CHAPTER-I

INTRODUCTION

1.1 Background of the Study

In a general view, bank is an institution which collects the money from people and also gives loan if anyone needs the fund. But in the broad sense, bank is that institution which polls the scatter fund and utilizes it into the productive sector that may contribute in the development of the economy. Bank deals with the money also it deals with credit and remittance and expanding business and perform the agent between the two parties (Bhandari; 2004).

Bank is an institution which performs the intermediary between the surplus and deficit in the financial resources. A very economic activity is directly or indirectly channelled through the bank. Bank is the only one perfect institution which makes easier the investment. So we can say the bank plays a crucial role in the process of economic development and its importance is as a means of achieving economic growth and prosperity within the country. In the process of providing financial services, they assume various kinds of risk. Risk is defined as conduction in which exists an exposure to adversity. In addition, there is an expectation of what the outcome should look like. Therefore, risk is defined here as a conduction in which there exist a possibility of deviation from a desired outcome that is expected or hoped for. Other definitions include the restriction the restriction that risk is based on real world events, including a combination of circumstance in the external environment. We do not agree with this limitation. Potential risk that might occur in the future is excluded. In addition, we do not limit the range of risk to circumstance in the external environment. The term risk is linked to the possibility of deviation. This means that the possibility of risk can be expressed as a probability, ranging from 0 to 100 percent. Therefore, the probability is neither impossible nor definite. This definition does not the probability is neither impossible nor definite mentioned Books definition. This definition does not require that the probability be quantified, only that

it must exist. The probability of the adverse outcome must be between 0 to 100 percent.

Investment in its simplest from means employing money to generate more money in future. It is the sacrifice of current rupees for the future return there is always some degree of risk. Investment is not gambling rather than it should be systematic and scientific way of investment for the expected return. Each investor spends most of his/her life for capital formation, which is invested later on. That's why each should be rational for investing their surplus. But in replace concern, most of the investor run after the market trend without being leads them to run in the future beside good return. So, in this study we decide for where to invest one of among the various of banking assets.

Investment decision depends upon two factors i.e. risk and return. Risk is the fluctuation of actual returns and expected returns. The objective of risk and return analysis is that investors how to create more returns and decrease the risk. Portfolio analysis is to minimize risk at the given rate of return. Portfolio is known as mix of two and more assets to investment. The minimization of risk is possible by investing in two or various securities. The portfolio theory is concerned with the selection of optimal portfolios i.e. portfolio that provides the highest possible return for any specific level of risk or the lower possible risk for any specified rate of return. Portfolio theory has been developed for financial assets to making investment from selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio (Alexander, Sharpe & Bailey; 2003).

Risk and return arise simultaneously out of any financial assets on which investors invest their funds. To maximize return without considering risk is almost impossible. Risk and return are needed not only at the time of initial investment but also for the whole investment processes where major decision should be made.

Financial market facilitates the flow of funds from surplus to deficit units. Those financial markets that facilitate the flow of short- term funds, that is, less than one year are know as money market. While those that facilitate the flow of long-term funds are known as capital markets. There are two types of securities. Securities

having life less than one year are called money market securities and securities having long life, generally of more than one year are called capital market securities.

"Stock market is a financial market which probably has the greatest glamour and is perhaps the least understood. Some observers consider it as a legalized heaven for purpose is pocking winners" (Loric, Dodd and Kempton; 1985).

Security market is an important part of capital market. To enhance the situation of capital market needs to improve the condition of security market. In Nepalese context, institutional set up of security market began along with the establishment of security exchange center in 1977 A.D. potential investors must be motivated toward investing activities and it is possible only if they are provide knowledge of risk and return behavior of securities and other information regarding securities and its market. These all, ultimately, help investor to be confident and improve investment in financial assets accompanying with efficiency and effectiveness.

Return, on the other, is income received from an investment, which is mainly two types one, is cash flow (revenue) receipts and other is income earned by appreciation of investment. These foresaid terms should be quantified and examined the thoroughly to help investors achieve their investment goal. Risk and return, portfolio selection, portfolio performance evaluation, efficient and frontier set, capital assets pricing model etc. are the most important dimensions of investment and without these aspects we cannot assume investment (Fisher & Jordan; 2000).

Most of Nepalese investors invest in single security. Though, some of the investors invest in two or more security, it is found that they don't make any analysis of portfolio before creation of such securities to invest. They invest their funds in difference securities on the basis of expectation and assumptions of individual security rather than on the basis of effect of portfolio. So, it is necessary to make them well acquainted with these tools along with their practical implications on investment decision and evaluation. Generally, investors are risk-adverse meaning that given the choice they choose less risky assets for the same level of return. Investor always seeks higher return for more risk as risk premium. So, primary problem in investment is to identify the security which has low and high return. Risk can be reduced by the creation of the portfolio. Right portfolio can diversification and eliminate the unsystematic risk, which is associated with change, in return on the market as a whole

cannot be avoided. These risk and return, are obviously an important concept in investment and should be addressed. Commercial banking sectors have been fast growing situation at the current time. For investment in this sector should be analyzed carefully in terms of risk, return and portfolio creation. Reported profits, dividend is not enough base for rational investment and it is suggested not to quit from this sectors, risk and return should be performed between the firms of this industry to combine securities and to from portfolio.

Securities of losing company may prove to be useful to construct portfolio combining with the stock of profit making company (Pradhan, R. S; 1993).

1.2 Profile of Sample Companies

1.2.1 Everest Bank Limited

Everest Bank Limited (EBL) was registered on November 17, 1992 and came into operation on October 18, 1994 with an objective of extending professionalized and efficient banking services to various segments of the society. Today the bank has grown to become one of the leading banks in Nepal.

Punjab National Bank (PNB) joined hands with EBL as a Joint Venture in 1997 and turned it around to a highly profitable bank. There has been no looking back since then. PNB provides top management support under the Technical Service Agreement. PNB joint venture partner of EBL one of the largest nationalized bank in India having 114 years of banking history holds 20% equity.

Everest Bank has recognized the value of offerings a complete range of services and has pioneered in extending various customer friendly products such as home loan, education loan, EBL flexi loan, EBL property plus (future lease rental), home equity loan, vehicles loan, loan against share, loan against life insurance policy and loan for professional. The bank is providing customer friendly services through a network of 22 branches.

Everest Bank Limited was the first bank to introduce Any Branch Banking System (ABBS) in Nepal. All the branches of the bank are connected with ABBS which enables the customers to do all their transactions from any branches other than where they have their account. Everest Bank has introduced the Mobile Vehicle Banking

System to see the segment deprives of proper banking facilities through Birtamod branch, which is the first of its kind.

The bank has committed to provide excellent professional services and improve its position as a leader in the field of financial related services, use latest technology aimed at customer satisfaction and act as an effective catalyst for socio-economic developments. The bank was bestowed with the "NICCI Excellence award" twice in 1999 and 2003 by Nepal India chamber of commerce for its spectacular performance under finance sector and the bank has been conferred with "Bank of the Year 2006, Nepal" by the banker, a publication of financial times, London (www.ebl.com.np).

1.2.2 Nepal SBI Bank Limited

Nepal SBI Bank Ltd. (SBI) is the first Indo-Nepal joint venture in the financial sector sponsored by three institutional promoters, namely State Bank of India, Employees Provident Fund and Agricultural Development Bank of Nepal. Nepal SBI Bank was incorporated in Nepal on April 28, 1993, as a public limited company. It commenced operations on July 7, 1993, and is principally engaged in the business of banking, as defined in the Banks and Financial Institutions Act, 2006.

The bank is listed on Nepal Stock Exchange, Kathmandu. Nepal SBI Bank has since expanded into a network of 59 banking and non-banking outlets including 50 full-fledged commercial banking branches, 6 extension counters and 3 administrative offices. A network of 68 online ATMs covering all major cities of Nepal, 24 hours Mobile Banking and Internet Banking services support the delivery for speedier Customer Service. As on July16, 2011, the Bank with a staff complement of505 employees had equity of Rs. 2.1 billion and total assets of Rs. 46.1 billion, with more than 3,00,000 banking customers.

The Bank has been taking up diverse Community Service. Initiatives beyond the call of regular banking business, to establish itself as a responsible corporate citizen of this great nation. Its aim is to become "the banker to every Nepali" (Annual Reports of SBI; 2010/011).

1.2.3 NABIL Bank Limited

NABIL Bank Ltd., the first foreign joint venture bank in Nepal was established in 1984, under the company act 1964. It was incorporated with the objective of extending international standard modern banking services to the various sector of the

society. Pursuing its objective, Nabil bank provides a full range of commercial banking services through its 19 points of representation across the country and over 170 reputed correspondent banks across the globe. The mission of Nabil Bank is to be the "Bank of the 1st Choice". The slogan of NABIL Bank is "Your Bank at Your Service".

The bank expanded its banking services towards the different and parts of the country by expanding its branches. Besides banking, the bank also provides credit cards, international trade and bank guarantee, Tele banking, society for worldwide interbank financial telecommunications, safe deposit locker, Western Union Money Transfer, ATM (Automated Teller Machine), E-Banking and Remittance facilities to its clients (www.nabilbank.com.np)

1.2.4 Standard Chartered Bank Nepal Limited

Standard Chartered Bank Nepal Limited (earlier known as Nepal Grindlays Bank Ltd.) came into existence in 2043 (1987) as a joint venture between ANZ Grindlays and Nepal Bank Ltd. After acquiring of the Grindlays operation in the region by standard chartered in July 2001, it has become a subsidiary of Standard Chartered London, which holds 75% of shareholdings in the company with remaining 25% held by the public shareholders.

The bank has successfully completed 22 years of its operation in Nepal in 2011. The global network of Standard Chartered Group gives the Bank a unique opportunity to provide truly international banking in Nepal.

The Bank believes- "A satisfied customer is our most valuable award". The bank has been the pioneer in introducing 'customer focused' products and services in the country and aspires to continue to be a leader in introducing new products in delivering superior services. It is the first bank in Nepal that has implemented the Anti-Money Laundering policy and applied the 'Know Your Customer' procedure on all customer accounts (www.scbnl.com.np).

1.2.5 Bank of Kathmandu

Bank of Kathmandu (BOK) started its operation in March 1995 with the objective to stimulate the Nepalese economy and take it to newer heights. BOK also aims to facilitate the nation's economy and to become more competitive globally. The vision of BOK is to become a significant contributor to the economic development of Nepal

by distinguishing the Bank as an efficient, competitive, safe and top-quality financial institution and the mission of BOK is to offer financial services and become the "Bank of Choice" by dedicating the progress and growth of the institution to the community, customers, employees and stockholders.

November 30, 2011, will henceforth be marked as a milestone date in the history of the Bank, for it was on this day that an eminent panel of judges selected Bank of Kathmandu Ltd. as the deserving recipient of the "Bank of the Year – 2011" award. This prestigious award, established by The Banker – Financial Times, London, is the world's longest running international banking title. It is a testament to the strong management, sound business model and prudent risk approach of the winner Bank (www.bok.com.np)

1.2.6 Nepal Industrial and Commercial Bank

Nepal Industrial and Commercial Bank (NIC Bank) commenced its operation from Biratnagar on July 21, 1998. It is promoted by some of the most prominent business houses of Nepal. Thirteen years down the line, it is obvious that NIC has succeeded in playing a pioneering role in the banking sector. NIC Bank is listed with Nepal Stock Exchange (NEPSE) with 49% of shares held by the general public (more than 33,000 shareholders). Its market capitalization is about NPR.12,842 million at the end of July 16, 2011. NIC Bank has grown rapidly and now has 36 branches throughout the country with several more branches planned to be opened this year. All branches are interred- connected through V-Sat and are capable of providing real-time online transactions.

Among its many achievements, NIC Bank is the first commercial bank in Nepal to have received ISO 9001:2008 certification for Quality Management System. The Bank was also the first commercial bank in Nepal to have received the earlier version of its Quality Management System standard of ISO 9001:2000 in the year 2006. NIC Bank also became the first bank in Nepal to be provided a line of credit by International Finance Corporation (IFC) an arm of the World Bank Group under its Global Trade Finance Program, enabling the Bank's Letters of Credit and Guarantees to be accepted/confirmed by more than 200 banks worldwide. NIC Bank was also recognized as the "Bank of the Year 2007-Nepal" by The Banker. The bank was the first to introduce savings account with life insurance cover and the lowest interest

rate. The Bank also introduced fixed deposit account with the ease of a savings account. NIC Bank believes that these achievements and recognitions are a testimony to its success, robust growth and the transparency and professionalism it has consistently displayed (www.nic.com.np)

1.3 Statement of the Problem

In comparison to the development and growth of capital market the investors attitude and knowledge does not seem to have changed significantly. They do not have sufficient knowledge about risk and return. There are no separate institutions to provide required information to make rational decision and on the other hand, lacks of proper policy discourage the investors. Government policy is less encouraging proper investment situations. Some plans and policies are not implemented. There are no strong commitment towards increasing public investment in policy makers and Government. Investors are the bases for any company they are the sources of revenue as a customer for the stockbrokers and financial institutions and ultimately they are the backbone of economic development of the nation. However, any above body has no any effective program to develop investor's knowledge. People feel more risk in stock investment than its real risk that may due to lack of proper knowledge about the stocks he/she is trading in due to the false presentation of stock prices in the secondary market. To build their confidence unbiased analysis and information about it is necessary. Unavailability of a simple and clear way or technique to analyze risk and return of individual stock and portfolio is therefore being a major weakness to increase stock investment and stock market efficiency as well.

In context of Nepal investors are facing the problem of institutions to provide adequate information about the investment options. Investor should not get enough informational related to risk return as well as portfolio analysis of investing sectors. After the emergence of NEPSE in 1993 A.D. these type of problem somehow solved but the problem to another the Nepalese people is they feel more risk in stock investment than as its real risk. It keeps them in dilemma, whether they should invest in stock not and this all conditions makes them not to utilize their funds as a result investors have no much more alternatives for investment. So everyone is making investment on security market. Only few companies of real sectors are listed in NEPSE which still limits the opportunities of investment. This trend has made the market unbalanced and unfair. If any bank or financial institution issues share their

becomes huge demand rather than supply but if any manufacturing and processing issues shares very little investors make investment.

- What is the movement of index of commercial banks and NEPSE?
- What is the risk and return on investment in selected banks stocks?
- Which bank is better for investor to make investment based on risk and return?
- How to calculate price of each stock under CAPM model?
- What is the proportion of systematic risk and unsystematic risk from the total risks?

1.4 Objectives of the Study

The basic objective of the study is to find out the condition of risk and return analysis of common stock investment and suggestion how to create an optimal portfolio among the selected commercial banks. The other specific objectives of the study are as follow.

- To analyze the movement in share prices, index of banking industry and NEPSE index.
- To analyze risk and return of investment in stock of commercial banks.
- To rank the bank for making investment based on risk and return of each bank.
- To evaluate common stock's price under CAPM method.
- To calculate the portion of systematic risk and unsystematic risk from the total risk and make the comparative study of selected stocks.

1.5 Significance of the Study

This study will be helpful to investors regarding the risk return statistics association with investment. Analysis of comparative study among various banks will be benefited for them to know about the position of financial performance. Risk return analysis and portfolio theory will create awareness to utilize their scarce resources with optimization. The customers financing agencies and stock traders are interested in the performance of the banks and they can identify as to which bank they should invest. This study will be helpful to know an idea about the optimum portfolio creation for Nepalese investors' and financial institution.

In Nepalese context, there will lacks wider invest opportunities, which provides good rate of return. That's result huge amount of unutilized saving funds with general public. Nowadays, the capital market is also growing very slowly, the market is not efficient. There are very few magazines and articles related to capital market and very few studies are made on the topics risk and return. But in Nepalese investors one is investing on the capital market without any good knowledge and information. So investment on the capital market is just like 'shooting in dark'. The study will give more information about the condition of companies and it will help to contribute to increase the analytical power of the investors in capital market. This study also helps to banking institutions definitely contribute and play vital role for domestic resource mobilization, economic development and maintain economic confidence of various segments and extends credit to people.

So, every investor has to diversity their investment to minimize risk without diversity its investable funds into different companies common stock maintenance of sound investment policy is impossible. So, the study is mainly concerned with the risk and return analysis at Nepalese commercial banks. Considering the above in mind, following problems are identified which are to be researched. In Nepalese contest the concept of security market began with the setup of Nepal stock exchange "former known as securities exchange center" in 1976.This is the only stock market in Nepal. Many investors are still afraid to invest in securities because of inadequate knowledge in this field and most investors are exploited from market intermediaries. For this purpose potential investors must be able to analyze risk and return of individual stock to increase market efficiency and consequently speed up the economic development.

1.6 Limitation of the Study

Every work has its own limitation due to lack of time, resources and knowledge. This study has following limitations.

- This study has been based on secondary sources of data i.e. annual reports of banks, Nepal Rastra Bank, SEBON, NEPSE, government publications, other related journals and news papers.
- The study is only concerns about risk and return analysis of sample banks and idea about optimal portfolio creation.

- Standard normal measurement is not available, so interpretations of result are based upon judgment and common sense.
- Among the various commercial banks in Nepal the study is only concerned on six commercial banks.
- The study covers a period of five fiscal years, which will be processed for drawing conclusion.
- The study concentrates only on those factors which are related with common stock and available in the form required for analyzing the different issues.

1.7 Organization of the Study

The research will be divided into five chapters.

Chapter -I- Introduction

It introduces background of study, Profile of the sample companies, statement of problem, objective of the study, significance of the study, limitations of the study and organization of the study.

Chapter -II - Review of Literature

It includes pilot studies and textual concepts with regard to conceptual framework on investment, risk, return and portfolio along with the review of major books, journal, research work and thesis etc.

Chapter - III- Research Methodology

This chapter includes research design, population &sample, sources and types of data, data processing technique and method & tools of data analysis.

Chapter - IV- Presentation and Analysis of Data

This chapter deals with the presentation and analysis of data. It analyses the data and interprets the results using different financial and statistical tools, table, chart and graphs.

Chapter - V- Summary, Conclusion and Recommendation

This is the last chapter of the study. It summarizes the result of analysis and suggestive framework.

Besides these, bibliography and annexure are presented at the end of the thesis. Similarly acknowledgements, table of contents, list of tables, list of figures, abbreviations are included in the front part of the thesis report.

CHAPTER - II

REVIEW OF LITERATURE

Review of literature means reviewing research studies or other relevant propositions in the related area of the study so that all the past studies their conclusions and deficiencies may be known and further research can be conducted. This chapter deals with the theoretical aspects of the topic risk & return and portfolio analysis in comprehensive detail and descriptive manner. Main purpose of reviewing the literature is to develop some expertise in ones area to see what new contribution can be made and to receive some idea for developing a research design.

This chapter focuses on the review of literature, research studies and other pertinent prepositions in the related field study, textbooks and reference books relevant to the risk, return, investment and portfolio of commercial banks in Nepal particularly different journals, Articles, Annual reports and some research paper related with this topic .This chapter is arranged into the following manner.

- Conceptual Review
- Review of Related study:
  - ✓ Review of Journals, Articles.
  - ✓ Review of Thesis

2.1 Conceptual Review

Conceptual Review provides the fundamental theoretical frame work and foundation to the present study. Hence, books, research paper etc. dealing with theoretical aspects of risk, return, investment and portfolios are taken into consideration.

2.1.1 Investment

Investment usually means the sacrifice of the current money for future money. The sacrifice takes place in the present and the reward comes later, if at all, and the magnitude is generally uncertain. However, Shrestha (2002) describes investment as utilization of saving for something that is expected to produce profit or benefits. Investment is employment of funds to achieve added income or growth in value. It

involves the commitment of resources put off from current consumption with hope of capitalizing some benefits in future. It includes both real asset and financial asset. Real asset investment denotes the tangible assets like building, land, machinery, factory and the like. On the other hand, financial asset investment indicates papers representing an indirect claim to real asset held by someone else. Nevertheless, real asset is less liquid than financial asset.

Investment may be defined on the purchase by an individual or institutional investor of financial or real assets that produces a return proportional to the risk assumed over some future investment period. It is an investment is a commitment of funds made in the expectation of some rate of return. If the investment is properly undertaken the return will be commensurate with the risk the investor assumes (Shrestha; 2002)

Investment can be made on real assets or financial assets. An investment on real asset is known as real investment and on financial assets is known as financial investment. Real investment is also known as fixed assets investment, which indicates investment on land and buildings, machinery, factory and etc. Financial investment means the investment on financial assets like shares, debentures, warrants, convertibles etc.

"Investment is the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing unit 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; 1972).

The above definitions infer that an investment is the allocation and mobilization of funds for a certain time to acquire some extra benefit or extra attachment with mobilized fund.

2.1.1.1 Investment Portfolio

A portfolio is usually defined as a combination of assets. It is a collection of securities. Portfolio means the lists of holding in securities owned by an investor or institution.

A portfolio is a collection of investment securities. Example, if you hold some stocks of Nepal Investment Bank Ltd., some of Bottlers Nepal Co., some of Radisson Hotel and some of Standard Chartered Bank Ltd. Your investment portfolio consists of the stocks of these four different companies. Portfolios analysis considers the

determination of future risk; and return is a weighted average of the expected return of the individual securities.

Portfolio theory deals with the selection of optimal portfolio i.e. the portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specific date of return. Portfolio theory has been developed for the financial assets. Thus making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

"A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment assets is called a portfolio (Weston, J. F. & Brigham, E. F; 1982).

An investor who has been paying someone or actively manages his or her portfolio has every right to insist on knowing what sort of performance was obtained. Such information can be used to alter either the constraint placed on the manager, the investment objective given to the manager, to the amount of money allocated to manager. Perhaps more importantly, by evaluating performance in specified ways client can forcefully communicate his\ her interest to the investment manager and in all likelihood; affect the way in which his or her portfolio is managed in the future. Moreover, an investment manager, by evaluating his or her own performance, can identify sources of strengths or weakness.

2.1.1.2 Investment Alternatives

There are various alternatives for investors.

<table>
<tr><td>1. Equity Securities</td><td colspan="2">• Common Stock
• Preferred Stock</td></tr>
<tr><td>2. Short term debt securities</td><td colspan="2">• Negotiable certificates of deposit
• Commercial paper
• Banker's acceptances
• Treasury Bills</td></tr>
<tr><td rowspan="4">3. Intermediate and Long Term Debt Securities</td><td>• Government securities</td><td>➢ Treasury Notes
➢ Treasury Bonds
➢ Saving Bonds</td></tr>
<tr><td colspan="2">• Agency securities</td></tr>
<tr><td>• Municipal Securities</td><td>➢ Revenue bonds
➢ General obligation bonds</td></tr>
<tr><td colspan="2">• Corporate bonds</td></tr>
</table>

4. Hybrid Securities	• Convertible preferred stock • Convertible bonds
5. Derivative securities	• Options • Community futures • Financial futures • Options in futures • Rights • Warrants
6. Real Assets	• Precious Metal • Real State • Collectibles
7. International Investment	• Multinationals Corporations • Foreign stocks traded on all local exchange • American Depository Receipts (ADRs)
8. Other Investment Alternatives	• Pension Funds • Mutual funds • Closed –end Companies

Source: Weston, and Brigham;1982: 106.

2.1.1.3 Investment Process

The investment process analyze how an investors makes decision about what securities to invest in, how extensive this investment should be and when they should be made. The investment process is as follows:

a. Setting Investment Policy

The initial step in setting an investment policy involves determines the investment objectives and the amount of one's invest able wealth. Investment is always related with risks and returns. This step involves the identification of potential categories of financial assets for consideration in the ultimate portfolio. The identification of assets based on the investment on the investment objectives, amount of invests able wealth and tax status of investor.

b. Performing Security Analysis

In this stage, security analysis involves examining a number of individual securities/ group of securities within the broad categories of financial assets. The investor will evaluate them of their price whether they are under price and

overpriced, risk associated with that specific security, their expected return and real return and so on.

c. Portfolio Construction

At the stage we identify assets in which in invest and what proportion of the investor's wealth to put in each one. While constructing a portfolio, the selectivity, timing and diversification need to be addressed by the investor.

d. Portfolio Revision

This step involves both realizing that the currently held portfolio is not optimal and specifying another portfolio to hold with superior risk-return characteristic. The investor must balance the cost of moving to the new portfolio against the benefit of the revision.

e. Portfolio Performance Evaluation

In this stage is to evaluate the investment performance. The performance should be evaluated not only in terms of the returns but also the risks experienced. To evaluate the performance appropriate measures and standards are needed (Bhalla, 2001; 94).

2.1.2 Common Stock

It is an ownership share in a corporation. Common stock certificates are legal documents that evidence ownership in a company that is organized, as a corporation they are also marketable financial instrument. Sole proprietorship and partnership are other forms of business organizations, but only corporations can issue common stocks.

Common stock is the recipient of the residual income of the corporation. Through the right to vote, holders of common stock have a legal control over the corporation. An element of risk is also involved in equity ownership due to its low priority of claim at liquidation. Common stockholders have limited liability. Common equity provides a cushion for creditors if losses occur on dissolutions. The equity-to-total-assets ratio is an indicator of the degree by which the amounts realized on the liquidation may decline from the stated book values before creditors suffer losses.

"Common stock has one important investment characteristic and one important speculative market price tends increase irregularly but persistently over the decades

as their net worth builds through the reinvestment of undistributed earnings. However, most of the time common stocks are subject to irrational and excessive price function in both directions, as the consequence of the ingrained tendency of most people to speculative or gamble, i.e. to give way to hope fear and greed."

"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" (Fisher & Jordan; 2000).

"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 par value of a stock is merely a stated figure in the corporate charter and is of little economic significance" (Van Horne; 1997).

Common stock holders of a corporation are its residual owners, their claim to income and assets comes after creditors, and preferred stock holders have been paid in full. As a result, a stockholders return on investment is less certain than the return to lenders or to preferred stockholders. On the other hand, the shares of a common stock can be authorized either with or without par value. The par value of a stock is merely a stated figure in the corporate charter and is of little economic significance. A company should not issue stock at a price less than par value because stockholders who bought stock for less than par value would be liable to creditors for the difference between the below par price they paid and the par value. Common stock holders are entitled certain right, which are as follows (Van Horne; 1997).

- Control through voting right
- Preemptive right
- Limited liability
- Right to income and distribution of additional shares
- Residual right

2.1.2.1 Common Stock Values

Common stock values are denoted by par value, book value, or market value. These three terms are different and their rupees amount differs.

a. Par Value:

The face value of one stock established at the time the stock is initially issue known as par value. Generally common stock carry Rs.100 par value.

b. Book Value

The sum of the cumulative R/E and other entries such as common stock and capital contribution in excess of par value under stockholders' equity is the book value of the equity.

c. Market Value

The value of share in secondary market traded between investors and traders is the market value. Market value is the consequence of demand and supply.

2.1.3 Security Market

A security market can be defined as a mechanism for bringing together buyers and sellers of financial assets. In order to, facilitate trading. It means the market where the securities are treated. Security market can be distinguished in to.

- Primary and secondary market
- Money and Capital Market

2.1.3.1 Primary Market

Security offered for the first time to the general public through the primary securities market. The issuer may be a brand new company. It is also known as New Issue Market (NIM).

2.1.3.2 Secondary Market

"The secondary market is not keeping pace with the growth of the primary market. This is mainly due to lack of the needed efforts on the concerned authority to devise suitable package of measure to encourage the growth of broker network in the country's growing stock exchange" (Shrestha; 1992).

2.1.3.4 Money Market

Money market is also called short-term financial market, which is the set of supplying short-term debtor working capital needed for industries, business or incorporated etc. The instruments of money market are inter-bank deposited, government securities, banker's acceptance, and certificate of deposited and commercial papers issued by non-financial institutions.

2.1.3.5 Capital Market

Capital Market is the market where the transaction of long-term finance is made. The fund collected in this market are raised and traded by long-term financial instrument such as equities and bonds.

2.1.4 Return on Common Stock

The meaning of return has different meaning to different investors. The rate of return from capital investment is a concept that has different meaning to different investors. Some competitive seek near term cash inflow and give less value to more distant returns. Return can be expressed by cash dividend or capital gain or loss. Some investors measure return using financial ratios. Single holding period return may be defined as all possible future cash flows that can be earned holding securities up to holding period. It can be also defined as the changes in the value plus any cash distribution expressed as a percentage of the beginning of the period of investment value. An investor can obtain two kind of income from the investment is a share or bonds. They are as follows;

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

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

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

Total Return = Capital Gain+ Regular Gain (Ordinary Gain)

Capital Gain =Ending Price-Beginning Price

Regular Gain = Dividend or Interest (Bhattarai; 2008)

2.1.4.1 Single Period Rate of Return

The investment return is defined as the after tax increase in the value of the initial investment. The increase in value can come from to sources direct cash payment to the investor or an increase in the market value of the investment relative to the original purchase price. The rate of return over the holding period, or HPR is computed as.

$$\text{HPR} = \frac{\text{Ending Price} - \text{Begnning Price} + \text{Cash Receipt}}{\text{Begnning price}}$$

2.1.4.2 Required Rate of Return

When setting the required rate of return on an Investment, an investor must consider the real rate of return, expected inflation and risk. Because consumption is foregone today, the investor is entitled to arate of return that compensated for this deferred consumption since the investor expects to receive an increase in the real goods purchase later, and assuming for the moment, zero inflation and risk, the required rate could equal to the real rate of return, in which case it would represent the pure time value of money. The capital markets determine this real based upon the supply of money to be invested relative to the demand for borrowed money (Cheney and Moses; 1995).

The required rate of Return is the minimum rate of return that an investor expects from his/her investment in risky assets. It is the function of real rate of return and risk. The required rate of return is the return on risk free assets.

2.1.4.3 Expected Rate of Return

If an investment is to be made, the expected rate of return or the expected holding period return, should be equal to or greater than the required rate of return for that investment. The expected rate of return is based upon the expected cash receipt (e.g. divided and interest) over the holding period and the expected ending or selling price. The expected rate of return is unknown future return. The investor has forecast possible outcomes each based upon a possible state of the economic. Each economic state will result in a different expected rate of return. Subjective probabilities are assigned to each outcome. The overall expected rate of return, E (HPR) can be calculated as a weighted average of the three forecasts (Cheney & Moses; 1995).

2.1.5 Risk on Common Stock

Risk, in simple word, is an uncertainty. Risk and uncertainties are the facts of life so to the common stock holder. Technically, their meanings are different. Risk, simply in Investment, means a chance of happening some unfavorable event or danger of losing some value. Risk suggests that a decision maker knows the possible consequences of a decision and their relative livelihoods at the times he makes decision.

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

"Risk is defined in Webster's dictionary as a hazard: a peril: exposure to loss or journey", thus for most, risk refers to the chance that some unfavorable event will occur. If you invest in speculative stock (or, really, any stock), you are taking a risk in the hope of making an appreciable return" (Weston, Basely & Brigham; 1995).

2.1.5.1 Sources of Risk

a. Interest Rate Risk

Interest rate risk is potential variability of return caused by changed in the market interest rate. If market interest rates rise, then investment's values and market price will fall and vice versa. The variability of return that results is interest rate risk. This interest rate risk affects the price of bond and stock etc.

b. Purchasing Power Risk

It is the variability of return an investor suffers because of inflation. Economists measure the rate of inflation by using a price index. The percentage change in the consumers' price index is a widely followed measure of the rate of inflation.

c. Bull-Bear Market Risk

Bull bear risk arise from the variability in market return resulting from alternating bull and bear market forces. When a security index arises fairly and consistently from a low point, called a though, for a period of time, this upward trend is called a bull market. The bull market ends when the market Index reached a peak and starts a downward trend. The period during which the market declined to the next through is called a bear market.

d. Management Risk

Though many top executives earn princely salaries, occupy luxuries offices and wield enormous power within their organization, they are mortal and capable of making a mistake or a poor decision. Furthermore errors made by business managers can harm those who invested in their firm forecasting management errors is difficult work that may not be worth the effort and, as a result, impacts needlessly skepticism with informed insight as they endeavor to analyze subjective management risks.

e. Default Risk

Default risk is that portion of an investments total risk that results from changed in the financial integrity of the investment.

f. Liquidity Risk

Liquidity risk is that portion of an asset total variability of return, which results from the price discounts given or sales commissions paid in order to sell the asset without delay.

g. Call Ability Risk

That portion of a securities total variability of return that derives from the possibility that the issue may be called is the call ability risk. Call ability risk commands a risk premium that comes in the form of a slightly higher than average rate of return. This additional return should increase as the risk that the issue will be called increases.

h. Convertibility Risk

Convertibility risk is that portion of the total variability of return from a convertible preferred stock that reflects the possibility that the investment may be converted into the issuer's common stock at a time harmful to the investors' best interests.

i. Political Risk

Political risk arises from the exploitation of a politically weak group for the benefit of a politically strong group, with the efforts of various group to improve their relative positions increasing the variability of return from the affected assets (Frank & Keith; 2004).

j. Industry Risk

An industry may be viewed as a group of companies that complete with each other to market a homogeneous product. Industry risk is that portion of an investments total variability of return caused by events that affect the products and firms that make up an industry. The stage of the industry's lifecycle, international tariffs and or quotas on the products produced by an industry, product or industry related taxes, industry wide labor union problems, environmental restrictions. Raw materials availability and similar factors interact and affect all the firms in an industry simultaneously (Cheney & Moses; 1995).

2.1.5.2 Types of Risk

The total variance of the rate of return is the sum total of various risks which are primarily classified into two types.

- Systematic Risk
- Unsystematic Risk

Hence,

Total Risk = Systematic Risk + Unsystematic Risk

a. Systematic Risk

It refers to that portion of the variability of an individual security's return caused by factors affecting the market as a whole as such it can be thought of being non-diversifiable. It is because of this that it is also called market risk or relevant risk. The systematic risk is market related. In other words, it arises from the changes in the economy and market condition. For example, high inflation, recession, impact of political factors, wars, depression, long term changes etc. which are beyond the control of company management. It affects all the firms in the market. The systematic risk is rewarded in the form of risk premium, sometimes; systematic risk is called market risk. Systematic risk affects almost all assets in the economy, at least to some degree, whereas systematic risk affects at a small number of assets. The principle of diversification has an important implication to a diversified investor, only systematic risk matters. Systematic risk accounts for 25% to 50% of the total risk of any security (Fisher & Jordan; 2000). Some of the sources of systematic risk include.

- Interest rate changes.
- Changes in purchasing power.
- Changes in investor's expectation about the overall performance of the economy.
- Because diversification cannot eliminate systematic risk, this type of risk is the
- Predominant determinant of the individual security risk premium. This risk is also called beta risk (Weston & Brigham; 1982).

b. Unsystematic Risk

It is also called diversifiable risk or company specific risk or unavoidable risk. It is such a risk which is unique to the firm. The unsystematic risk is non-market factors related. In other words, it arises from the project specific factors. This portion of risk is possible to reduce or eliminate through diversification of their investments. It is inherent individualcompanies or projects. It is the variability in the security's return caused by such factorsas;

- Management capability and decisions.
- The availability of the raw materials.
- Strikes.
- The unique effects of government regulations such as pollution control.
- The effect of foreign competition.
- The particular levels of financial and operating leverage of the firm employees (Weston & Brigham; 1982).

2.1.6 Statistical Measure of Risk

The parameter of return distribution is a measure of dispersion of variability around expected return. The basic and conventional measure of dispersion is the standard deviation. For normally distributed returns, the mean and the variance of the distribution well describe the investment performance and support in right way valuing risky investment. The measurement of risk has always been a subject for debate. This disagreement stamps primarily from the various was investors perceive risk (Cheney & Moses, 1992).

2.1.6.1 Standard Deviation (SD)

Standard deviation measures the risk as variability of return. “Standard deviation is a statistical measure of the variability of a set of observations. It is the measure of total risk. Smaller the variance, lower the risky of the stock and vice- versa. The risk or standard deviation is denoted by the symbol sigma (σ). The square root of the variance of the rate of return is called the standard deviation (σ) of the rate of return” (Thapa, Bhattarai & Basnet; 2006).

Standard deviation $(\sigma)=\sqrt{\frac{\sum(R_A-\bar{R}_A)^2}{n-1}}$

Where,

R_A =Rate of return of individual asset

$\overline{R}_A$ = Expected Return of Asset 'A'

σ = Standard deviation or risk

n= no. of years

2.1.6.2 Coefficient of Variation (CV)

Standard deviation is obsolete measure of return whereas coefficient of variation is relative measure of return. Risk is measured by standard deviation. And risk per unit of expected return is measured by coefficient of variation is denoted by CV. Greater the CV the greater relative risk of the investment. Coefficient of variation is calculated to compare the variability in returns of two alternative investments. Hence, it is useful to compare the investments having different expected return and different level of risk (Van Horne & Wachowicz; 2001).

2.1.6.3 Beta coefficient

This is a mathematical value that measures the risk of one asset in term of its effect on the risk of group of assets called portfolio. It is concerned solely with market related risk as would be the concern for the investor holding stocks and bonds. It is derived mathematically so that a high beta indicates a high level of risk and low beta represents a low level of risk (Weston& Brigham; 1982).

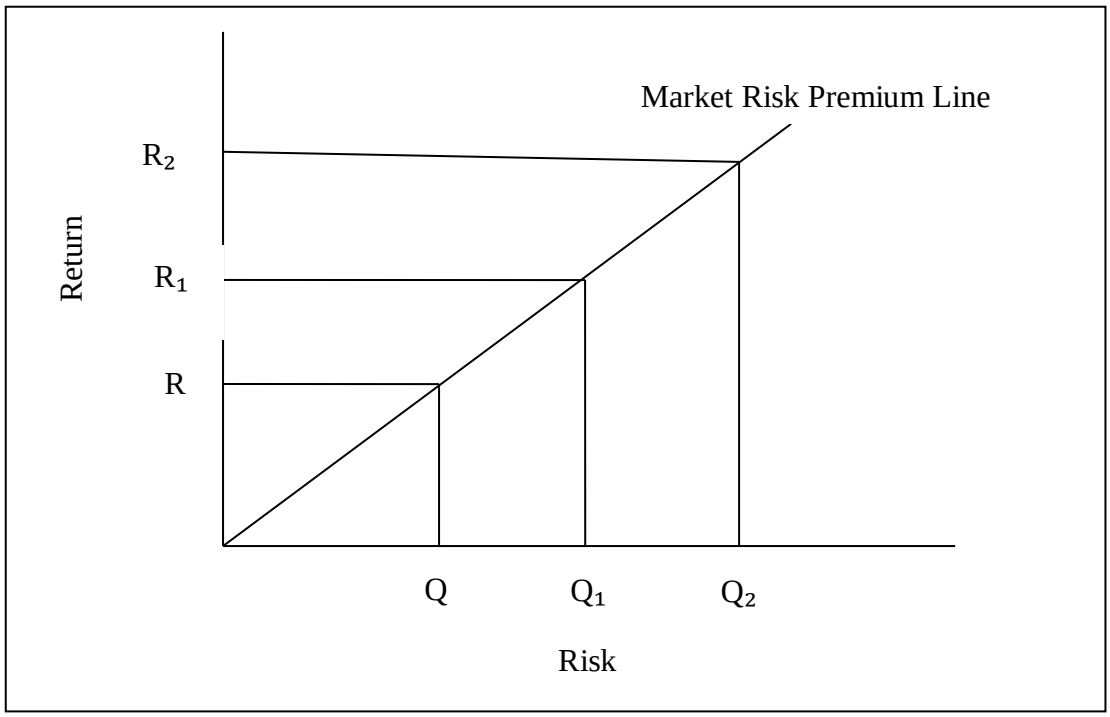
2.1.7 Relationship between Risk and Return

The relationship between risk and return is described by investor perception about risk and their demand for compensation. Those investors who can tolerate higher level of risk should be regarded with higher level of return. This statement is supported by the most empirical studies of historical risk return relationship. No investors like to invest in risky security unless he is assured of adequate compensation for the assumption of risk. Therefore, it is the investors required risk premium that establishes a link between risk and return. In a market dominated by rational investors, higher risk will command higher premiums, the trade-off between the two assumes a liners relationship between risk and risk premium.

They observe different in both the levels and variability of the rates of return across securities is indicative of the underlying risk return relation in the market (Lorie, Dodd & Kempto; 1983).

Generally, there is a positive relationship between rate of return and risk. It means an investor can usually attain more return by selecting dominant assets that involve more risk. While it is not always true that a riskier asset will pay. A higher average rate of return, it is usually. The reason is that investors are risk averse. As a result, high risk assets most offer investors high return to induce them to make this riskier investment. Naturally, investors are likely to prefer more return and less risk. It means investors will not choose an investment that guarantee less return when investments promising higher return in the same level of risk class are readily available. Risk and Return relationship can be shown by following figure.

Fig. 2.1: Relationship between Risk and Return



2.1.8 Portfolio Risk and Return

Each asset's expected return and risk along with the expected return and risk for other asset's and their interrelationships are important inputs in portfolio selection. In order to construct efficient portfolios, the investor must be able to quantify the portfolios expected return and risk (Cheney & Mosses; 1992).

From an investor's standpoint, the fact that a particular stock goes up or down is not very important. What is important is the return on his/her portfolio, and the portfolio's risk. Logically, then the risk and return characteristics of an investment should not be evaluated in isolation: rather, the risk and return of an individual security should be analyzed in terms of how the security affects the risk and return of the portfolio in which it is held.

2.1.8.1 Portfolio Return

The expected return of a portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportions of the investor's wealth invested in each asset and the sum of the weight must equal to one (Cheney & Mosses; 1992).

The expected return on portfolio depends upon the amount of funds invested in each security, given expected return on the individual securities. The portfolio expected return is defined in equation as follows:

Portfolio return (R_P) = $W_A \overline{R}_A + W_B \overline{R}_B + \ldots\ldots\ldots + W_N \overline{R}_N$

Where,

R_P = Return on Portfolio

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

$\overline{R}_A$ = Expected Return of Asset 'A'

$\overline{R}_B$ = Expected Return of Asset 'B'

2.1.8.2 Portfolio Risk

The calculation of a portfolio risk is not as straight forward as the calculation of a portfolio's expected return. In order to calculate the risk of a portfolio, consideration must be given not only to the risk of the individual assets in the portfolio and their relative weights but also to the extent to which the assets returns move together. We measure the risk of an individual asset by the variance of returns or its square root, the standard deviation. The degree to which the asset's return move together is measured by the covariance or correlation coefficient. By combining the measures of individual asset risk (variance or standard deviation), relative asset weights, and the

co-movement asset's return (covariance or correlation), the risk of the portfolio can be estimated. Total risk is measured by either the variance or its square root, the standard deviation of returns (Cheney &Mosses; 1992).

For two assets case;

$$\delta_P = \sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + 2COV_{AB} W_A W_B}$$

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

COV_{AB} = Covariance between Asset 'A' and Asset 'B'

$$COV_{AB} = \frac{\sum[(R_A - \bar{R}_A)(R_B - \bar{R}_B)]}{n-1}$$

For three assets case;

$$\delta_P = \sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + W_C^2 \delta_C^2 + 2COV_{AB} W_A W_B + 2COV_{BC} W_B W_C + 2COV_{AC} W_A W_C}$$

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

W_C = Weight or Proportion of Asset 'C'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

δ_C = Risk on Asset 'C'

COV_{AB} = Covariance between Asset 'A' and Asset 'B'

COV_{AC} = Covariance between Asset 'A' and Asset 'C'

COV_{BC} = Covariance between Asset 'B' and Asset 'C'

2.1.9 Capital Asset Pricing Model

Capital Asset Pricing Model (CAPM) is a model based on the presentation that the required rate of return on any stock is equal to the risk free rate of return plus its risk premium, where risk is measured by the beta coefficient. The CAPM is a relationship in which the expected rate of return of the asset is a linear function of that assets systematic risk. The CAPM represents the trade-off systematic risk for the returns that investors expect to receive. The CAPM explains the behavior of security prices. Its further explains how the prices and interest rate on risky financial assets are determined in the capital market. CAPM combines the principles of portfolio theory with certain assumption regarding investors' expectations and market characteristics (Francis; 1997).

Assumptions

- Individual are risk averse.
- Individual can borrow and lend free at risk free rate of interest.
- Individuals have homogenous expectations regarding risk and returns of securities.
- The market is perfect and competitive.
- There are no transaction costs and taxes.
- Securities are divisible.

The CAPM equation can be written as follows;

$$\sum(Rj) = Rf + (Rm - Rf)\beta j$$

Where,

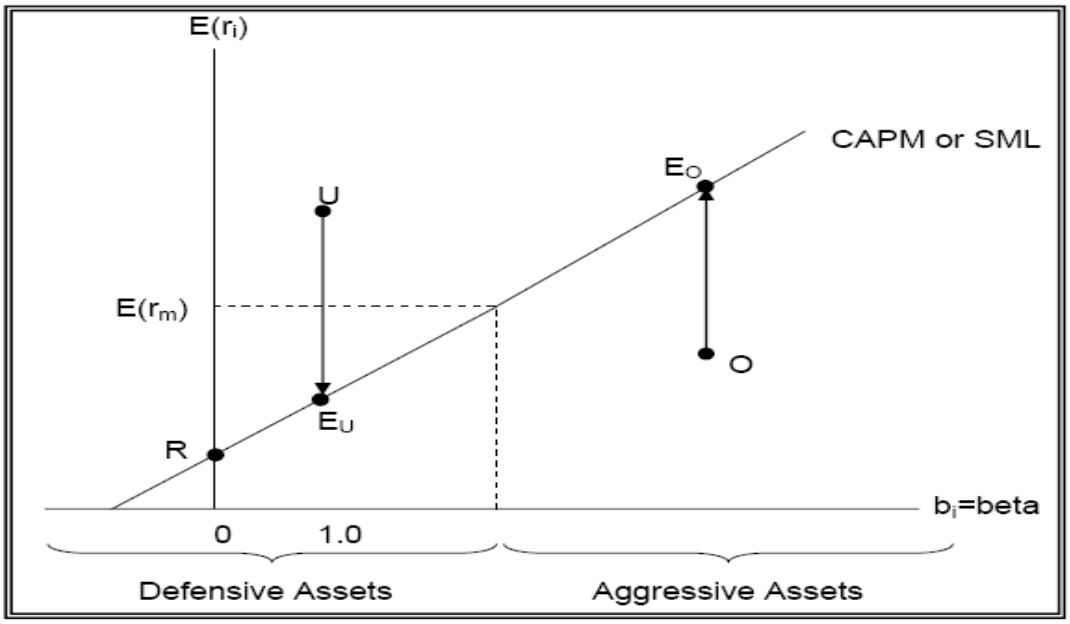
$\sum(Rj)$ = Expected return on assets

Rf = Risk free rate of return

Rm = Market return

Bj = Coefficient of Beta

Fig.: 2.2 Capital Asset Pricing Model



Source: Francis; 1997

A vertical line in the Figure shows a risk class for systematic risk. The CAPM relates that investors need to compensate in two ways: time value of money and risk which can be shown an expected return to each of the systematic risk. These expected returns can be interpreted as the appropriate discount rates, as the cost of capital, or as equilibrium rate of return that investors expect for that amount of systematic risk.

In the figure, U and O are not in equilibrium on the CAPM. Asset U is undervalued and therefore desirable to own the asset and should make buy decision. The price of U will rise in the market as more investors purchase it. When price goes up of asset U, its return falls. When U's return falls to the return consistent with its beta on the SML, equilibrium is attained. The asset O is overvalued. Investors will attempt to sell O since the lowering expected rate of return with required rate of return and therefore puts the downward pressure on O's price. When the return on asset O increases to the rate that is consistent with the beta risk level given by the SML, equilibrium will be achieved and downward price pressure will cease.

Hence, the CAPM or SML is relationship in which the expected rate of return of the individual asset is a linear function of that asset's systematic risk as represented by beta (β), symbolically. According to Sharpe & Linter (CAPM) study: the greater the

beta of a security, the greater the risk and the greater the expected return required. The lower the beta, the lower will be the risk (Francis; 1997).

2.1.10 Optimal Portfolio Creation

One of the safest ways an investment portfolio generates money is through fixed income investments. These are usually in the form of bonds issued by corporations or governments or from dividends paid to shareholders by a corporation. Issues affecting fixed income are the credit worthiness, or default risk, of the issuer, and the yield earned by the bondholder. Safer lenders, such as those of governments or blue-chip companies, typically pay a lower yield--at times, so low that the real return after inflation is at or below zero! On the other hand, a company or Government that goes bankrupt will be unable to pay its high dividends or service its debt. Yields between 3% and 7% are generally considered safe. When an investor sells something for more than they paid for it, they are said to have realized a capital gain. This sort of buying low and selling high is, of course, the goal of most investors. To do this successfully, however, requires patience, discipline and a deep knowledge of macroeconomic trends. In an environment when an economy is growing, most assets will tend to rise in value, making capital gains relatively easy to come by. Asset allocation is much more difficult and crucial in a period of stagnant or contracting growth. During these times, investors will have to monitor capital flows to know which assets can maintain their value or appreciate while others decline. Capital gains can be realized over a very long period of time, which is recommended for most novice investors, or over a very short period of time, as little as a few minutes or hours for risk-taking day traders.

To mitigate the risks of asset allocation within a portfolio, managers diversify their holdings. This means they invest partially in fixed income while pursuing capital gains across the risk spectrum with other investments. If done correctly, diversification will vastly reduce risk while preserving growth potential. One asset class that got increased attention from portfolio managers recently was commodities. Traditionally, commodities were only traded on futures exchanges in contracts for delivery, which made them inconvenient for traditional portfolio investment. The proliferation of exchange-traded funds and exchange-traded notes backed by commodities futures, at a time when commodities in general were appreciating rapidly, led many managers to make commodities a permanent asset class in their

portfolios. This study also gives an idea for how to create an optimum portfolio which gives knowledge about portfolio(Hampton; 1998).

1st Step: - The first thing a good portfolio must have is a solid base. This includes plenty of cash. There is no reason to have committed all of one's money unless things are ridiculously cheap. However, one doesn't have to restrict oneself to US currency. Other currencies can be bought without thinking of them as an actual investment. There are plenty of etfs and even some bank accounts for this. Two stocks to consider when anchoring a portfolio are Philip Morris International and Berkshire Hathaway. These two are tops as far as stability goes. Big companies like these shouldn't really be thought of as investments but rather as anchors. They are there to keep the portfolio from sinking. Precious metals fall into this base group as well.

2nd Step: -The ideal portfolio needs a health portion of energy companies. The days of cheap fuel are over. The four dollar gas and one hundred forty dollar oil we had a while back wasn't a fluke but rather a sign of things to come. The large foreign oil companies like Petro China and Petro Brazil are probably a good move. Petro Brazil seems more expensive right now. Natural gas has been hit hard. Unl and ung are decent proxies for the stuff. I'd also look for a fund that invests in oil futures directly.

3rd Step: - Small and medium sized companies are the real drivers of a portfolio. Don't pay much attention if someone suggests a large cap. Very few can be found that are mispriced. The rule is if you have heard of it without research it will probably be an average performer for a portfolio. Big stocks anchor portfolios. Don't expect them to drive yours. Look in less explored waters. For example, one small cap I'm interested in is NEP. It's an energy company in China that has some cost advantages against other players. Have only a few companies over five billion in your portfolio. This is about the cut off line for performance.

4th Step:- One should try to get some actual real state, metals, and controlled businesses in a portfolio. Don't let anyone tell you resist are a substitute for real estate. They're not. Look for investments where you control the cash flow. I know these are the hardest to get hold of and manage, but they are often far more powerful choices than paper assets. No one has ever gotten rich of buying paper assets in a reasonable amount of time. Remember that even Warren Buffett's main advantage

was his ability to be paid for managing partnership money not the returns he gathered from the paper assets.

5th Step:- Zero coupon bonds are nice to have in the portfolio for when hard times hit and the government starts cutting rates. Obviously, rates are too low to buy them now but wait and maybe and some later when the time is right (www.investopedia.com).

2.2 Review of Journals, Articles

Smith (1996) “The Application of Economic Theory to financial markets "it is a large body of theory including such as well-known models as “Modern portfolio Theory” of Markowitz (1952). The capital assets pricing model of Sharpe (1964), The efficient market Hypothesis of Samuelson (1965) and Fama (1965), and the option pricing model of Black and Scholes (1973). Although these model are all included in institute of faculty education Ltd., their acceptance or use is controversial.

Investor's whether they are individual or institutions such as pension funds mutual funds or cloolegeendowments hold portfolio that is 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 an introduction to these new methods. It will answer the basic question what rate of return will investors demand to hold a risky security in their portfolio.

The investor return is a measure of growth in wealth resulting from that investment. This growth measure is expressed in percentage forms to make it comparable across large and small investors. Stock return may be riskier or more volatile, but this concept is a difficult one to express simply. To do so, we borrow a concept from statistics, called standard deviation. It as single measure, allowing us to quantity asset return by risk and it also provides the basis for investor decision about portfolio choice.

Rishi & Gyan (2002) on the title of “Expected return, realized return and Asset pricing tests” is also relevant in our research. In this paper the writer mentioned that “almost all of the testing I am aware of involves using realized returns as proxy for expected returns relies on a belief that information surprise trend to cancel out over the period of a study and realized returns are therefore an unbiased estimate of expected returns. However, I believe that here is sample evidence that is belief is misplaced. There are periods longer than 10 years during which stock market realized

returns are on average less than the risk free rate (1973 to 1984). There are periods longer than 50years in which risky long term bonds on average underperform the risk free rate (1927 to 1981).Having risky assets with an expected return above the risk less rates is an extremely weak condition for realized returns to be an appropriate proxy for expected returns and 10 and 50 years is an awfully long time for such a week condition not to be satisfied.

Shrestha (2004) has given a short glimpse on the "Portfolio Management in Commercial Bank, theory and practice" Shrestha has highlighted the following issues in the articles. The portfolio Management becomes very important for both individuals as well as institutional investors. Investors would like to select a best mix of investment assets subject to the following aspects;

- Higher return which is comparable with alternative opportunities available according to the risk class of investors.
- Good Liquidity with adequate safety of investment.
- Certain capital gains.
- Maximum tax concession.
- Flexible investment.
- Economic, efficient and effective investment mix.
- In view of above aspects, following strategies are adopted.
- Do not hold any single security i.e. try to have a portfolio of different securities.
- Do not put all the eggs in one basket i.e. have a diversified investment (making investment in different sectors)
- Chose such a portfolio of securities, which ensures maximum return with minimum risk or lower of return but with added objectives of maximization.

However, Shrestha has also presented the following approaches to be added for designing good portfolio and its investment.

- To find out the invisible assets (generally securities) having scope for the returns depending upon individual characteristics like age, health, disposition, liquidity, tax liability.
- To find out the risk of securities depending upon the attitude of investor toward risk. To develop alternative investment strategies for selecting a better

portfolio, this will ensure a tradeoff between risk and return. So as to attach primary objective of wealth maximization at lowest risk.

- To identify securities for investment to refuse volatility of return and risk. In the context, Shrestha has presented two types of investment analysis techniques i.e. Fundamental analysis and technical analysis to consider any securities such as equity debentures or bond and other money and capital market instruments.

He has suggested that the banks having international network can also offer access to global financial market. Shrestha has also pointed out the required skilled labor research, analysis, and proper Management Information System (MIS) in any type of commercial banks to get success in portfolio management and customer's confidence.

Robert & Nardin (2006) entitled "Commonality in the Determinants of Expected Stock Returns" they presented with evidence that the determinants of the cross section of expected stock return were stable in their identity and influence from period to period and from country. The determinants were related to risk, liquidity, price level, growth potential and stock price history. Out of sample predications of expected returns, using moving average values for the pay-offs to these firm characteristics were strongly and consistently accurate. Two findings, however, distinguished their paper form others in the contemporary literature. First, the stock with higher expected and realized rate of return was unambiguously of lower risk than the stocks with lower returns. Second, they found that the important determinants of expected stock returns were strikingly common to the major equity markets of the world. Given the nature of the texts, it was highly unlikely that those results may be attributed to bias or data snooping. Consequently, the result seems to reveal a major failure in the efficient market hypothesis.

2.3 Review of Previous Thesis

Manandhar (2007)conduct a study on the topic "A Study on Risk and Return Analysis on Common Stock of Listed Commercial Bank in Nepal "the main objective of the study were 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 were as follows;

- 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 major findings of the study were;

- 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.

Gyawali (2008) has conducted a research work on the topic "Risk and return on common stock". He used secondary data analysis with five commercials banks covering 5 years period from 2056/057 to 2060/061. The major objectives of his studies were as follows.

- To determine the risk, return and other relevant factors that directly affect the investment in common stock.
- To evaluate the common stock of the listed commercial banks in terms of risk and return to perform sector wise comparison on the basic of market capitalization.

This study used market prices of stock and dividend per share as well as statistical tools to analysis the data. The major findings of the study were;

- Between five commercial banks standard chartered bank and Himalayan bank is the continuous dividend payer.

- Among sample banks Nepal Bangladesh bank ltd it has lowest expected return.
- Bangladesh bank is high risky and standard bank is low risky.

Joshi (2009) has studied on the topic "Problems in choice of optimum portfolio of stock in Nepal Stock Exchange". This study is based on 21 listed 'A' graded companies data are used to analyze. The main objectives of the study is to find out and analyze the major problems of investors facing regarding selection of most profitable stocks in NEPASE and other objective were;

- To analyze the trend of NEPSE.
- To analyze the problems and find out some resolutions for the problems.
- To suggest the measure of the improvement of the stock market as well as for better meet of invest.
- To try to found out the best portfolio of NEPSE to invest

This was an empirical study on investors' problem regarding selection of most portfolio stock of NEPSE. Therefore, to conduct the study analytical and descriptive research has been made from readily available data of stock market. Some information is gathered with the help of questionnaire and meeting with people. Various financial tools are used to fund out the best stock available in the NEPSE such as standard deviations, holding period return, coefficient of variation portfolio return, portfolio standard deviation and others.

With the help of coefficient of variation more variable stocks are ignored where as the only lesser variable stock are used to construct portfolio. It returns more the only yardstick to make investment decision than CIT be the better are which gives the optimum of 37% monthly holding period return. Per standard deviation, NHDFC seems better though its HPR comes to negative. So to make decision easier negative return stocks were ignored and picked three least standard deviation stock to construct portfolio, due to high fluctuating almost stocks seems riskier so to invest in single stock means to welcome the risk. So to diversify the risk investment possibility more searched in different efficient lets and the analysis and calculation concluded the stock of CIT and PFC be the best when the proportion on investment of PFC and CIT is 55% and 45% respectively.

Pokharel (2010) has under taken a study entitled “Risk & Return on Common Stock Investment of Commercial Banks, With Reference to Six Commercial Banks "the basic objectives of his research were as follows.

- To analyze whether the common stock of commercial banks are correctly priced or not.
- To analyze the required rate of return and expected rate of return.
- To study the systematic and unsystematic risk associated with securities of the commercials banks.

Major findings of his study are given below.

- Among the six commercials banks, NABIL bank has highest expected rate of return on common stock (i.e. 14.03%) and NIC bank has negative expected rate of return on common stock (i.e.-3.9698%). Similarly, the common stock of BOK is most risky asset, which has highest standard deviation (i.e. 52.15%) and EBL’s stock is less risky due to lowest standard deviation (i.e.19.49%).
- Regarding the market capitalization of six selected companies, SCBNL has the maximum market capitalization (i.e.31.36%) and the market capitalization of BOK is low by 7.11%.
- Considering the different investment sectors, the expected return of other sector is maximum by 34.53% and the processing sector has very low expected return (-12.076%). Similarly, considering coefficient of variation of different sectors, the trading sector has maximum by 18.49 units, which indicate that to earn 1 unit of return, the investor has to bear 10.49 units of risk. The coefficient of variation on manufacturing& processing is – 3.1349 and –3.28 (negative) respectively.

Mishra (2011) has conducted a study entitled “Risk and Return Analysis of Common Stock of Five Listed Commercial Banks”. The major objectives of the study were as follows.

- To calculate and analyze the risk and return of banking sector.
- To evaluate common stock of listed commercial banks.
- To analyze whether the common stock of commercial banks are correctly priced or not etc.

The major findings of his study are summarized below.

- Regarding the market capitalization of selected companies, SCBNL has the maximum market capitalization and NBBL has the minimum market capitalization.
- Regarding the market capitalization of the inter industry, Banking sector has 65%,Insurance & Finance has 14%, Manufacturing & Processing sector has 13%, Hotel sector has 7%, Trading sector has 1% and Other sector has negotiable proportion of share in overall market capitalization.
- The return of SCBNL is maximum (i.e.73.30%) but its risk also maximum but if risk is taken into account for consideration, NIBL has the minimum risk of 43.82%.
- In industry wise analysis, the expected return of finance and insurance has a maximum expected return (i.e. 27.70%), while other sector has a minimum expected return (i.e.16.61%). If the risk is assessed in term of C.V., Banking sector has minimum C.V. like 1.66, which indicates that it is better to invest on the shares of banking sector.

2.4 Research Gap

There are lots of research works done by different Researcher on the topic of "Risk and Return Analysis and Optimal Portfolio Creation of Common Stock Investment." Some researcher a used very few sample size which may not cover the whole population and some researcher used nominal fiscal period which may not provide the whole scenario of market. Some researcher use only statistical tools and technique to determine the risk and return of the assets or securities of firm. This research work on the topic of "Risk and Return Analysis and Optimal Portfolio Creation of Common Stock Investment With Reference to SBI, NABIL, BOK, NIC, EBL & SCBNL" has taken the five year data from Fiscal year 2003/064 to Fiscal year 2067/08 and six finance companies are taken as sample so that this study is differ from other research work.

To find out the condition of Risk and Return and Portfolio Creation the research is done in 6 banks among the 32 commercial banks, which are listed in Nepal Stock Exchange. In the study of few thesis on same topic of several commercial banks, companies and hotels by previous researcher, there is found a poor analysis of risk

and return. The previous researcher used the NEPSE index, but this study finds out conclusion using industry index i.e. banking index which is a sub-index. Banking index calculated based on listed commercial banks.

The main gap of this thesis is that gives an idea about how to create an optimal portfolio. Past researcher only analyzes about portfolio. They don't give any suggestion for creation of optimal portfolio and also present market movement in trend line figure. So, this study gives more reliable and accurate conclusion than past research.

CHAPTER-III

RESEARCH METHODOLOGY

Research methodology is the way in which the data are collected for a research project. It refers to various sequential steps to be adopted by a researcher in studying a problem with a certain objective on view. It describes the method and process of getting to the solution process applied in the entire subject of the study. It is a way to systematically solve a research problem. It embraces different dependent and independent variables, types of research design, research questions and hypothesis, sample, data collection activities, technique of analysis etc. Thus, research methodology is the process of arriving at the solution of the problem through planned and systematic dealing with the collection, analysis and interpretation of facts and figures(Kothari; 1990).

3.1 Research Design

Research design is a plan, structure and strategy of investigations conceived so as to obtain answer to research questions and to control variance. It is the arrangement of conditions for collection and analysis of data in a manner aiming at combining relevance to the research purpose with economy in procedure. Considering this study objectives, the analysis is based on certain research design. In order to achieve the objectives, descriptive and analytical research design has been adopted .Descriptive research design describes the general pattern of investors, business environment, problem of portfolio management etc. The analytical research design carries out the analysis of information and data. Most of the data and information of the study was related with the past phenomenon. On this background it can be considered as a historical research (Wolf; 1975).

The study covers the data from the FY2063/064 to FY2067/068.It deals with the study of risk and return analysis and optimal portfolio creation of common stock investment. As the title of the study itself indicates that it is more analytical and empirical and less descriptive.

3.2 Sources of Data

The study is mainly based on secondary data. Data are collected from concern bank Nepal Rastra Bank, NEPSE, SEBON and various libraries. Likewise, the micro-level data have been derived the different libraries, such as Prithivi Narayan campus, TU central library etc. Furthermore, several data and information were gathered from periodicals, economic journals and the other published and unpublished reports. Informal interview with the authorities of related institutions are also the other sources of data.

3.3 Method of Data Collection

It indicates the sources of data and how they collected. In this study, data are collected through published sources. They were collected from the correspondent offices and their respective websites.

The annual reports of sample banks for the period of five years are obtained from the website of selected banks. The data regarding the profile of sample banks and other related documents were collected from internet websites. Unpublished master's thesis, books, research papers, articles, journals have been collected mainly form Centre Library of Tribhuvan University, library of Prithivi Narayan Campus and NRB Magazines and newspapers are from concerned authorities.

After collecting data, as necessarily required, they are separated and analyzed presentation and analysis of the collected data is the main theme of the research work. Collected raw data were first presented in systematic manner in tabular forms and then analyzed by applying different financial and statistical tools to achieve the research objectives. Besides these, some graph, charts and tables have been presented to analyze and interpret the finding of the study.

3.4 Population and Sample

The term population of data denotes for the data of each organization which is within the boundary of specific organization whereas sample data are the data of those organization which has been selected from that whole population for study. Random selected method is to be used while selecting sample organizations for this study. The population data for this study comprises all commercial banks, which are currently

operating in Nepal. The sample consists of six selected bank. The selected sample banks for the analysis are as follows.

- Standard Chartered Bank Nepal Limited (SCBNL)
- Nabil Bank Limited (NABIL)
- Everest Bank Limited (EBL)
- Bank Of Kathmandu (BOK)
- Nepal SBI Bank (SBI)
- NIC Bank (NIC)

3.5 Data Analysis Tools

A host of analytical tools can be applied to perform risk and return analysis of a firm. Following the nature of the study, a set of appropriate tools, particularly financial and statistical may be used for effective and significant analysis to meet the research objective.

3.5.1 Financial Tools

On the study of portfolio investment analysis financial tools are more applicable. Financial tools are particularly are used for the analysis as well as the interpretation of financial data. These tools can be engaged to procure the precise knowledge of a business, which are fruitful for analyzing the strength and weakness of the investment policies and strategies. Thus, following financial tools are used to achieve the study goal.

3.5.1.1 Market Price of Stock (P)

In this study, market price is one of the major data. In this study we have taken closing price of the stock as market price because it is difficult to get all the required data accurately. The closing price issued as market price of stock that has a specific time of one year.

3.5.1.2 Dividend (D)

Dividend is relevant during the computation of rate of return. This is a reward to the shareholders for their investment. If a company declares only the cash dividend, there are no problems to take the dividend amount. But, if the company declares stock dividend (Bonus Share), it is difficult to obtain the amount that really shareholders has gained. In this case, they get extra numbers of shares as dividend and

simultaneously price the stock declines as a result of increased number of stocks. To get a real amount of dividend there are no any model. So the models have been developed considering practical as well as theoretical aspect.

Divided per share (DPS) $= \frac{Total Amount of Dividend Paid}{No.\ of Common Stock Outstanding}$

If company declares only cash dividend, there is no problem while taking the exact amount of dividend that is relevant. But if the company declares stock dividend (bonus share), it is difficult to obtain the amount that really shareholders have gained. In this case, they get extra numbers of shares as dividend and simultaneously price of stock declines as a result of increased number of stocks. To get a real amount of dividend following model has been used.

Total Dividend Amount = Cash Dividend + Stock Dividend

3.5.1.3 Return on Common Stock (R)

Return is the income received on as investment plus any change in market price, usually expressed as a percent of the beginning market price of the investment. The single period rate of return can be calculated by using the following formula.

Return on Share and Debenture (Rs) $= \frac{P_1 - P_0 + D_1}{P_0} \times 100$

Where,

P_1 = Ending Value of Share

P_0 = Beginning Value of Share

D_1 = Dividend per Share

3.5.1.4 Expected Rate of Return E(Rj)

Expected rate of return E(Rj) is the arithmetic mean of the past years return. It can be calculated using the following formula,

$$E(Rj) = \frac{\sum Rj}{N}$$

Where,

E(Rj) = Expected rate of return on stock j

N = Number of years that the return is taken

Σ = Sign of summation

3.5.2 Statistical Tools

Statistical tools are used to analyze the relationship between two or more variables and to find how these variables are related. In this study, following statistical tools are used.

3.5.2.1 Arithmetic Mean or Average

The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of the data, it is also called a measure of central value. It is calculated by;

$$\text{Mean } (\overline{X}) = \frac{\sum X}{N}$$

Where,

$\overline{X}$ = Arithmetic Mean

$\sum X$ = Sum of values of all items, and,

N = Number of items

3.5.2.2 Standard Deviation

The standard deviation is the measure that is most often used to describe variability in data distributions. It can be thought of as a rough measure of the average amount by which observations deviate on either side of the mean. Denoted by Greek letter's (read as sigma), standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is calculated as;

$$\text{Standard deviation}(\sigma) = \sqrt{\frac{\sum(\mathbf{X}-\bar{\mathbf{x}})^2}{N-1}}$$

Where,

$\boldsymbol{\sigma}$ = Standard deviation

$\sum(\mathbf{X}-\bar{\mathbf{x}})^2$ = Sum of squares of the deviations measured from arithmetic average.

N = Number of items.

3.5.2.3 Coefficient of Variation (CV)

It is applicable to calculate the risk per unit of the expected return. "It is the ratio of standard of returns to the mean of that distribution. It is the measure of reliable risk" (Van Horne & Wachowicz; 1995). The CV is a measure of relative dispersion that is useful in comparing the risk of assets with differing expected return. The higher the coefficient of variation the greater the risk, which is expressed as follows.

$$CVj = \frac{\sigma_j}{\overline{R}_j} \times 100$$

Where,

CVj = Coefficient of variation of stock j.

σj = Standard deviation of return on stock j.

$\overline{R}_j$ = Average rate of return of stock j.

3.5.2.4 Correlation Coefficient

Correlation coefficient defines the degree of relationship between two assets whether they are going in same direction or opposite direction. It always ranges from +1 to -1. It can be calculated by using following formula.

Correlation between Assets A & B (r_{AB}) = $\frac{COV_{AB}}{\delta_A \delta_B}$

Where,

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

COV_{AB} = Covariance between Assets 'A' and Assets 'B'

- If r_{AB}= +1, Correlation between two assets is perfectly positive in this condition a single unit of risk cannot be minimized.
- If r_{AB}= -1, Correlation between two assets is perfectly Negative in this condition all the risk can be minimized.
- If r_{AB}= 0, There is no correlation between two assets in this condition a little bit of risk can be minimized.

3.5.2.5 Covariance

It defines the combined risk or accumulated risk between two assets. Covariance and correlation are closely related, covariance between two assets can be calculated by using following formula.

Covariance between Assets 'A' and Assets 'B'

$$(\mathrm{COV_{AB}}) = \frac{\sum[(R_A - \bar{\mathrm{R}}_\mathrm{A})\,(R_B - \bar{\mathrm{R}}_\mathrm{B})]}{n-1}$$

Where,

$\mathrm{R_A}$ =Rate of return of individual asset 'A'

$\bar{\mathrm{R}}_\mathrm{A}$ = Expected Return of Asset 'A'

$\mathrm{R_B}$ =Rate of return of individual asset 'B'

$\bar{\mathrm{R}}_\mathrm{B}$ = Expected Return of Asset 'B'

3.5.2.6 Beta coefficient (β)

The beta coefficient is an idea of systematic risk. It may be used for ranking the systematic risk of different assets. It is an index of the degree of movement of an assents return in response to a charge in the market return. An asset's historical returns are used in finding the asset's beta coefficient.

Beta coefficient shows the market sensitivity of stock. Higher the beta greater would be the sensitivity and reaction to the market movement. Beta coefficient of a particular stock will be less than equal or more than 1, but the beta of market beta serves as a benchmark or measuring scale for the evaluation of risk of individual stock. Beta coefficient can be expressed as follows.

$$\text{Beta coefficient } (\beta j) = \frac{\mathrm{cov(rirm)}}{\sigma \mathrm{m2}}$$

Where,

cov (rirm) = Covariance of the return on assets j, and market portfolio.

σm2 = Variance of the return on the market portfolio.

Rm = required rate of return on the market portfolio of securities.

3.5.2.7 Portfolio Return

The return on portfolio is simply the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportions of the investor's wealth in each asset.

$$\text{Portfolio return } (R_P) = W_A \overline{R}_A + W_B \overline{R}_B + \ldots\ldots\ldots + W_N \overline{R}_N$$

Where,

R_P = Return on Portfolio

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

$\overline{R}_A$ = Expected Return of Asset 'A'

$\overline{R}_B$ = Expected Return of Asset 'B'

3.5.2.8 Portfolio Risk

The portfolio risk is a function of the proportions invested in the components, the riskiness of the components and the correlation of returns on the component securities. It is measured by either variance or standard deviation. Lower the standard deviation and variance lower the riskiness and vice versa. It can be computed by using the following formula.

For two assets case;

$$\delta_P = \sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + 2COV_{AB} W_A W_B}$$

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

COV_{AB} = Covariance between Asset 'A' and Asset 'B'

$$COV_{AB} = \frac{\sum[(R_A - \overline{R}_A)(R_B - \overline{R}_B)]}{n-1}$$

For three assets case;

$$\delta_P = \sqrt{W_A^2\,\delta_A^2 + W_B^2\delta_B^2 + W_C^2\delta_C^2 + 2COV_{AB}W_AW_B + 2COV_{BC}W_BW_C + 2COV_{AC}W_AW_C}$$

Where,

δ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

W_C = Weight or Proportion of Asset 'C'

δ_A = Risk on Asset 'A'

δ_B = Risk on Asset 'B'

δ_C = Risk on Asset 'C'

COV_{AB} = Covariance between Asset 'A' and Asset 'B'

COV_{AC} = Covariance between Asset 'A' and Asset 'C'

COV_{BC} = Covariance between Asset 'B' and Asset 'C'

3.6 Methods of Analysis and Presentation

Methods of analysis are applied as simple as possible. Results are presented in tabular form and clear interpretation on it is given simultaneously. Detail calculations, which cannot be shown in the body part of the report, are presented as annexes at the end of the report. To make report simpler and easily understandable; charts, bar diagrams and charts have been used. Summary, Findings and Recommendations are presented finally.

CHAPTER – IV

PRESENTATION AND ANALYSIS OF DATA

This chapter includes analysis of data collected and their presentation. This chapter is based on secondary data and all the data's are presented in terms of tables and charts attempt has been made to analysis "Risk and return of sampled commercial banks and gives an idea about create optimal portfolio". Detail data of MPS, EPS, PIE ratio and total dividend of each bank and their interpretation and Analysis is done with reference to the various reading and Literature review in the preceding chapter. Efforts are made to analyze and diagnose the recent banking index movement. This is sub-index of NEPSE, with a special reference to the listed commercial banks. Presentation and data analysis chapter divided into nine parts. First part describes about market movement i.e. NEPSE index. Second part deals with industry analysis third part analyze the individual banks return and risk fourth part deals with comparative analysis the market sensitivity, sixth part deals systematic and unsystematic risk of sampled commercial bank, seven part analyzed about price of common stock under CAPM method and Eight part descriptive about create an optimal portfolio and last part gives major findings of the study. This chapter includes analysis of data.

The analysis is fully based on secondary data. In presentation section, data are presented in terms of table and charts. The presented data are then analyzed using different statistical tools mentioned in chapter three. At last, the results of analysis are interpreted. Though there is no distinct line of demarcation for each section (like presentation section, analysis section & interpretation section). The main purpose of analyzing data is to change it from an unprocessed from to an understandable presentation which consists of organizing, tabulating and performing the statistical data. The presentation of data is the basic organization and classification of the data for analysis. This is the section where, the filtered data are presented and analyzed. This is one of the major chapters of this study because it includes detail analysis and interpretation of data from which concrete result can be obtained. Detail data of MPS,

EPS, PIE ratio andtotal dividend of each bank and their interpretation and Analysis is done with reference to the various reading and Literature review in the preceding chapter. Efforts are made to analyze and diagnose the recent banking index movement. This is sub-index of NEPSE, with a special reference to the listed commercial banks.

4.1 Analysis of NEPSE Index Movement

Index is one of the most important indicators of secondary market which is considered as mirror of country's economic tend. NEPSE index group consists of various indices and they are calculated on the basis of market capitalization. Out of them overall NEPSE index is the oldest one which is being calculated from the initial days of NEPSE. Similarly the other indices are sensitive index, group wise index and Float index. NEPSE Index is calculated by considering all listed share including that of promoter share of all listed companies at NEPSE.

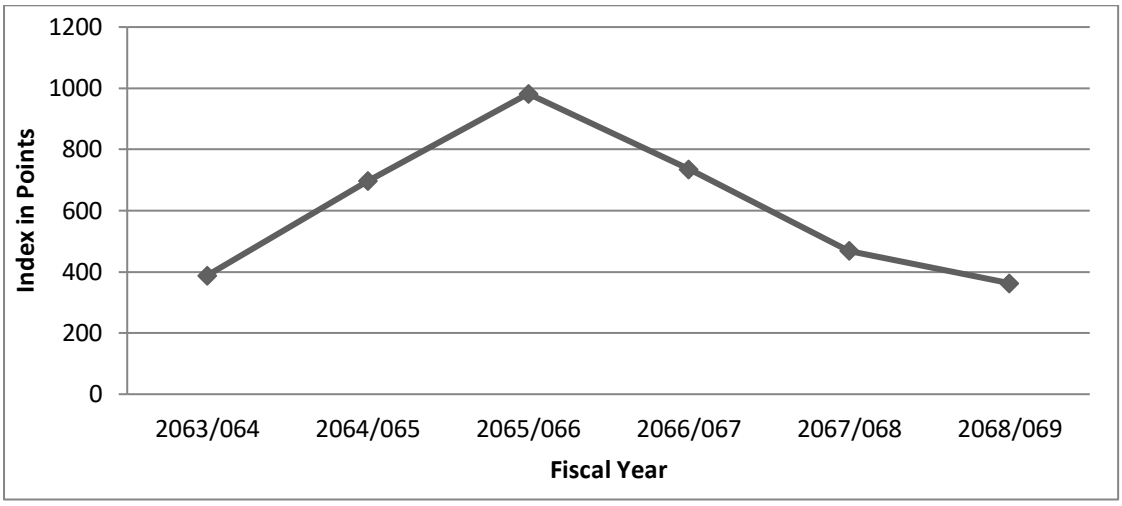
Table: 4.1 NEPSE Index Movements

Fiscal Year	Index (In Point)
2063/064	388.16
2064/065	696.58
2065/066	982.12
2066/067	735.87
2067/068	468.53
2068/069	362.85

Source: Annual Report of NEPSE (www.nepse.com)

Above table shows that the NEPSE Index is in increasing trend from the beginning of the study period and continued increasing upto the fiscal year 2065/066. Then after the index has a decreasing trend and NEPSE index falls less than500 point in current days. The highest index is 982.12 points in the fiscal year 2065/066. The trend of NEPSE index is also shown in the following figure.

Fig.: 4.1 Trend of NEPSE Index Movement



4.2 Analysis of Commercial Baking Industry Index Movement

Commercial Banking Index is a sub-index of NEPSE, which is calculated based on only banking sectors, the number of listed commercial bank operating in Nepal increases to 32 till mid April 2012. For the study sample of six commercial banks is taken for analysis. Banking Index represents the banking sector and it is the mirror of banking sector's development and growth.

Table: 4.2 Commercial Baking Industry Index Movement

Fiscal Year	Commercial Banking Index (In Point)	Annual Return I From Banking Industry (In %)
2063/064	439.67	-
2064/065	804.26	82.92
2065/066	1011.09	25.72
2066/067	764.48	-24.39
2067/068	441.87	-42.20
2068/069	328.70	-25.61
Expected Return ($\bar{R}$)		3.288%
Risk (δ)		51.27%
Coefficient of Variation (CV)		15.59

Source: Annual Report of NEPSE (www.nepse.com) and Appendix I

Fig.: 4.2 Trend of Commercial Baking Industry Index Movement

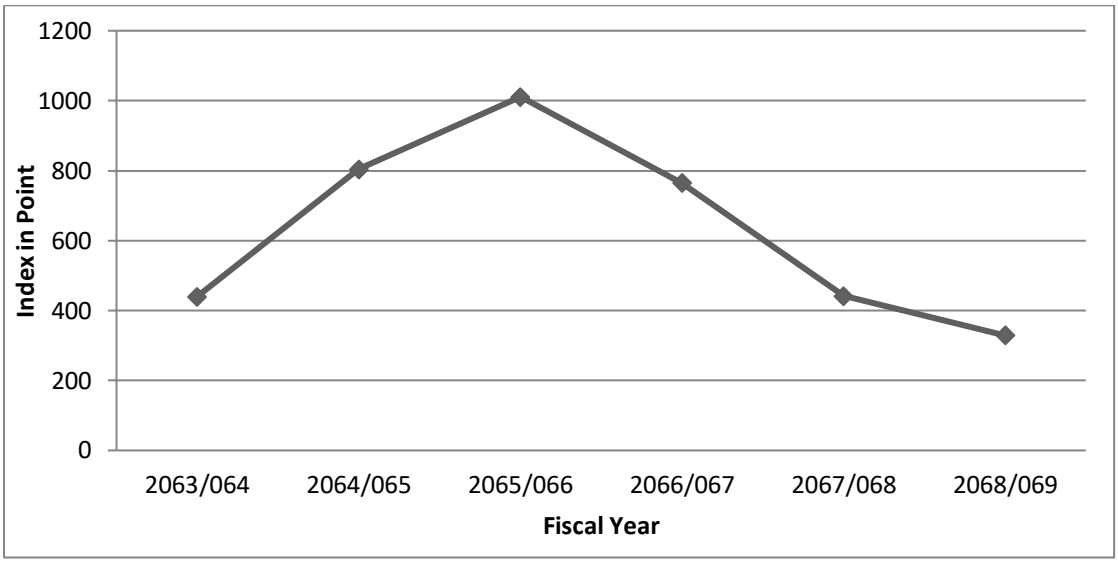


Table 4.2 & Figure 4.2 show the industry movement or commercial Banking Index movement of 5 years period, it can be seen that there is a fluctuation in index from 2063/064 till 2068/069. Banking index point is highest in fiscal year 2065/066 ie. 1011.09 points and in the same year the NEPSE index also has highest point and then after NEPSE Index as well as the banking index point starts falling downward that affected all sub-Index making the current stock market situations critical. NEPSE Index point falls below 500 points and Banking Index is falls to 328.70 point at the end of the fiscal year 2068/069.

Table 4.2 also shows that the expected rate of return of banking index is 3.288% with the standard deviation of 51.27% and coefficient of variation of banking index is 15.59. This denotes that to get per unit return 15.59 risks must be beared.

Fig.: 4.3 Annual Realized Rate of Return from Banking Index

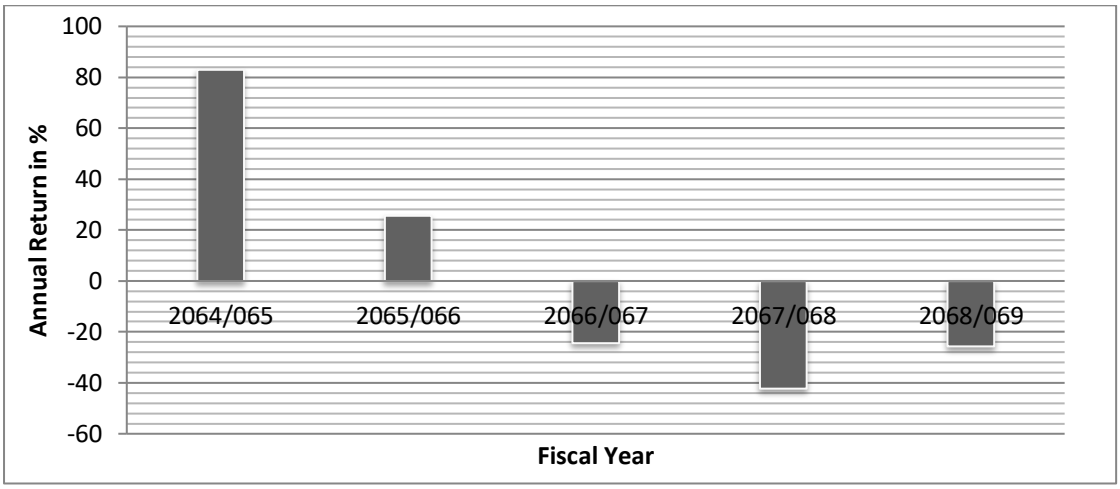


Figure 4.3 shows that annual realized rate of return of commercial banking sectors. Above figure shows that the highest annual return of banking sector is in the fiscal year 2064/065 i.e. 82.92% which shows the investors received their investment return from commercial banking sector's Common stock but after the fiscal year 2065/066 the annual rate of return of banking sector falls down to negative return. The highest negative return in our study period is 42.20 in the fiscal year 2067/068. In these year the investors bear loses from banking investment.

4.3 Risk and Return Analysis of Sample Bank

4.3.1 Everest Bank Limited

Table: 4.3 Analysis of Major Financial Indicator of EBL

FY	MVPS	Cash Dividend (%)	Stock Dividend (%)	Annual Return (R %)	EPS (Rs.)	P/E Ratio (Times)
063/64	2430	10	30	76.94	78.42	30.99
064/65	3132	20	30	29.71	91.82	34.11
065/66	2455	30	30	-20.66	99.99	24.55
066/67	1630	30	30	-32.38	100.16	16.27
067/68	1094	50	10	-29.82	83.19	13.15

Source: Annual Report of EBL (Appendix II)

Above table 4.3 shows that the EBL is paying cash dividend and stock dividend in each fiscal year the cash dividend is in increasing trend whereas the stock dividend is constant up to the year 2066/067 and the decreased in the fiscal year 2067/068. The highest cash dividend is paid in 2067/068 i.e. Rs. 50 per share. The P/E Ratio of EBL is maximum in the year 2064/065 and minimum in the year 2067/068 i.e. 34.11 times and 13.15 times respectively and the P/E ratio is in decreasing trend over the study period.

Fig.: 4.4 Trend of MVPS of EBL

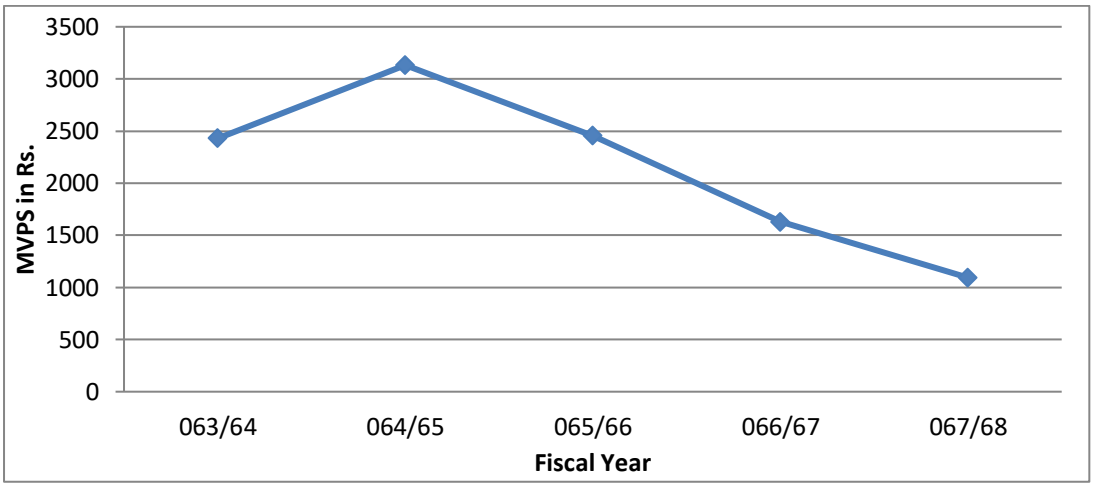


Figure 4.4 shows the trend line of closing market price of EBL, the closing MVPS of EBL is highest in the year 2064/065 i.e. Rs. 3132 and minimum in the year 2067/068 i.e Rs. 1094 and the trend of MVPS is in decreasing trend after the fiscal year 2064/065.

Fig.: 4.5 Trend of Annual Return on Stock of EBL

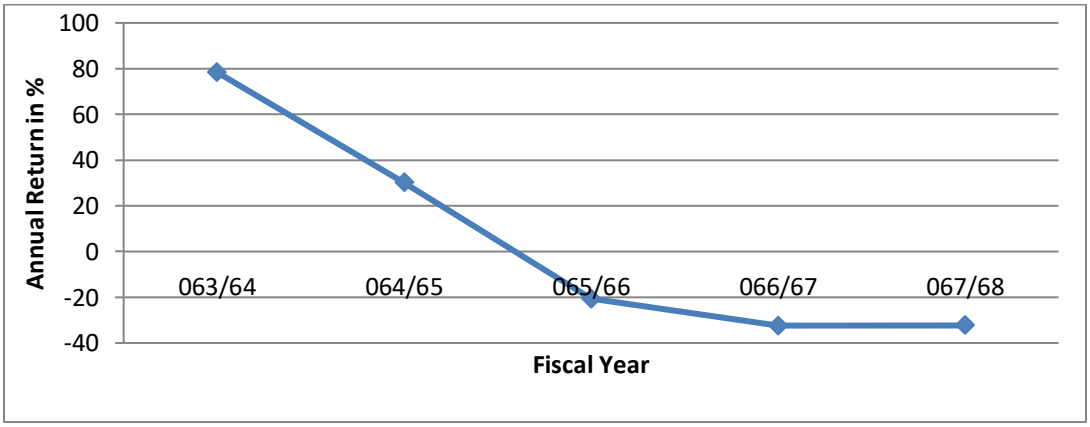


Figure 4.5 shows the annual return on stock of EBL over the study period. The annual return is highest in the year 2063/064 i.e. 76.94% and minimum in the year 2066/067

i.e 32.38% of negative return and the trend of annual rate of return is in decreasing trend over the study period. The annual return shows the investor's annual return who invested in the common stock of EBL.

Table: 4.4 Summary of Risk and Return Indicators of EBL

Variables	Value
Expected Return ($\bar{R}_{EBL}$)	0.0476
Risk (δ_{EBL})	0.4758
Variance $(\delta_{EBL})^2$	0.2264
Coefficient of Variation (CV)	10.00
Covariance between Return of Banking Industry & Return of EBL ($COV_{EBL\& BI}$)	0.2425
Correlation between Return of EBL & Return of Banking Industry ($r_{EBL\& BI}$)	0.9940
Beta Coefficient (β_{EBL})	0.9225
Systematic Risk (SR)	0.4729
Unsystematic Risk (USR)	0.0029
Proportion of Systematic Risk in Total Risk	99.39%
Proportion of Unsystematic Risk in Total Risk	0.61%

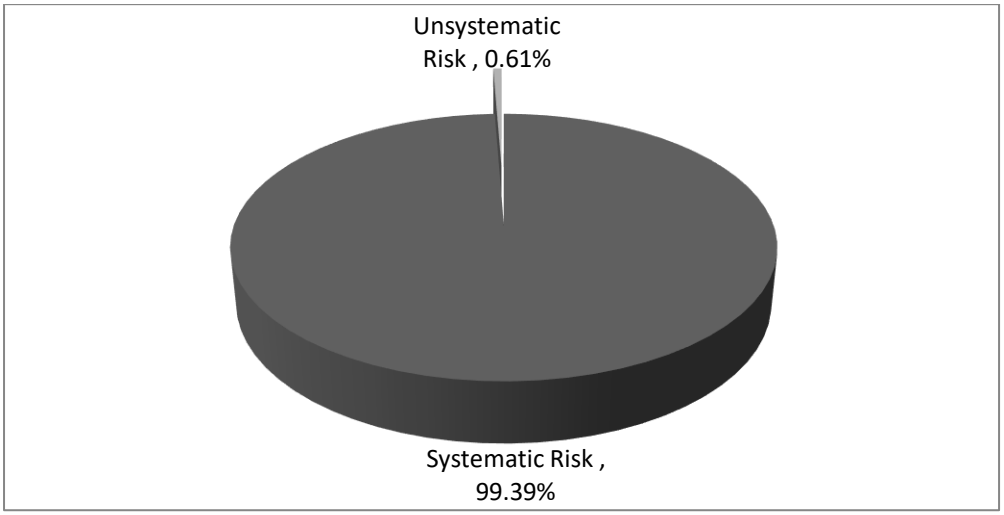
Source: Appendix II

Above table 4.4 shows that the expected rate of return of EBL is 0.0476 with the standard deviation of 0.4758 and coefficient of variation of EBL is 10. This denotes that to get per unit return 10 unit of risk must be beared.

According to the table, beta coefficient of EBL is found 0.9225. Beta is an indicator of systematic risk and that is found to be lower than one (1) so, this is defensive type of assets and found to be less risky. That means stock of EBL is less volatile than the

industry. Correlation of coefficient between industry and EBL is 0.9940, which is positive and this shows the positive relation between industry and EBL's stock. EBL has 0.4729 systematic risks out of its total risk and the remaining 0.0029 unsystematic risks.

Fig.: 4.6 Proportion of Systematic Risk & Unsystematic Risk of EBL



According to figure 4.6, EBL has 99.39% systematic risk which can not be diversified and 0.61% unsystematic risk which can be diversifiable. The systematic risk is very high in the company so it may be harmful to the company.

4.3.2 Standard Chartered Bank Nepal Limited

Table: 4.5 Analysis of Major Financial Indicator of SCBNL

FY	MVPS	Cash Dividend (%)	Stock Dividend (%)	Annual Return (R %)	EPS (Rs.)	P/E Ratio (Times)
063/64	3775	130	10	0.6652	175.84	21.47
064/65	5900	80	50	0.5841	167.37	35.25
065/66	6830	80	50	0.1712	131.92	51.77
066/67	6010	50	50	(0.1127)	109.99	54.64
067/68	3279	55	15	(0.4453)	77.65	42.23

Source: Annual Report of SCBNL (Appendix III)

Above table 4.5 shows that the SCBNL is paying cash dividend and stock dividend in each fiscal year the cash dividend is in decreasing trend in each fiscal except the year

2067/068 and the stock dividend is constant up to the year 2066/067 and decrease in the fiscal year 2067/068. The highest cash dividend is paid in the year 2063/064 i.e. Rs. 130 per share. The P/E Ratio of SCBNL is maximum in the year 2066/067 and minimum in the year 2063/064 i.e. 54.64 times and 21.47 times respectively and the P/E ratio is in increasing trend over the study period except the year 2067/068.

Fig.: 4.7 Trend of MVPS of SCBNL

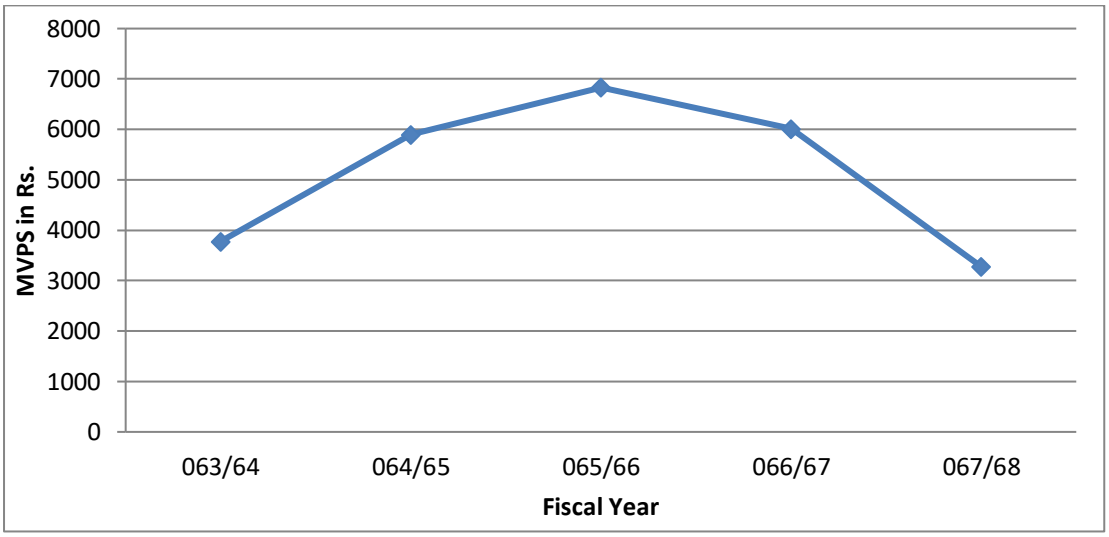


Figure 4.7 shows the trend line of closing market price of SCBNL, the closing MVPS of SCBNL is highest in the year 2065/066 i.e. Rs.6830 and minimum in the year 2067/068 i.e Rs. 3279.

Fig.: 4.8 Trend of Annual Return on Stock of SCBNL

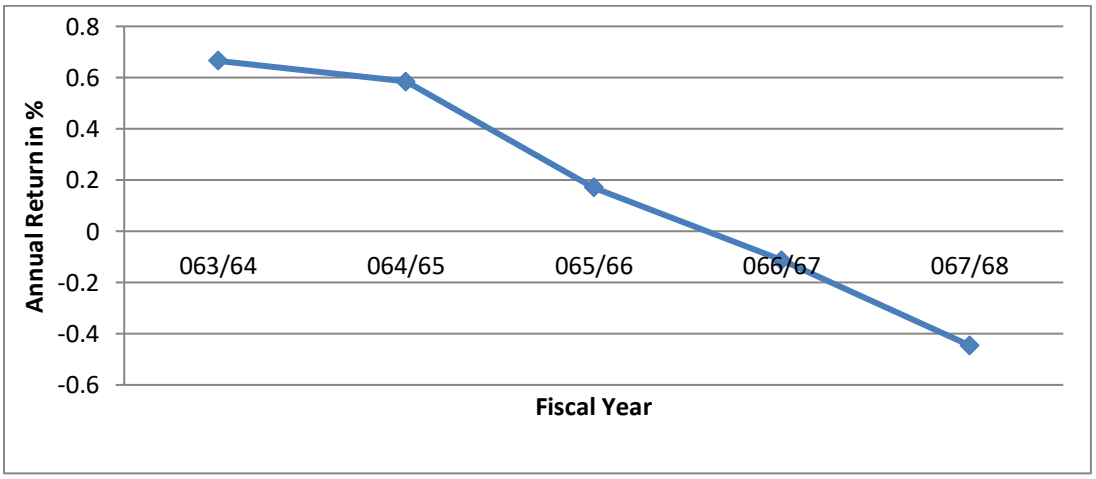


Figure 4.8 shows the annual return on stock of SCBNL over the study period. The annual return is highest in the year 2063/064 i.e. 66.52% and minimum in the year 2067/068i.e 44.53% of negative return and the trend of annual rate of return is in

decreasing trend over the study period. The annual return shows the investor's annual return who invested in the common stock of SCBNL.

Table: 4.6 Summary of Risk and Return Indicators of SCBNL

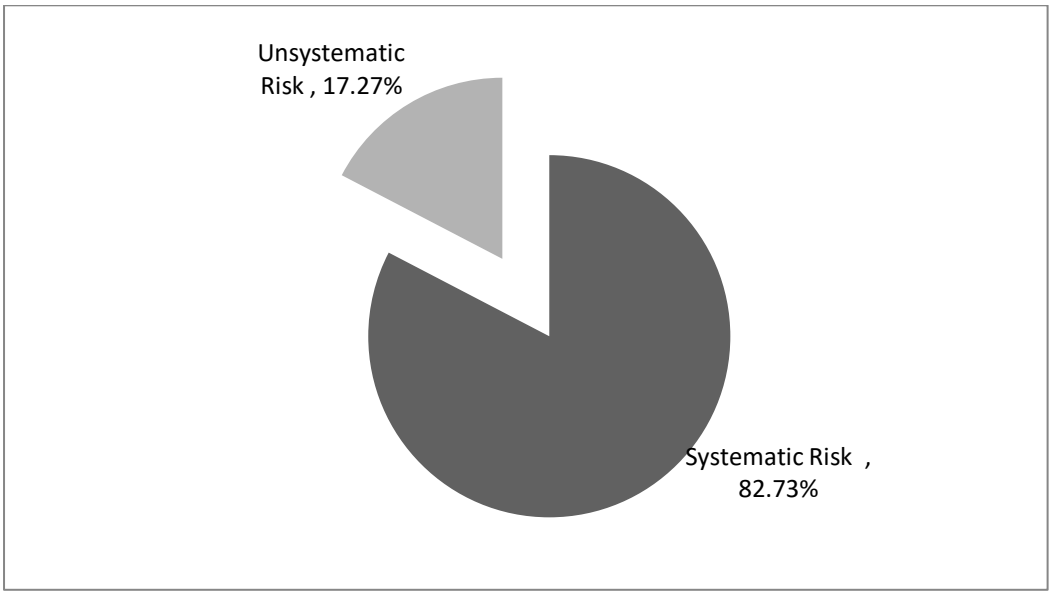
Variables	Value
Expected Return ($\bar{R}_{SCBNL}$)	0.1725
Risk (δ_{SCBNL})	0.4678
Variance $(\delta_{SCBNL})^2$	0.2188
Coefficient of Variation (CV)	2.71
Covariance between Return of Banking Industry & Return of EBL ($COV_{SCBNL\& BI}$)	0.1984
Correlation between Return of EBL & Return of Banking Industry ($r_{SCBNL\& BI}$)	0.8272
Beta Coefficient (β_{SCBNL})	0.7548
Systematic Risk (SR)	0.3870
Unsystematic Risk (USR)	0.0808
Proportion of Systematic Risk in Total Risk	82.73%
Proportion of Unsystematic Risk in Total Risk	17.27%

Source: Appendix III

Above table 4.6 shows the expected rate of return of SCBNL is 0.1725 with the standard deviation of 0.4678 and coefficient of variation of SCBNL is 2.71. This denotes that to get per unit return 2.71 unit of risk must be beared.

According to the table, beta coefficient of SCBNL is found 0.7548. Beta is an indicator of systematic risk and that is found to be lower than one (1). So, this is defensive type of assets and found to be less risky. That means stock of SCBNL is less volatile than the industry. Correlation of coefficient between industry and SCBNL is 0.8272, which is positive and this shows the positive relation between industry and SCBNL's stock. SCBNL has 0.3870 units of systematic risk out of the to at-risk and remaining 0.0808 unit is unsystematic risk.

Fig.: 4.9 Proportion of Systematic Risk & Unsystematic Risk of SCBNL



According to figure 4.9, SCBNL has 82.73% systematic risk which cannot be diversified whereas 17.27% unsystematic risk which can be diversifiable. The systematic risk is very high in the company so it may be harmful to the company.

4.3.3 NABIL Bank Limited

Table: 4.7 Analysis of Major Financial Indicator of NABIL

FY	MVPS	Cash Dividend (%)	Stock Dividend (%)	Annual Return (R %)	EPS (Rs.)	P/E Ratio (Times)
063/64	5050	100	40	1.2991	137.08	36.84
064/65	5275	60	40	0.0564	115.86	45.53
065/66	4899	35	50	(0.0646)	113.44	43.19
066/67	2384	30	40	(0.5072)	83.81	28.45
067/68	1252	30	-	(0.4622)	70.67	17.72

Source: Annual Report of NABIL (Appendix IV)

Above table 4.7 shows that the NABIL is paying cash dividend and stock dividend in each fiscal year, the cash dividend is in decreasing trend over the study period, and the stock dividend is constant in all years of our study period except for the year 065/66 the stock dividend slightly increased in this period. The highest cash dividend is paid in the year 2063/064 i.e. Rs. 100 per share. The P/E ratio of NABIL is

maximum in the year 2064/065 and minimum in the year 2067/068 i.e.45.53 times and 17.72 times respectively and the P/E ratio is in decreasing trend over the study period.

Fig.: 4.10 Trend of MVPS of NABIL

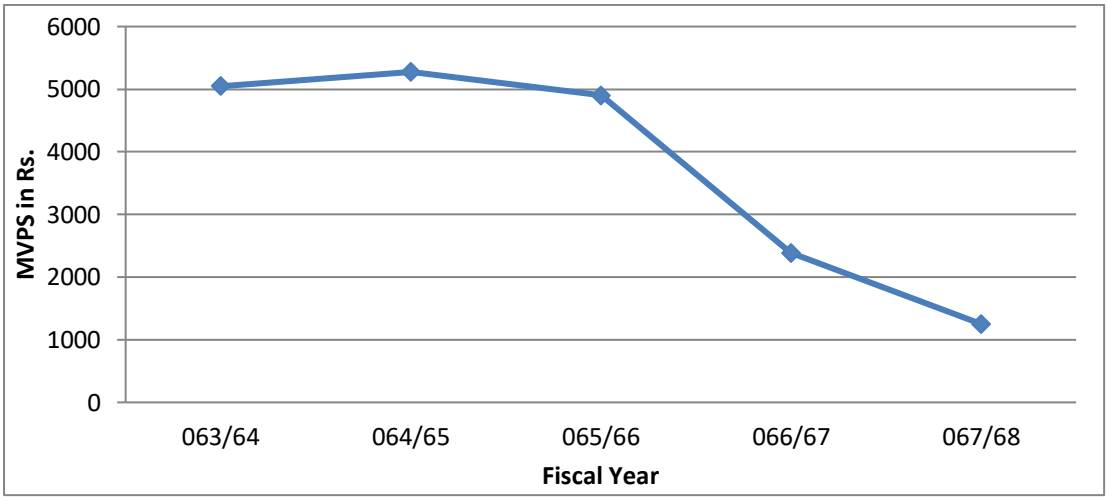


Figure 4.10 shows the trend line of Closing market price of NABIL, the closing MVPS of NABIL is highest in the year 2064/065 i.e. Rs. 5275 and minimum in the year 2067/068 i.e. Rs. 1252.

Fig.: 4.11Trend of Annual Return on Stock of NABIL

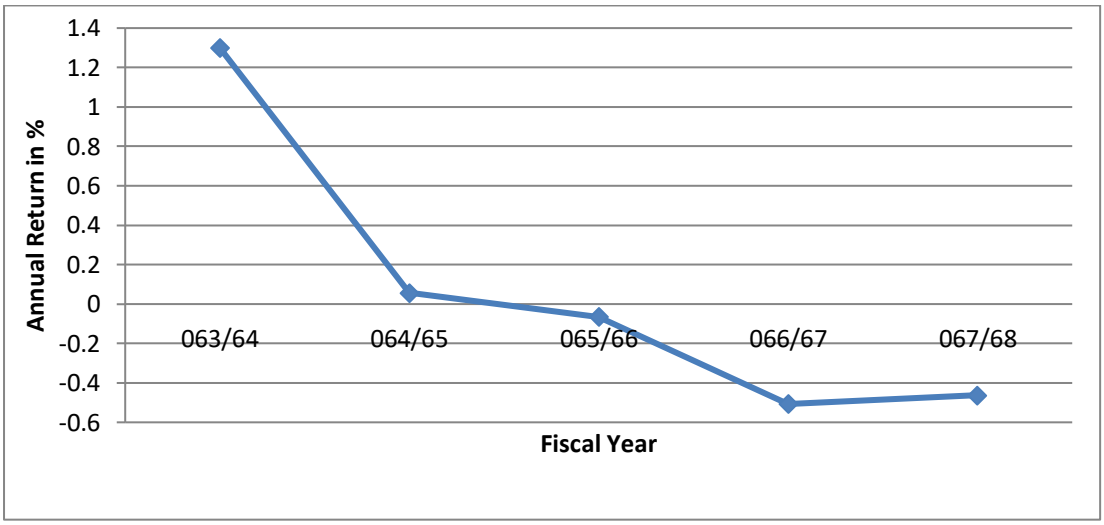


Figure 4.11 shows the annual return on stock of NABIL over the study period. The annual return is highest in the year 2063/064 i.e. 129.91% and minimum in the year 2066/067 i.e 50.72% of negative return and the trend of annual rate of return is in decreasing trend over the study period. The annual return shows the investor's annual return who invested in the common stock of NABIL.

Table: 4.8 Summary of Risk and Return Indicators of NABIL

Variables	Value
Expected Return ($\bar{R}_{NABIL}$)	0.0643
Risk (δ_{SCBNL})	0.7324
Variance (δ_{NABIL})²	0.5364
Coefficient of Variation (CV)	11.39
Covariance between Return of Banking Industry & Return of EBL ($COV_{NABIL\& BI}$)	0.3574
Correlation between Return of EBL & Return of Banking Industry ($r_{NABIL\& BI}$)	0.9518
Beta Coefficient (β_{NABIL})	1.3597
Systematic Risk (SR)	0.6971
Unsystematic Risk (USR)	0.0353
Proportion of Systematic Risk in Total Risk	95.18%
Proportion of Unsystematic Risk in Total Risk	4.82%

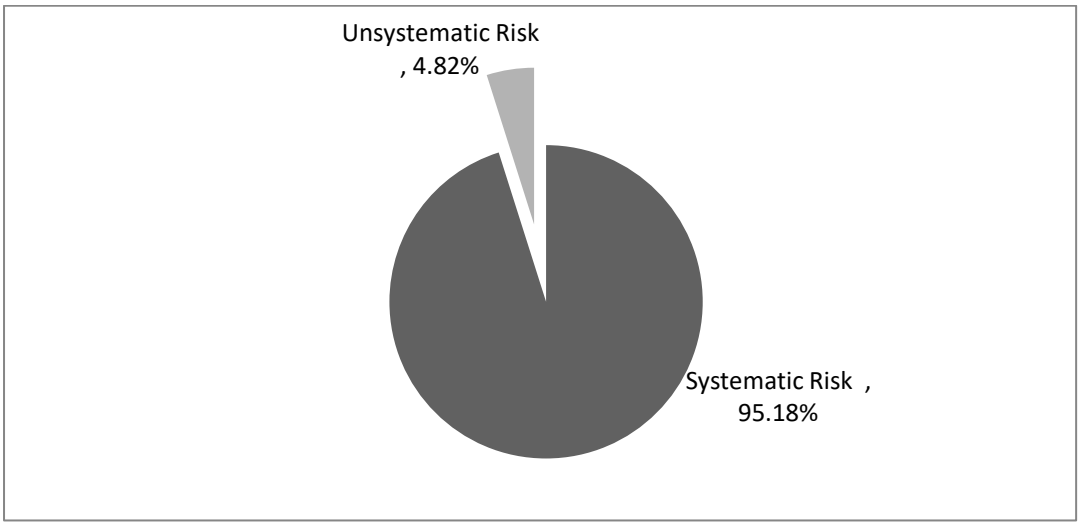
Source: Appendix IV

Above table 4.8 shows the expected rate of return of NABIL is 0.0643 with the standard deviation of 0.7324 and coefficient of variation of NABIL is 11.39. This denotes that to get per unit return 11.39 unit of risk must be beared.

According to table, beta coefficient of NABIL is found 1.3597 Beta is an indicator of a systematic risk and that is found to be greater than 1. So, this is a aggressive type of assets and found to be more risky. That means stock of NABIL is more volatile than the Industry. Correlation of coefficient between industry and NABIL is 0.9518, which is positive and this shows the positive relation between industry and NABIL's stock.

NABIL has 0.6971 units of systematic risk out of the total risk and 0.0353 units of unsystematic risks.

Fig.: 4.12 Proportion of Systematic Risk & Unsystematic Risk of NABIL



According to figure 4.12, NABIL has 95.18% systematic risk which can not be diversified whereas 4.82% unsystematic risk which can be diversifiable. The systematic risk is very high in the company so it may be harmful to the company.

4.3.4 BOK Limited

Table: 4.9 Analysis of Major Financial Indicator of BOK

FY	MVPS	Cash Dividend (%)	Stock Dividend (%)	Annual Return I	EPS (Rs.)	P/E Ratio (Times)
063/64	1375	20	-	0.6412	43.50	31.61
064/65	2350	2.11	40	0.7106	59.94	39.21
065/66	1825	7.37	36	(0.2203)	54.68	33.37
066/67	840	15	15	(0.5315)	43.08	19.50
067/68	570	16.75	18	(0.3015)	44.51	12.81

Source: Annual Report of BOK (Appendix V)

Above table 4.9 shows that the BOK is paying cash dividend and stock dividend in each fiscal year the cash dividend is in fluctuating trend in each fiscal year over the study period and the stock dividend is in decreasing trend except the fiscal year 2067/068. The highest cash dividend is paid in the year 2063/064 i.e. Rs. 20 per

share. The P/E Ratio of BOK is maximum in the year 2064/065 and minimum in the year 2067/068 i. e. 39.21 times and 12.81 times respectively and the P/E ratio is in decreasing trend except the fiscal year 2064/065.

Fig.: 4.13 Trend of MVPS of BOK

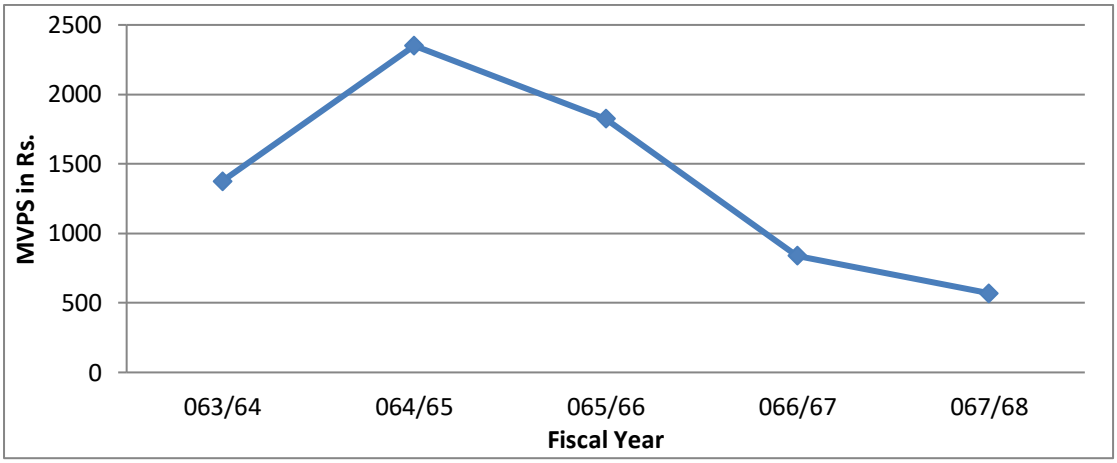


Figure 4.13 shows the trend line of Closing market price of BOK, the closing MVPS of BOK is highest in the year 2064/065 i.e. Rs. 2350 and minimum in the year 2067/068 i.e Rs. 570.

Fig.: 4.14 Trend of Annual Return on Stock of BOK

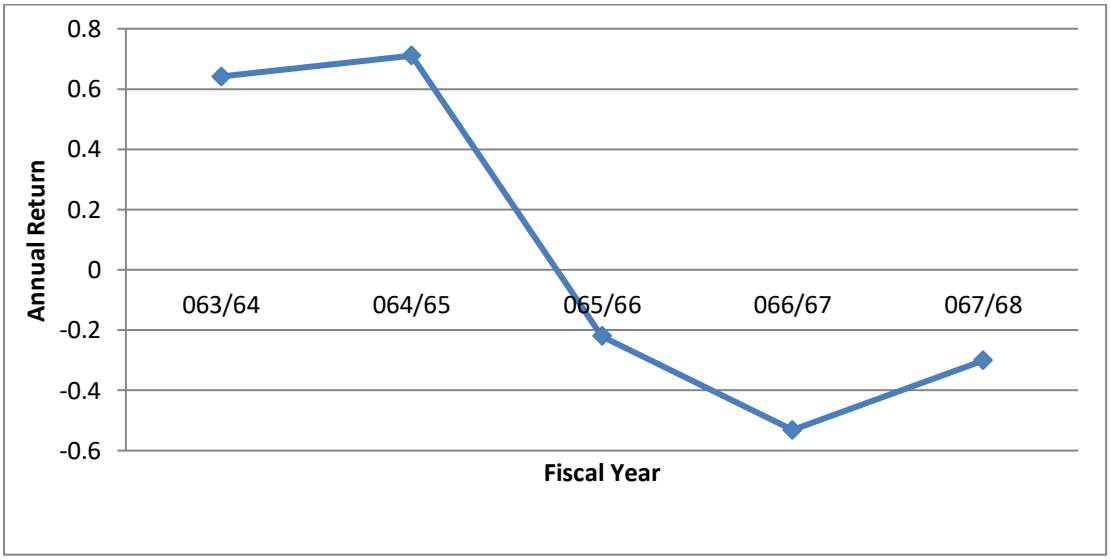


Figure 4.14 shows the annual return on stock of BOK over the study period. The annual return is highest in the year 2064/065 i.e. 71.06% and minimum in the year 2066/067 i.e 53.15% of negative return and the trend of annual rate of return is in decreasing trend over the study period. The annual return shows the investor's annual return who invested in the common stock of BOK.

Table: 4.10 Summary of Risk and Return Indicators of BOK

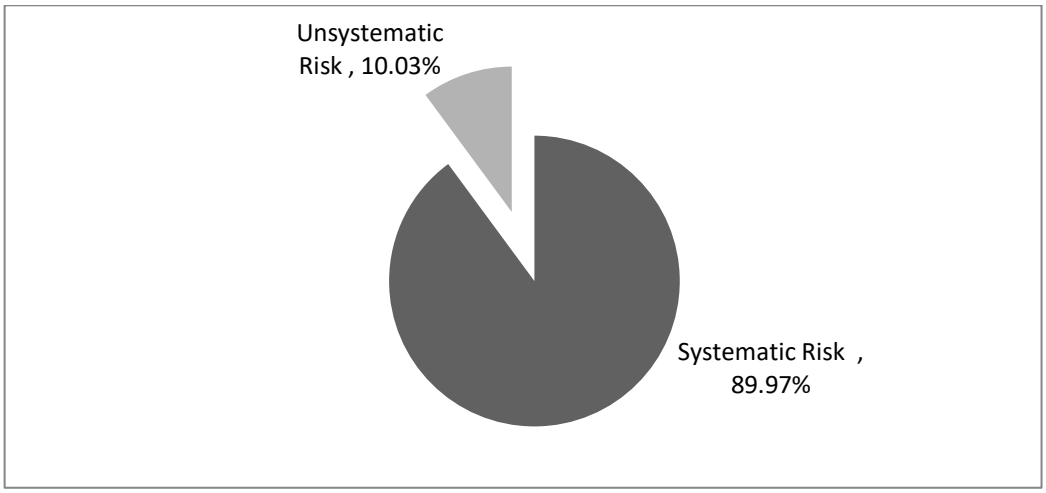
Variables	Value
Expected Return ($\bar{R}_{BOK}$)	0.0597
Risk (δ_{BOK})	0.5745
Variance $(\delta_{BOK})^2$	0.3300
Coefficient of Variation (CV)	9.62
Covariance between Return of Banking Industry & Return of EBL ($COV_{BOK\& BI}$)	0.2650
Correlation between Return of EBL & Return of Banking Industry ($r_{BOK\& BI}$)	0.8997
Beta Coefficient (β_{BOK})	1.0081
Systematic Risk (SR)	0.5169
Unsystematic Risk (USR)	0.0576
Proportion of Systematic Risk in Total Risk	89.97%
Proportion of Unsystematic Risk in Total Risk	10.03%

Source: Appendix V

Above table 4.10 shows the expected rate of return of BOK is 0.0597 with the standard deviation of 0.5745 and coefficient of variation of BOK is 9.62. This denotes that to get per unit return 9.62 unit of risk must be beared.

According to table, beta coefficient of BOK is found 1.0081.Beta is an indicator of systematic risk and that is found to be maximum. So, this is aggressive type of assets and found to be more risky. That means stock of BOK is more volatile than the Industry. Correlation of coefficient between industry and BOK is 0.8997, which is positive and this shows the positive relation between industry and BOK's stock. BOK has 0.5169 units of systematic risks out of the total risk and 0.0576 units of unsystematic risks.

Fig.: 4.15 Proportion of Systematic Risk & Unsystematic Risk of BOK



According to figure 4.15, BOK has 89.97% systematic risk which cannot be diversified whereas 10.03% unsystematic risk which can be diversifiable. The systematic risk is very high in the company so it may be harmful to the company.

4.3.5 Nepal Industrial and Commercial Bank Limited

Table: 4.11Analysis of Major Financial Indicator of NIC

FY	MVPS	Cash Dividend (%)	Stock Dividend (%)	Annual Return (R)	EPS (Rs.)	P/E Ratio (Times)
063/64	959	1.05	20	0.9356	24.01	39.56
064/65	1284	1.05	20	0.3400	25.75	49.86
065/66	1126	0.79	15	(0.1224)	27.83	40.46
066/67	626	26.32	-	(0.4207)	34.30	18.25
067/68	520	20	-	(0.1374)	37.80	13.76

Source: Annual Report of NIC (Appendix VI)

Above table 4.11shows that the NIC is paying cash dividend each year and stock dividend for three fiscal year the cash dividend is in fluctuating trend in each fiscal year over the study period and the stock dividend is in decreasing in the fiscal year 2065/066 and no stock dividend paid after fiscal year 065/66. The highest cash dividend is paid in the year 2066/067 i.e. Rs. 26.32 per share. The P/E Ratio of NIC is

maximum in the year 2064/065 and minimum in the year 2067/068 i.e. 49.86 times and 13.76 times respectively and the P/E ratio is in decreasing trend except the fiscal year 2064/065.

Fig.: 4.16 Trend of MVPS of NIC

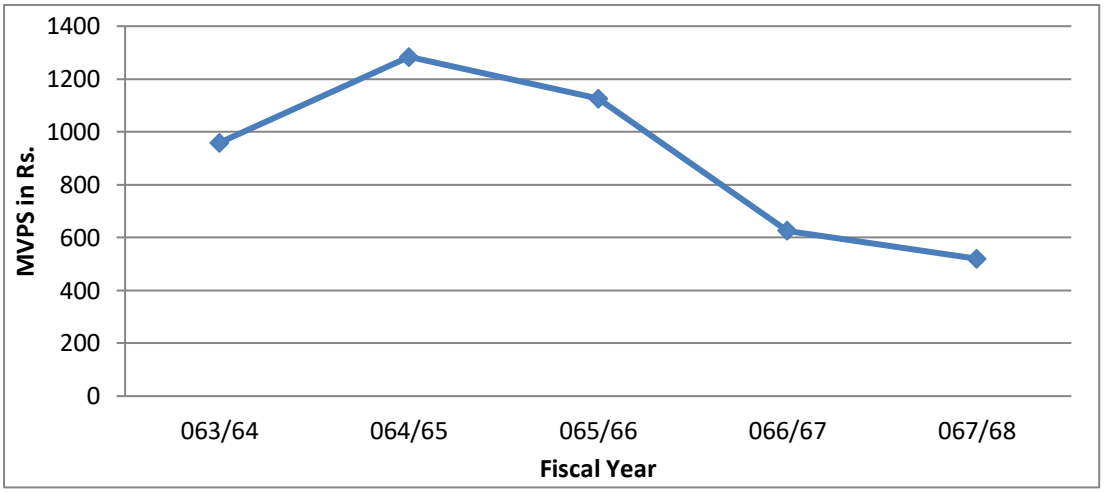


Figure 4.16 shows the trend line of Closing market price of NIC, the closing MVPS of NIC is highest in the year 2064/065 i.e. Rs. 1284 and minimum in the year 2067/068 i.e. Rs. 520.

Fig.: 4.17 Trend of Annual Return on Stock of NIC

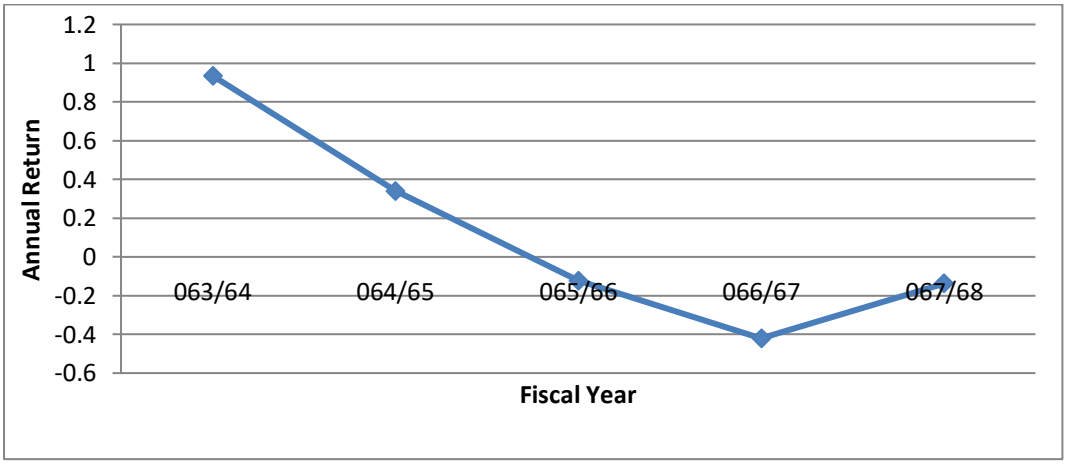


Figure 4.14 shows the annual return on stock of NIC over the study period. The annual return is highest in the year 2063/064 i.e. 93.56% and minimum in the year 2066/067 i.e. 42.07% of negative return and the trend of annual rate is in decreasing trend but in the fiscal year 2067/068 there is a little improvement in the negative return than the previous fiscal year. The annual return shows the investor's annual return who invested in the common stock of NIC.

Table: 4.12 Summary of Risk and Return Indicators of NIC

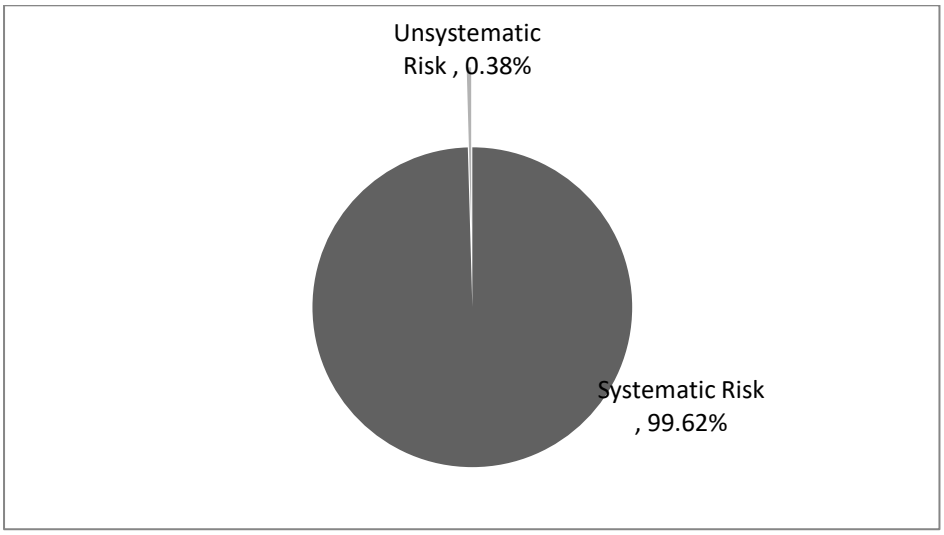
Variables	Value
Expected Return ($\bar{R}_{NIC}$)	0.1190
Risk (δ_{NIC})	0.5317
Variance $(\delta_{NIC})^2$	0.2827
Coefficient of Variation (CV)	4.47
Covariance between Return of Banking Industry & Return of EBL ($COV_{NIC\& BI}$)	0.2716
Correlation between Return of EBL & Return of Banking Industry ($r_{NIC\& BI}$)	0.9963
Beta Coefficient (β_{NIC})	1.0332
Systematic Risk (SR)	0.5297
Unsystematic Risk (USR)	0.0020
Proportion of Systematic Risk in Total Risk	99.62%
Proportion of Unsystematic Risk in Total Risk	0.38%

Source: Appendix VI

Above table 4.12 shows, the expected rate of return of NIC is 0.1190 with the standard deviation of 0.5317 and coefficient of variation of NIC is 4.47. This denotes that to get per unit return 4.47 unit of risk must be beared.

According to the table, beta coefficient of NIC is found 1.0332 Beta is an indicator at systematic risk and that is found to be Maximum. So, this is aggressive type of assets and found to be more risky. That means stock of NIC is more volatile than the Industry. Correlation of coefficient between industry and NIC is 0.9963, which is positive this shows the positive relation between industry and NIC's stock. NIC has 0.5297 units of systematic risks out of the total risk and 0.0020 units of unsystematic risks.

Fig.: 4.18 Proportion of Systematic Risk & Unsystematic Risk of NIC



According to figure 4.18, NIC has 99.62% of systematic risk which can not be diversifiable and 0.38% unsystematic risk which can be diversifiable. The systematic risk is very high in the company so it may be harmful to the company.

4.3.6 Nepal SBI Bank Limited

Table: 4.13 Analysis of Major Financial Indicator of SBI

FY	MVPS	Cash Dividend (%)	Stock Dividend (%)	Annual Return (R)	EPS (Rs.)	P/E Ratio (Times)
063/64	1176	12.59	35	0.9421	39.35	29.93
064/65	1511	-	-	0.2849	28.33	53.34
065/66	1900	2.11	40	0.2588	36.18	52.52
066/67	741	5	12.5	(0.6074)	23.69	31.28
067/68	565	5	12.5	(0.2308)	24.85	22.74

Source: Annual Report of SBI (Appendix VII)

Above table 4.13 shows that the SBI is paying cash dividend and stock dividend in each fiscal year except the fiscal year 2064/065 the cash dividend is in fluctuating trend in each year over the study period and the stock dividend is also fluctuating. The bank did not pay the investors any dividend in the fiscal year 2064/065. The highest cash dividend is paid in the year 2063/064 i.e. Rs. 12.59 per share. The P/E Ratio of SBI is maximum in the year 2064/065 and minimum in the year 2067/068 i.

e. 53.34 times and 22.74 times respectively and the P/E ratio is in decreasing trend except the fiscal year 2064/065.

Fig.: 4.19 Trend of MVPS of SBI

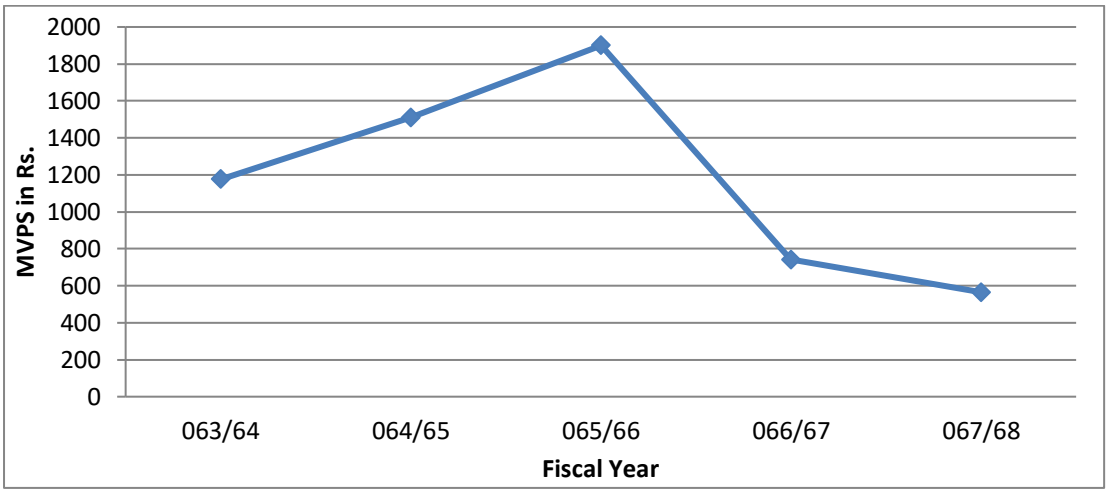


Figure 4.19 shows the trend line of Closing market price of SBI, the closing MVPS of SBI is highest in the year 2065/066 i.e. Rs. 1900 and minimum in the year 2067/068 i.e. Rs. 565.

Fig.: 4.20 Trend of Annual Return on Stock of SBI

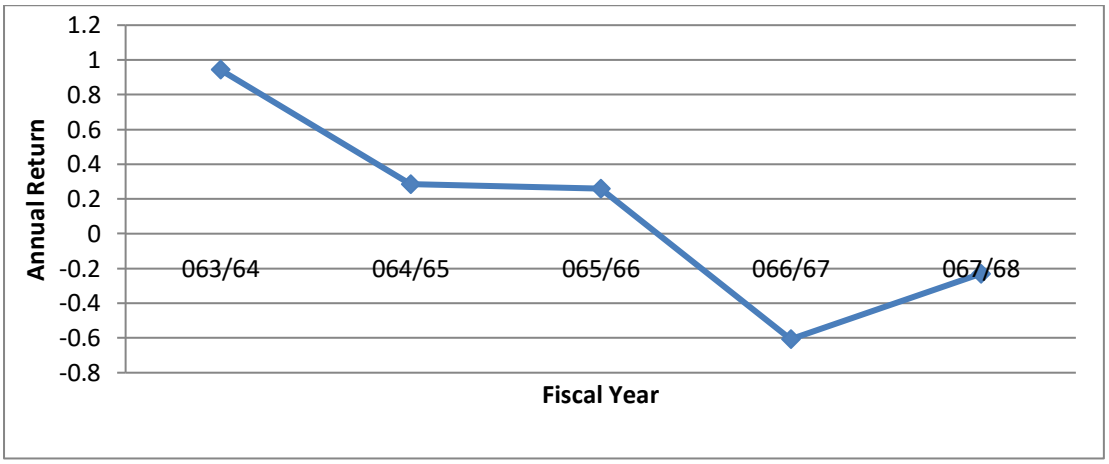


Figure 4.20 shows the annual return on stock of SBI over the study period. The annual return is highest in the year 2063/064 i.e. 94.21% and minimum in the year 2066/067 i.e. 60.74% of negative return and the trend of annual rate is in decreasing trend but in the fiscal year 2067/068 there is a little improvement in the negative return than the previous year. The annual return shows the investor's annual return who invested in the common stock of SBI.

Table: 4.14 Summary of Risk and Return Indicators of SBI

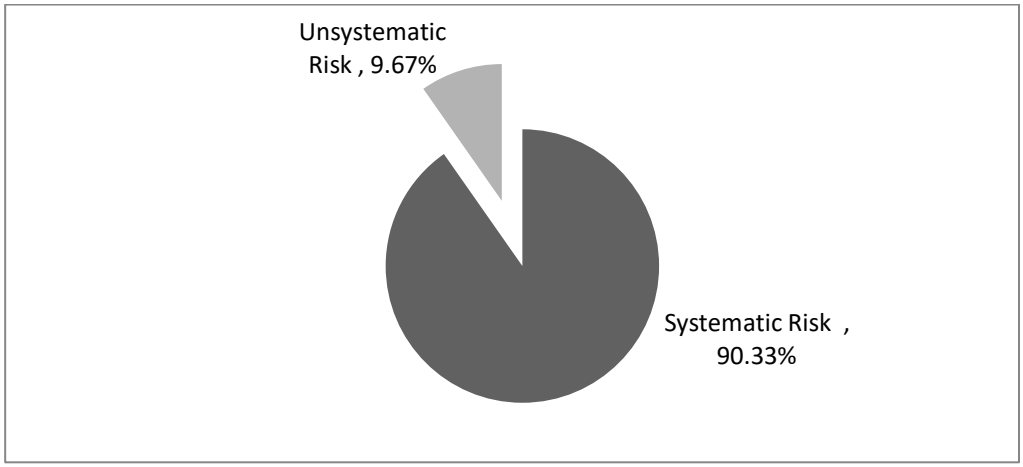
Variables	Value
Expected Return ($\bar{R}_{SBL}$)	0.1295
Risk (δ_{SBL})	0.5861
Variance $(\delta_{SBL})^2$	0.3435
Coefficient of Variation (CV)	4.53
Covariance between Return of Banking Industry & Return of EBL ($COV_{SBL\& BI}$)	0.2714
Correlation between Return of EBL & Return of Banking Industry ($r_{SBL\& BI}$)	0.9032
Beta Coefficient (β_{SBL})	1.0325
Systematic Risk (SR)	0.5294
Unsystematic Risk (USR)	0.0567
Proportion of Systematic Risk in Total Risk	90.33%
Proportion of Unsystematic Risk in Total Risk	9.67%

Source: Appendix VII

Above table 4.14 shows the expected rate of return of SBI is 0.1295 with the standard deviation of 0.5861 and coefficient of variation of SBI is 4.53. This denotes that to get per unit return 4.53 unit of risk must be beared.

According to the table, beta coefficient of SBI is found 1.0325 Beta is an indicator at systematic risk and that is found to be Maximum. So, this is aggressive type of assets and found to be more risky. That means stock of SBI is more volatile than the Industry. Correlation of coefficient between industry and SBI is 0.9032, which is positive and this shows the positive relation between industry and SBI's stock. SBI has 0.5294 units of systematic risks out of its total risk and 0.0567 units of unsystematic risks.

Fig.: 4.21 Proportion of Systematic Risk & Unsystematic Risk of SBI



According to figure 4.21, SBI has 90.33% of systematic risk that cannot be diversified and 9.67% of unsystematic risk which can be diversifiable. The systematic risk is very high in the company so it may be harmful to the company.

4.4 Analysis of Common Stock's Price under CAPM Model

Under this model investment decisions are made by the comparison of required rate of return and expected rate of return for the given unit of risk. There come three conditions.

If the expected rate of return more than required rate of return then it is underpriced and in such cases the investors' can buy the share to make profit out of their investment.

If the expected rate of return is less than the required rate of return then it is overpriced and the investors can sell their stock for getting more return from their investment.

If the expected rate of return and the required rate or return then equilibrium if obtained and in such cases investor can hold the security or either buy or sell the stock.

Comparison of required rate of return and expected rate of return shows the result whether the common stock in underpriced, overpriced or equilibrium. Generally, for the price valuation, the calculation of required rate of return is necessary and it could be calculated by using the following formula,

Required rate of return (R) = R_f+ ($\overline{R}_{BI}$-R_f) β

Where,

R_f= Risk free rate of return i.e. 7.5%

$\overline{R}_{BI}$=Average return ofbanking sector for the year for the study Periodi.e. 0.03288

β = Beta coefficient of each bank

In the above equation, the risk free rate of return (R_f) is needed to determine required rate of return. The discount rate of Treasury bill (T-bill) issued by Nepal Rastra Bank is taken as risk free rate (R). In Nepal, NRB issued two types of T-bill i.e.91 days and 365 days but according to the suggestion of T-bill section of NRB, it is better to take 365 days' weighted average discount rate as risk free rate. T-bill rate may differ in various issues but in our study it is taken weighted average discount rate of 365 days T-bill of mid-July (2011) fiscal year (2010/11). As provided by the T-bill section T-bill rate for fiscal year 2010/011 is 7.5%.

Table: 4.15 Analysis of Common Stock's Price Based on Required Rate of Return and Expected Rate of Return

Bank	Beta	Required Rate of Return	Expected Rate of Return	Price Evaluation
EBL	0.9225	0.03614	0.0476	Underpriced
SCBNL	0.7548	0.04321	0.1725	Underpriced
NABIL	1.3597	0.01773	0.0643	Underpriced
BOK	1.0081	0.03254	0.0597	Underpriced
NIC	1.0332	0.03148	0.1190	Underpriced
SBI	1.0325	0.03151	0.1295	Underpriced

Source: Appendix VIII

From the above table 4.15, it is observed that the pricing of common stock of all sample banks under study period are underpriced. The common stock of all six sample banks are underpriced which indicates that these bank's stock demands are very good for investment opportunity. The investors can gain from buying the

underpriced stock. It is recommended to purchase underpriced stock and sell overpriced stock but the rational and efficient investment decision-maker need to analyze all other dimensions as well before making any decision from the investment point of view.

4.5 Creation of Optimal Portfolio

The portfolio is the holding of securities and investment financial assets i.e. bond, common stock. A portfolio is a combination of investment assets. Portfolio management is related to efficient portfolio investment in financial assets. If portfolio is being constructed, they can reduce unsystematic risk without losing considerable return. The portfolio analysis is performed to develop a portfolio that has the maximum return at minimum level of risk. Therefore, the investor need to extend analysis to create an optimal portfolio. For the study purpose will arrange all the selected stocks in ascending order of risk and return.

Table: 4.16 Comparison of Banks based on Risk and Return

S.N.	Name of Stock	Risk	Return	Remarks
1	SCBNL	0.4678	0.1725	Selection desirable
2	EBL	0.4758	0.0476	Selection undesirable
3	NIC	0.5317	0.119	Selection undesirable
4	BOK	0.5745	0.0597	Selection undesirable
5	SBI	0.5861	0.1295	Selection undesirable
6	NABIL	0.7324	0.0643	Selection undesirable

Above table depicts that as the risk increases, the returns are decreasing, stock SCBNL is only desirable as compared to other stocks. If we invest 100% in SCBNL then maximum return with minimum risk is achieved. However one security cannot constitute a portfolio, we cannot invest 100% in SCBNL only so for further study let's make an analysis excluding SCBNL.

Table: 4.17 Comparison of Banks based on Risk and Return excluding SCBNL

S.N.	Name of Stock	Risk	Return	Remarks
1	EBL	0.4758	0.0476	Selection desirable
2	NIC	0.5317	0.119	Selection desirable
3	BOK	0.5745	0.0597	Selection undesirable
4	SBI	0.5861	0.1295	Selection desirable
5	NABIL	0.7324	0.0643	Selection undesirable

Now we got three desirable stocks, since the return and risk of EBL is too low as compared to other stocks, we choose SBI and NIC for further analysis to find out the optimum mix.

Table: 4.18 Portfolio Risk and Return of Different Weight Invested in Common Stock of NIC and SBI

Proportion of Investment in Common Stock of NIC (W_{NIC})	Proportion of Investment in Common Stock of SBI (W_{SBI})	Portfolio return ($\bar{R}_p$)	Portfolio Standard Deviation (δ_P)
0.75	0.25	0.1216	0.5375
0.50	0.50	0.1243	0.5488
0.25	0.75	0.1269	0.5625

Source: Appendix IX & X

According to table 4.18, we get portfolio return and portfolio standard deviation from investing different proportion in common stocks of NIC and SBI. We can observe that the maximum portfolio return is 0.1269 and lower risk, if investment is made in common stock of NIC 25% and SBI 75%. In other combination, the risk and return both are lower. Depending upon the risk aversion of investor any one combination can be choosed. However 75:25 is better from return point of view.

4.6 Major Findings

- NEPSE Index is in increasing trend at the beginning of the study period but it is in decreasing trend and NEPSE index falls less than500 point in current days.
- Banking Index falls at 328.70 point at the end of the fiscal year 2068/069.The expected rate of return of banking sector is 3.288% with the standard deviation of 51.27% and coefficient of variation of banking index is 15.59.
- The expected rate of return of EBL is 0.0476 with the standard deviation of 0.4758 and coefficient of variation of EBL is 10. Similarly, beta coefficient of EBL is 0.9225, correlation of coefficient between industry and EBL is 0.9940 and EBL has 0.4729 units of systematic risks out of the total risk and 0.0029 units of unsystematic risks.
- The expected rate of return of SCBNL is 0.1725 with the standard deviation of 0.4678 and coefficient of variation of SCBNL is 2.71. Beta coefficient of SCBNL is 0.7548, correlation of coefficient between industry and SCBNL is 0.8272 and SCBNL has 0.3870 units of systematic risks out of its total risk and 0.0808 units of unsystematic risks.
- The expected rate of return of NABIL is 0.0643 with the standard deviation of 0.7324 and coefficient of variation of NABIL is 11.39. Beta coefficient of NABIL is 1.3597, correlation of coefficient between industry and NABIL is 0.9518 and NABIL has 0.6971 units of systematic risks out of the total risk and 0.0353units of unsystematic risks.
- The expected rate of return of BOK is 0.0597 with the standard deviation of 0.5745 and coefficient of variation of BOK is 9.62. Beta coefficient of BOK is 1.0081, correlation of coefficient between industry and BOK is 0.8997 and BOK has 0.5169 units of systematic risks out of the total risk and 0.0576 units of unsystematic risks.
- The expected rate of return of NIC is 0.1190 with the standard deviation of 0.5317 and coefficient of variation of NIC is 4.47. Beta coefficient of NIC is 1.0332, correlation of coefficient between industry and NIC is 0.9963 and NIC has 0.5297 units of systematic risks out of the total risk and 0.0020 units of unsystematic risks.

- The expected rate of return of SBI is 0.1295 with the standard deviation of 0.5861 and coefficient of variation of SBI is 4.53. Beta coefficient of SBI is 1.0325, correlation of coefficient between industry and SBI is 0.9032 and SBI has 0.5294 units of systematic risks out of the total risk and 0.0567 units of unsystematic risks.
- SCBNL,SBI,NIC,NABIL, BOK AND EBL can be ranked 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, 5^{th} and 6^{th} respectively in terms of expected rate of return.
- From the analysis of optimal portfolio creation, it is found that the optimum portfolio is made if investment is made into 75% in SBI and 25% in NIC.
- From the point view of CAPM model it is found that the required rate of return is less than the Expected Rate of return in case of all sample banks thus these stocks are underpriced and investor can make buy decision.
- The covariance between return of banking industry and return of selected stock are EBL-0.2425, SCBNL-0.1984,NABIL-0.3574, BOK-0.2650, NIC-0.2716 andSBI-0.2714.
- The correlation between return of banking industry and return of selected stock are EBL-0.9940, SCBNL-0.8272, NABIL-0.9518, BOK-0.8997, NIC-0.9963 and SBI-0.9032.
- The proportion of systematic risk and unsystematic risk from the total risk is 99.39% & 0.61% of EBL, 82.73% & 17.27% of SCBNL, 95.18% & 4.82% of NABIL, 89.97% & 10.03% of BOK, 99.62% & 0.38% of NIC and 90.33% & 9.67% of SB

CHAPTER - V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter includes the conclusion derived from the analysis of the study. Summary of the study has been mentioned the first section. The Second section has been designed for the finding and conclusion drawn from the study. The recommendation is to eliminate the weakness; drawbacks of the common stock investment observed on the basis of finding have been labeled in the Third section.

5.1 Summary

The investment decision is one of the important parts of financial management. As blood is necessary for human beings, finance is for business organizations and industries. Every business organization should base their decision-making in financial management. Financial management is mainly concerned with the acquisition and utilization of funds. For this, financial market plays a vital role in utilizing financial resource for expanding productive sectors in the country. It mobilizes unproductive and unutilized financial resources towards productive sectors and helps in expanding economic growth of a country.

The main focus of the study is trade-off between risk and return. The relationship between risk and return is described by investor's perception about risk and their demand for compensation. No investor will like to invest in risky assets unless he is assured of adequate compensation for the acceptance of risk. Hence, the risk plays the vital role in the analysis of the investment. Risk and return is getting considerable attention in financial decision. The rate of return on the investment is the function of many factors including the real cost of money, inflation risk, maturity risk and default risk etc. The investors willingly offer more capital at higher rate of return whereas the users of capital shows their readiness to use more capital at lower rate. Risk is the probability of chances of losses. It shows the variability of the return on the investment.

Common stock is the most risky security and lifeblood of stock market. An investment in common stock of corporate firm neither ensures the rate of return nor ensures the return of principle. Common stock is the residual claimant to the earnings of the company. Common stocks holders' receive whatever is left after all the other claimholder have taken their rightful share. Therefore, investment in common stock is very sensitive on the ground of risk.

The main objectives of the study are to analyze the risk and return of common stocks in Nepalese context that's why is focused on the common stock of listed commercial banks of Nepal and gives an idea about how to create an optimal portfolio. The study has taken a sample of listed six commercial banks as reference to analyze the risk and return in common stock investment, while analyzing the risk and return, brief reviews of related studies has been performed. Tables, graphs, and diagrams are used to present the results of the analysis.

Secondary data are collected from NEPSE, previous studies, NRB publications and publications of selected commercial banks journals, books and Internet. Other types of information are collected through personal visit to the executives and officers of the companies and official of security board of Nepal (SEBON) and NEPSE.

The study has adopted historical and analytical research design. The data utilized are mostly secondary in nature. Various financial tools are applied for analyzing and presentation of the data. Among the 32 commercial banks listed in the NEPSE, six banks are taken as sample for the study. Data of the last five years are used for the study. Market price per share and dividend per share of the banks are used to analyze the risk and returns of the banks together with the commercial banking index. And portfolio is created using two sample banks. NIC and SBI banks used for create minimum variance portfolio with high return.

This study divided into five chapters. First chapter is introduction chapter, introduction chapter include background of the study, profile of sample companies, statement of the problem, objectives of the study, focus of the study, significance of the study, limitation of the study, and organization of the study. Second chapter is review of literature. This chapter includes conceptual review, review of journal and article, review of related articles and related unpublished thesis. Third chapter is research design. This chapter include population and sample, sources of data, data

collection technique and analysis tools. Fourth chapter is presentation and analysis of data, this chapter shows related table, figure and describes the study. Fifth and last chapter is summary, conclusion and recommendation and bibliography, annexed are presented at the end of the study.

5.2 Conclusions

Nepalese stock market is in emerging stage. Its development is acceleration since the political change in effect of openness and liberalization in National economy. But due to lack of information and poor knowledge, Nepalese individual investor cannot analyze the securities as well as market properly. From the analysis of various financial indicators of all the sample banks, the following conclusion can be found: The return is defined as income received on common stock investment, which is usually expressed in percentage.

- The NEPSE index as well as index of commercial banks is at lowest point in 68/69 in comparison with previous year's data. Lowest point indicates that the stock are available at lower prices
- SCBNL has the highest rate of return i.e. 17.25% and EBL have the lowest rate of return i.e. 4.76%. It means SCBNL is in best option for investment among the sample banks in terms of return.
- SCBNL stock is the less risky assets and NABIL stock is the most risky assets. SCBNL is the best security measuring in terms of coefficient of variance.
- Stock of NABIL is most aggressive and the stock of SCBNL is the most defensive stock than others due to the highest and lowest beta coefficient. This also indicates that SCBNL is the safest security to invest.
- The study found that optimal portfolio can be created by investing 75% in SBI and 25% in NIC, which will result in expected return of 0.1269 and risk of 0.5625.
- Comparing the expected rate of return and required rate of return it is found that common stock of all the sample banks are underpriced which means the investors can make the buy decision.
- Considering the banking sector's risk and return, expected return of overall banking index is 3.288% which is the lowest than the expected return of all

sampled banks. This represents that to get higher return these sample banks are the best option for investment.

- Correlation co-efficient between NIC and banking index is highest ie.0.9963 whereas correlation co-efficient between SCBNL and banking index is lowest i.e. 0.08272 which shows NIC is more positively correlated with banking index.
- The standard deviation found in banking index is 51.27%,which represent the sensitivity on investment in the banking sectors.
- The stock of SCBNL has more unsystematic risk i.e.0.0808 that can be diversifiable and NIC bank has lowest unsystematic risk i.e. 0.0020 units.

5.3 Recommendations

The finding of this study might be useful for those who are concerned with the investment in common stock of commercial bank directly or indirectly. On the basis of major finding of the study the researcher thinks appropriate to recommend the concerned institutions to individual authorities as well as other in order to consider the following suggestions.

- NEPSE index and commercial bank's index recommends that it is right time to buy the stocks as the prices are lower as compared to the previous year.
- Expected return recommends that the selected commercial banks common stocks are the best option for the investment as they are providing attractive rate of return.
- Investors who want to get high return should invest in SCBNL, SBI and NIC as the return on stock of these companies are higher with lower risk.
- An optimum portfolio can be created by investing 75% in SBI and 25% in NIC
- As per CAPM model, though all banks are underpriced it is recommended to buy the stocks of SCBNL, SBI and NIC as they are undervalued by more value than BOK,NABIL and EBL.
- Return of banking index is lowest than all sample bank's return so it is recommended that these six sample banks are better for investment purpose from investment point of view.
- Investors must concern with the portion of systematic risk and unsystematic risk in total risk as unsystematic risk can be managed whereas systematic risk cannot be managed.

BIBILOGRAPHY

Books

Alexander, J. G., Sharpe, W.F., and Bailey, J. (2003). *Fundamental of investment.* (3rd Edition). Singapur: Prentice Hall.

Bajracharya, S., and Bhattarai, R. (2005). *Corporate financial management.* (2ndEdition).

Bhalla, V. K. (2001). *Investment management.* (8th Edition). New Delhi: S. Chanda and

Bhandari, D. R. (2004). *Banking and Insurance: Principle and Practice.* Kathmandu: Ayush Publication.

Bhattrai, R. (2008). *Investment Theory and Practice.* (1st edition). Kathmandu: Buddha Academic Publication.

Brealey, R. A., and Stewart, M. (1991). *Principles of corporate finance.* New Delhi: Tata Publishing House.

Cheney, J. M., and Edward, A.M. (1992). *Fundamentals of investment.*St. Paul: West PublishingCompanyLimited.

Cheny. J. M., and Mosses, E.A. (1995). *Fundamental of investment.*St. Paul: West PublicationCompany.

Fisher, D. E., and Jordan, R.J. (2000). *Security Analysis and Portfolio Management.*(6th Edition). New Delhi: Hall of India Pvt. Ltd.

Francis, J. C. (1997). *Investment Analysis and Management.* New York: Mc-Graw Hill Publication.

Frank, K. R., and Keith, C.B. (2004). *Investment Analysis and Portfolio Management.* (7th Edition). City Thomson south- Western.

Hampton, J. (1998). *Financial Decision Making.* New Delhi: Prentice Hall of India Pvt. Ltd.

Kothari, C. R. (1999). *Research Methodology Methods and Techniques.* New Delhi: Vishwa Prakashan.

Pradhan, S. (2003). *Basic of Financial Management.* Kathmandu: Educational Enterprises.

Reilly, F. K., and Brown, K.C. (2003). *Investment Analysis and Portfolio Management.* Singapore: Thompson Asia Ptv. Ltd.

Van Horn, J. C., and Wachowicz, J. (2001). *Fundamental of Financial Management.* New Delhi: Pearson Education Inc.

Van Horn, J. C. (2000). *Financial Management and Policy.* New Delhi: Prentice Hall of India.

Weston, J. F., and Brigham, E. F. (1996). *Essentials of Managerial Finance.* Forth Worth: The Dryden Press.

Journals and Reports

BOK (2006-2011), *Annual Report,* Bank of Kathmandu.

EBL (2006-2011), *Annual Report,* Everest Bank Limited.

Manandhar, K. D. (2004). *Capital Market Development in Nepal.* Journal of Management and Development. 1(5): 39.

NABIL (2006-2011), *Annual Report,* NABIL Bank Limited.

NEPSE (2006-2011), *Trading Report,* Nepal Stock Exchange.

NIC (2006-2011), *Annual Report,* Nepal Industrial and Commercial Bank.

Rishi, R., and Gyan, B. (2002), *Expected Return, Realized Return and Asset Pricing Tests,* Journal of Finance, Volume XIV, P-22

Robert A. H., and Nardin L. B. (2006), *Commonality in the Determinants of Expected Stock Returns,* Journal of Corporate Finance, Vol: IV, P-28

SBI (2006-2011), *Annual Report* ,Nepal SBI Bank Limited.

SCBNL (2006-2011) , *Annual Report,* Standard Chartered Bank Limited.

SEBON (2006-2011), *Annual Report,* Securities Board of Nepal.

Shrestha, (2004). *Portfolio Management in Commercial Bank, Theory and Practice.* Nepal Bank Patrika, Baishakh Masanta, NBL Vol, 28:67

Shrestha, R. P. (2005). *Stock Market and Economic Development.* Journal of Economic Development.Vol: 2, P-28.

Smith (1996). *The Application of Economic Theory to financial markets.* Journal of Financial Economics, Vol: VI, P-16

Thesis

Gyawali, D. (2008), *Risk and return on common stock,* unpublished master's thesis, Prithvinarayan Campus, Tribhuvan University.

Joshi, R. (2009), *Problems in choice of optimum portfolio of stock in Nepal stock Exchange,* unpublished master's thesis, Prithvinarayan Campus, Tribhuvan University.

Manandhar D. R. (2007), *A Study on Risk and Return Analysis on Common Stock of Listed Commercial Bank in Nepal,* unpublished master's thesis, Prithvinarayan Campus, Tribhuvan University.

Mishra S. (2011), *Risk and Return Analysis of Common Stock of Five Listed Commercial Banks,* unpublished master's thesis, Shankar Dev Campus, Tribhuvan University.

Pokharel, R.(2010) *Risk and Return on Common Stock Investment of Commercial Banks, With Reference to Six Commercial Banks,* unpublished master's thesis, Shankar Dev Campus, Tribhuvan University.

Websites

www.investorwords.com

www.nepalstock.com
www.investopedia.com
www.nrb.org.np
www.sebon.com

APPENDIX - I

Commercial Baking Industry IndexMovement

Fiscal Year	Commercial Banking Index (In Point)	Annual Return (R_{BI})	R_{BI} - $\bar{R}_{BI}$	$(R_{BI}$ - $\bar{R}_{BI})^2$
2063/064	439.67	-	-	-
2064/065	804.26	0.8292	0.7964	0.6342
2065/066	1011.09	0.2572	0.2243	0.0503
2066/067	764.48	-0.2439	-0.2768	0.0766
2067/068	441.87	-0.4220	-0.4549	0.2069
2068/069	328.70	-0.2561	-0.2889	0.0835
Total		**$\sum R_{BI}$= 0.1644**	**$\sum(R_{BI} - \bar{R}_{BI})^2$ = 1.0515**	

Calculation of Annual Return from Banking Index, which is calculated with the use offollowing formula;

$$R_{BI} = \frac{P_1 - P_0}{P_0} \times 100$$

For the fiscal year, 2063/064,

$$= \frac{804.26 - 439.67}{439.67} \times 100 = 82.92\%$$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{BI}$) = $\frac{\sum R_{BI}}{N} = \frac{16.44}{5} = 0.03288$ or, 3.288%

Risk (δ_{BI}) = $\sqrt{\frac{\sum(R_{BI} - \bar{R}_{BI})^2}{N-1}} = \sqrt{\frac{1.0515}{5-1}} = 0.5126$ or, 51.27%

Coefficient of Variation (CV) = $\frac{\delta_{BI}}{\bar{R}_{BI}} = \frac{0.5127}{0.03288} = 15.59\%$

APPENDIX - II

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

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{EBL})	R_{EBL} - $\overline{R}_{EBL}$	$(R_{EBL} - \overline{R}_{EBL})^2$	$R_{BI} - \overline{R}_{BI}$	$(R_{EBL} - \overline{R}_{EBL})$ $(R_{BI} - \overline{R}_{BI})$
062/63	1379	25					
063/64	2430	10	0.7694	0.7218	0.5210	0.7964	0.5748
064/65	3132	20	0.2971	0.2495	0.0623	0.2243	0.0560
065/66	2455	30	(0.2066)	-0.2542	0.0646	(0.2768)	0.0703
066/67	1630	30	(0.3238)	-0.3714	0.1380	(0.4549)	0.1690
067/68	1094	50	(0.2982)	-0.3458	0.1195	(0.2889)	0.0999
Total		**$\sum R_{EBL}$= 0.2380**		**$\sum(R_{EBL} - \overline{R}_{EBL})^2$ = 0.9054**		**$\sum(R_{EBL} - \overline{R}_{EBL})(R_{BI} - \overline{R}_{BI})$ = 0.9700**	

$$R_{EBL} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2063/064,

$$= \frac{2430 - 1379 + 10}{1379} \times 100 = 76.94\%$$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{EBL}$) = $\frac{\sum R_{EBL}}{N} = \frac{0.2380}{5} = 0.0476$

Risk (δ_{EBL}) = $\sqrt{\frac{\sum(R_{EBL} - \bar{R}_{EBL})^2}{N-1}} = \sqrt{\frac{0.9054}{5-1}} = 0.4758$

Variance $(\delta_{EBL})^2 = 0.2264$

Coefficient of Variation (CV) = $\frac{\delta_{EBL}}{\overline{R}_{EBL}} = \frac{0.4758}{0.0476} = 10.00$

Covariance between Return of Banking Industry & Return of EBL ($COV_{EBL\ \&\ BI}$)

$$= \frac{\sum(R_{BI} - \bar{R}_{BI})(R_{EBL} - \bar{R}_{EBL})}{N-1} = \frac{0.9700}{5-1} = 0.2425$$

Correlation between Return of EBL & Return of Banking Industry ($r_{EBL\ \&\ BI}$)

$= \frac{COV_{EBL\ \&\ BI}}{\delta_{EBL} \times \delta_{BI}} = \frac{0.2425}{0.4758 \times 0.5127} = 0.9940$

Beta Coefficient (β_{EBL}) = $\frac{COV_{EBL\ \&\ BI}}{\delta_{BI}^2} = \frac{0.2425}{0.5127^2} = 0.9225$

Systematic Risk (SR) = $r_{EBL\ \&\ BI} \times \delta_{EBL} = 0.9940 \times 0.4758 = 0.4729$

Unsystematic Risk (USR) = $\delta_{EBL} - (r_{EBL\ \&\ BI} \times \delta_{EBL}) = 0.4758 - 0.4729 = 0.0029$

Proportion of Systematic Risk in Total Risk = $\frac{SR}{Total\ Risk} = \frac{0.4729}{0.4758} \times 100 = 99.39\%$

Proportion of Unsystematic Risk in Total Risk = $\frac{USR}{Total\ Risk} = \frac{0.0029}{0.4758} \times 100 = 0.61\%$

APPENDIX - III

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of SCBNL

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{SCBNl})	R_{SCBNL} - $\overline{R}_{SCBNL}$	(R_{SCBNL} - $\overline{R}_{SCBNL}$)²	R_{BI} - $\overline{R}_{BI}$	(R_{SCBNL} - $\overline{R}_{SCBNL}$) (R_{BI} - $\overline{R}_{BI}$)
062/63	2345	120					
063/64	3775	130	0.6652	0.4927	0.2428	0.7964	0.3924
064/65	5900	80	0.5841	0.4116	0.1694	0.2243	0.0923
065/66	6830	80	0.1712	-0.0013	0.0000	(0.2768)	0.0004
066/67	6010	50	(0.1127)	-0.2852	0.0814	(0.4549)	0.1298
067/68	3279	55	(0.4453)	-0.6178	0.3816	(0.2889)	0.1785
Total		**$\sum R_{SCBNL}$ = 0.8625**		**$\sum(R_{SCBNL}$ - $\overline{R}_{SCBNL})^2$ = 0.8752**		**$\sum(R_{SCBNL}$ - $\overline{R}_{SCBNL})$ (R_{BI} - $\overline{R}_{BI}$) = 0.7934**	

$R_{SCBNL} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$

For the fiscal year, 2063/064,

$= \frac{3775 - 2345 + 130}{2345} \times 100 = 66.52\%$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{SCBNL}$) = $\frac{\sum R_{SCBNL}}{N} = \frac{0.8625}{5} = 0.1725$

Risk (δ_{SCBNL}) = $\sqrt{\frac{\sum(R_{SCBNL} - \bar{R}_{SCBNL})^2}{N-1}} = \sqrt{\frac{0.8752}{5-1}} = 0.4678$

Variance $(\delta_{SCBNL})^2 = 0.2188$

Coefficient of Variation (CV) = $\frac{\delta_{SCBNL}}{\bar{R}_{SCBNL}} = \frac{0.4678}{0.1725} = 2.71$

Covariance between Return of Banking Industry & Return of SCBNL ($COV_{SCBNL\& BI}$)

$= \frac{\sum(R_{BI} - \bar{R}_{BI})(R_{SCBNL} - \bar{R}_{SCBNL})}{N-1} = \frac{0.7934}{5-1} = 0.1984$

Correlation between Return of SCBNL & Return of Banking Industry ($r_{SCBNL\& BI}$)

$= \frac{COV_{SCBNL\& BI}}{\delta_{SCBNL} \times \delta_{BI}} = \frac{0.1984}{0.4678 \times 0.5127} = 0.8272$

Beta Coefficient (β_{SCBNL}) = $\frac{COV_{SCBNL\& BI}}{\delta_{BI}^2} = \frac{0.1984}{0.5127^2} = 0.7548$

Systematic Risk (SR) = $r_{SCBNL\& BI} \times \delta_{SCBNL} = 0.8272 \times 0.4678 = 0.3870$

Unsystematic Risk (USR) = $\delta_{SCBNL} - (r_{SCBNL\& BI} \times \delta_{SCBNL}) = 0.4678 - 0.3870 = 0.0808$

Proportion of Systematic Risk in Total Risk = $\frac{SR}{Total\ Risk} = \frac{0.3870}{0..4678} \times 100 = 82.73\%$

Proportion of Unsystematic Risk in Total Risk = $\frac{USR}{Total\ Risk} = \frac{0.0808}{0.4678} \times 100 = 17.27\%$

APPENDIX - IV

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of NABIL

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{NABIL})	R_{SCBNL} - $\overline{R}_{NABIL}$	(R_{NABIL} - $\overline{R}_{NABIL}$)²	R_{BI} - $\overline{R}_{BI}$	(R_{NABIL} - $\overline{R}_{NABIL}$) (R_{BI} - $\overline{R}_{BI}$)
062/63	2240	85					
063/64	5050	100	1.2991	1.2348	1.5247	0.7964	0.9834
064/65	5275	60	0.0564	-0.0079	0.0001	0.2243	(0.0018)
065/66	4899	35	(0.0646)	-0.1289	0.0166	(0.2768)	0.0357
066/67	2384	30	(0.5072)	-0.5715	0.3267	(0.4549)	0.2600
067/68	1252	30	(0.4622)	-0.5265	0.2773	(0.2889)	0.1522
Total		**$\sum R_{NABIL}$ = 0.3214**		**$\sum(R_{NABIL}$ - $\overline{R}_{NABIL})^2$ = 2.1454**		**$\sum(R_{NABIL}$ - $\overline{R}_{NABIL})$ (R_{BI} - $\overline{R}_{BI}$) = 1.4295**	

$$R_{NABIL} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2063/064,

$$= \frac{5050 - 2240 + 100}{2240} \times 100 = 129.91\%$$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{NABIL}$) = $\frac{\sum R_{NABIL}}{N} = \frac{0.3214}{5} = 0.0643$

Risk (δ_{NABIL}) = $\sqrt{\frac{\sum(R_{NABIL} - \bar{R}_{NABIL})^2}{N-1}} = \sqrt{\frac{2.1454}{5-1}} = 0.7324$

Variance $(\delta_{NABIL})^2 = 0.5363$

Coefficient of Variation (CV) = $\frac{\delta_{NABIL}}{\overline{R}_{NABIL}} = \frac{0.7324}{0.0643} = 11.39$

Covariance between Return of Banking Industry & Return of NABIL ($COV_{NABIL\& BI}$)

$= \frac{\sum(R_{BI} - \bar{R}_{BI})(R_{NABIL} - \bar{R}_{NABIL})}{N-1} = \frac{1.4295}{5-1} = 0.3574$

Correlation between Return of NABIL& Return of Banking Industry ($r_{NABIL\& BI}$)

$= \frac{COV_{NABIL\& BI}}{\delta_{NABIL} \times \delta_{BI}} = \frac{0.3574}{0.7324 \times 0.5127} = 0.9518$

Beta Coefficient (β_{NABIL}) = $\frac{COV_{NABIL\& BI}}{\delta_{BI}^2} = \frac{0.3574}{0.5127^2} = 1.3597$

Systematic Risk (SR) = $r_{NABIL\& BI} \times \delta_{NABIL} = 0.9518 \times 0.7324 = 0.6971$

Unsystematic Risk (USR) = $\delta_{NABIL} - (r_{NABIL\& BI} \times \delta_{NABIL}) = 0.7324 - 0.6971 = 0.0353$

Proportion of Systematic Risk in Total Risk = $\frac{SR}{Total\ Risk} = \frac{0.6971}{0..7324} \times 100 = 95.18\%$

Proportion of Unsystematic Risk in Total Risk = $\frac{USR}{Total\ Risk} = \frac{0.0353}{0.7324} \times 100 = 4.82\%$

APPENDIX - V

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of BOK

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{BOK})	R_{BOK} - $\overline{R}_{BOK}$	$(R_{BOK}$ - $\overline{R}_{BOK})^2$	R_{BI} - $\overline{R}_{BI}$	$(R_{BOK}$ - $\overline{R}_{BOK})$ $(R_{BI}$ - $\overline{R}_{BI})$
062/63	850	18					
063/64	1375	20	0.6412	0.5815	0.3381	0.7964	0.4631
064/65	2350	2.11	0.7106	0.6509	0.4237	0.2243	0.1460
065/66	1825	7.37	(0.2203)	-0.2800	0.0784	(0.2768)	0.0775
066/67	840	15	(0.5315)	-0.5912	0.3495	(0.4549)	0.2689
067/68	570	16.75	(0.3015)	-0.3612	0.1305	(0.2889)	0.1044
Total		**$\sum R_{BOK}$ = 0.2985**		**$\sum(R_{BOK}$ - $\overline{R}_{BOK})^2$ = 1.3202**		**$\sum(R_{BOK}$ - $\overline{R}_{BOK})$ $(R_{BI}$ - $\overline{R}_{BI})$ = 1.0599**	

$$R_{BOK} = \frac{P_1 - P_0 + D^1}{P_0} \times 100$$

For the fiscal year, 2063/064,

$$= \frac{1375-850+20}{850} \times 100 = 64.12\%$$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{BOK}$) = $\frac{\sum R_{BOK}}{N} = \frac{0.2985}{5} = 0.0597$

Risk (δ_{BOK}) = $\sqrt{\frac{\sum(R_{BOK} - \bar{R}_{BOK})^2}{N-1}} = \sqrt{\frac{1.3202}{5-1}} = 0.5745$

Variance $(\delta_{BOK})^2 = 0.3300$

Coefficient of Variation (CV) = $\frac{\delta_{BOK}}{\bar{R}_{BOK}} = \frac{0.5745}{0.0597} = 9.62$

Covariance between Return of Banking Industry & Return of BOK ($COV_{BOK\&\ BI}$)

$= \frac{\sum(R_{BI} - \bar{R}_{BI})\,(R_{BOK} - \bar{R}_{BOK})}{N-1} = \frac{1.0599}{5-1} = 0.2650$

Correlation between Return of BOK& Return of Banking Industry ($r_{BOK\&\ BI}$)

$= \frac{COV_{BOK\&\ BI}}{\delta_{BOK} \times \delta_{BI}} = \frac{0.2650}{0.5745 \times 0.5127} = 0.8997$

Beta Coefficient (β_{BOK}) = $\frac{COV_{BOK\&\ BI}}{\delta_{BI}^2} = \frac{0.2650}{0.5127^2} = 1.0081$

Systematic Risk (SR) = $r_{BOK\&\ BI} \times \delta_{BOK} = 0.8997 \times 0.5745 = 0.5169$

Unsystematic Risk (USR) = $\delta_{BOK} - (r_{BOK\&\ BI} \times \delta_{BOK}) = 0.5745 - 0.5169 = 0.0576$

Proportion of Systematic Risk in Total Risk = $\frac{SR}{Total\ Risk} = \frac{0.5169}{0.5745} \times 100 = 89.97\%$

Proportion of Unsystematic Risk in Total Risk = $\frac{USR}{Total\ Risk} = \frac{0.0576}{0.5745} \times 100 = 10.03\%$

APPENDIX - VI

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of NIC Bank

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{NIC})	R_{NIC} - $\bar{R}_{NIC}$	$(R_{NIC}$ - $\bar{R}_{NIC})^2$	R_{BI} - $\bar{R}_{BI}$	$(R_{NIC}$ - $\bar{R}_{NIC})$ $(R_{BI}$ - $\bar{R}_{BI})$
062/63	496	0.53					
063/64	959	1.05	0.9356	0.8166	0.6668	0.7964	0.6503
064/65	1284	1.05	0.3400	0.2210	0.0488	0.2243	0.0496
065/66	1126	0.79	(0.1224)	-0.2414	0.0583	(0.2768)	0.0668
066/67	626	26.32	(0.4207)	-0.5397	0.2912	(0.4549)	0.2455
067/68	520	20	(0.1374)	-0.2564	0.0657	(0.2889)	0.0741
Total		**$\sum R_{NIC}$= 0.5951**		**$\sum(R_{NIC}$ - $\bar{R}_{NIC})^2$ = 1.1309**		**$\sum(R_{NIC}$ - $\bar{R}_{NIC})$ $(R_{BI}$ - $\bar{R}_{BI})$ = 1.0863**	

$$R_{NIC} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2063/064,

$$= \frac{959 - 496 + 1.05}{496} \times 100 = 93.56\%$$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{NIC}$) = $\frac{\sum R_{NIC}}{N} = \frac{0.5951}{5} = 0.1190$

Risk (δ_{NIC}) = $\sqrt{\frac{\sum(R_{NIC} - \bar{R}_{NIC})^2}{N-1}} = \sqrt{\frac{1.1309}{5-1}} = 0.5317$

Variance $(\delta_{NIC})^2 = 0.2827$

Coefficient of Variation (CV) = $\frac{\delta_{NIC}}{\bar{R}_{NIC}} = \frac{0.5317}{0.1190} = 4.47$

Covariance between Return of Banking Industry & Return of NIC ($COV_{NIC\& BI}$)

$= \frac{\sum(R_{BI} - \bar{R}_{BI})(R_{NIC} - \bar{R}_{NIC})}{N-1} = \frac{1.0863}{5-1} = 0.2716$

Correlation between Return of NIC& Return of Banking Industry ($r_{NIC\& BI}$)

$= \frac{COV_{NIC\& BI}}{\delta_{NIC} \times \delta_{BI}} = \frac{0.2716}{0.5317 \times 0.5127} = 0.9963$

Beta Coefficient (β_{NIC}) = $\frac{COV_{NIC\& BI}}{\delta_{BI}^2} = \frac{0.2716}{0.5127^2} = 1.0332$

Systematic Risk (SR) = $r_{NIC\& BI} \times \delta_{NIC} = 0.9963 \times 0.5317 = 0.5297$

Unsystematic Risk (USR) = $\delta_{NIC} - (r_{NIC\& BI} \times \delta_{NIC}) = 0.5317 - 0.5297 = 0.0020$

Proportion of Systematic Risk in Total Risk = $\frac{SR}{Total\ Risk} = \frac{0.5297}{0.5317} \times 100 = 99.62\%$

Proportion of Unsystematic Risk in Total Risk = $\frac{USR}{Total\ Risk} = \frac{0.0020}{0.5317} \times 100 = 0.38\%$

APPENDIX - VII

Calculation of Annual Return, Expected Return, Risk, Coefficient of Variation, Covariance, Correlation and Beta Coefficient of Nepal SBI Bank

F/y	MVPS (Rs.)	Dividend (Rs.)	Return (R_{SBI})	R_{SBI} - $\overline{R}_{SBI}$	$(R_{SBL}$ - $\overline{R}_{SBI})^2$	R_{BI} - $\overline{R}_{BI}$	$(R_{SBI}$ - $\overline{R}_{SBI})$ $(R_{BI}$ - $\overline{R}_{BI})$
062/63	612	5					
063/64	1176	12.59	0.9421	0.8126	0.6604	0.7964	0.6471
064/65	1511	0	0.2849	0.1554	0.0241	0.2243	0.0348
065/66	1900	2.11	0.2588	0.1293	0.0167	(0.2768)	(0.0358)
066/67	741	5	(0.6074)	-0.7369	0.5430	(0.4549)	0.3352
067/68	565	5	(0.2308)	-0.3603	0.1298	(0.2889)	0.1041
Total		**$\sum R_{SBL}$= 0.6477**		**$\sum(R_{SBL}$ - $\overline{R}_{SBL})^2$ = 1.3740**		**$\sum(R_{SBL}$ - $\overline{R}_{SBL})$ $(R_{BI}$ - $\overline{R}_{BI})$ = 1.0854**	

$$R_{SBI} = \frac{P_1 - P_0 + D_1}{P_0} \times 100$$

For the fiscal year, 2063/064,

$$= \frac{1176 - 612 + 12.59}{612} \times 100 = 94.21\%$$

For the calculation of other fiscal year, same process will be repeated.

Expected Return ($\bar{R}_{SBI}$) = $\frac{\sum R_{SBI}}{N} = \frac{0.6477}{5} = 0.1295$

Risk (δ_{SBI}) = $\sqrt{\frac{\sum(R_{SBI} - \bar{R}_{SBI})^2}{N-1}} = \sqrt{\frac{1.3740}{5-1}} = 0.5861$

Variance $(\delta_{SBI})^2 = 0.3435$

Coefficient of Variation (CV) = $\frac{\delta_{SBI}}{\bar{R}_{SBI}} = \frac{0.5861}{0.1295} = 4.53$

Covariance between Return of Banking Industry & Return of SBI ($COV_{SBI\ \&\ BI}$)

$= \frac{\sum(R_{BI} - \bar{R}_{BI})\,(R_{SBI} - \bar{R}_{SBI})}{N-1} = \frac{1.0854}{5-1} = 0.2714$

Correlation between Return of SBI & Return of Banking Industry ($r_{SBL\&\ BI}$)

$= \frac{COV_{SBI\&\ BI}}{\delta_{SBI} \times \delta_{BI}} = \frac{0.2714}{0.5861 \times 0.5127} = 0.9032$

Beta Coefficient (β_{SBL}) = $\frac{COV_{SBI\&\ BI}}{\delta_{BI}{}^2} = \frac{0.2714}{0.5127^2} = 1.0325$

Systematic Risk (SR) = $r_{SBL\&\ BI} \times \delta_{SBI}$ = 0.9032 × 0.5861 = 0.5294

Unsystematic Risk (USR) = $\delta_{SBI} - (r_{SBI\&\ BI} \times \delta_{SBL})$ = 0.5861 – 0.5294 = 0.0567

Proportion of Systematic Risk in Total Risk = $\frac{SR}{Total\ Risk} = \frac{0.5294}{0.5861} \times 100 = 90.33\%$

Proportion of Unsystematic Risk in Total Risk = $\frac{USR}{Total\ Risk} = \frac{0.0567}{0.5861} \times 100 = 9.67\%$

APPENDIX VIII

Calculation of Required Rate of Return

Bank Name	R_f	$\bar{R}_{BI}$	R_f	β	R
EBL	0.075	0.03288	0.075	0.9225	0.03614
SCBNL	0.075	0.03288	0.075	0.7548	0.04321
NABIL	0.075	0.03288	0.075	1.3597	0.01773
BOK	0.075	0.03288	0.075	1.0081	0.03254
NIC	0.075	0.03288	0.075	1.0332	0.03148
SBI	0.075	0.03288	0.075	1.0325	0.03151

Required rate of return (R) = $R_f + (\bar{R}_{BI} - R_f)\ \beta$

APPENDIX IX

Calculation of Coefficient of Variation between NIC & SBI Bank

F/Y	R_{NIC} - $\overline{R}_{NIC}$	R_{SBL} - $\overline{R}_{SBL}$	(R_{NIC} - $\overline{R}_{NIC}$) (R_{SBL} - $\overline{R}_{SBL}$)
063/64	0.8166	0.8126	0.6636
064/65	0.2210	0.1554	0.0343
065/66	-0.2414	0.1293	-0.0312
066/67	-0.5397	-0.7369	0.3977
067/68	-0.2564	-0.3603	0.0924
$\sum(R_{NIC} - \overline{R}_{NIC})(R_{SBL} - \overline{R}_{SBL})$			**1.1568**

Covariance between Return of NIC & Return of SBI ($COV_{NIC\& SBL}$)

$$= \frac{\sum(R_{NIC} - \bar{R}_{NIC})(R_{SBL} - \bar{R}_{SBL})}{N-1} = \frac{1.1568}{5-1} = 0.2892$$

APPENDIX X

Calculation of Portfolio Return and Risk of NIC and SBI Bank

Let,

NIC =A

SBI = B

We know that,

Portfolio return ($\overline{R}_P$) = $W_A \overline{R}_A + W_B \overline{R}_B$

Portfolio Risk (δ_P) =$\sqrt{W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + 2COV_{AB} W_A W_B}$

If,

W_A = 0.75 and W_B = 0.25

$\overline{R}_P$ = 0.75 × 0.1190 + 0.25 × 0.1295 = 0.1216

$\delta_P = \sqrt{0.75^2 \times 0.5317^2 + 0.25^2 \times 0.5861^2 + 2 \times 0.2892 \times 0.75 \times 0.25}$

= 0.5375

If,

W_A = 0.50 and W_B = 0.50

$\overline{R}_P$ = 0.50 × 0.1190 + 0.50 × 0.1295 = 0.1243

$\delta_P = \sqrt{0.50^2 \times 0.5317^2 + 0.50^2 \times 0.5861^2 + 2 \times 0.2892 \times 0.50 \times 0.50}$

= 0.5488

If,

W_A = 0.25 and W_B = 0.75

$\overline{R}_P$ = 0.25 × 0.1190 + 0.75 × 0.1295 = 0.1269

$\delta_P = \sqrt{0.25^2 \times 0.5317^2 + 0.75^2 \times 0.5861^2 + 2 \times 0.2892 \times 0.25 \times 0.75}$

= 0.5625