematic risk which can be diversified which the management of the company should focus to minimize and systematic risk which can't be diversified. Since the systematic risk is very high in the company, it cannot be reduced through diversification. All equity investors have to bear this risk.

The Table represents that the expected rate of return of NABIL is positive (i.e. 0.3504) with the S.D of 0.4365and CV of 1.246. It means that to get per unit return, the investor must bear 1.246 unit of risk.

The beta coefficient of NABIL is 0.4402 which is less than 1 and therefore, it is defensive stock. The correlation coefficient between the banking industry and NABIL is 0.6123which shows the positive relation between industry and NABIL's stock. The systematic risk and unsystematic risk of NABIL is 0.2673and0.1692 unit from the total risk respectively.

Figure shows that the NABIL has unsystematic risk that can be diversifiable which the management of the company should focus to minimize and systematic risk which can't be diversifiable. Since the systematic risk is very high in the company, it cannot be reduced through diversification. All equity investors have to bear this risk.

Above tableshows that the expected return of SRBL is positive (i.e. 0.6198) with the S.D of 0.7409 and CV of 1.1953. This indicates that to achieve per unit return, 1.1953 unit of risk must bear.

The beta coefficient ofSRBL is 0.9246 which is lower than 1 and therefore, it is a defensive asset and considered to be less risky. The correlation coefficient between Banking industry andSRBL is positive (i.e. 0.7577 which shows the positive relation between banking industry and stock of SRBL. Out of total risks, SRBL's stock has 0.5614 systematic risks and 0.1795 unsystematic risks.

It also shows that the systematic risk of SRBL is 0.5614 which can't be diversifiable. Since the systematic risk is very high in the company, it cannot be reduced through diversification. All equity investors have to bear this risk. However, the unsystematic risk is 0.1795 that can be diversifiable.The management of the company focuses to minimize the type of risk.

4.4 Comparative Analysis of Selected Commercial Banks based on Risk and Return

From the above calculation and presentation, the expected return, standard deviation and coefficient of variation is presented in tabulation form.The following table shows the expected return, standard deviation and coefficient of variation of the selected banks in the study period of five years i.e. from F/Y 2069/70 to 2073/74.

Table: 4.8

Expected Return, Standard Deviation and Coefficient of Variation of the Sampled Banks

S.N	Commercial Banks	Expected Return $(\overline{R})$	Standard Deviation (S.D)	Coefficient of Variation $(C.V)$
1.	EBL	0.4779	0.6513	1.13629
2.	NABIL	0.3504	0.4365	1.2460
3.	SRBL	0.6198	0.7409	1.1953

Source: Appendix VII-VIII

Table 4.8 shows the comparison of expected returns, standard deviation and the coefficient of variation between the selected banks. The statistical results imply that over the study period, SRBL has the highest expected return of 0.6198 whereas NABIL has the lowest expected return of 0.3504. Similarly, EBL has 0.4779expected return. Based on the standard deviation (risk), SRBL has the highest standard deviation of 0.7409 while NABIL has the lowest standard deviation of 0.4365.The remaining banks EBL0.6513of risk. Looking at the coefficient of variation, the share of has the lowest risk per unit of return. Investment in common stock of EBL is desirable because for 1 unit of return, the investor has to bear only 1.13629 unit of risk. The highest CV is of NABIL of 1.2460. The CV of SRBL is 1.1953.

Table: 4.9

Proportion of Systematic Risk and Unsystematic Risk

S.N	Commercial Banks	Systematic Risk	Unsystematic Risk
1.	EBL	70.06	29.94
2.	NABIL	61.24	38.76
3.	SRBL	85.18	14.82

Source: Appendix IX

The highest systematic risk proportion is of the SRBL is 85.18and the lowest is of the NABILwith 61.24, while the lowest unsystematic risk proportion is of SRBL is 14.82 and NABIL is highest with 38.76.

4.5Market Sensitivity (Beta Coefficient Analysis)

Market sensitivity of the stock is explained by its beta coefficient. Beta coefficient (β) measures how much is the systematic risk on the assets. It measures the responsiveness of a security to movement in the market. Beta coefficient shows the volatility of stock which cannot be diversifiable. Beta coefficient of market is always equal to 1.

Table: 4.10

Beta Coefficient of Selected Commercial Banks

S.N	Selected Banks	Beta (β_j)	Types of Stock
1.	EBL	0.7516	Defensive
2.	NABIL	0.4402	Defensive
3.	SRBL	0.9246	Defensive

Source: Appendix VII-VIII

Table 4.10 shows that the beta coefficients of all the banks are less than 1. So, the stocks of Everest, SRBL and Nabil are defensive type of stocks. SRBL has the highest beta coefficient than other banks. This implies that the stock of SRBL is strong contributor and highly influenced by day-to-day market trading. Hence, it is more volatile to the market.

4.6Evaluation of Stock Price

Table 4.11

Evaluation of the Stock Price

Bank	Expected Return	Required Return	Pricing
EBL	47.79	6.4	Under Priced
NABIL	35.04	4.62	Under Priced
SRBL	61.98	7.81	Under Priced

Appendix: X

The result shows EBL, NABIL & SRBL banks are under priced due to the expected return is greater then required rate of return. So rational investor or stockholder should hold the stock at current market situation.

4.7 Major Findings of the Study

The major findings from the study of risk and return of selected commercial banks can be summarized below:

- The expected rate of return on common stock of SRBL is maximum (i.e. 0.6198) whereas the rate is minimum (i.e. 0.3504) in case of NABIL's stock.
- On the basis of S.D., common stock of SRBL is most risky since it has the highest S.D. of 0.7409 and that of EBL is least risky because of its lowest S.D. of 0.4365. On the other hand, we know that C.V is more rational basis of investment decision which measures the risk per unit of return. Based on C.V, the common stock of EBL is best among all other banks since it has the lowest C.V of 1.13629. Whereas the common stock of NABIL has the highest risk per unit of return with CV of 1.2460.
- The covariance and correlation coefficient of Everest, Nabil and SRBL are positive which shows that they move the same direction of commercial banking index.
- The beta coefficient of SRBL is most volatile i.e. $\beta = 0.9246$ and that of NABIL is least volatile i.e. $\beta = 0.4402$. Since, the value of beta for all the bank is lower than 1, the banks' stock is defensive.
- The highest systematic risk proportion is of SRBL 85.18 and the lowest is of the NABIL is 61.24, while the lowest unsystematic risk proportion is of SRBL 14.82 and is highest with 38.76 of NABIL.
- The common stocks of all the banks are overpriced and it is recommended that stockholder should sell the stock at current market situation.
- Most of the previous research has found the result that at least one bank to be aggressive, while researcher found all five banks are defensive in the F/Y 2073/74.
- All the previous research conducted in the literature review had the value of stock overpriced. The same was the result with our Findings.

CHAPTERV

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1Summary

The study has been primarily focused on the risk and return analysis of common stock investment of Nepalese commercial banks among other securities. Investors of common stock are ultimate owners of the company, who are ultimately associated with risk and return. Risk and return is an updated concept for modern investment decision and acts as basic foundation of safer investment. Risk and return analysis should always be addressed before investment. So as to maximize the share price, the financial manager must learn to assess two key determinants i.e. risk and return. It becomes easier when there is existence of developed and healthy stock market.

Common stock is the most risky security and life blood of stock market and investment in common stock of company can't ensure the annual return and the return on principal. Therefore, investment in the common stock is very sensitive on the ground of risk. Dividend to common stockholder is paid only if the firm makes on operative profit after tax preference dividend. Common stock has attracted more investors in Nepal. Rush in the primary market during the primary issue is one of the examples. But private investor plays a vital role in economic development of the nation by mobilizing the disposed capital in different from the society.

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

The fundamental objective of the study is to evaluate the risk and return of selected commercial banks. Among the 28 companies listed in NEPSE under commercial banks group during the FY 2073/74, only five Commercial banks namely EBL, NABIL, andSRBL are taken as reference to analyze the risk and return. Data of last five years are taken for the study. Market price per share and dividend per share of the concerned banks are used to analyze the risk and return of the common stock of the banks. Secondary data are collected from the NEPSE, NRB, SEBON, related banks and their websites. Other subjective types of information are collected through the officials of NRB, SEBON and NEPSE. While analyzing the risk and return, various financial and statistical tools such as expected return, standard deviation, coefficient of variance, coefficient of correlation and required rate of return have been used for the analysis and interpretation of the data.

5.2Conclusion

The expected rate of return on common stock of SRBL is maximum (i.e. 0.6198) whereas the rate is minimum (i.e. 0.3504) in case of NABIL's stock. On the basis of S.D., common stock of SRBL is most risky since it has the highest S.D. of 0.7409 and that of EBL is least risky because of its lowest S.D. of 0.4365. On the other hand, we know that C.V is more rational basis of investment decision which measures the risk per unit of return. Based on C.V, the common stock of EBL is best among all other banks since it has the lowest C.V of 1.13629. Whereas the common stock of NABIL has the highest risk per unit of return with CV of 1.2460.

The highest systematic risk proportion is of SRBL 85.18 and the lowest is of the NABIL is 61.24, while the lowest unsystematic risk proportion is of SRBL 14.82 and is highest with 38.76 of NABIL.

The covariance and correlation coefficient of Everest, Nabil and SRBL are positive which shows that they move the same direction of commercial banking index.

5.3 Recommendations

Based on the major findings of the study, the following recommendations have been developed:

- Among the selected Sampled Commercial banks, the stocks of all the commercial banks are underpriced. So, an investor is recommended to hold these stocks to maximize the benefit from the investment.
- The coefficient of variation of is lowest among the selected bank so the risk per unit return is least of bank than stock of other banks. Hence, it is prescribed to select the common stock of for individual stock investment due to its lowest C.V. compared to other selected banks.
- Unsystematic risk arises from such factors which are concerned with the firm. This risk is unique to a particular security. Examples are: strike, change in management. This type of risk can be diversified by various measures like establishing a proper and stable management within the company, avoiding conflict between management and workers, strong policies and rules within the organization, etc. And Systematic risk refers to variability in return on investment due to market factors that affect all investments in a similar fashion. Examples of such factors are: Level of economic activities (recession or boom), variation in interest rates, inflation, political developments, etc. This type of risk is non-diversifiable; it cannot be reduced through diversification. All equity investors have to bear this risk.
- If an investor is risk averter investor can invest on defensive type of common stock. Since, the stock of Everest, , Nabil and SRBL have beta less than 1, the stocks are defensive and less volatile than market.
- Investment on common stock is a risky job. Investors have to focus not only on return but also on risk. Higher the return, higher will be the risk definitely. However, it does not guarantee return and principal both. Hence, it is risk in the short term investment and therefore, the investors need to be prepared for it. The financial institutions and companies should provide the real financial statements. The data provided by NEPSE and the company itself is different in certain cases. It creates confusion to the possible investor about the actual financial condition of the company. The value of assets and liabilities should not be manipulated by the company to show the under profitability or over profitability.

- Further researches could be conducted on the different aspect of unsystematic risk. Different factor that affect the unsystematic risk could be studied to analyze it's impact on the Risk and Return of these sampled banks.

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Appendix- I

Commercial Bank Index

Fiscal Year	Index	Annual return (R_m)	$(R_m - \bar{R}_m)$	$(R_m - \bar{R}_m)^2$
2068/69	358.57			
2069/70	504.48	0.4069	0.3287	0.1081
2070/71	945	0.8732	0.7950	0.6321
2071/72	831.35	-0.1203	-0.1984	0.0394
2072/73	1573.71	0.8930	0.8148	0.6639
2073/74	1418.81	-0.0984	-0.1766	0.0312
		$\sum R_m = 0.3909$		$\sum(R_m - \bar{R}_m)^2 = 1.4746$
Expected Return ( )				**0.0782**
Variance (Market)				**0.3686**
Risk (Market)				0.**6072**

Calculation of Annual Return from banking index, which is calculated by using following formula:

$$R_m = \frac{P_1 - P_0}{P_0} \times 100$$

For the F/Y 2069/70,

$$= \frac{504.48 - 358.57}{358.57} = 0.4069$$

For the calculation of other F/Y, the same process will be repeated.

$$\text{Expected Return } (\bar{R}_m) = \frac{\sum R_m}{N} = \frac{0.3909}{5} = 0.0782$$

$$\text{Risk } (\sigma_m) = \sqrt{\sum (R_m - \bar{R}_m)^2 \big/ N-1} = \sqrt{1.4746 \big/ 5-1} = 0.0.6072$$

Variance (σ_m^2)= 0.3686

Appendix – II

Calculation of Total Dividend and Annual Return of EBL

Everest Bank Ltd.					
Fiscal Year	MPS	Cash Dividend (Rs)	Stock Dividend (%)	Total Dividend (%)	Annual Return (R_{EBL})
2068/69	1033	0	0	0	0
2069/70	1591	50	10	60	0.16815
2070/71	2631	50	12	62	0.8450
2071/72	2120	5	30	35	0.1937
2072/73	3385	0	70	70	1.0434
2073/74	1353	0	33	33	-0.5360
2074/75	660	0	0		

Here,

Stock Dividend (in Rs.) =Current Year Stock Dividend in %×MPS $_{(t+1)}$

For the F/Y 2069/70,

$$\text{Stock Dividend} = 10\% \times 1033 = Rs.103.3$$

Total Dividend = Cash Dividend + Stock Dividend (Rs)

= Rs. 50 + (10% of 2631)= Rs. 313.1

For Annual Return,

$$R_{EBL} = \frac{(P_1 - P_0) + D_1}{P_0}$$

For the F/Y 2069/70,

$$= \frac{1591 - 1630 + 313.1}{1630} = 0.16815$$

The same process will be repeated for the calculation of stock dividends and annual rate of return for other fiscal years as well as same process is used in other selected banks.

Appendix – III

Calculation of Total Dividend and Annual Return of Nabil Bank Limited

Nabil Bank Ltd.					
Fiscal Year	MPS	Cash Dividend (%)	Stock Dividend (%)	Total Dividend (%)	EPS
2069/70	1815	40	25	65	91.05
2070/71	2535	45	20	65	83.68
2071/72	1910	6.84	30	36.84	57.24
2072/73	2344	15	30	45	59.27
2073/74	1523	18	30	48	58.41

Appendix – IV

Calculation of Total Dividend and Annual Return of SRBL

Fiscal Year	MPS	Cash Dividend (%)	Stock Dividend (%)	Total Dividend (%)	EPS	PE Ratio
2069/70	232	0.58	11	11.58	15.46	15
2070/71	510	0	0	0	11.03	46.22
2071/72	395	1.13	22.5	23.18	19.27	20.5
2072/73	748	0	33.33	33.33	23.93	31.26
2073/74	396	0	15	15	16.76	23.63

Appendix – V

Calculation of Expected Return, Risk, Coefficient of Variation, Covariance, Correlation, Beta Coefficient, Systematic Risk and Unsystematic Risk of EBL

EVEREST BANK LIMITED					
Fiscal Year	(R_{EBL})	(R_{EBL}-$\bar{R}_{EBL}$)	(R_{EBL}-$\bar{R}_{EBL}$)^2	($R_m - \bar{R}_m$)	(R_{EBL}-$\bar{R}_{EBL}$).($R_m - \bar{R}_m$)
2069/70	0.8433	0.3654	0.1335	0.3287	0.1201
2070/71	0.8450	0.3671	0.1348	0.7950	0.2919
2071/72	0.1937	-0.2842	0.0808	-0.1984	0.0564
2072/73	1.0434	0.5656	0.3199	0.8148	0.4608
2073/74	-0.5360	-1.0138	1.0279	-0.1766	0.1790
	Σ (R_{EBL}) = 2.3894		$\Sigma(R_{EBL}$-$\bar{R}_{EBL})^2$= 1.6968		$\Sigma(R_{EBL}$-$\bar{R}_{EBL}).(R_m - \bar{R}_m) = 1.1083$

Here,

Expected Return $(\overline{R}_{EBL}) = \frac{\sum R_{EBL}}{N} = 0.4779$

Risk $(\sigma_{EBL}) = \sqrt{\frac{\sum (R_{EBL} - \overline{R}_{EBL})^2}{N-1}} = 0.6513$

Variance $(\sigma_{EBL})^2 = 0.4242$

Coefficient of Variation (C.V) = $\frac{\sigma_{EBL}}{\overline{R}_{EBL}} = 1.3629$

Covariance between Return of Commercial Banking Index and Return of EBL ($COV_{EBLandBI}$)

$= \frac{\sum (R_{EBL} - \overline{R}_{EBL}).(R_m - \overline{R}_m)}{N-1} = \frac{1.1083}{5-1} = 0.2771$

Correlation Coefficient between Commercial Banking Index and EBL

$(r_{m,EBL}) = \frac{COV_{EBL\&m}}{\sigma_{EBL} \times \sigma_m} = 0.7006$

Beta Coefficient $(\beta_{EBL}) = \frac{COV_{EBL\&m}}{\sigma^2 m} = 0.7516$

Systematic Risk (SR) = $\beta_{EBL} \times \sigma_m = 0.4563$

Unsystematic Risk (USR) = $\sigma_{EBL} - SR = 0.6513 - 0.4563 = 0.1950$

Appendix – VI

Findings for Everest Bank	
Variables	**Value**
Expected Return ($\overline{R}_{EBL}$)	0.4779
Risk (σ_{EBL})	0.6513
Variance (σ_{EBL})^2	0.4242
Coefficient of Variation (CV)	1.13629
Covariance between return on Banking industry and return of EBL ($COV_{EBL,BI}$)	0.2771
Correlation between return of EBL and return of Banking industry ($r_{EBL,BI}$)	0.7006
Beta Coefficient (β_{EBL})	0.7516

Systematic Risk (SR)	0.4563

The same process will be used for the calculation of Expected Return, Risk, Coefficient of Variation, Covariance, Correlation, Beta Coefficient, Systematic Risk and Unsystematic Risk of other selected banks as well.

Appendix – VII

Findings for Nabil Bank	
Variables	**Value**
Expected Return ($\overline{R}_{NABIL}$)	0.3504
Risk (σ_{NABIL})	0.4365
Variance (σ_{NABILL})^2	0.1906
Coefficient of Variation (CV)	1.2460
Covariance between return on Banking industry and return of NABIL ($COV_{NABIL,BI}$)	0.1623
Correlation between return of NABIL and return of Banking industry ($r_{NABIL,BI}$)	0.6123
Beta Coefficient (β_{NABIL})	0.4402
Systematic Risk (SR)	0.2673

Appendix – VIII

Finding of SRBL	
Variables	**Value**
Expected Return ($\overline{R}_{SRBL}$)	0.6198
Risk (σ_{SRBL})	0.7409
Variance (σ_{SRBL})^2	0.5489
Coefficient of Variation (CV)	1.1953
Covariance between return on Banking industry and return of SRBL ($COV_{SRBL,BI}$)	0.3409
Correlation between return of SRBL and return of Banking industry ($r_{SRBL,BI}$)	0.7577
Beta Coefficient (β_{SRBL})	0.9246
Systematic Risk (SR)	0.5614
Unsystematic Risk (USR)	0.1795

Appendix – IX

Calculation of Proportion of Systematic and Unsystematic Risk

Bank	**Systematic Risk**	**Unsystematic Risk**	**Total Risk**
Everest Bank	70.06	29.94	0.6513
Nabil Bank	61.24	38.76	0.4365
SRBL Bank	71.96	28.04	0.6993

For the calculation of proportion of systematic and unsystematic risk, we have,

Proportion of systematic risk $= \frac{Systematic\ risk}{Total\ risk} \times 100$

Proportion of unsystematic risk $= \frac{Unsystematic\ risk}{Total\ risk} \times 100$

Appendix – X

Calculation of Expected Return under CAPM method

Bank	Expected Return	Required Return
Everest	47.79	6.4
Nabil	35.04	4.62
SRBL	61.98	7.81

For the calculation of required return under CAPM method, we have,

$R_j = R_f + (\overline{R}_m - R_F)\beta_j$

For Everest Bank,

$R_{EBL} = R_f + (\overline{R}_m - R_f)\beta_{EBL}$

=2.1+ (7.82-2.1)0.7516

= 6.4%

The same process is repeated for calculation of expected return under CAPM method of other selected banks.