CHAPTER-I

INTRODUCTION

1.1 Background of the Study

The economy of nation depends on proper and efficient utilization of available resources. The proper utilization of resources maximizes wealth position of individual as well as country. Planning, efficient management, far-sighting strategy, good financial management and up-to-date information are essential foundation required for mobilization of the available resources. However, due to the lack of professional institutions and personnel so to excel the development of economic status along with other security market plays vital role as one of the main counterparts of national economy. Resources are not being exploited, rather they are spoiled.

Securities market is a mechanism created to facilitate the exchange of financial securities or assets by bringing together buyers and sellers of securities (Sharpe 1998). Securities markets provide an effective way of procuring long-term funds by issuing shares and debentures or bonds for corporate enterprises and government and at the same time provide an investment opportunity for individuals and institution. Thus, the market place for these financial securities is called security market. The securities market plays an important role in mobilizing saving, and channeling them into productive investment for the development of commerce and industry of the country. It assists the capital formation and economic growth of the country. In many developing countries like Nepal, the undeveloped capital market is still prevailing in the economy. The Nepalese securities market still could not take its height. Therefore, further improvement of this market is very crucial. It helps in accumulating even

small saving for the development activities of the economy otherwise, which could have spent in unproductive areas. However, it is true that there is no presence even of organized money market in rural areas, which covers almost 90 per cent of the total area of the country. Thus, the security market is only confined to the very limited urban areas of Nepal.

Financial market is the part of financial system that allows people to buy and sell the financial instruments quickly and in a reasonable price. In economics, a financial market is a mechanism that allows people to easily buy and sell (trade) financial securities (such as stocks, bonds etc). Financial markets and institutions are the key to the development of any economy, whether developed of developing. Developed economies usually already have a highly sophisticated financial market in place whereas developing economy usually have no or rudimentary institutions in place. They are intermediary link in the facilitating the flow of funds from savers to investors. By providing an institutional mechanism for mobilizing domestic saving and efficiency challenging them into productive investments, they lower the cost of capital to investors and accelerate economic growth of the country. This credit market enables debt financing for investments. The economic development requires the regular availability of funds, which is possible through proper financial system only. A sound financial system consists of different financial intermediaries as well as markets. They help in transformation of funds required for the economic development through sound financial system. The regulatory bodies have role even in this regard.

Security Board Nepal, an apex regulator and facilitator of capital market. The government of Nepal on june7, 1993 as securities markets in Nepal established securities Board of Nepal (SEBON). It has been regulating, controlling and

monitoring the market under the securities exchange act, 2006. Since its establishment, SEBON has been concentrating its efforts on improving the legal and statutory frameworks, which are the bases or the healthy development of the capital market. It is the organization, which works under the Ministry of finance. The government of the country executes its policy related to capital market through the organization.

Nepalese Economy comprises of several sub-sectors viz. Industry, Trading, Manufacturing, Finance companies, Insurance companies etc. Some sectors are generating high return, some moderate and few at loss. Banking Industry in Nepal has proven the most efficient, transparent and successful sector. They are efficient in funds collection and disbursement (investment). Insurance companies, Finance companies, Hydropower sectors generate moderate profit. Many Industrial and Trading Organizations are suffering from successive losses. The more the organization generates profit, the more the charm that people will show towards the sectors. However, for it SEBON not alone can play vital role. The role of Nepal Stock Exchange further needs effective.

Nepal Stock Exchange, in short NEPSE, is an organized open market for buying and selling financial commodities, known as securities, such as shares or stocks, debentures, bonds, options and futures. It is also known as the stock market. We can in Nepali call the Stock Exchange, a Haat Bazzar, where brokers, who are the representatives of the shareholders, come together for buying and selling their ownership or debts of companies. The stock exchange is also an authority to supervise and regulate the trading. Stock exchange plays an important role in the economy by

providing a place for the buyers and sellers to trade securities, stocks, bonds and other financial instruments. NEPSE is a trading floor where buying and selling of ownership of various organizations occurs. Some people want to invest in particular sector whereas other seek to sell that. NEPSE acts as market for those trading activities.

Significant development has been made in the secondary market in the recent years, especially after the Nepal Government decided to reform the capital market. The computerized trading system has replaced the open-out cry system. NEPSE has implemented the wide area network (WAN) system to enable brokers to trade from their own offices. NEPSE has started posting trading activities on its website in order to provide investors and the public with real- time information. The establishment and operation of the NEPSE in 1994 has opened door to the investors. Although it is evolved slowly, it still characterized by small number of listed securities, least trading of government securities, absence of professional investment advisors, very low level of information disclosure and trading driven by rumors and market's whim than systematic analysis. Further more, the Nepal Government has made commitments to improve and develop the secondary market to enable it to encompass more corporate organizations, investors and financial instruments.

Trading through WAN has formally started from 13 Oct 2007. Now Stockbrokers do not have to come to the NEPSE's office to sell and buy shares. They can do that sitting in their own office. (NEPSE"s News shelter 1st issue 15 Jan-13 March).

NEPSE provides the open market for making investment. Investment in its broadest sense means the sacrifice of current dollars for the future dollars. Two different

attributes are generally involved, time and risk. The sacrifice takes place in the present and it is certain that the reward comes later. It entails arriving at numerous decisions such as type, mix, amount, timing, grade etc of investment and disinvestment. Further, such decision-making has not only to be continuous but rational too. Broadly speaking, an investment decision is a trade off between risk and return. All investment choices are made at a point of time in accordance with the personal investment ends and in contemplation of an uncertain future. Since investments in securities are revocable, investment ends are transient and investment environment is fluid. The reliable bases for reasonable expectations become more and vaguer as one conceives of the distance future. Investment decisions and choices are found to be the outcome of three different but related classes of factors. The first may be described as factual or information premises, the second class of factors entering into investment decision may be described as expectation premises and the third and final class of factors may be described as valuation premises.

Invest can be made in real assets i.e. real estate, precious metal and collectibles etc and in financial assets i.e. common stock, preference stock, bond, debenture, rights, convertible and warrants. But in Nepal only common stock, bond and govt. securities are popular. But bond and preference stocks can rarely be found. Now, Only Everest Bank Limited used convertible as its source of fund. Investment theory encompasses the body of knowledge used to support the decision making process of choosing investments for various purposes. It includes portfolio theory, the capital assets pricing model, arbitrage pricing theory and efficient market hypothesis.

Terminologically, portfolio refers to two or more than two. Investing in a single security may not be good all the time. Therefore investing in a single security

sometimes provides very good result but similarly in other cases it may result big loss for an investor. The portfolio analysis begins where the security analysis. According to Weston and Brigham, 5th Edition, Fundamental of investment "A portfolio simply represents the practice among investors of having their funds in more than one asset. The combination of investment asset is called a portfolio." Likewise, According to Lawrence J. Gritman, 3rd Edition, Principles of Management Finance, July, 2002 "Portfolio Means Collection or Group of Assets." According to Sharpe Alexander and Bailey 3rd Edition, "portfolio construction involves identifying those specific assets in which to invest as well as determining the proportion of the investor's wealth to put into each one." Thus, portfolios are composed of securities and their expected return and risk of their component securities. The portfolio analysis considers the determination of future risks and return in holding various blends of individual securities variance. The systematic analysis of available portfolios and thereby selection of optimal portfolio help to diversify risk without adversely affecting the return. It also facilitates the mobilization of resources in all sector of economy by inducing investors to invest in stocks of different industrial categories and thereby fosters the economy growth of the economy.

A rational investor always attempts to minimize risk and maximize return on his/her investment. To avoid such limitation investing in two or more than two securities is known as portfolio investment. In 1952, Harry M. Markowitz developed a model that could be used to systematically operationalise the old adage- do not put all eggs in one basket. Markowitz's portfolio model is concerned with selecting optimal portfolio by risk adverse investors. According to the model risk adverse investors should select efficient portfolios, the portfolio that maximizes return at a given level of risk or

minimize risk at a given level of return, which can be formed by combining securities having less than positive correlation in their returns. It is based on saying like “two heads are better than one”. But all the time increasing number of assets or types of assets cannot maximize the return and minimize the risk. There are different variables, which are to be considered in portfolio to minimize the risk and to maximize the return. For e.g. weight or proportion of individual assets, individual risk of assets, combine or common risk of assets (covariance) and general environment of security market. The amount or proportion of investment of individual assets and their relationship are in resulting risk and return of portfolio.

The basic assumption of portfolio theory is that investors want maximize the returns from the investments for a given level of risk. It also assumes that investors are basically risk averse, meaning that, a given choice between two assets equal rates of return they will select the assets with the lower level of risk. Risk is the deviation of actual returns from an expected return. The more deviation, the more will be the risk. To minimize the deviation, we need to diversify our fund into different securities or assets. Diversification of portfolio helps to minimize the risk and different diversification techniques have been developed for reducing portfolio’s risk. Portfolio analysis considers the determination of future risks and returns in holding various blends of securities.

Portfolio management preserves not only its original worth but also over time appreciates and yields an adequate return, consistent with the level of risk assumed. The objectives of portfolio management is to analyze different individual assets, mark out efficient portfolios, provide safety thought precaution, risk minimization,

generating income, marketability, liquidity etc. while making the portfolio investment , investors have to take into consideration about financial environment which have influencing power to the object. In the same way, investment environment is the main factor, which affects the investment. Investment environment means all internal as well as external factors, which can change in investment decision. Investment environment consist investors, shareholders, brokers, financial intermediaries, stock exchange, govt. policies, political and social customs and so on.

Investments are made for positive returns; however, abundance of risk factors may turn returns to negative. Thus, prior to investments in stocks, a sensitive study on the potential investment is required. They may be price of stock, nominal degree of fluctuation and speculative motive of an individual.

Investment practices of stock investors are very limited in Nepal. Lack of information and knowledge has been the main constraints. Most of Nepalese investors invest their precious fund in real estate i.e. land and building, precious metal, collectibles etc. They deposit their saving in bank. Due to the lack of knowledge of best investment alternatives i.e. financial market and about risk and return of the stock, they are making their investment in unproductive sectors. They do not know that the securities can be the best alternative to maximize their value. The problem of this study is to explore that resolution for the sake of investment. Although the NEPSE and SEBON has provided some information, which are not sufficient for making investment decision which creates problem in calculation of actual risk and return of securities.

Generally, each investor wants to appreciate their level of return and reduces the level of risk. Although ‘NO RISK NO GAIN, HIGH RISK HIGH GAIN’, investor do not want to bear risk. To get the maximum return in low level of risk, there are various tools and techniques for while making the investment. One of the best tools is portfolio investment, which reduces the volatility risk in the return of the securities. Most of people do not analyze risk and return of the securities and they just run after market rumor. But investors should study whole prospectus of the company, financial reports should examine the probably of future risk and return for making any decision. More important these days, it is found that some of the companies published their fake reports to misguide the public. Therefore, they have to check the reliability and validity of such reports.

The investors should have proper knowledge. They should seriously analyze the forecasted return and level of risk. Although investors are rational, they do not apply tools and techniques for risk diversification. The problem of this study is ‘how much investor invests in particular security from their available fund and which will be the other alternative securities to invest that reduces the possibility of loss and increment of the return. The main problem of this study is to explore 'which can be the optimal portfolio among sample securities trading in NEPSE?’

Specially, following research problems are raised in the study, therefore:

- How financial market is behaving for investment alternatives and portfolio management?
- What are the rate of return and their associated risk of sample security trading in NEPSE?
- What is the pricing status of sample securities?

- Which is the optimal portfolio from the sample securities to invest in?
- What is the general awareness to be considered while investing in security market?
- How does the portfolio investment manage by the investors?

These all problems can be found in the market. This research has tried to find out the best solution of these problems based on empirical study.

1.3 Objectives of the Study

The objectives of this study are to examine and explore the major problems of investor regarding "Selection of Optimal Portfolio" among the listed companies in NEPSE. The decision making for the best portfolio analyzing different factors is the key issue of this research, apart from this the specific objectives of the study are:

- To explore Nepalese investors' normal understanding for portfolio investment.
- To analyze the risk return variables of sample securities' trading in NEPSE.
- To examine the pricing status of sample securities listed in NEPSE.
- To explore optimal portfolio investment of sample securities trading in NEPSE.
- To point out the general awareness to be undertaken while investing in securities.

1.4 Focus of the Study

Examining rationalities of portfolio investment in context of Nepalese Security Market is the main purpose and scope of this study. Most of the investors invest their valuable earning in the securities without knowing the real situation of the stocks and actual scenarios of risk and return factors. They make investment only reading the

prospects of the company and market whim. Invested fund is the result of ultimate income. So, one tries to look certainty within uncertainty. This study will try to explore an optimal portfolio investment of the sample securities trading in NEPSE. For this purpose, the risk and return factors of the sample companies' stock will be analyzed. These days' people are looking for best investment and they are converting their real estate into cash. Financial investment may be good alternatives for them. People have liquidity but they are unproductive. Hence, this study focuses on the best alternative available to find out the best portfolio, which will increase wealth position of the investors. In addition to this, the study also focuses on the general awareness required for investing in security market

1.5 Significance of the Study

Actually, this study held in reality of today's situation of investment in Nepal. Now a day's people are looking for the investment alternatives. The security trading is infancy in Nepal. Since Nepal is moving toward the free and open markets regarding the stock market, such studies become significant. Investors are taking interest to increase investments in the financial securities because they accepted financial securities as one of the best investment alternatives. This type of research gives more information regarding investment opportunities with analytical skill, advancement of knowledge in the field of portfolio investment. While making the investment, investor should be aware of rate of return and their associated risk. Most of the investors are not making investment rationally because they are not habitual in risk return analysis. They only make their investment according to market whims. This research is important to find out the degree of risk associated with the stock and how important risk -return calculation and motivate them for rational investment. It will give the

practical knowledge, familiarizes with the real problems and prospects of research title, and will increase the analytical skill and communication skill of the subject matter. Finally, the study will provide a guideline for a rational investor.

1.6 Limitations of the Study

Some of the specific limitations of this study are as follows:

- This study covers only selected companies from Grade-A, listed in NEPSE.
- This study is based on data available from official webpage of NEPSE, SEBON, SEBON library, report of SEBON & NEPSE, so the validity of data depends upon their corrective publication.
- This study is based on historical data as well as sample data.
- Only financial aspects are analyzed, other performance of stock is neglected while providing suggestions.
- The problems of non-availability of required data and information regarding optimal portfolio analysis may limit the outcome of study.
- The study covers the period of 2005 to 2008, Four years data only.

1.7 Organization of the Study

The organizations of this study are classified into five chapters and annexes.

Chapter - I: - Introduction

Chapter - II: - Review of Literature

Chapter - III: - Research Methodology

Chapter - IV: - Data Presentation and Analysis

Chapter - V: - Summary, Conclusion and Recommendations

Chapter - I incorporates the general background of the study, institutional setup of the financial market in Nepal, investment environment, investment management and about portfolio management where are scope, limitation etc.

Chapter - II consists of review of available literatures. It will advance the knowledge about the subject matter as well as general method of doing research in portfolio investment. It has been divided into two parts i.e. a) Conceptual/Theoretical Review and b) Review of related studies.

Chapter - III it includes research design, population and samples of data, sources of data, data collection tools and techniques and limitation of the methodology.

Chapter - IV includes the data presentation and analysis. It also includes major findings of the study based on secondary data analysis.

Chapter - V there will be summary and conclusion of this research and suggestions for further creation, up-gradation and advancement of the portfolio investment opportunities subject to different investors.

CHAPTER – II

REVIEW OF LITERATURE

This chapter deals with the relevant materials and past research studies. It starts with a search of suitable topic and continues throughout similar subjects. Regarding the review of literatures, various books, journals, articles, thesis related with this topic (selected) will be reviewed. Very few researches regarding optimal portfolio selection have been conducted in case of Nepal.

The chapter has been divided further into two parts:

- Conceptual Review
- Review of Related Studies

2.1 Conceptual / Theoretical Review

Theoretical aspects of Securities Market, SEBON, NEPSE, Investment, Risk and return portfolio diversification etc are described under this topic and related subject matters developed for conceptual framework from various resources during the research period. Conceptual review is the development concept about the subject and that includes: security market/ financial market, capital & money market, primary & secondary market, general back ground of financial institutions, Security Exchange Board Nepal, Nepal Stock exchange, Investment, Portfolio investment, Risk and return etc.

2.1.1 Security Market / Financial Market

Securities market can be defined as a place where the investor buy and sell financial instruments. A dealer is an individual or a firm that put its own capital at a risk by investing in a security in order to carry inventory of the security and make a market in it.

A security market or financial market can be defined as a mechanism for bringing together buyers and sellers of financial assets in order to facilities trading. One of its functions is price discovery that is to cause security prices to reflect currently available information (Sharpe, Alexander and Bailey, 2003: 115).

Financial markets are a catalyst in the development of the country's economy. Financial market, is the security market, is a place for bringing together buyers and sellers of financial assets in order to assist trading. Financial market makes the fund available to different companies and industries. Financial market, financial assets and financial institution are the three main constituent of any financial system. Financial system is a set of institutional arrangement through which financial surplus of the economy mobilized from surplus units and transferred to deficit units.

Due to the lack of professional institutions, proper economic policies etc, financial markets are undeveloped. Private wealth and investments are concentrated among several large companies and individuals. The choice of market instruments is also very limited. As a result, these capital markets are very limited investment opportunities and low income and saving rates. In many cases, the economy has high inflation, leading to a saving disincentive and capital flight.

Financial market Serve as a key response in a modern market economy by allocating productive resources among the various areas of production. Generally, financial

assets identified in Nepal are only ordinary shares, govt. and corporate securities. Other financial instruments like convertible, bond and preference stocks are rarely found. Financial institution performing in Nepal are Nepal Rastra Bank, commercial banks, merchant banks, finance companies, insurance companies, cooperatives and other financial intermediaries.

For further undertaking, the financial markets can be divided into two subtypes:

a. Capital Market

Basically the capital market is a type of financial market that includes trading of stock, debt, preference share, bond and convertible market. Capital market is a market for long-term securities having maturities greater than one year. The market where the transactions of long- term securities are made is called capital market. The fund collected in this market can be spent in long-term investment. Broadly, it consists of a series of community through which the saving fund can be mobilized into productive sectors. So it can be defined as a channel for the mobilization of public saving funds into productive sectors. A capital market is just what the name implies that a market for long terms funds strictly speaking the capital market encompass any transaction involving long term debt or equity obligation.

The capital market is the heart of modern economy. The capital market is inevitable for the economy development of a country. The capital market mobilizes saving for economic development. Since the instruments of capital market have, liquidity & they are easily available. The financial instrument work as near money and they are less risky. The funds called by the capital market can be spent investments. In the absence

of capital market even those having adequate capitals cannot be use in capital productive works.

Key instruments used in capital market are common stock, debt, preference share, and bond and convertible issues. Some of the important members of capital markets are stock exchange, specialized financial institutions, bank and Investment Company. The broadest classification of capital is based upon whether the securities are new issue or are already outstanding and owned by investors. New issues are made in the primary market and the securities that are already outstanding and owned by investor usually bought and sold through the security market called secondary market.

Capital is key source of resources in organizations. Capital structure is the combination of the long-term debt, preferred stock and common stock used by organization. An optimum capital structure decreases the cost of capital and increase the earning per share.

Generally, the new issues are made in the primary market and the securities that are already outstanding and owned by investor usually bought and sold through the security market called secondary market.

a. Primary Market

The term ‘primary market’ is used to denote the market for the original sale of securities by an issuer to the public. Primary market is the place where corporations and government issue their stock for the first time. All securities, whether in money or capital markets, are initially issued in the primary market. This is the only market in which the company or government is directly involved in the transaction and receives

direct benefits from an issue- that is; the company actually receives the proceeds from the sale of securities. Securities can be issued by own self (issuing company) or by underwrites. The volume of new issue, in the primary market, is directly related to market condition, particularly of common stock, when the market is rising, the number of new issue being offered to public rises and when the market is falling, the number declines.

The primary markets are the markets for new securities in which a borrower issues new securities in exchange for cash from an investor (buyer). The primary markets are the medium through which new financial securities are issued or generated. They are the medium by which demanders and suppliers of today's fund and the creator and acceptors of financial claims meet.

The main function of primary market is to make the financial capital available to make new investment in building, equipment, various kinds of stock and other kinds of necessary goods. The investor banker performs the role of an expert in issuing new securities. In the context of Nepal there are so many companies which are working as an underwriter or as an issue manager. Such as Nepal Merchant Bank, Nepal Industrial and Development Company, United Finance, Ace Development Bank, Citizen Investment Trust, Nepal Share market. These companies advice to the business firms regarding to the nature of security interest rate and underwrite the issue of securities. The commercial banks are not directly involved in this market. Usually the business firms make private placement of securities. The direct sales of securities by the buyer without underwriting is called private placement of securities.

Securities available for the first time are offered through primary market. The issuer may be brand new company or one that has been in business for many years. The securities offered might be new type for the issuer additional amounts of a security used frequently in the past. The key is that these securities absorb new funds for the offers of the issuer.

The primary securities market includes all transactions that result in the accumulation of financial capital by the firms, governments or individuals to be used in the consumption or real capital investment. The participants in this process are many and varied but important segment includes the money brokers who act as an intermediary for exchanging securities for fund. These brokers provide valuable services. Their principle role is to assist in the pooling of the funds by the certain of securities form that appeal to the ultimate investors.

The growth of primary is encouraging since many public limited companies including joint venture commercial banks have been successful to tap capital through flotation of securities to the general investing public. The contribution of primary market to company financing is direct in the sense that provides additional funds to the issuing companies either for starting a new enterprise or for expansion diversification of the existing one.

ii. Secondary Market

Simply, secondary market is the market in which existing and already outstanding securities are traded between the investors. Secondary market is an organized security market which have physical location where trading of securities is done under a set of rules and regulations. One can buy and sell the securities in this market by calling the securities brokers. If the secondary market doesn't exist, the investors would have no place to buy and sell their securities. The role of secondary market is more in focus than the primary market in securities market. It provides the liquidity to the securities and ensures continuous price formation. Nepal Stock Exchange is only an example of secondary market to carry out secondary market operation of in Nepal. Similarly the New York Stock Exchange(NYSE), Tokyo Stock Exchange, American Stock exchange (AMEX) Bombay Stock Exchange(BSE) are some popular the example of secondary market around the globe. Securities exchange centre in order to promote the market used to support the market even involving itself in buying and selling activities if necessary. The secondary market ever operated in the country was on DBS. The Security Exchange Centre (SEC) initiated the secondary market in the fiscal year 1975-76. Since then the volume traded in the secondary market is in increasing trend.

Over The counter market also is an example of secondary market. Over The counter market is not an organization but an intangible market for the purchasers and sellers or securities not listed by the organized exchanges. It is not a formal exchange centre like organized stock exchange. The OTC market competes with investment banker and the organized exchanges because OTC dealer can operate in both the primary and secondary markets.

Securities with the following characters tend to be traded in the Over the Counter Market: Securities of companies with a small capitalization, Securities of companies which are owned by a few holders, Securities of government and their subdivisions and securities which are purchased in large blocks. Such as government securities purchased by banks, life insurance companies and other large investors' securities listed in an organized exchange.

Similarly Third market and fourth markets also are an example of secondary market. The third market is an OTC market where the securities listed in the organized stock exchange are traded. More generally the term third market now refers to the trading of any exchange listed securities in the over the counter markets. The trading system and hour are not fixed to the third market like organized stock exchange. In the third market dealers provide only execution and record keeping services for their clients. Fourth market also exists in the over the counter market and here trades occur directly among investors. In other word, in this market the buyer and seller deal directly with each other.

This deal occurs in the exchange listed securities. But in the context of Nepal Third market and Fourth market are not in practices.

The existing of well functioning secondary markers where investors come together to trade existing securitizes assures the purchaser of primary securities that they can quickly sell their securities if the need arises. Of course such sales may involve a loss because there is not guarantee in the financial markets. A loss however may be very preferable to no cash at all if the securities could not be sold rapidly. If investors could not resell securities readily they would be hesitant to acquire them and such

reluctance would reduce the total quality of funds available to finance industry and government those who own securities must be assured of a fast, fair orderly and open system purchase and sell at know prices.

In the conclusion it can be said that secondary market are the markets for existing assets which are currently traded between investors. It is this market that creates the prices and allows for liquidity. If secondary markets did not exit investor's would have no place to sell their assets. Without liquidity many people would not invest at all. In summary secondary markets are indispensable in the country like Nepal to the proper functioning of the primary market the later in turn are indispensable to the proper functioning of the economy**.**

b. Money Market

The money market is the financial market for the short-term borrowing and lending and provides short term liquid funding for the global financial system. A money market typically involves financial assets that have a life span of one year or less. Money market instruments include short-term marketable, liquid and low risk securities. Money market instruments sometimes are also called cash equivalents, or just cash. A money market brings together the supplier and the demander of short-term liquid fund. Money market is also known as short-term financial market. The financial market in which funds are borrowed for short period. Generally, money market trades Commercial papers, Certificate of deposit, Short-term bonds and Government Treasury bills.

Nepalese money market can be divided as the organized and un- organized sector. Under the organized sector, Commercial banks, Co-operative Ltd. Agriculture bank

and Central bank are working and under the un-organized sector creditors, local merchants, land lords other various parties are working.

2.1.2 History of Securities Market in Nepal

The history of securities i.e. financial market in Nepal dates back to the era of Rana Prime Minister Judha Samsher when Gunjaman Singh the first secretary at Nepalese Embassy in England returned back to Kathmandu and set up the Industrial Council. The council drafted the company act and Nepal Rastra Bank Act for the first time in 1936. Actually, the history of securities market began with the floatation of shares by Biratnagar Jute Mills Ltd in 1937, Tejarath was set up to facilitate loans to the government employees and was converted into Nepal Bank Ltd. Introduction of the company Act in 1964, the first issuance of the Government Bond in 1964 and the establishment of Securities Exchange Center Ltd in 1976 were other significant development relating to capital markets.

Securities Exchange Center was established with an objective of facilitating and promoting the growth of capital markets. Before conversion into stock exchange it was only capital market institution undertaking the job of the brokering, underwriting, managing public issue, market making for the government bonds and other financial services. Nepal Government, under a program initiated to reform capital markets converted Securities Exchange Center into Nepal Stock Exchange in 1993 A.D.

The development of a sound security market with its constituent financial institution is one of the mechanisms which enable the efficient transformation of saving from the hand s of surplus spending unit to those of deficit spending ones who can use them move productivity and or have risk aversion.

The existence of market for securities is of advantage to both issuer and investors. As to their benefit to issuers a securities market assists business and government in raising funds. In a society with private ownership of the means of production and distribution of goods and services, saving must be directed towards investment in industry where the capital is productive. Government must also be able to borrow for public improvement. Market mechanism makes possible the transfer of funds from surplus to deficit sectors, efficiently and at low cost.

2.1.3 General Background of Financial Institutions

a. Banks

Though there is much controversy as to origin of the word 'Bank', some believe that it is originated from the Latin word 'Bancus', French word 'Banque', Italian word 'Banca', German word 'Banck' meaning ancient money dealers used to deal sitting in a bench. Banks are authorized organizations by which deal with monetary and financial transactions. Bank's main business is to pool the scattered idle deposits in the public and channel it to productive use. The word 'Bank' denotes commercial bank, which deals the commercial transaction. It accepts the various types of deposits, lend money in productive sector. Provides facility of guarantee, exchange foreign currency, remittance, discounting of bills, Letter of Credit (LC) etc to its customers. Modern day bank's business and is not confined in borrowing deposits and lending advances only, it performs a host of other financial activities which has immensely contributed to achieve industrial and commercial progress of every nation. "Nepal Bank Limited" the first institutional organization in Nepal established in 15th November 1937, under the Nepal bank act, 1937. Banks are essential in economic

development of a nation. So, Nepal Rastra Bank, central bank of Nepal was established on 26th April, 1956. At present there are 15 commercial banks, 19 development banks are eligible for trading in NEPSE.

b. Finance Companies

Finance companies come under non-banking financial intuitions. They lead non-banking financial activities i.e. mobilize the saving from different scattered savers, operates different time deposit scheme, provides loan for investment. Establishment of finance companies began when Nepal Rastra Bank (NRB) authorized co-operative institutions set up under co- operative act, 2048 to accept deposit and give credit. 'Nepal Awash Bikash Bitta Company Ltd' is the first finance company established in 2049. At present there are 47 finance companies are trading in NEPSE.

c. Insurance Companies

Naturally, every human want to share and transfer risk with each other by paying some value for this. Therefore, insurance companies came to existent. According to Peterson ' Insurance is a contract, by which one party, for compensation called premium, assumes particularly risks of the other party and promises to pay to him or his nominee certain or ascertain sum of money on a specified contingency.' Insurance has now days become a prosperous business and taken an important place in every nation. Different types of insurance developed as requirement of advance society. They are life and non life insurance. Insurance has developed to get protection against the losses and risk. In Nepal, 'Nepal Insurance and Transport Company' was established under the ownership of NBL as the first insurance company in 2003 B.S. At present there are 14 insurance companies are entitled for trading in NEPSE.

d. Manufacturing and Processing Industries

Human needs are unlimited. So, to fulfill their unlimited wants, everybody depends upon each other. After the age of self-dependency, batter system came in scenario. Batter system started manufacturing of goods. After the industrialization revolution in Great Britain, concept of mass production, permission was given in 1987 A.D. to establish large scale industries. As a result of that, Udhyog Parisad was formed with a view of producing goods under medium and large scale industry. Biratnagar Jute Mill, Morang Cotton Mill was established under the first company act and Nepal trade and patent act promulgated in 1936. At present, there are 3 manufacturing and processing industries are trading in NEPSE.

e. Other Companies

There are various companies that are operating in Nepal and listed in NEPSE. They are trading companies, hotels, and service, hydropower, and promoter share and operation companies. They are provided service facility, trading facility, entertainment facility etc. At present, there is 1 Trading company, 3 Hydro powers, 3 Hotels and 3 Promoters share transaction are freely traded in NEPSE.

2.1.4 Security Exchange Board of Nepal (SEBON)

Security Board Nepal, an apex regulator and facilitator of capital market. Securities Board, Nepal was established pm May 26, 1993 under the provision of securities exchange act 1983(first amendment).Securities Board of Nepal (SEBON) was established by the government of Nepal on June 7, 1993 as securities markets in Nepal (second amendment). It has been regulating, controlling and monitoring the market under the securities exchange act, 2006. Since its establishment, SEBON has

been concentrating its efforts on improving the legal and statutory frameworks which are the bases or the healthy development of the capital market. As a part of its continuous efforts to build a sound system, the securities exchange act 1983 was amended the horizon of SEBO by bringing market intermediaries directly under jurisdiction and also made it mandatory for the corporate bodies to report to SEBO annually as well as semi annually established a direct relationship of SEBO with the market intermediaries and the listed companies supremacy in its jurisdiction yet to be established and clearly recognized. It is the organization, which works under the Ministry of finance. The government of the country executes its policy related to capital market through the organization.

General Objectives of SEBON

- To manage the securities market
- To render contribution to the development of capital market by making securities transaction fare healthy efficient and responsible.
- To promote and protect the interest of the investor by regulating the issuance sale and distribution of securities and purchase sale or exchange of securities.
- To supervise, look after and monitor the activities of the stock exchange and of corporate bodies carrying on securities business.

Functions of SEBON

SEBON carries out the different functions for the accomplishment of its objectives. The functions, duties and powers of SEBON as per the Act are as follows.

- To offer advice to Government on matters connected with the development of the capital market.

- To register the securities of corporate bodies established with the authority to make a public issue of its securities.
- To regulate and systematize the issue, transfer, sale and exchange of registered securities.
- To give permission to operate a stock exchange to any corporate body desirous of doing so, subject to this Act or the rules and bye-rules framed under this Act.
- To supervise and monitor the functions and activities of stock exchange.
- To inspect whether or not any stock exchange is executing its functions and activities in accordance with this Act or the rules and bye-rules framed under this Act, and to suspend or cancel the license of any stock exchange which is not found to be doing so.
- To issue licenses to conduct the business of dealing in securities, subject to this Act, or the rules and the bye-rules framed under this Act, to companies or institutions desirous of conducting the business of dealing in securities.
- To supervise and monitor the functions and activities of securities-dealers.
- To grant permission to operate collective investment schemes and investment fund programs, and to supervise and monitor them.
- To approve the bye-rules concerning transactions in securities framed by stock exchanges and institutions engaged in the business of dealing in securities, and, for the purpose of making necessary provisions concerning the development of the capital market and protecting the interests of investors investing in securities, issue orders to have necessary alterations made in such bye-rules of stock exchange and institutions engaged in the business of dealing in securities.

- To systematize the task of clearing accounts related to transactions in securities.
- To supervise whether or not security dealers are behaving in the manner prescribed in this Act, or the rules and the bye-rules framed under this Act, while conducting business of dealing in securities, and suspend the license to conduct the business of dealing in securities in case any securities dealer is not found to be behaving accordingly.
- To make or ensure necessary arrangements to regulate the volume of securities transacted and the procedure of conducting such transactions in order to ensure the promotion, development and clean operation of stock exchanges.
- To make necessary arrangements to prevent insider trading or any other offenses relating to transactions in securities in order to protect the interest of investors in securities.
- To review or make arrangement for reviewing the financial statements submitted by the corporate bodies issuing securities and security dealers, and issue directives deemed necessary in that connection to the concerned corporate body.
- To systematize and make transparent the act of acquiring the ownership of a company or gaining control over its management by purchasing its shares in a single lot or in different lots.
- To establish coordination and exchange cooperation with the appropriate agencies in order to supervise and regulate matters concerning securities or companies.
- To discharge or make arrangements for discharging such other functions as are necessary for the development of securities and the capital market.

The Governing Board of SEBON is composed of seven members including one full time chairman appointed by the Government for tenure of four years. Other members of the Board include joint secretary of Ministry of Finance, joint secretary of Ministry of Law, Justice and Parliamentary Affairs, representative from Nepal Rastra Bank, representative from Institute of Chartered Accountants of Nepal, representative from Federation of Nepalese Chambers of Commerce and Industries, and one member appointed by the Government from amongst the experts pertaining to management of securities market, development of capital market, financial or economic sector.

There are seven departments and sixteen sections in the organization of SEBON. Under the Management Department, there are two divisions namely Human Resources Section and Finance Section. There are also four sections under the Planning and Development Department namely Research Section, Training Section, Information Technology Section and International Affairs Section. There are also two sections under the Corporate Finance Department namely, Public Issue Section and Collective Investment Scheme Section. Likewise, Under the Regulation Department, there are two sections namely, Stock Exchange Regulation Section and Market Intermediaries Regulation Section. There are also four sections under the Surveillance Department namely, Stock Exchange Surveillance Section, Market Intermediaries Surveillance Section, Trading Surveillance Section and Corporate Surveillance Section. Finally, under Legal Department, there are two sections Research and Investigation Section and Enforcement Section.

The major financial sources of SEBON are the government grant, transaction fee from the stock exchange and registration fee of corporate securities. Other financing sources include registration and renewal of stock exchange and market intermediaries and the income from mobilization of its revolving fund.

2.1.5 Nepal Stock Exchange (NEPSE)

Nepal Stock Exchange, in short NEPSE, is an organized open market for buying and selling financial commodities, known as securities, such as shares or stocks, debentures, bonds, options and futures. It is also known as the stock market. We can in Nepali call the Stock Exchange, a Haat Bazzar, where brokers, who are the representatives of the shareholders, come together for buying and selling their ownership or debts of companies. The stock exchange is also an authority to supervise and regulate the trading. Stock exchange plays an important role in the economy by providing a place for the buyers and sellers to trade securities, stocks, bonds and other financial instruments.

It is also called the secondary market, the primary market being the first issue of the shares and bonds. In the secondary market investors, who buy and sell stocks and not the companies, earn profits or bear losses resulting from their trades. The investors also earn from the companies whose shares they hold, in the form of dividends paid out by the companies from their earnings. Stock Exchange encourages investment by providing this secondary market and increase the safety of investing.

In the Stock Exchange, the buyers and sellers do not participate directly in the transactions but place their buying and selling order to a Stock Broker who carries out

the transaction in the Stock Exchange for nominal fees of approximately 1.5% on each transaction.

Companies issue new shares or securities in the primary market usually with the help of investment agencies, investment bankers. In the primary market, companies receive the proceeds of stock sales. Thereafter, they are not involved in the trading of stocks. Owners of the stocks trade them in t he stock Exchange in the secondary market.

It is a non-profit organization, operating under Security Exchange Act, 1983. Security Exchange Center was established with an objective of facilitating and promoting the growth of capital markets. Before conversion into stock exchange it was the only capital markets institution undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial service. Nepal Government, under a program initiated to reform capital markets converted securities exchange center into Nepal Stock Exchange in 1993.

The basic objective of NEPSE is to impact free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through member, market intermediaries, such as broker, market etc. The role of the stock exchange is to marketability and liquidity of securities through market intermediaries. To fulfill these roles, the Nepal Stock Exchange needs to make the securities market competitive, modern, efficient and reliable. NEPSE have taken measures towards that end. NEPSE opened its trading floor on 13th January 1994. Government of Nepal, Nepal Rastra Bank, Nepal Industrial Development Corporation and members are the shareholders of NEPSE.

Significant developments have been made in the secondary market i.e. in NEPSE in recent years, especially after the Nepal Government decided to reform the capital market. The computerized trading system has replaced the open-cry system. NEPSE has implemented the wide area network (WAN) to enable brokers to trade from their own offices. Trading through WAN has formally started form 13 Oct. 2007 NEPSE has started posting trading activities on its website in order to provide investors and the general public with real-time information. Furthermore, the Nepal Government has made commitments to improve and develop the secondary market to enable it to encompass more corporate organization, investors and financial instruments.

a. Organizational Structure

NEPSE is only organized exchange to carry out secondary market operation of corporate securities in Nepal. It is working under SEBON. It has own board of directors to direct to formulate the policy matter and to run the security transaction business in the country. The BOD is responsible to form the policy for the development of capital market. BOD consists nine members in accordance with securities exchange act, 1983. Six directors are nominated by Government of Nepal and different institutional investors. Two from the licensed members and the General Manager of the Ex-Officer Director of the Board.

b. Members

Members of NEPSE are permitted to act as intermediaries in buying and selling of government bonds and listed corporate securities. At present, there are 23 member brokers and 2 market makers, who operate on the trading floor as per the Securities Exchange Act, 1983, rules and bye-laws.

Besides this, NEPSE has also granted membership to issue and sales manager securities trader (Dealer). Issue and sales manager works as manager to the issue and underwriter for public issue of securities whereas securities trader (Dealer) works as individual portfolio manager.

At present there are 11 sales and issue manager and 2 dealers (Secondary market). The tenure of the membership is one year. The license should be renewed within 3 months after the closure of the fiscal year. If not, it can be done within another three months by paying 25% penalty.

c. Capital Structure of NEPSE

The authorized and issued capital of the Stock exchange is Rs 50 Million, of this Rs 34.91 million is subscribed by Nepal Government, Nepal Rastra Bank, NIDC, and licensed members.

d. Listing

Trading on the floor of the NEPSE is restricted to non-listed corporate securities and government bonds. At present, 108 companies have listed their securities to make them eligible for trading. The listing fee and annual fee to be paid by the listed company are based on the capital of the company. The NEPSE has set number of conditions for listing of securities. Any company which desires to be enlisted should fulfill those conditions.

e. Trading

NEPSE the only Stock Exchange in Nepal introduced fully automated screen based trading since 24th August, 2007. The NEPSE trading system is called 'NEPSE

Automated Trading System (NATS) is fully automated screen based system, which adopts the principle of an order driven market.

f. Security Available for Trading

NEPSE facilitates trading in the following instruments

- Shares (Equity and Preference shares)
- Debentures
- Government Bonds
- Mutual funds
- Convertible Bond

g. Board of Directors

The board of directors of NEPSE consists 9 (Nine) directors in accordance with securities with securities exchange act 1983. Six directors are nominated by government of Nepal and different institutional investors. Two of the licensed members and General Manger of the NEPSE is the ex official directors of the board.

2.1.6 Investment

Investment refers to the definition of investment or how investment can be defined. Investment can be defined in many ways according to different theories and principles. In general purview, investment is the application of money for earning more money.

Investment is a term, which can be used in a number of contexts. Meaning investment or the meanings of investment are closely connected according to different theories. Investment means savings or savings made through delayed consumption.

In other word, investment means the act of investing; laying out money or capital in an enterprise with the expectation of profit. It forgives the present return for future profit. Investment is a systematic and scientific way of using excess fund from income to gain expected return with lower level of risk. An investment is a commitment of money that expects to generate additional money. According to economics; investment is referred as the utilization of resources in order to increase income or production output in the future.

An amount is deposited into a bank or machinery is purchased in the anticipation that this will yield some income in the long run or more money can be made with the help of these investments. The term investment carries different meanings to different industrial sectors.

According to economists, investment refers to any physical or tangible asset, for example, a building or machinery and equipments. On the other hand, finance professionals define investment as money utilized for buying financial assets, for example stocks, bonds, bullion, real properties, and precious items. People get involved in this type of investment in the expectation that it will generate cash flows in the future.

According to finance, investment refers to the buying of a financial product or any valued item with anticipation that positive returns will be received in the future.

The most important feature of financial investments is that they carry high market

liquidity. The method used for evaluating the value of a financial investment is known as valuation.

According to business theories, investment is that activity in which a manufacturer buys a physical asset, for example stock or production equipment in expectation that this will support the business to prosper in the long run.

a. Types of Investment

A particular investor normally determines the types of investment after having formulated the investment decision, which is termed as capital budgeting in financial lexicon. With the proliferation of financial markets there are more options for investment types.

In the financial terminology investment means the following:

- Purchasing Securities in Money or Capital Markets
- Buying Monetary or Paper Financial Assets in Money or Capital Markets
- Investing in Liquid Assets like Gold, Real Estate and Collectibles

Investors assume that these forms of investment would furnish them with some revenue by way of positive cash flow. These assets can also affect the particular investor positively or negatively depending on the alterations in their respective values.

Investments are often made through the intermediaries who use money taken from individuals to invest. Consequently the individuals are regarded as having claims on

the particular intermediary. It is common practice for the particular intermediaries to have separate legal procedures of their own.

Following are the various types of investment:

- Capital Investment
- Financial Market investment
- Stock Investment
- Share Market Investment
- Land Investment
- Retirement Investment
- Real Estate Investment
- Gold Investment
- Portfolio Investment
- Business Investment
- Equity Investment

Investment in the domain of personal finance signifies funds employed in the purchasing of shares, investing in collective investment plans or even purchasing an asset with an element of capital risk. In the field of real estate, investments imply buying of property with the sole purpose of generating income.

Investment in residential real estate could be made in the form of buying housing property, while investments in commercial real estate is made by owning commercial property for corporate purposes that are geared to generate some amount of revenue.

a. Investment Strategy

Investment strategy is actually the plan, which is followed by an investor to make profits and to achieve financial stability. Based on this investment strategy the

investor identifies the areas where the money can be invested safely. At the same time the returns from that money is also of equal importance. The investment strategy also helps the investor to reduce the risk factor from the investment portfolio.

Now several investment options are available in the market. There are thousands of people who are making money from these options. Again, there are also a large number of investors who are facing losses every day. This means that if the investment is done in a proper manner, the profit can be made from every possible medium otherwise the result may be the opposite.

But to make the investment successful, an investor needs to do the homework properly. He or she needs to follow that market closely in which he or she wants to invest. There are several sources like the financial market news, several journals, internet and many more that can provide vital information about the financial market. This information is very important to form a strategy. At the same time, the financial planners can also provide assistance to form an investment strategy, which suits the need of the investor.

Before planning a strategy for investment, one needs to be sure about the aim of his or her investment. One needs to decide about the desired returns and more importantly the amount of risk that he or she can bear. These factors are going to decide the suitable medium of investment for the investor.

The investment portfolio of the investor should be diversified. Investing in one single medium may increase the amount of risk. In multi-investment, the risks related to one medium are covered through another one.

The two basic investment choices are the stock market and the bond market. The stock market is full of different types of shares and options. All these shares are different from each other in many aspects like the amount of risk and the pace of growth. Now, the investor needs to follow a certain investment strategy to invest in this market. The investor needs to choose some specific shares in which the money would be invested. At the same time, the investor should also buy some options to minimize the amount of risk involved in the shares. The bond market is not so complicated and so the strategies are very simple.

An investment strategy usually involves a set of methods and rules and regulations. An investment strategy is designed according to the exchange or compromise of the risks and returns of the investor.

A portion of the investors likes to increase their earnings through investment in assets, which involve high risks. Some other investors would like to decrease the risk by investing in assets, which involve lesser risk. However, the majority of investors would like to choose an investment strategy, which lies in the middle.

The investment strategies can be broadly categorized into the following types:

i. **Active Strategies**

One of the principal active strategies is the market timing, which is applied for maximizing yields. Active Portfolio Strategy: the managing of an investment portfolio by making judgments about market movements instead of relying on automatic adjustments. An investment approach in which an investor uses a variety of forecasting and assumption techniques to determine which securities to purchase in order to achieve a high return. Unlike the buy and hold strategy, an adherent to an

active portfolio strategy is more likely to buy and sell securities with greater frequencies as the investor seeks to move available capital into more profitable

ii. Passive Strategies

This type of strategies is frequently implemented for reducing transaction costs. A passive strategy assumes that the marketplace will reflect all available information in the price paid for securities, and therefore, does not attempt to find miss priced securities. A strategy that involves minimal expectation input, and instead relies on diversification to match the performance of some market index. A passive strategy assumes that the marketplace will reflect all available information in the price paid for securities, and therefore, does not attempt to find miss priced securities. A strategy that relies on diversification to match the performance of some market index. The investor is minimally involved in directing the portfolio. A passive strategy assumes that the marketplace will reflect all available information in the price paid for securities.

The buy and hold strategy is one of the most popular investment strategies. Buy and hold is basically an investment strategy for the long term. The idea behind this strategy is that the stock markets yield a commendable rate of return in spite of stages of fluctuation or downfall. Indexing is a strictly passive variable of the buy and hold strategy and in this case, an investor purchases a limited number of every share existing in a stock market index, for example the Standard and Poor 500 Index, or more probably in an index fund, which is a form of a mutual fund.

Additionally, this point of view agrees that market timing strategy (an investor is able to move into the market when it is on the low and sell the stocks when the market is

on the high) is not applicable or is not applicable for small-scale investors. Thus, it is advisable to apply the buy and hold strategy.

In case of real estate investment the retail and small-scale investors apply the buy and hold strategy, because the holding period is normally equal to the total span of the mortgage loan.

b. Investment Planning

The basic idea behind any form of investment planning is to maximize the financial returns that could be employed in the future to ensure some sort of stability. The formulation of financial plan requires the particular individual to carefully consider his choices before making any decision.

Investment planning involves making an idea of the possible financial options that could be availed in order to secure the financial future for oneself or even achieve some ambitions. Quite often groups of individuals get together for the purpose of investment planning.

Investment plans require careful scrutiny of the financial market. These plans are used to meet specific monetary objectives. It is mostly the responsibility of the particular firm to make the decision on the matter of management of money, which could be utilized in meeting long term asset investment plans or even for gathering working capital.

The system, which helps a particular investor in making an assessment of the amount that needs to be put in for the various business purposes, is an integral part of

financial planning. To ascertain the source from where the money could be obtained is another important task.

An important aspect of investment planning is the development and performance of the investments in a particular span of time. This could help the investor to plan his forthcoming investments by cutting down on the amount of uncertainty involved in investments. Investment planning also helps the investors in channelizing their funds in the right direction.

A very important aspect of investment planning is planning for retirement as that is the time when an individual stops earning and has to make do with the savings. An extremely important device in this regard are the retirement planning investment calculators which have been helping people, over the years, to plan in advance for their retirement.

c. Optimal Investment

The optimal investment options depend on the particular investor. Two people cannot be the same and so, the definition of this 'best' is bound to vary from investor to investor. At the same time, the market conditions are also responsible for making an investment option good or bad. There are several factors, which are related to the definition of bet investment plan. These are:

- Safety
- Return
- Liquidity

The safety of the investment is the basic factor for investing money. There are several types of risks, which are included in an investment. The prime risk is of facing huge loss. On the other hand the slow paced growth of the investment is also a matter of concern for the investors. So, the best investment should cover these factors.

Return is another matter of concern for the investors. There are several investment mediums, which promise low but safe return. On the other hand, the high yielding mediums are related to the high level of risk. Now this depends solely on the investor to identify the optimal investment option according to his or her mental set up.

At the same time, the availability of the invested money at time of emergencies is also very important from the investors' perspective. The best investment options should have this flexibility that it can allow the investor to draw back cash when there is any kind of emergency.

Everybody wants to save some amount of money from the taxes. Now if the investments can do this for them, then it is surely going to be a lucrative option for them. It can also be considered as the best option if it can provide the above discussed factors with the tax relief.

According to all these factors, mutual funds can be considered for this category, because the mutual funds are highly safe options. The mutual funds assure a specific amount as return. Though the amount of return is low compared to the stock trading returns, but the amount of risk is also low.

There are several other plans, which provide the investor with tax relief. Because of

this feature the 403(b) plan is very popular in the US. Investments through this plan can save some good amount of money from the investors' payable tax.

The investments can be made through the discount brokers to save a good amount of money. Another way of making optimal investment is to use the individual retirement account or the automatic investment plan. The initial costs of investment are very low in these cases, which can make the investment look better.

d. Investment Procedures

Investment procedures are the pre-considerations and post-considerations that to consider in selection of investment alternatives. A rational investor does not invest in the entire investment alternatives available in the market. It includes how an investor makes decision about what securities to invest, how extensive the investments should be and when they should be made. Generally, investment goes through some basic fundamental processes which are as follows:

i. Setting the Investment Policy

The first step in setting an investment policy includes determining the investment objectives and investment strategies. Investment strategy may be either active or passive. Active strategy is short run strategy meaning that purchase security at under price and instantly sell that when its price goes up whereas passive strategy is long run strategy meaning that purchase and hold for long period. Each investor has different objectives that need to be met depending on age, income, planned activities, period of investment and attitude about risk. Objective may be regular cash flow, tax benefit, ownership and profit as well as value maximizing. We also have to take into

consideration to investible fund while setting the investment policy. Objectives of the investment should be set before deciding investment alternatives.

ii. Market Externalities

Investment environment create pressure to the market. Investment environment affects market trend creating market externalities. Market externalities indicate investment environment. Positive market externalities help to increase purchasing power or increase price index. Market externalities consists market trend, ongoing socio-economic circumstances, state of affairs, analysis of PESTLE, securities and financial intermediaries.

iii. Investment Horizon

“Investment requires a present sacrifice for a future uncertain benefit” meaning that future which shows some period to be matured, while selecting investment alternative, investor should visualize investment horizon i.e. duration of investment. The investment decision and requirement of future amount, both affect investment decision.

iv. Risk and Return Analysis

Risk and Return are the underlying characteristics of the investment but it varies according to the nature of the investment. An investor should make perfect analysis of available investment alternatives which will facilitate him to calculate expected rate of return and degree of risk related with that investment. Forever, calculated expected rate of return may not be accurate but also investors can proactively manage potential

future risk. Therefore, investor should know his expected rate of return and their associated risk.

v. Investment Alternative Analysis

In this step, investors analyze each security available in the market. There will be hundreds and thousands of securities available to make investment. It includes technical analysis as well as fundamental analysis to know which are the profitable one i.e. common stock, debt, preference stock and datives. The investor will evaluate them in term of their price weather they are under priced or overpriced, risk associated with that specific security, his expected return and real return and so on.

vi. Making Portfolio

At this step we identify assets in which to invest and what proportion of the investor's wealth to put in each one. In another words, making portfolio will define the formation of portfolio. Investors decide number of stocks and assigned weight for each security with the help of predetermined evaluation. The investor may construct portfolio according to his interest either he wants active or passive strategy to manage his investment. There should be clear vision of the strategy. While constructing the portfolio, the selectivity, timing and diversification need to be addressed by a rational investor.

vii. Reviewing the Investment Composition

It means repeating the previous steps of the process. According to time span, determinant and underlying variables may change, so it needs regular supervision and evaluation of investment portfolio. Investors should update investment portfolio and

that need portfolio revision however portfolio revision decision depends on transaction cost, investment environment, needs and preference of investor.

viii. Portfolio Performance Evaluation

The last step of the investment procedure is to evaluate the investment performance. The performance evaluation of portfolio is a periodic review of portfolio investment evaluation of underlying factors i.e. risk and return of the portfolio measures superiority and inferiority of the portfolio management. Evaluation is a control mechanism that decreases the variance between standard and actual performance. The performance should be evaluated not only in terms of the returns but also the risks experienced. To evaluate the performance we can use various tools and techniques.

ix. Valuation of Investment

On investing, basically there are two ways to valuate stocks:

a. The first type of valuation is done through an analysis of the company's financial position, earnings, and the market price to earnings ratio. This type of valuation usually determines the long term price or for long term strategy.
b. The second type of valuation is dictated by how much a buyer in willing to pay and how much a seller is willing to sell the stock of shares for. Here the demand and supply mechanism rules primarily. The more the people want to buy a particular stock, the higher its price will be and alternatively, the more people that want to sell the stock, the lower the price will be. This type of valuation determines the short-term stock market prices.

Basically in the long term, the stock market is driven by economic and financial growth whereas in the short term, the market in driven by the rumors, mood and emotions of the investors.

2.1.7 Investment Alternatives

a. Bond

Bond is a kind of fixed income security. Company pays interest to bond at predetermined rate to holder. The contract paper of bond is debenture. Debenture holders are only financer of the company. They do not have ownership rights as well as voting right. It is suitable to those investors who do not want to bear risk or for passive investors interesting in "Buy-and-hold strategy". Company issued bond for meeting the short term supply of temporary capital but individual investor would purchase for fixed income. There are different types of bond. Some examples are:

i. Government Bonds

Govt. bonds are the debenture issued by the govt. These securities are less risky and provide nominal interest. Governmental debenture provides interest annually or semiannually and can be traded in secondary market. Nepal Rastra Bank issue govt. securities on behalf of government in Nepal. Some examples of govt. bonds are; T-Bills, T-note and Saving Bond.

ii. Municipal Bonds

Local govt. issue bonds on behalf of local authority which is municipal bonds. Municipal bonds issued to meet local expenses for the state. Govt. gives tax-exempt facility to such bond holder. In Nepal, municipal bonds are not in practice; however, it is a good alternative of investment.

iii. Corporate Bonds

Corporate bonds are the debenture issued by corporate bodies. The degrees of risk in corporate bonds are higher than govt. and municipal bonds. The interest rate is also higher in such bonds. They have strong legal provision in the liquidation of the company. The examples of corporate bonds are zero coupon bond, coupon interest bond, perpetual bond, income bond, convertible bond etc.

b. Preferred Stock

Preferred stock is a fixed income security. Company pays dividend at predetermined rate to preference shareholders. Preference shareholders have priority in dividend distribution and liquidation. Preferred stock is a hybrid security because preferred stock has fusion qualities of bond and equity. Preference shareholder does not have voting right. It is suitable for that investor who does not want to bear high risk but wants fixes return. The nature of the preferred stock depends on the deed, which may be callable, cumulative, and transferable.

c. Common Stock

Common stock represents an ownership position in a company. Common shareholders are the real owners of a company. They have certain rights and privileges. It is a variable income security dominated by capital gain. Investors who want to increase the return accepting the higher risk would prefer to invest in this type of financial security i.e. common stock. This security is riskier in the sense that not only from the financial performance of an issuing company but also from the signaling effect and the price of such security becomes volatile. In this type of security, Shareholders enjoy voting right, limited liability, residual right and preemptive right on income and distribution of additional equity. It is a residual claim,

in the sense that creditors and preference shareholders must be paid as scheduled before common shareholders can receive any payments. In bankruptcy, common stock holders are in the principal entitled only to any value remaining after all other claimants have been satisfied. Generally, par value i.e. issuing price of the stock is Rs. 100.00 in Nepal. The market value of the common stock is the value determined by demand and supply of the market. The value of common stock includes amount retained, intrinsic value of the shares and amount of profit gained after the payment of dividend and other non-operating incomes.

2.1.8 Return & Risk of Common Stock

a. Return of Common Stock

i. Single Period Return

The increment in the value of investment happens due to price inflation or increment in the value of assets and addition on investment as product of that investment known as return on that investment. The length of period over which an investor assumed to hold the investment during that period and the percentage change in the value of the investment during that period is holding period rate of return. Single period return is known as holding period return. A holding period or single period return is simply the total return an investor would earn during the period of holding the securities. It includes both capital as well as normal gain within that holding period. In general, we calculate HPR for the period of the one year or that is one accounting period. It is not necessary that holding period must be one year but it is general practice only.

ii. Required Rate of Return

The required rate of return is the minimum rate of return that an investor expects and demanded by investor forgoing the present utility and satisfaction. When setting the

required rate of return on an investment an investor must consider the real rate of return, expected inflation and risk. Now we can say that it is a function of real rate of return, inflation and risk. The required rate of return is the minimum rate of return that an investor expects from his investment in risky assets. The compensation, investor demands on behalf of future uncertainty over the risk free rate, is required rate of return. The capital market determines required rate. The required rate of return is the return of risk free assets government securities play risk premium.

iii. Expected Rate of Return

Expected return is average or weighted average return of an investment alternative during an investment period. Therefore expected rate of return is also considered as standard return. If 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. Expected rate of return is the hypothetical return. The expected rate of return based on the expected cash receipt over the holding period and expected year-end selling price of securities. It is an unknown future return. We can calculate the expected rate of return based on probabilities and based on historical data.

iv. Expected Rate of Return Based on Probabilities/ Ex-ante Data Based

Expected rate of return is the possible expected rate of return from the various alternatives of possible outcomes with their respective assigned probabilities. Probability distributions used to describe outcomes and to assign individual probabilities from zero to one to each possible outcome. Investor analyzes the

variable of investment environment and they calculate the possible outcome from state of the economy and assign the probabilities.

v. Expected Rate of Return Based on Historical Data

We here assumed that history repeats itself during this research. The future cash flow will base on the historical cash flow. The expected rate of return will be the average of historical rate of return. In term of holding period return, the expected rate of return for any specific securities is the expected rate of return taken from its historical return. It ignores the compounding effects that result if the first period return reinvested.

b. Risk on Common Stock

Generally, the term risk defines as an unfavorable condition associated with the investment. It is the deviation between actual and expected performance i.e. in return. Therefore an investment alternatives having higher risk would have higher different between actual and expected return. Every investment alternatives having some degree of risk should be compensating by return. Therefore, there should be always positive trade off relationship between risk and return. So it is reason higher the risk higher should be return and vice versa. Risk comes in existence due to the uncertainty in return. In a word of uncertainty, expected return may not be realized. Risk through as the possibility that the actual return form holding a security will deviate from the expected return, the greater said to be the risk of the security (James C. Van Horne, 2000: 35).

To measure the risk one should understand that is surrounded with complex investment environment. Risk of an investment is always resulted from some of the basic factors. Such as Maturity risk, Default risk, Liquidity risk, Inflation risk,

Management risk, Environmental risk, Global risk, Interest rate risk, Political risk etc. Risk of an investment can be calculated by using different statistical tools. They are Standard deviation, Variance, C.V, Beta Risk and soon. In general, we measure the risk in term of standard deviation and variance. Standard deviation is measure of the probability distribution. Mathematically, standard deviation is the square root of the variance and variance is the sum of product of probabilities of each stock and square or deviation taken with actual means from each returns. The most common measure of risk is variance. Standard deviation and variance are equally and conceptually equivalent quantitative measure of an asset's total risk. Various factors play roles to make the actual return differ from expected return and such factors are known as sources of risk or risk components, which are as follows:

i. Maturity Risk

Higher the maturity, higher will be the uncertainty of repayment and default of any security. Generally, there is no repayment of common stock but investors can easily sell the stock whenever necessary.

ii. Default Risk

Default risk is related to the probability that some or all the initial investment will not be returned. The degree of default risk is closely related to the financial condition of the company issuing the security and the security is rank in claims on assets in the event of a default of bankruptcy.

iii. Liquidity Risk

Liquidity risk is associated with uncertainty created by the inability to sell the investment quickly for cash. The return variability will increase if price discounts and sales commission are to be given in order to liquidate assets in time

iv. Purchasing Power Risk i.e. Inflation Risk

Purchasing power risk is the variability of return an investor suffers because of inflation. Inflation erodes the purchasing power of the rupees and increases investment risk. The rate of inflation is measured by percentage change in the consumer price index over the period.

v. Interest Rate Risk

It is the potential variability of a return caused by changes in the market interest rates. Market interest rate influences the value of an asset and hence its return. If the market interest rate rises, the value of an asset will decrease and vice versa. A higher interest rate means a higher discount rate and a higher discout rate causes a lowe present value of any asset.

vi. Management Risk

All these decisions made by the management materially affect the risk faced by investors. Sometime, the management may make a decision which turns out to be wrong later on. Since, management errors are difficult to analyze, investors can reduce their risk by buying shares in those corporations in which the executives have the significant equity investment instead of buying shares in the corporation in which executives have no equity investment.

2.1.9 Market Return and Risk of Market

a. Market Return

Return of the market is the average return of the all investment opportunity available in the market consisting financial as well as real investment. The market return consist one full portfolio of each investment alternatives with value weight. Market portfolio is combination of all alternatives available to invest. In Nepal, NEPSE represents the market index and investors find market return form NEPSE index. Markets return is difference of index divided by base index. Average market return is the average taken from the annual market return. Mathematically, it is summation of market return divided by number of period.

b. Market Risk

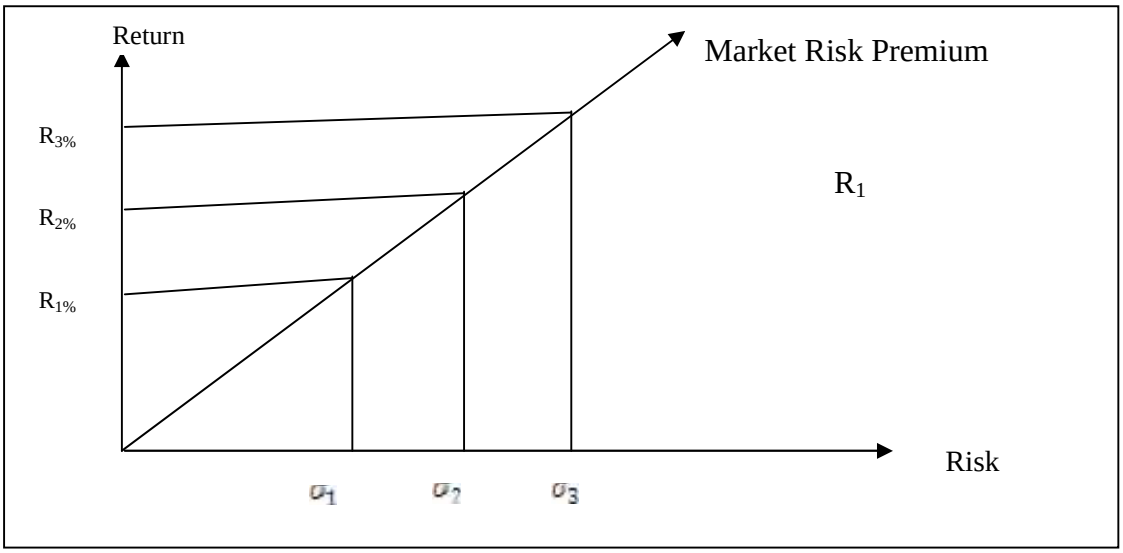
Market risk is the risk as a whole for market. Change in the economy, political and sociological environment that affects security market are the sources of market risk. Market risk is also known as systematic risks which are not avoidable. Market risk measured in term of standard deviation. Standard deviation of market is the root of mean deviation taken from actual mean market return divided by sample no of observation.

2.1.10 Trade-Off between Risk and Return

Risk and return are the characters of investment. They always positioned to each other. Investor should analyze the risk and return factors doing investment. Without proper analysis of risk and return, there will be loss in investment. So the risk return analysis of every investment is key important and its relationship is unique to each investor. Risk and return relationship varies according to perception, risk bearing

capacity and required rate of return from the investment. Investor is always rational. So no one make investment by bearing high degree of risk. In competitive market, higher risk will command by premium and the trade-off between these two assumes a linear relationship between risk and risk premium. The trade-off between risk and return will change with the passage of time but will always be positive because investors are risk averse.* Jack Clark Franceis, Investment Analysis and Management, 7th edition, (New York, Mc-Graw hall Inc.) pg 1718.investor requires higher expected rate of return to induce then to place their funds in riskier assets.

Risk and Return Trade Off



2.1.11 Portfolio Investment

The developing countries use the portfolio investment as a growing tool in the economy and take some measures to encourage the use of portfolio investment. While going for liberalization and economic reforms in order to bring about the substantial and rapid economic growth, the government takes up some policies and instruments. The portfolio investment is one of the most famous financial instruments that are taken up by government to enhance the economic growth. The foreign direct investments are also encouraged by the developing countries while going for the

economic reforms. Objectives of the portfolio for making combination of investment are:

1. **Primary Objectives**
    i. Minimizing the risk and maximizing the return of overall investment.
    ii. Wealth maximization

2. **Secondary Objectives**
    i. Regular cash flow
    ii. Easy liquidity(marketability)
    iii. Tax benefit(tax subsidy)
    iv. Confidence and satisfaction of investor.

a. Portfolio Analysis

A portfolio of a company is the sum total of its business, assets and products. A perfect portfolio analysis is shaped to meet and suit the company's potency and also enable it to exploit the best opportunities available to the company. Analysis of portfolio involves deciding upon the relative importance of available business and investment opportunities by accessing the business portfolio of the company. This portfolio analysis also involves formulating strategies that would add to the business portfolio in terms of new business opportunities and products.

The best portfolio analysis takes into account the locating of the different Strategic Business Units (SBU) present in the portfolio of a company. These SBUs have

business objectives and missions independent of the other business objectives of the company. An SBU can be the following three things:

i. Individual brands
ii. Product lines
iii. Company division

In portfolio, investor analyzes the future return of securities. The objectives of portfolio investment are to develop a combination that provides maximum return at chosen level of risk. Efficient portfolio always provides the highest possible return for any specified degree of risk and lowest possible risk for any specific rate of return. "Portfolio management is the art of handling a pool of funds that it not only preserves its original worth but also over time period appreciate in value and yield an adequate return consistent with the level of risk assumed (Cohen, Zinberg & Zeikel, 1997:141).

While talking about the portfolio, let us discuss about the mode of investment. Portfolio investment is the investment in the various securities i.e. portfolio is the combination of securities to diminish the degree of risk. Main objective of establishing a portfolio is to diversification of risk. It is a human nature to decrease risk and increase return,. Portfolio management is a selection of optimal alternative available and attainable that provides highest possible return from lowest possible risk for the specific return.

There is common saying that "don’t put your all eggs in a basket". It means it proverb is "Diversification of Risk". Diversification of these eggs among various baskets will diversify degree of risk, surrounded to eggs knowingly and unknowingly. Investment

in a single company denoted by a basket may have higher chances of loose. Anything harmful to the company may cause the ultimate defeat of investment. Diversification can help to reduce portfolio risk by eliminating unsystematic risk. Diversification simply means spreading investment upon different securities of different industries. The main point of diversification is to reduce risk rather than improve expected return. Diversification is the most important step to reaching long-range financial goals minimizing risk. Diversification in the investment or making portfolio in security level or in industry level protect against volatility and uncertainty at rate of return.

Investor knows that there is a trade-off between risk and reward: To obtain greater expected returns on investments, one must be willing to take on greater risk.

In solving the Portfolio Selection problem, we aim to use quantitative measures of risk and reward to obtain a balance between these two factors that suits the individual investor. No one combination of securities is optimal for all investors. The best portfolio for any one investor depends on their own tolerance for risk.

Each investment instrument has its own expected monthly return, and its own propensity for these returns to fluctuate from month to month. However, the returns from different instruments are not in general independent.

b. Portfolio Alternatives

A risk management technique that mixes a wide variety of investments within a portfolio. The rationale behind this technique contends that a portfolio of different kinds of investments will, on average, yield higher returns and pose a lower risk than any individual investment found within the portfolio.

Diversification strives to smooth out unsystematic risk events in a portfolio so that the positive performance of some investments will neutralize the negative performance of others. Therefore, the benefits of diversification will hold only if the securities in the portfolio are not perfectly correlated.

Types of Portfolio Alternatives

i. Simple Diversification

Simple diversification is the random selection of securities that are to be added to a portfolio. It would be also to reduce unsystematic or diversifiable risk. It simply says that not putting all eggs in one basket but it does not eliminate total risk by creating a simple diversified portfolio.

ii. Diversification Across Industry

It is not investing in a security form single industry. In this diversification, investors select securities from various industries and make investment. It is better to selecting securities form different industries to achieve better diversification than select all the securities in a portfolio from one industry

iii. Superfluous Diversification

It refers to the investors spreading himself in so many investments on his portfolio although it is very difficult and expensive to look after a large number of investments. In this diversification, investor select more than 15 different securities make investment. It needs high knowledge, maximum calculation and analysis. It is selected for a portfolio, the maximum risk reduction benefits from simple diversification, has most likely been attained.

iv. Superfluous Diversification Across Quality Rating Categories

It reduces risk with in categories of stock than have the same quality rating. For example, NEPSE has rated security grade "A" and so on and investor can make investment in this categories under this diversification.

v. Markowitz Diversification

"Markowitz Diversification is the combining of assets, which are less than perfectly correlated in order to reduce portfolio risk"- Francis, 1999i.e. risk below the undiversifiable level. Markowitz diversification in more analytical than others diversifications and considers assets correlation. The lower the correlation between assets the more Markowitz diversification will be able to reduce the portfolio risk. It is a scientific way to manage a portfolio and its result. Since, Markowitz portfolio considers both the risk and return of dozen and hundreds of different securities simultaneously. It is a more powerful method of analyzing a portfolio than using institution.

c. Portfolio Risk and Return

i. Portfolio Return

Portfolio return is the weighted average of the expected return of individual securities involved in portfolio. Weight being the proportion of wealth invested in individual securities. The expected return of portfolio is the sum of expected return of each security. In totality, what is the return of wealth is the return of portfolio. The return of the portfolio depends upon the:

a. The expected rate of return of each security contains in the portfolio and
b. The amount investment in each security.

ii. Portfolio Risk

Risk of portfolio is the weighted average individual risk and combined risk of individual securities involved in portfolio. The combined risk is denoted by either covariance or correlation. If covariance or correlation are smaller or negative, risk of the portfolio can be minimized and vice versa. Risk of the portfolio is also calculated through the different statistical tools like standard deviation of portfolio, variance of portfolio, CV of portfolio, beta risk of portfolio and soon.

2.1.12 Segregation of Risk

a. Systematic Risk

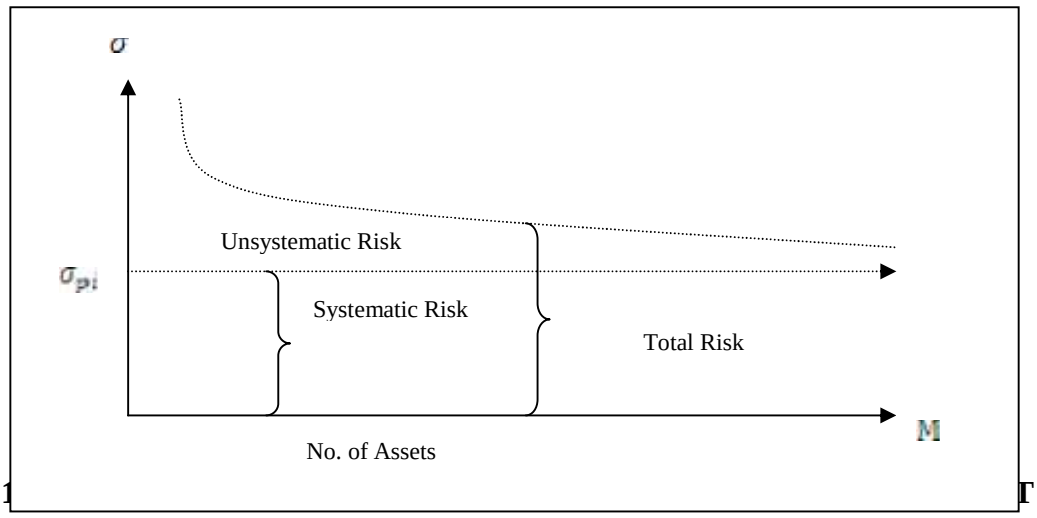
Systematic risk is that part of total risk which is come from market and it is beyond the control of an investor. So it is also known as undiversifiable risk. In other words, systematic risk is that portion of total variability in return caused by market factors that simultaneously affects the prices of all securities. Some factors resulting systematic risk are change in PESTLE, scarcity of raw materials, civil wars, natural calamities, loosing of image by company and its product accidentally. It is the market risk which could not be avoidable. The systematic risk lies in the overall stock within the market measured by beta.

b. Unsystematic Risk

It is that part of total risk which is come from internal inefficiency of an organizational activity. It is unexplained by the market movement. Since it happens due to internal causes, it is diversifiable by increasing the efficiencies and effectiveness for the productivity of the organization. This kind of risk is diversifiable risk. Therefore in some extent, it is under the control of an investor. So such kind of

risk is considered as diversifiable risk. Some factors resulting unsystematic risks are idle capacity, mismatching of corporate goal and activities, unwanted strike labors, advertising campaign, inefficiency of management and soon.

Risk and Diversification



2.1 Γ

A theory on how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. It is also called "portfolio theory" or " portfolio management theory". A Nobel Memorial Prize winning economist who devised the modern portfolio theory in 1952. Markowitz's theories emphasized the importance of portfolios, risk, the correlations between securities and diversification. His work changed the way that people invested.

According to the theory, it's possible to construct an "efficient frontier" of optimal portfolios offering the maximum possible expected return for a given level of risk. This theory was pioneered by Harry Markowitz in his paper *"Portfolio Selection,"* published in 1952 by the Journal of Finance.

There are four basic steps involved in portfolio construction:

i. Security valuation

ii. Asset allocation

iii. Portfolio optimization

iv. Performance measurement

Portfolio is the combination of the various securities. To choose the combination of the securities, it is really a challenge to the investor to choose the combination. In addition, investors always face a problem of selecting optimal portfolio from a set of possible portfolios. M. Markowitz explored the solution for this challenge. Harry M. Markowitz, in 1952, published a paper that is generally viewed as the origin of the portfolio theory approach to investing. Markowitz's model is a theoretical framework for the analysis of risk return choices. Decisions are based on the concept of efficient portfolios. A portfolio is said to be efficient when it provides maximum expected return for the same level of risk or provides minimum risk for the same level of return. Markowitz showed that under certain given conditions, an investor's portfolio choice reduced to balancing two dimensions, i.e. the expected return on the portfolio and its variance. Due to the possibilities of reducing risk through diversification, the risk of the portfolio, measured as its variance, will depend not only on the individual variances of the return on different assets, but also on the pair wise covariance's of all assets. Hence, the essential aspect pertaining to the risk of an asset is not the risk of each asset in isolation, but the contribution of each asset to the risk of the aggregate portfolio. Thus, in general, risk cannot eliminate, regardless of how many types of securities represented in a portfolio.

Markowitz diversification may be defined as combining assets, which are less than perfectly correlated in order to reduce portfolio risk without sacrificing portfolio return. It is more analytical than simple diversification and considers assets correlation or covariance in portfolio formation it shows that lower the correlation between assets. More number of securities will be able to reduce the portfolio risk. The essence of Markowitz diversification is that investors should combine assets having less than perfectly correlated securities. According to Markowitz diversification, the portfolio of the stock is better than investing in only one stock. Markowitz propounded minimum variance portfolio theory employing standard deviation and covariance between applied securities. Different proportion of investment in these securities shows different rate of return and risk.

Assumption of Portfolio Theory

- it assumes that the same holding period return for all securities
- investors are rational
- For a given level of risk, investors prefer high return to lower returns and similarly, investors prefers less risk to more risk for a given level of expected return.
- Risk depends upon the variability of the return.
- Investors consider each investment alternatives as being represented by a probability distribution of expected returns over same holding period.

2.1.14 Capital Assets Pricing Model (CAPM)

A model that describes the relationship between risk and expected return and that is used in the pricing of risky securities is known as Capital Assets pricing Model. It

specifies that the relationship between risk and required rate of return on assets when they held in well- diversified portfolios. The CAPM consider the backbone of modern price theory for financial markets. It is also widely used in empirical analysis, so that the abundance of financial statistical data utilized systematically and efficiently. In addition, the model applied extensively in practical research and has thus become an important basis for decision making in different areas.

This related to fact that such studies require information about firms cost of capital, where risk premium is an essential factor. Investor bears risk only when he finds compensation for bearing risk otherwise he invests in risk free assets. This risk premium is also known as market premium. All the securities available in market consists some degree of risk except treasury bills. A treasury bill is risk free assets. Risk free means which beta coefficient is Zero. This means there is no systematic risk. It is unaffected by the market environment but not other available securities in the market. The capital assets pricing model states that the expected risk premium on each investment is proportional it is beta. This means that each investment should lie on the sloping security market line connecting Treasury bills and market portfolio.

The CAPM calculates required rate of return for the stock j as follows:

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

Where

R_j = Required rate of return

R_f = Risk free rate of return

R_m = Market rate of return

β_j = Beta of the security

The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free (R_f) rate in the formula and compensates the investors for placing money in any investment over a period of time. The other half of the formula represents risk and calculates the amount of compensation the investor needs for taking on additional risk. This is calculated by taking a risk measure (beta) that compares the returns of the asset to the market over a period of time and to the market premium (R_m-R_f).

The CAPM says that the expected return of a security or a portfolio equals the rate on a risk-free security plus a risk premium. If this expected return does not meet or beat the required return, then the investment should not be undertaken. The security market line plots the results of the CAPM for all different risks (Betas).but it works under some assumptions. This model is the quantitative or numerical expression of security market line.

a. Beta Coefficient

The tendency of a stock to move up and down with the market reflected in its beta coefficient. Beta coefficient defined as a comparative measure of the sensitivity of an assets return to changes in the return on the market portfolio. It tells how much systematic risk a particular assets has relatively to an average assets. Therefore, beta is the key element of CAPM; mathematically the beta coefficient of a stock is the stock's covariance with the market portfolio divided by the variance of the market portfolio.

b. CML and SML

A line used in the capital asset pricing model to illustrate the rates of return for efficient portfolios depending on the risk-free rate of return and the level of risk (standard deviation) for a particular portfolio. The CML is derived by drawing a tangent line from the intercept point on the efficient frontier to the point where the expected return equals the risk-free rate of return.

The CML is considered to be superior to the efficient frontier since it takes into account the inclusion of a risk-free asset in the portfolio. The capital asset pricing model (CAPM) demonstrates that the market portfolio is essentially the efficient frontier. This is achieved visually through the security market line (SML)

SML is the regression representing graphically to provide common equation of required rate of return for individual assets as well as portfolio. In the SML provides unique relationship between systematic i.e. unavoidable risks known as beta. In addition, expected rate of return that helps to accurately measure the rate of return of each security.

c. Under and Over Valuation

The term under and over valuation means the price of the stock is low or high as per their rate of return. In market equilibrium, the CAPM implies an expected return and risk relationship for all individual securities. If an individual security has an expected return risk combination that places it above the security line, it will undervalue in the market. It provided an expected return in excess of that required by the market for the systematic risk involved. As a result, the security will be attractive to the investors.

According to the theory, the increase demand will cause the price to rise until the expected return declines sufficiently for the security to lie in the security market line and thereby an overvalued security characterized by an expected return risk combination that places it below the security market lines. This security is unattractive, holder will sell it, and those not holding it will avoid it.

2.1.15 Portfolio Selection, Harry M. Markowitz's Model

Prior to Markowitz's work, investors focused on assessing the risks and rewards of individual securities in constructing their portfolios. Standard investment advice was to identify those securities that offered the best opportunities for gain with the least risk and then construct a portfolio from these. Following this advice, an investor might conclude that bank stocks all offered good risk-reward characteristics and compile a portfolio entirely from these. Intuitively, this would be foolish.

Markowitz formalized this intuition. Markowitz began a revolution by suggesting that the value of securities in the portfolio. This audacious suggestion amounted to ignoring a loss of information about the firm and its earnings, dividend policy, capital structure, market and competitor, and calculating a few simple statistics. Detailing a mathematic of diversification, he proposed that investors focus on selecting portfolios based on their overall risk- reward characteristics instead of merely compiling portfolios from securities that each individually has attractive risk reward characteristics. In a nutshell, investors should select portfolios not individual securities.

The Markowitz model is a single-period model, where an investor forms a portfolio at the beginning of the period. The investor's objective is to maximize the portfolio's expected return subject to an acceptable level of risk or minimize risk subject to an acceptable expected return. The assumption of a single time period, coupled with assumptions about the investor's attitude toward risk, allows risk to be measured by the variance or standard deviation of the portfolio's return. Thus, as indicated by the arrow in fig., the investor is trying as far to go northwest as possible.

As securities are added to a portfolio, the expected return and standard deviation change in very specific ways, based on the way in which the added securities in the portfolio. The best than an investor can do (i.e. the furthest northwest a portfolio can be) is bounded by a curve that is the upper half of a hyperbola, as shown in above figure. This curve is known as the efficient frontier. According to the Markowitz model, investors select portfolios along this curve, according to their tolerance for risk. An investor who can live with a lot of risk might chose portfolio A, while a more risk-averse investor would be more likely to choose portfolio B. one of the major insights of the Markowitz model is that it is a security's expected return, coupled with how it co varies with other securities, that determines how it is added to investor portfolios.

Markowitz's primary contribution consisted of developing a rigorously formulated, operational theory for portfolio selection under uncertainty. Due to the possibility of reducing the risk through diversification, the risk of the portfolio, measured as its variance, will depend not only on the individual variance of the return on different assets but also on the pair wise covariance of all assets. Hence, the essential aspect

pertaining to the risk of each asset in isolation but the contribution of each asset to the risk of the aggregate portfolio. However the law of large number is not wholly applicable to the diversification of risks in portfolio choice because the returns on different assets are correlated in practice. Thus, in general, risk cannot be eliminated, regardless of how many types of securities represented in a portfolio.

2.1.16 Mean Variance Portfolio Selection, Harry M. Markowitz's Model

We can construct large number of portfolio by combining security and by varying proportion of investment among assets. Among the portfolios formed, some are efficient and many others are inefficient i.e. dominated. The sets of portfolios that i) offer maximum expected return for varying levels of risk, and ii) offer maximum risk for varying levels of expected return, are known as "efficient sets". The efficient portfolio lies along efficient frontier. Efficient frontier posses unique risk and return characteristics. The investor will choose portfolios from these efficient portfolios.

A set of portfolios with returns that are maximized for a given level of risk based on mean-variance portfolio construction. The efficient "solution set" to a given set of mean-variance parameters (a given risk less asset and a given risky basket of assets) can be graphed into what is called the Markowitz efficient frontier.

The Markowitz efficient set is all of the portfolios on the efficient frontier, or those that generate the largest return for a given risk level. The mean-variance and subsequent efficient set theory at one time revolutionized portfolio management, and remains a core lecture in any economist's university years. The theory of mean-

variance portfolios lead to the capital asset pricing model, and is still a vital component of professional money management today.

The portfolio selection problem can be expressed as maximizing the return with respect to the *risk* of the investment (or, alternatively, minimizing the risk with respect to a given return). The Markowitz model for portfolio selection uses the standard deviation of an asset's return as a measure of its risk. In addition, returns of different assets are pair wise correlated, that is, 'moving in the same direction', to various degrees. By using the standard deviations and correlations of assets, a composite risk measure for the portfolio can be calculated.

Markowitz carried out on his research “A Markowitz Efficient Portfolio is one where no added diversification can lower the portfolio's risk for a given return expectation (alternately, no additional expected return can be gained without increasing the risk of the portfolio). The Markowitz Efficient Frontier is the set of all portfolios that will give the highest expected return for each given level of risk. These concepts of efficiency were essential to the development of the Capital Asset Pricing Model.”

2.2 Review of Related Studies

Review of related thesis is an essential part of all studies. It is a way to discover how previous researches are done in the area of our problems. Previous studies are very helpful to find out the real present situations. In other words, there has to be continuity in the research. Literature review is a stocktaking of available literature in ones field’s of research. The literature survey thus provides us with the knowledge of the status of our fields of research. Therefore, the purpose of literature review is thus

to find out what research studies have been made or conducted in one has chosen field of study and what remains to be done.

2.2.1 Review of Journals & Articles

Mr. Terrance Odeon (1998) mentioned in the finance of journal about the risk loving nature of investment. It is well known that risk and return are the major things of analysis but there is so many factors to be consider while making investment. Imperfect knowledge and incomplete data creates more risk. Investors are not always risk averter. Some of them are risk lovers but they aspect come compensation for bearing more risk. Acceptance of risk level is deferent among investors, so they are interested in various stocks which have incompatible risk. He further mentioned that investors have unique risk bearing capacity and choice in investment varies according to level of risk.

The article “Selection of Portfolio” in Website, www.indiainfoline.com by Dr. Prof. Vijaya Pal Chatarjee mentioned some guideline to select optimal portfolio. He mentioned that investors like high-expected return and low standard deviation i.e. risk. Common stock portfolios that offer the highest expected return for a given level of risk are efficient portfolios. If an investor wants to know the marginal impact of a stock on the risk of portfolio, then he or she must not look at the risk of that stock in isolation but rather at its contribution to the portfolio risk. That is dependent on the stock’s sensitivity to change in the value of the portfolio. If the investors can borrow and lend at the risk free rate of interest, they should always hold a mixture of the risk free investment and one particular common stock portfolio. The composition of portfolio depends only on investors’ assessment of the prospects of each stock and not

on their attitude towards risk. The risk associated with the type of a security would depend on when the investment liquidated. Risk is lower in the short term. Diversification of portfolio can reduce such type of risk. If such diversification results an expected portfolio return or risk level that is below/above the desired level, then borrowing and lending can be used to achieve the desired level. Portfolio strategy should be according to the need of each individual investor. Since each portfolio provides an expected return based on a particular level of risk, while constructing portfolios, care should take to ensure that the portfolio does not exceed the risk bearing capacity of the investor. It constructed in such a way that it provide the highest return for a given acceptable level of risk. In an efficient portfolio, there is a straight-line relationship between the expected return and the marginal contribution to portfolio risk. This is true because an investor would include a security. This contributes to increasing the risk of the portfolio as a whole only when it offers higher returns and increases the expected returns of the portfolio.

2.2.2 Review of Related Thesis

Mr. Haripati Lal Shrestha (2004) has undertaken the study "Optimum Portfolio Selection" to the faculty of management, Shanker Dev Campus. This research is based on seven years' period and twenty three numbers of companies: five companies from Bank, five companies from finance, five companies from insurance, four companies each from manufacturing and others. The main objectives of this study are:

- To develop understanding for portfolio investments
- To analyze risk and return, market sensitivity, composition of risk and pricing status of securities.
- To find out the optimal portfolio of security trading in NEPSE.

The researcher has summarized his study by the following findings:

- NABIL and NIBL are the best alternatives for risk lover-investor and risk averter investor respectively and BOK is the most risky asset in the banking sector. NCM and YFC are best alternatives for risk lover and risk averter respectively in finance groups. EICL is the best based on risk return characterize in insurance companies and BNL is the best one in manufacturing companies as regarding to risk and return factor.
- On the basis of underlying risk factor, he concluded that there is high variation on the proportion of systematic risk and unsystematic risk among the sample companies
- Most of investors are risk lover and applying the simple diversification across industry.
- Most of the securities are highly volatile to market and they are aggressive too and
- Although insurance and finance companies' securities are providing good return not only by companies but also by industry. People still prefer banking securities.

Pramila Tuladhar (2002), the study conducted to "A Study on Risk and Return Analysis of Common Stock Investment". The research is based on seven years' period and eleven companies: two companies are selected from each group, which is categorized by NEPSE.

The main objectives of this study are:

- To identify the problems faced by the individual investors in stock market

- To analyze the risk and return of common stock and their portfolio
- To describe risk return variables which affect the decision making on stock investment and
- To find out the past and present state of investment of common stock.

The researcher has summarized his study by the following findings:

- ERR of Nepal Bangaladesh Bank is the highest among each sample and Bishal Bazar Co. has the lowest S.D.
- According to sector- wise comparison, banking has the highest ERR, other sectors have the highest S.D whereas the trading sectors have lowest S.D and others sectors have highest CV than Insurance and Finance sector.

Prakash Kumar Gautam (2005), the study entitled to "Selection of Optimal Portfolio in NEPSE". Researcher has only used one-year data. The objectives of this study were:

- To develop understanding for portfolio investment
- To find out the risk & return variables of securities
- To find out the best portfolio

Researcher has summarized in his findings as:

- Considering the overall return and risk analysis, most of all commercial banks are attractive for the investment. NBB should retain for investment due to its negative Expected Return however. Nabil is the best alternative among all.
- Almost all of the common stocks move in same direction i.e. they are positively correlated.
- The optimal portfolio is that combination of weigh is:

NABIL 62.30%, NLL 22.83%, NLIC 10.43% and BOK 4.44%

Durgamani Sharma (2004), has undertaken the study "Portfolio Management of Listed Commercial Banks and Insurance Companies in Nepal" to the faculty of management.

The main objectives of this study are:

- To explore the portfolio return and risk
- To examine diversifiable and undiversifiable risk and
- The risk and return of the common stock of commercial bank and insurance companies.

Researcher conducted the five years data from F/Y 1998 to F/Y 2002. Researcher was analyzed portfolio of only commercial bank and insurance companies. His analytical research method based on the secondary data provided by institution. This research is prepared as banking and insurance companies' point of view rather than investment in comparison to individual investor.

Researcher concluded that in his findings are:

- The shares of all the commercial banks are attractive for investment based on risk and return.
- The overall market return cannot be regarded as attractive with respect to its risk. The risk per unit of return of market is very high and
- The unsystematic risk of all companies is high in comparison to total risk.

Jagadish Basnet (2002), submitted his thesis to the faculty of Management, Tribhuwan University on the Title of “Portfolio Management of Joint Venture Banks

in Nepal". Jagadish used data of 8 years from 1994 to 2001 AD The main objectives of this research are:

- To find out the situation of the portfolio management
- To evaluate the investment and advances portfolio of joint venture banks in Nepal.

He has summarized that:

- NBBL, JBl, SVBNL, EBL and NBBL was investing very high amount of its fund in government securities. Share and debenture stood in second position in the portfolio investment. SCBNL was least risky assets in market whose beta coefficient is only 0.37. HBL, NBBL and EBL were defensive stock.
- EBL was highly risky assets in comparison of other sample banks.

Researcher was analyzed portfolio by banking industries only. His analytical research method based on the secondary data provided by bank. He only focused on banking sectors. This research is prepared as banking point of view rather than investment in comparison to individual investor. Bases of comparison, investment alternatives and analysis techniques are different to banks.

Basudev Bhattarai (2004), the study entitled to "Investor's Preference in Choice of Financial Instrument in Nepal". The objectives of this research are:

- To explore the decision relating to the choice of financial instruments by independent individual investors and
- To identify the investor's preference in making the choice of financial instrument in the Nepalese context.

Researcher has summarized his findings as:

- Although the Debenture and Preference share are investment alternatives, Debenture and Preference share issued in very few times. Debenture and Preferred stock did not fully subscribed in the past years where as the Debenture of Himalayan Bank was oversubscribed. This denotes that future prosperous and investor are attracting to invest in debt instrument of banks too.
- People are highly interested in corporate securities rather than government securities. Researcher left research part of investment style in according to investment.
- Research provides some basic idea on preference of individual investors concluding portfolio depends on preference of investors.

Roopak Joshi (2002), the study "Investors Problem in Choice of Optimum Portfolio of Stock in Nepal Stock Exchange" to the faculty of Management.

The main objective of this research is:

- To find out the major problems of investor facing in the selection of most profitable stock in NEPSE.

Researcher presented the data of 12 months, fiscal year 2000/01. The study is totally based on secondary data published in NEPSE trading report. Mr. Joshi concluded that portfolio management was new concept for the Nepalese investor.

He pointed out the findings, as:

- Due to the lack of sufficient information, proper investment was not possible. Proper investment needed huge information internal as well as external.
- The stock market in Nepal was also in infant stage only. The only one stock exchange located in Kathmandu. Traditional cry system, limited no of security broker
- lack of opportunity to invest were reason are there, which is acting as barrier of development of NEPSE"
- Mr. Joshi had pointed some problem which is still is in the practice. Researcher had taken only those stocks which are categorized "A". This do not represents actual analysis of available alternatives to invest. Researcher had taken data of only fiscal year.
- Due to the lack of financial tools, only three stock portfolios were constructed and analyzed. Researcher assumed that investor does not know in which stock to invest, how to portfolio constructed and even many stockbrokers do not give information to the investor. Investor are purchasing and selling their stock mostly on the pressure of broker and market whim.
- Due to the lack of information, the decision or purchase and sell of stock are very difficult. It needs special knowledge as well as adequate skills small change in proportion if investment may change the risk and return in very large scale. It is the right of investor to be well informed while making investment.

Researcher forgot to give remedies and sources of information. Researcher had totally based on minimum variance portfolio, which may do not represent actual portfolio itself. The conclusion is valid only for risk averter investors rather than risk lover investor.

Although there are many theses held on the title of portfolio investment and portfolio management, there is still challenging subject to find out the optimum portfolio among the various investment alternatives. Now days, market trend has changed. Financial work force and investors are being rational. In addition, the investment alternatives are increasing. Most of the investors are using only mean variance portfolio model and others, but the analysis tools and techniques are different.

At last, we can say that portfolio management is a dynamic subject matter. The application of optimum portfolio changes according to time, market trend, individual investors, institutional investors, priority and preferences. It is changing in every moment and it is challenging forever. Without proper analysis individual security, industry and overall market, it is almost impossible to beat the stock market. Investment is not a gamble; it is a systematic and scientific way of using excess fund to get maximum return with lowest level of risk. To make an investment decision, it needs lots of information related to assets situation of market, interest rate of bank, government current policies and expected change in policies, tax, laws, rule and regulation as well. Therefore, there should be regular and serious research for portfolio management and optimal portfolio selection process.

CHAPTER - III

RESEARCH METHODOLOGY

This part of the study incorporates the overall research framework having research design, population and sample, sources and technique of data collection, coverage, and method of analysis.

3.1 Research Design

Research design is a brief structure design of strategic investigation conceived to get research objectives. This research is acquainted to examine and find out the problem and possibility of generating the portfolio investment for the public with special reference to financial securities listed in NEPSE. In this study to satisfy the objectives, a descriptive and analytical research design has been adopted. The study is based on historical data and an ex-post facto research because no variables are in the control and no variables in this research is manipulated during the study. Descriptive research design has been used for conceptualization, problem identification, conclusion and suggestion. Analytical research design is used for analyzing the data to find out the result.

3.2 Population and Samples

There is 71 companies listed in NEPSE as Group “A” in NEPSE trading list at 2065/066 and this has been taken as population and among them 17 are taken as sample which are as follows:

Table 3.1

Sample Companies

SN	Category	Sample
	Commercial Banks	5
1	Nabil Bank Ltd.	
2	Himalayan Bank Ltd	
3	Nepal SBI Bank Ltd	
4	Everest Bank Ltd	
5	Bank of Kathmandu Ltd	
	Finance Companies	5
1	NIDC Capital Markets Ltd	
2	Nepal Share Markets Ltd	
3	Citizen Investment Trust	
4	Kathmandu Finance Limited	
5	National Finance Co. Ltd	
	Insurance Companies	5
1	United Insurance Co. (Nepal)Ltd	
2	Everest Insurance Co. Ltd	
3	Premier Insurance Co.Ltd	
4	Alliance Insurance Co. Ltd-	
5	Sagarnatha Insurance Co. Ltd	
	Others	2
1	Nepal Unilever Ltd	
2	Nirdhan Utthan Bank Ltd	
	Total	17

3.3 Nature and Sources of Data

This is study heavily dependent on secondary data. Primary data will also be used as per the need. So, the sources of data are:

a. Primary Data Source

The data collected from the field is the primary data. Primary data collected from primary sources by sample survey. During research period, direct interview and questionnaires, field visit etc held. To identify the problems and prospects of optimum portfolio selection in NEPSE, primary data are collected. Primary sources include the responses of the questionnaires, personal interview with concerned person such as experts, brokers, investors etc. Questions related to major determinants of investment portfolio, investment strategy, systematically management of portfolio, diversification strategy, tools used for analysis risk and return, primary objective for selection of portfolio, period of portfolio revision and about NEPSE has been asked.

b. Secondary Data Source

The data collected from others and made available as published and unpublished statistics are secondary data. Secondary sources of data includes annual reports of SEBON, trading report of NEPSE and sample firms, annual report of NRB, statistical book of Nepal, published and unpublished documents, shareholder report, previous studies, dissertation, articles and foreign related journals as well. Newspaper, magazine, books and other reports such as Arthic Abhiyan, Economic Post, Kantipur, Gorkhapatra and New Business Age etc are useful sources of secondary data. Some other important information has been collected from Internet.

3.4 Data Collection Techniques

Necessary data for this study were collected from various sources, meaning that necessary data were not available in readymade format. Dada manipulated as per research requirements. Only manipulated data used in this research. To manipulate

data first, needed data assessed and second, data are collected and essential are selected, classified and such a way that they represent qualitative and quantitative sight. Primary data and secondary data are collected through Questionnaire survey, Field visit / library research, Internet, homepages and related links study, Review and reports of concerns.

a. Questionnaire Method

To get information about the optimal portfolio selection and its various aspects, questionnaire method has been used. Opened, closed and mixed questionnaire methods are used to collect the data. Yes/ No question, multiple choice question and descriptive questions are designed to get the response.

b. Historical Data Record Method

It is the main sources of the data for this study. Historical data are collected from various reports, shareholder report, annual report of NRB, prospectus of companies and newspaper. Previous data, which were used by other party, are also useful for this study.

3.5 Data Analysis Tools

Data do not represent result except use of analytical tools. In this research various analytical tools from the field of mathematics, statistics and economics were used. They are as follows:

3.5.1 Financial Tools

a. Holding Period Return

Single period return is known as holding period return. A holding period or single period return is simply the total return an investor would earn during the period of holding the securities.HRP consist capital gain as well as dividend gain.

Symbolically,

$$HRP = \frac{\text{Ending Price} - \text{Beginning Price} + D}{\text{Beginning Price}}$$

Where,

HPR= Holding Period Rate of Return

Ending Price= Periodic ending price of the security

Beginning Price= Periodic beginning price of the security

Dividend Received= Dividend received for the period. It may cash as well as stock dividend.

Where,

stock dividend based on the product of stock dividend ratio and next year market price per share (MPS).

i.e. Stock Dividend= Stock Dividend Ratio Next Year MPS

b. Required Rate of Return

The required rate of return is the minimum rate of return that an investor expects. It is a function of real rate of return and risk. The required rate of return is risk premium over the risk free return. It is determined by CAPM.

Symbolically, Required Rate of Return (R_j) = $R_f+(R_m-R_f)\beta_j$

Where,

R_j = Required Rate of Return

R_f = Risk Free Rate of Return

R_m = Market Rate of Return

β_j= Beta coefficient of the security

c. Expected Rate of Return

Expected return is average or weighted average return of an investment alternative during an investment period. Therefore expected rate of return is also considered as standard return. A hypothetical rate of return expected by the investment based on future calculation is expected rate of return. It assumed that history repeats itself. The future cash flow based on the historical cash flow. The expected return will be the average of historical rate of return. In term of holding period return, the expected rate of return for any specific securities is the expected rate of return taken from its historical return.

Symbolically, $E(R_j) = \sum_{tX1}^{n} HPR_j$

Where,

$E(R_j)$ = Expected rate of return of security J

t = Investment period or horizon

HPR_j = Annual holding period return of security J

n = Number of investment horizon

d. Risk on Common Stock

Risk is the deviation between actual and expected performance and outcomes. Risk is product of uncertainty in the return of the stock. Risk measured in tern of standard deviation and variance.

Symbolically,

Standard Deviation of Security J δ_j $X\sqrt{\frac{R_j \; Z E(R_j)^2}{n \; Z1}}$

Variance (Var_j)= δ_j^2

Where,

Var_j = Variance in the return of common stock

R_j = Rate of return of security j

$E(R_j)$ = Expected rate of return

R_f = Risk free rate of return

The most common measure of risk in finance is variance. Standard deviation and variance are equally used equivalent quantitative measure of risk.

e. Market Return

Return of the market is the average return of the all investment opportunity available in the market. Market return is the average taken from the annual market return. Market return is based on the NEPSE index; assumption and limitation taken by NEPSE are key forbidden factors.

Symbolically,

Market Return $\overline{R_m}$ $X\frac{R_m}{n}$

Where,

$\overline{R_m}$ = Expected Rate of Return

R_m= Market rate of return

n = Number of market return

Annual Market Return (R_m) =

$$\frac{\text{NEPSE Index at the end of the year} - \text{NEPSE Index at Beginning of the Year}}{\text{NEPSE Index at Beginning of the Year}}$$

f. Market Risk

Market Risk is the risk as a whole for market measured in term of standard deviation and variance. Variance is the square root of standard deviation.

Symbolically,

Standard Deviation of Market δ_m $X\sqrt{\frac{(R_m \; Z\overline{R_m})^2}{n \; Z1}}$

Variance of Market ($Var_m = ¢_m^2$

Where,

R_m = Market Rate of Return

$\overline{R_m}$ = Expected Market Return

n = No of years

g. Portfolio Return

Return of portfolio is weighted average rate of expected returns of individual assets involved in portfolio. Weights are the proportion of investment made in individual securities by total wealth. In another word, it is obtained from portfolio.

Symbolically,

Portfolio Return (R_p)= $W_1E(R_1)+ W_2E(R_2)+\ldots\ldots\ldots\ldots +W_nE(R_n)$

or, $R_p = \sum_{t=1}^{n} w_j E(R_j)$

Where,

R_p = Return for the portfolio

n=No of securities held in t Portfolio

(R_j) = Expected Rate of Return of stock J

w_j =Portfolio weight for the stock J

For two assets Portfolio Return

Portfolio Return (R_p)= $W_1E(R_1)+ W_2E(R_2)$

h. Portfolio Risk

Risk of portfolio is weighted average individual risk and combined risk of individual securities involved in portfolio. It is denoted by either covariance or correlation. Portfolio risk is the function of individual standard deviation of securities, respective weight and correlation between securities. The portfolio risk for the two assets portfolio will be as follows:

Portfolio Risk $\delta_p = \sqrt{\delta_1^2 w_1^2 + \delta_2^2 w_2^2 + 2r_{12}\delta_1\delta_2 w_1 w_2}$

Variance of portfolio risk (Var_p)= $¢_p^2$

Where,

$¢_p$ = Portfolio Standard Deviation

$¢_1$ = Standard Deviation of Stock 1

$¢_2$ X Standard Deviation of Stock 2

w_1 = Weight for Stock 1

w_2 = Weight for Stock 2

i. Risk Premium

Simply, Risk premium is the difference of market return and risk free rate of return. In another word, it is the deviation or additional return higher than risk free rate which is rewarded for the investor bearing more risk.

Symbolically,

Risk premium = $\{E(R_m)-R_f\}$

Where,

$E(R_m)$= Expected return of market

R_f= Risk free rate of return

j. Beta Coefficient

Beta coefficient is the tendency of a stock to move up and down with the market reflected. So, it is a key element of the CAPM. It tells how much systematic risk has containing by security.

Symbolically,

Beta Coefficient (β_j) = $\frac{Cov_{(j\&m)}}{\delta^2_m}$

Where,

Cov $_{(j\&m)}$= Covariance between the return on investment and the return of the market portfolio.

$¢_m^2$ = Variance of the market portfolio

Classification of Stocks Based on Its Beta Coefficient

1. If beta coefficient is less than 1, the stock is defensive stock which is less risky in comparison to market risk.
2. If beta coefficient is exactly 1, the stock is average stock which is equally risky to market risk.
3. If beta coefficient is greater than 1, the stock is aggressive stock which is less risky in comparison to the market.

k. Systematic Risk

Systematic risk is that part of total risk which is come from market and it is beyond the control of an investor. so it is also known as undiverisifiable risk. In other words, systematic risk is that portion of total variability in return caused by market factors that simultaneously affects the prices of all securities.

Symbolically,

Systematic Risk = $\beta^2_{jm} Var(R_m)$

Where,

$_{jm}$ = Beta coefficient of stock J with market return

$Var(R_m)$ = Variance of market return

The percentage of total risk is measured by the coefficient of determination, which shows how much risk has been increased when per unit change in systematic risk.

Proportion of Systematic Risk = $\frac{\text{Systematic Risk}}{\text{Total Risk}}$

Or Proportion of Systematic Risk = $\frac{\beta^2_{jm} Var(R_m)}{Var(R_m)} = \frac{\beta^2_{jm} Var(R_m)}{\delta^2} = \rho^2_{j\&m}$

l. Unsystematic Risk

It is that part of total risk which is come from internal inefficiency of an organizational activity. It occurs due to problem in industry or company only. This kind of risk is diversifiable risk. Therefore in some extent, it is under the control of an investor.

Symbolically,

Unsystematic Risk = Total Risk – Systematic Risk

Portion of Unsystematic Risk = $\frac{\text{Total Risk} - \text{Systematic Risk}}{\text{Total Risk}}$ $=1- \frac{\beta^2_{jm} Var(R_m)}{Var(R_m)}$

$$=1-\frac{\beta^2_{jm} Var(R_m)}{\delta^2}$$

m. Sharpe Portfolio Performance Measure

Sharpe's index of performance generates one ordinal number that determined by both the risk and the return of the portfolio. It ranks the portfolio return premium over risk free rate on the base of portfolio risk.

Symbolically,

$$S_p = \frac{R_p - R_f}{\delta_p}$$

Where,

S_p= Sharpe's Portfolio Performance Measures

R_P= Return of Portfolio

R_f= Risk free rate of return

δ_p XPortfolio Risk

R_p - R_f is the Risk Premium of portfolio. The risk premium is the additional return over the above risk less rate that paid to induce investor to assume risk.

n. Treynor's Portfolio Performance Measure

Jack Treynor conceived an index of portfolio performance that is based in systematic risk as measured by portfolio Beta. He suggested measuring a portfolio's return relative to its systematic risk rather than relative to its total risk, as does the Sharpe Measure.

Symbolically,

$$T_p = \frac{R_p - R_f}{\beta_p}$$

Where,

T_p = Treynor's Portfolio Performance Measures

R_P= Return of Portfolio

R_f= Risk free rate of return

$_p$ =Portfolio Beta

o. Jensen's Portfolio Performance Measure

The Basic random variables in Jensen's model are risk premium. This is return of portfolio over risk free rate of return.

Symbolically,

$J_p = R_p - R_f$

Where,

J_p= Jensen's Portfolio Performance Measures

R_p= Return of Portfolio

R_f= Risk free rate of return

p. Simple Sharpe Portfolio Optimization

Single index model for optimal portfolio enable to find out optimal portfolio. In this case, the desirability of any stock directly related to its excess return to beta ratio.

Beta Ratio = $\frac{R_j - R_f}{\beta_j}$

Those stocks having negative beta and lower rate of return than risk free rate of return are not eligible to be an investment alternative in this model. Such securities are rejected as the investment alternatives. The number of stocks selected depends on unique Cutoff Rate (C*). All stocks with higher ratios over (C*) are included and all stock with loser ratios excluded in the portfolio.

We can calculate C_j using following formula:

$$C_j \; X \frac{\delta_m^2 \sum_{jXl}^{j} \frac{(R_j \; Z R_f)\beta_j}{\delta_{ej}^2}}{1 \Gamma \delta_m^2 \sum_{jXl}^{j} \frac{\beta_j^2}{\delta_{ei}^2}}$$

Where,

$¢_m^2$ = Variance of Market index

R_j = Expected return of stock J

R_f = Risk free rate of return

$_j$ = Beta of stock J

$¢_{ei}$ = Unsystematic Risk of stock J

q. Calculation of Optimal Weight

Selecting the securities to form portfolio, weights or proportions are to be determined by using following formula:

Weight of Security J (W_j) = $\frac{Z_j}{\sum_{jX1}^{n} Z_j}$

Where,

$Z_j = \frac{\beta_j}{\delta_{ej}}(\frac{R_j \; Z R_f)}{\beta_j} Z C^*)$

C* = Unique Cut off Rate

R_j = Expected return of Stock J

R_f = Risk free rate of return

$_j$ = Beta of stock J

$¢_{ej}$ = Unsystematic Risk of Stock J

Above calculation will enable to find out optimal weight to be invested in each security.

3.5.2 Statistical Tools

a. Standard Deviation and Variance

Standard Deviation is a statistical tool that measures risk from expected rate of returns. The standard deviation represents dispersion of return. It is taken the square root of deviation taken from actual mean of the distribution in sample and variance is square of standard deviation.

Symbolically,

$$\delta_j \; X \sqrt{\frac{R_j \; ZE(R_j)}{n \; Z1}}$$

$$\text{Var } X\delta^2$$

Where,

$¢_j$ = Standard Deviation of Security J

R_j = Annual Rate of Return of Security J

$E(R_j)$ = Expected Rate of Return of Security J

n = Sample Size

b. Coefficient of Variation

The coefficient of variation represents the ratio of the standard deviation to the mean, and it is a useful statistic for comparing the degree of variation from one data series to another, even if the means are drastically different from each other. The relative measure of dispersion based on the standard deviation is known as the coefficient of standard deviation.

Coefficient of Variation (CV) = $\frac{\text{Standard Deviation}}{\text{Mean}} = \frac{\delta}{\bar{X}}$

Two distributions better compared by CV. Less the Coefficient of Variation more will be the uniformity, consistency in distribution and high the Coefficient less the uniformity or consistency in distribution of return.

c. Covariance

Covariance is a measure of how much two variables change together. If two variables tend to vary together (that is, when one of them is above its expected value, then the other variable tends to be above *its* expected value too), then the covariance between the two variables will be positive. On the other hand, when one of them is above its expected value the other variable tends to be *below* its expected value, then the covariance between the two variables will be negative. If two variables are independent, their covariance will zero.

Symbolically,

$$\mathrm{Cov}(_{j\&m})\, X \rho_{j\&m} \delta_j \delta_m$$

d. Correlation Coefficient

Correlation Coefficient is a measure of the relative association between two variables; it describes how much linear co-movement exists between two variables. Correlation between stock J and the market is computes as:

Symbolically,

$$\rho_{j\&m}\ X \frac{XY}{\sqrt{x^2 xy^2}}$$

Where, $x \quad X f_{x_j} Z \overline{x}_j A$
$y_m \; X f_{y_m Z} \overline{y}_m A$

Decision Parameter

- When Correlation is perfectively positive, risk cannot be minimized.
- When Correlation is Zero, a little bit risk can be minimized.
- When Correlation is perfectively negative, all risk or high degree of risk can be minimized.

3.6 Limitation of Methodology

No one research methodology is an exception of some limitation and assumption. So this research also has some limitation and assumption. In addition, it has tried to eliminate such limitation and assumption. Secondary data are collected from the official website of NEPSE, SEBON and SEBON library. Sample is taken from the population is only 17 from population i.e.71. The analysis is based on the theoretical knowledge of subject matter rather than experience. Market variables were not analyzed fully. Reliability, Validity and Accuracy of major findings and conclusion given will be based on sample data. It is assumed that the MPS of next year is closing price of relevant year. The closing price of 2007/08, it is assumed that the closing price of December 4, 2008. In this thesis, portfolio calculated only with two assets with having highly negatively correlated and it is taken as only top five portfolio alternatives according to their CV to evaluate of portfolio performance. It this thesis, graphic presentation hasn't been conducted. Primary analysis has been conducted with only 50 correspondents and only questions related to major determinants of

investment portfolio, investment strategy, systematically management of portfolio, diversification strategy, and tools used for analysis risk and return, primary objective for selection of portfolio, period of portfolio revision and about NEPSE has been asked for the analysis. It is assumed that correlation between the stocks' return above (-0.50) is highly negatively correlated.

CHAPTER - IV

DATA PRESENTAION AND ANALYSIS

This chapter makes systematic presentation and analysis of data. Analysis is based on the data obtained from both primary and secondary sources. Primary source includes mainly the responses to questionnaires and personal interview with investors, experts, officials and other resourceful persons. Similarly, the secondary sources include available annual reports of sample companies, publication of SEBON, NRB, NEPSE, etc. Appropriate statistical as well financial tools as in the research methodology (chapter III) have been used in order to derive actual results from the analysis of data. This is key chapter, as it helps to achieve the objective of the study of the study as mentioned in the first chapter.

This chapter consists of two subsets:

a. Data Presentation and Analysis
b. Major Findings of the Study

4.1 Data Presentation and Analysis of Secondary Data

Regarding the risk and return of security and market, market sensitivity, systematic and unsystematic risk, pricing situation of sample securities, mean variance portfolio model and single index portfolio model, secondary data of samples securities are analyzed in respective orders.

4.1.1 Return and Risk on Securities

The rate of return on a security is a major factor associated with evaluating and selecting an investment. All security-pricing models involve computing the present values of future cash flows the security is expected to pay. For common stocks, cash flows represent periodic cash and stock dividends. For bonds, cash flows represent periodic coupon payments plus the face value of the bond at maturity.

Various methods are available for computing the rate of return on a security. The single-period rate of return is one such measure. This rate is the percentage price appreciation plus the percentage cash return (current yield on a bond; dividend yield on a stock) during a given period. In other word, rate of return on the common stock is the percentage change is the value of the common stock and other incentives received by holding the securities. The rate is typically expressed as an annualized value.

Standard deviation and variance measure associated risk of the securities. Standard deviation and variance both are the measure of uncertainty in the return of securities. Standard deviation is the absolute measure of dispersion of rate of return. The relative measure of dispersion based on the standard deviation is coefficient of standard deviation or coefficient of variation. Coefficient of variation is independent of unit and it can better compare two distributions. Less the coefficient of variation more will be the uniformity, consistency in distribution and high the coefficient less the uniformity or consistency in distribution of return.

Following subheadings make analysis of these all in sample companies:

a. Banks

Bank is that financial institution which is to deal in money and credit. It is the service-oriented organization, meaning that it has no any tangible product to sell except its service. In thesis, there are five commercial banks and one development bank. The return of banking sector is attractive, so the people are more interested in this sector. Most of the people make dominating investment is banking. The expected rate of return of the banking sector is 54.92 percentages which is not bad in this situation. Tabulated Return, Risk and CV of selected Banks are as follows:

Table 4.1

Return, Risk and CV of Banks

Banks	**Return(Rj)%**	**S.D (δ)%**	**Var (δ2)%**	**CV**
NABIL	62.15	4.98	24.81	0.0801
HBL	50.38	2.48	6.16	0.0492
SBI	57.63	4.62	21.41	0.0802
EBL	47.38	4.58	20.47	0.0967
BOK	57.07	3.78	14.26	0.0662

Source: Appendix

Table 4.1 is an analysis of the shares' return, risk and CV of different banks. According to the returns' perspective, the share of NABIL is providing highest rate of return among the sample i.e. 62.15% return on its common stock and EBL is providing lowest return among the sample one. The return of banking industry ranged from 47.38% to 62.15%, which shows that the returns of different companies are different which are attractive. Based on return, NABIL is the best security.

The risk factor of the banking sector is also high. The table 4.1 also shows that NABIL is the high risky assets in comparisons to others and HBL is the low risky asset which has 4.98% & 2.48% of standard deviation.

Coefficient of variation is the best measure to make investment decision rather than taking decision based on risk and return separately. The HBL is the best security, which has lowest i.e.0.0492 CV than others. It defines that one unit change in risk of HBL will change 0.0492 unit change in the return of HBL. For the risk seeker investor EBL is the best alternative because it has higher CV and for risk averter HBL is the best security to invest because it has lowest CV.

b. Finance Companies

Finance companies come under non-banking financial intuitions. They lead non-banking financial activities i.e. mobilize the saving from different scattered savers, operates different time deposit scheme, provides loan for investment. Finance companies are also proving highest expected rate of return than other sample companies i.e. other sector. The average expected rate of return of financial sector is 98.77 percentages which is higher return in comparison to other sectors. Tabulated Return, Risk and CV of selected finance companies are as follows:

Table 4.2

Return, Risk and CV of Finance companies

Finance Co.	Return(Rj)%	Var ((δ2)%	S.D (δ)%	CV
NIDC	166.33	299.08	17.3	0.1040
NSM	128.14	254.9	15.97	0.1246
KFL	56.41	96.85	9.84	0.1744
CIT	64.77	12.41	3.52	0.0543
NFC	78.2	146.17	12.09	0.1546

Source: Appendix

Table 4.2 is an analysis of the shares' return, risk and CV of different finance companies. It shows that finance companies are also providing higher return for public. Although the finance companies are providing higher return than the banks, people are still dominated by the banking securities. Among them, NIDC is the best security based on return parameter and KFL is not good**,** which has given lowest return. On the other hand, the variance and standard deviation of NIDC, NSM, KFL, CIT and NFC are based on risk factor, Variance and Standard Deviation of NIDC is high, it means it is a riskiest security in comparison to others shares. In addition, CIT is less risky asset than other securities.

The decision taken on the base of risk and return separately is not rational decision coefficient of variation is the best measure to make investment decision. CV defines that one unit change in risk will change 0.1040, 0.1246, 0.1744, 0.0543 and 0.1546 unit change in the return of NIDC, NSM, KFL, CIT and NFC respectively. CIT is the best security based on CV of finance company is compensating the return accordance to degree of risk associated, which has 0.0543 units. However, KFL has lowest return and highest risk in comparison to other securities. For the risk lover investor, KFL is

best alternative because it has highest CV i.e.0.1744 and CIT is the best for risk averters because it has low CV i.e.0.0543.

c. Insurance Companies

Now days, insurance has become a part of life. It has also become a prosperous business and taken an important place in every nation. Different types of insurance developed as requirement of advance society. Insurance companies bear risk factor on behalf of its customer for nominal amount of premium. The expected average expected rate of return of insurance companies is 26.48 which are not bad in this situation. Tabulated Return, Risk and CV of selected Insurance Companies are as follows:

Table 4.3

Return, Risk and CV of Finance Companies

Insurance Co.	Return(Rj)%	Var ((δ2)%	S.D (δ)%	CV
UIC	35.22	11.02	3.32	0.0943
EIC	10.79	3.82	1.95	0.1807
PIC	42.44	48.69	6.98	0.1645
AIC	20.52	9.09	3.02	0.1472
SIC	24.44	1.36	1.17	0.0499

Source: Appendix

Table 4.3 is analysis of the shares' return, risk and CV of different insurance companies. It shows that, the stock of PIC Insurance is providing highest rate of return and EBL Insurance is providing lowest rate of return among the sample i.e. 42.44% and 10.79% respectively. Based on expected rate of return, PIC is the best security in comparison to other sample. The above table shows that the PIC is riskiest security, which has given highest standard deviation and variance. However, SIC is

less risky security based on standard deviation and variance. The stock of PIC Insurance has highest rate of return and high risk.

Above table 4.3 further shows that CV of SIC is lowest among the sample securities, which defines one unit change in risk of the SIC will change 0.0499 units in return of it. The best security in the insurance companies is SIC based on CV parameter because it has lowest CV. SIC is the best for risk averters and EBL Insurance is the best for risk lover investors which has highest per unit risk i.e. CV.

d. Others

One development bank i.e. Nirdhan Utthan Bank and one manufacturing company i.e. Uniliver Limited is taken as others. Development banks are establishing only for the development for the nation and manufacturing companies purchase raw material from market, process then combining various factors of production, produces finished good, and send them to the market for sell. The average expected rate of return of these companies is 38.74. Tabulated Return, Risk and CV of selected Companies in this category are as follows:

Table 4.4

Return, Risk and CV of Finance companies

Companies	Return(Rj)%	Var ((δ2)%	S.D (δ)%	CV
UNL	45.94	5.35	2.31	0.0503
NUBL	31.53	10.03	4.17	0.1005

Source: Appendix

Table 4.4 shows that the expected rates of return of above companies are satisfactory. Based on Return parameter, UNL is best between these two companies, which has providing highest expected return i.e.45.94percentage. Based on risk factor UNL is

the riskiest security than NUBL. It means the stock of UNL has higher rate of return and high standard deviation and variance.

The coefficient of variation of UNL is also lower than NUBL i.e. 0.0503 which shows that one unit change in risk of UNL will change 0.0503 unit change in the return. The stock of UNL is best for every aspect i.e. Return, Standard deviation, Variance and CV because it has higher return and lower risk.

4.1.2 Market Risk and Return

This research is limited to stocks from Group-A listed in NEPSE. It also has limited that the return of the market in NEPSE Return, which is the portfolio, return of NEPSE. The NEPSE index of the study period is:

Table 4.5

NEPSE Index of Research Period

Years	CP	R_m
2003/05	222.04	
2004/05	286.67	29.11%
2005/06	300.05	4.67%
2006/07	683.95	127.95%
2007/08	758.08	10.84%

Source: Appendix

Above Table 4.5 shows, that NEPSE index ranged from 222.04 to 758.08 during the research period. The index i.e. closing price in an increasing trend but ratio of increment is not stable. The return in first i.e. 2004/05 Year was 29.11%, but in second i.e. 2005/06 Year, the return was increased but not in same ratio i.e. only 4.67%. The rate of return was increased up to 127.95% in year 3rd i.e. 2006/07 that

was almost 27.5 times more than previous year. However, in last i.e. current 2007/08 decreased by 11.08 times but not in negative due global crisis. The market was bull market at the middle of the study period, where the market price of the stock and NEPSE index was gradually increasing but in the end of the study period it has found that the market changed to bear market. The tabulated expected market return, risk and coefficient of variation are as follows:

Table 4.6

Return, Risk and CV of NEPSE i.e. Market

Expected Return (Rm)%	Variance %	Standard Deviation %	Coefficient of Variation
43.14	33.04	5.75	0.1333

Source: Appendix

Above table 4.6 clearly shows that the expected market return is 43.14% whereas the market standard deviation is only 5.75% and coefficient of variation is 0.1333 i.e. 13.33 times. The CV tells that per unit change in risk of market will change 0.1333 units change in return of the market.

4.1.3 Beta Coefficient

The Beta Coefficient is a concept taken from the popular Capital Asset Pricing Model that describes an individual asset's risk as compared to the overall market. It is a key element of the CAPM. Individual stock classified as aggressive or defensive of average on the beta coefficient. It measures how much the particular asset moves in relation to a broader index.

a. Beta of Banks

The correlation of individual banking securities of banking with the market is positive in all security. The correlation of NABIL, HBL, SBI, and EBL & BOK are 0.9100, 0.9212, 0.3457, 0.3828 & 0.1220 respectively. It clearly shows that the securities of NABIL & HBL are perfectively positively correlated with the market.

The beta of NABIL, HBL, SBI, and EBL & BOK are 0.5915, 0.2985, 0.2087, 0.2287 & .0601 respectively. The betas of all securities are lower than the beta of market. It shows that all securities are defensive stocks.

b. Beta of Finance Companies

The correlation of individual securities of finance companies with the market is positive in all security except NCM & KFL. The correlation of NIDC, NCM, CIT, KFL & NFC are 0.0015, -0.1423, 0.7040, -0.1090 & 0.0174 respectively. It means the security of CIT is perfectively positively correlated with market. The security of NIDC is positively correlated and others are negatively correlated with the market.

The betas of NIDC, NCM, CIT, KFL & NFC are 0.0034, -0.2964, 0.1836, -0.1400&0.0274 respectively. The betas of all security of finance companies are also lower than the beta of market. Therefore, these all securities are defensive stocks.

c. Beta of Insurance Companies

The correlation of individual securities of finance companies with the market is negative in all security except UIC. The correlation of UIC, EIC, PIC, AIC & SIC are 0.8159, -0.5774, -0.1613, -0.2412 & -0.9472 respectively. It clearly shows that security of UIC is perfectly positively correlated, Security of SIC is perfectively negatively correlated, security of EIC is perfectively positive correlated and others are negatively correlated with the market.

The beta of UIC, EIC, PIC, AIC & SIC are 0.3534, -0.1473, -0.2418, 0.3294 & -0.1443 respectively. The beta of all securities is lower than the market beta. So all the stock are defensive.

d. Beta of Other Companies

The correlation individual security of UNL & NUBL with market is negative and positive respectively. The correlation of UNL & NUBL is -0.1498 & 0.0802 respectively. It shows that security of UNL is negatively correlated and the security of NUBL is positively correlated with the market.

The betas of UNL & NUBL are -0.0149 & 0.0109 respectively, which are lower than the market beta so they are defensive stocks.

4.1.4 Systematic Risk and Unsystematic Risk of Securities

The risk inherent to the entire market or entire market segment is systematic risk. It is also also known as "un-diversifiable risk" or "market risk." In addition, Company or industry specific risk that is inherent in each investment. The amount of unsystematic risk can be reduced through appropriate diversification. It is also known as "specific risk", "diversifiable risk" or "residual risk".

a. Systematic Risk and Unsystematic Risk of Banks

Table 4.7

Systematic Risk & its Proportion and Unsystematic Risk & its Portion

Banks	Systematic Risk	Portion of SR	Unsystematic Risk	Portion of USR

NABIL	0.1156	46.59%	0.1325	54.41%
HBL	0.0294	47.80%	0.0322	52.20%
SBI	0.0144	6.72%	0.1997	94.28%
EBL	0.0173	8.24%	0.1924	91.76%
BOK	0.0012	0.84%	0.1414	99.16%

Source: Appendix

Above table 4.7 shows that NABIL has the highest systematic risk i.e. 0.1156 And BOK has the lowest systematic risk i.e. 0.0012. SBI has highest unsystematic risk i.e. 0.1997 And HBL has the lowest unsystematic risk i.e. 0.0322.

Portion of systematic risk cannot be diversifiable but the remaining portion of risk i.e. portion of unsystematic risk can be eliminated from the total risk. The risk of BOK can be eliminated by 99.16% this denotes that all the risk of this bank can be diversifiable i.e. unsystematic risk, which has come from internal inefficiency, meaning that the risk of BOK is not caused by market failure. The HBL has highest portion of systematic risk i.e. undiversifiale by 47.80% which we cannot eliminate which has come from external environment.

b. Systematic Risk and Unsystematic Risk of Finance companies

Table 4.8

Systematic risk & its Proportion and Unsystematic Risk & its Portion

Finance Companies	Systematic Risk	Portion of Systematic Risk	Unsystematic Risk	Portion of Unsystematic Risk
NIDC	0.000	0%	2.9908	100%
NCM	0.0290	1.14%	2.5200	98.86%
CIT	0.0111	8.98%	0.1130	91.02%
KFL	0.0065	0.67%	0.9620	99.33%
NFC	0.0002	0.20%	1.4615	99.98%

Source: Appendix

In Table 4.8, it shows that most of all finance companies have high degree of unsystematic risk and low degree of systematic risk with comparison to other sectors i.e. Banks, Insurance companies and other companies. It mean in some extent investors can eliminate risk fully because such type of high degree of unsystematic risk come from internal environment of the organization. NIDC has no systematic risk and NCM has highest degree of systematic risk i.e. 0.0290. NIDC has highest degree of unsystematic risk i.e. 2.9908 and CIT has lowest unsystematic risk.

It also shows that the portions of systematic risk of these sample companies are comparatively lower than other companies. These percentages of risk cannot be diversifiable from the total risk. CIT has the highest portion of market risk i.e. 8.98%, which cannot eliminate and NIDC has not any market risk. NCF has highest portion of unsystematic risk i.e. 99.98%, this can be eliminated fully. It means the portions of unsystematic risk of these companies are higher than other sectors and which is due to the companies' internal inefficiency. So, in some extent it is under the control of an investor.

c. Systematic Risk and Unsystematic Risk of Insurance Companies

Table 4.9

Systematic Risk & its Proportion and Unsystematic Risk & its Portion

Insurance Companies	Systematic Risk	Portion of Systematic Risk	Unsystematic Risk	Portion of Unsystematic Risk
UIC	0.0413	37.44%	0.0689	62.56%
EIC	0.0072	18.76%	0.0310	81.24%
PIC	0.0193	3.97%	0.4676	96.03%
AIC	0.0359	39.45%	0.0550	60.55%
SIC	0.0069	50.62%	0.0067	49.38%

Source: Appendix

The above table 4.9 clearly shows that, UIC and PIC have highest degree of systematic risk i.e. 0.0413 & unsystematic 0.4676n risk respectively.

The portion of systematic risk of stock SIC has highest i.e. 50.62% which cannot be eliminated by the investors because this type of risk come from market or external environment. This percentage of risk in total risk is unavoidable but the remaining portion of total risk can be diversifiable from the total risk. PIC has highest portion of that avoidable risk i.e. 96.03% which is the control of an organization. So good management of the organization can eliminate it

d. Systematic Risk and Unsystematic Risk of others companies

Table 4.10

Systematic Risk & its Proportion and Unsystematic Risk & its Portion

Other Companies	Systematic Risk	Portion of Systematic Risk	Unsystematic Risk	Portion of Unsystematic Risk
UNL	0.00007	1.26%	0.0528	98.74%
NUBL	0.0004	0.36%	0.0999	99.64%

Source: Appendix

In table 4.10 shows that NUBL and UNL, both have very low systematic risk but NUBL has higher unsystematic risk than UNL.

It also shows that the portion of systematic risk of UNL is higher i.e. 1.26% than NUBL but the portion of unsystematic risk of NUBL is higher i.e. 99.64% than UNL. This higher portion of unsystematic risk of NUBL can be avoidable by the performance of organization. However, the higher portion of systematic risk of UNL is out of control of an organization.

4.1.5 Pricing of the Securities

An investor can find out the assets' pricing status by comparing its expected rate return with its required rate of return. It means either they are overpriced, underpriced or equilibrium price. According to this pricing status, investor can choose the assets to invest.

Parameter to find out whether the asset is overpriced underpriced or equilibrium:

1. If required rate of return is higher than expected rate of return, the security is overpriced. In this situation, decision is sell or short sell.
2. If required rate of return is lower than expected rate of return, the security is underpriced. In this situation, decision is purchase
3. If required rate of return and expected rate of return are same, the security is equilibrium priced. In this situation, decision is neither sell nor purchase.

a. Pricing Situation of Banks

The required rate of return and expected rate of return of NABIL, HBL, SBI, EBL & BOK are (27.14%, 62.15%), (15.67%, 50.38%), (12.15%, 57.63%), (12.94%, 47.38%) & (6.33%, 57.07%) respectively. It seems that the expected rates of returns of all security are higher than the required rate of return. It denotes that holder of the security is ready to pay its current price at his required rate of return. Generally, in such cases investors purchase the security and hold it for long term, it means investor should apply purchasing strategy.

b. Pricing situation of Finance Companies

The required rate of return and expected rate of return of NIDC, NCM, CIT, KFL & NFC are (4.11%, 166.33%), (-7.63%, 128.14%), (-11.17%, 64.77%), (-1.5%, 56.41%) & (5.05%, 78.20%) respectively. It has seen clearly that the expected rate of returns of all finance companies is higher than the required rate of return. It denotes that the investor who is holding the security is ready to pay its current prices at his required rate of return. In this situation, investors purchase the security and hold it for a long time. Moreover, it has seen that if a security is paying more return than expectation,

purchase and holding strategy should apply. It is true that the price of such kind of underpriced security would increase in future.

c. Pricing situation of Insurance Companies

The required rate of return and expected rate of return of UIC, EIC, PIC, AIC & SIC are (17.82%, 35.22%), (-1.79%, 10.79%), (-5.49%, 42.44%), (16.88%, 20.52%) & (9.53%, 24.44%) respectively. In the above figures, the expected rates of return of all insurance companies are higher than the required rate of return. It denotes that the prices of insurance companies are under priced. Therefore, the holder of security is ready to pay its current price at his required rate of return because the price of such share will increase in future.

d. Pricing Situation of Other Companies

The required rate of return and expected rate of return of UNL & NUBL are (2.21%, 45.94%) & (5.28%, 31.53%) respectively. It is known that from the above figure the expected rate of return of UNL & NUBL are higher than the required rate of return which indicates that the price of both securities are underpriced. Therefore, it will be better to purchase such type of security and hold for a long time. It is clearly seen that if a security is paying more than the expectation, investor hold the security. If someone offers good value for that security, then only investors will sell those securities.

4.1.6 Portfolio Calculation of Two Assets

With the limitation of highly negatively correlated securities only, following of two assets portfolios are selected as the negatively correlated securities. It has assumed

that if correlation is more than 50 in negative, it considers as highly negatively correlated which are as followings:

Table 4.11

Highly Negatively Correlated Securities

Set	Negative Correlation	Correlation	Remark
1	Correlation NABIL & NCM	-0.5177	Highly negatively correlated
2	Correlation NABIL & PIC	-0.5417	Highly negatively correlated
3	Correlation NABIL & AIC	-0.6204	Highly negatively correlated
4	Correlation NABIL & SIC	-0.8948	Highly negatively correlated
5	Correlation HBL & SUC	-0.7586	Highly negatively correlated
6	Correlation EBL & NIDC	-0.6862	Highly negatively correlated
7	Correlation EBL & NCM	-0.7412	Highly negatively correlated
8	Correlation EBL & KFL	-0.6251	Highly negatively correlated
9	Correlation EBL & NFC	-0.6481	Highly negatively correlated
10	Correlation EBL & PIC	-0.7843	Highly negatively correlated
11	Correlation EBL & AIC	-0.9467	Highly negatively correlated
12	Correlation EBL & NUBL	-0.7112	Highly negatively correlated
13	Correlation BOK & NIDC	-0.7846	Highly negatively correlated
14	Correlation BOK & NCM	-0.8009	Highly negatively correlated
15	Correlation BOK& KFL	-0.6945	Highly negatively correlated
16	Correlation BOK & NFC	-0.7509	Highly negatively correlated
17	Correlation BOK & PIC	-0.8379	Highly negatively correlated
18	Correlation BOK & AIC	-0.9663	Highly negatively correlated
19	Correlation BOK & NUBL	-0.8283	Highly negatively correlated
20	Correlation UIC & EIC	-0.5949	Highly negatively correlated
21	Correlation UIC & SIC	-0.7195	Highly negatively correlated
22	Correlation AIC & UNL	-0.5866	Highly negatively correlated

Source: Appendix

Calculation of Two Assets Portfolio

To find out the best two assets portfolio, investors have to find out the respective weight of those two assets. By using this formula, investor can find out the weight of assets.

Table 4.12

Return, Risk, and CV of Portfolio and Weight of Individual Security in Portfolio

Set	Portfolio	Correlation	Rp	S.D	CV	W1	W2
A	NABIL & NCM	-0.5177	103.87%	11.16%	0.1074	37%	63%
B	NABIL & PIC	-0.5417	55.48%	4.99%	0.0899	66%	34%
C	NABIL & AIC	-0.6204	31.74%	4.22%	0.1014	27%	73%
D	NABIL & SIC	-0.8948	25.52%	1.35%	0.0529	5%	95%
E	HBL & SIC	-0.7586	28.36%	1.33%	0.0469	18%	82%
F	EBL & NIDC	-0.6862	55.50%	5.14%	0.0926	93%	7%
G	EBL & NCM	-0.7412	95.22%	10.92%	0.1147	41%	59%
H	EBL & KFL	-0.6251	49.00%	5.05%	0.1031	82%	18%
I	EBL & NFC	-0.6481	51.30%	5.13%	0.1000	87%	13%
J	EBL & PIC	-0.7843	45.89%	5.02%	0.1094	70%	30%
K	EBL & AIC	-0.9467	28.69%	4.45%	0.1203	30%	70%
L	EBL & NUBL	-0.7112	36.68%	3.36%	0.0916	32%	68%
M	BOK & NIDC	-0.7846	62.21%	4.27%	0.0686	95%	5%
N	BOK & NCM	-0.8009	92.61%	9.57%	0.1033	50%	50%
O	BOK& KFL	-0.6945	56.95%	4.51%	0.0792	82%	18%
P	BOK & NFC	-0.7509	58.98%	4.32%	0.0732	91%	9%
Q	BOK & PIC	-0.8379	53.73%	4.34%	0.0808	77%	23%
R	BOK & AIC	-0.9663	34.79%	4.29%	0.0946	39%	61%
S	BOK & NUBL	-0.8283	42.09%	4.27%	0.0777	41%	59%
T	UIC & EIC	-0.5949	17.11%	2.07%	0.1210	26%	74%
U	UIC & SIC	-0.7195	24.75%	1.33%	0.0537	11%	89%
V	AIC & UNL	-0.5866	36.50%	2.30%	0.0630	37%	63%

Source: Appendix

In table 4.12, it shows that the range of portfolio return is between 17.11% to 103.87% with the associated risk of portfolio with 2.07% and 11.16% by the portfolio of NABIL & NCM and UIC & EIC respectively. The expected portfolio rate of return of the portfolio set A i.e. combination of NABIL & NCM is highest among the other sets. The optimum weight in this case will be 37% of NABIL and 63% of NCM. On the basis of return, this set A is best for the investment. But the decision only on the basis of return may not be wise always because the risk associated with the return. Portfolio selection depends on the individual aptitude. If investors are ready to bear high risk the portfolio A is attractive for him because this portfolio is yielding high return. On the basis of risk i.e. standard deviation, the portfolio set E and U i.e. the combination of HBL & SIC and UIC & SIC respectively has the same standard deviation i.e. 1.33% which contradicts to the portfolio set A. because of the unequal expected return, the risk is also not the factor upon which the decision should made. So the CV, the ratio of risk per unit to return is the best measure for the investment decision. According to the above table, portfolio E has the lowest CV i.e. 0.0469. So the portfolio set i.e. E is the optimal portfolio set for those investor who prefer minimum risk which is paying low return comparatively with set A, which is the combination of HBL & SIC having 18 % and 82% weight respectively. If an investor invests in this set, he will get the return up to 28.36% and risk of return can be reduced up to 1.33%. in this situation, investors can eliminate risk by portfolio.

This thesis has been taken top five portfolio alternatives according to their CV to evaluation of portfolio performance that is tabulated below:

Portfolio Alternatives

Table 4.13

Selected Top Five Portfolios

Set	Five Top Portfolios	Rank
E	HBL & SIC	1
U	UIC & SIC	2
D	NABIL & SIC	3
T	UIC & EIC	4
V	AIC & UNL	5

4.1.7 Portfolio Performance Evaluation

After, investing in the securities, investor can makes review and analysis whether the investment that it is making is good or not is known as investment performance evaluation. There are different tools and techniques used for evaluating portfolio performance evaluation. For the evaluation of the portfolio performance, it is taken selected 5 portfolios from table 4.13. The calculation of performance evaluation is followings:

a. Sharpe's Portfolio Performance Evaluation

Its measures the amount of risk premium compensated for a level of risk for portfolio. The risk premium is the additional return over risk free rate risk premium paid to induce the investor for assuming risk over market risk. In assessing the performance, it is necessary to consider both risk and return. That portfolio is preferred better one, which has higher Sharpe ratio as followings:

Table 4.14
Sharpe’s Portfolio Performance Evaluation

Set	Portfolio	RP	RF	δp	Sp	Rank
E	HBL & SIC	0.2836	0.0595	0.0133	16.8496	1
U	UIC & SIC	0.2475	0.0595	0.0133	14.1353	3
D	NABIL & SIC	0.2552	0.0595	0.0135	14.4963	2
T	UIC & EIC	0.1711	0.0595	0.0207	5.3913	5
V	AIC & UNL	0.365	0.0595	0.023	14.2826	4

Source: Appendix

With the help of Sharpe's performance measure i.e. from table 4.14; it concluded that the two assets portfolio of HBL & SIC is the best portfolio. Above figure clearly shows that set U i.e. the combination of UIC & SIC is the 2nd best, Set D i.e. combination of NABIL & SIC is 3rd, Set T and V are the 4th and 5th best portfolio respectively according this measurement.

b. Treynor's Portfolio Performance Evaluation

It is based on systematic risk as measured by portfolio beta. Treynor's believes that investors can manage the systematic part of risk so it should be focused on unmanageable risk such as systematic risk. Higher the Treynor's index is better for portfolio performance.

Table 4.15
Treynor's Portfolio Performance Evaluation

Set	Portfolio	RP	RF	βp	Tp	Rank
E	HBL & SIC	0.2836	0.0595	0.1725	1.2991	2
U	UIC & SIC	0.2475	0.0595	0.1676	1.1217	4
D	NABIL & SIC	0.2552	0.0595	0.1683	1.1628	3
T	UIC & EIC	0.1711	0.0595	-0.0178	-6.2697	5
V	AIC & UNL	0.365	0.0595	0.0939	4.2535	1

Source: Appendix

Assuming portfolio sets by Treynor's portfolio performance measure i.e. from table 4.15, it concluded that two assets portfolio of AIC & UNL i.e. set V is the best portfolio. The second, third, fourth and fifth best portfolios are set E i.e. Portfolio

HBL & SIC, set D i.e. portfolio NABIL & SIC, set U i.e. UIC & SIC and set V i.e. UIC & EIC respectively.

c. Jensen's Portfolio Performance Evaluation

It is simply different between expected rate of return and required rate of return for portfolio.

Table 4.16

Jensen's Portfolio Performance Evaluation

Set	Portfolio	RP	βp	Rq	Jp	Rank
E	HBL & SIC	0.2836	0.1725	0.1071	0.1765	2
U	UIC & SIC	0.2475	0.1676	0.1052	0.1423	4
D	NABIL & SIC	0.2552	0.1683	0.1055	0.1497	3
T	UIC & EIC	0.1711	-0.0178	0.0325	0.1386	5
V	AIC & UNL	0.365	0.0939	0.0763	0.2887	1

Source: Appendix

According to Jensen's portfolio performance evaluation i.e. from table 4.16, it concluded that the two assets portfolio of AIC & UNL i.e. set V is the best portfolio. Two assets portfolio of HBL & SIC, NABIL & SIC, UIC & SIC and UIC & EIC are best portfolio in chronological order.

4.1.8 Single Sharpe Portfolio Optimization

Using the different weights, investor can construct different portfolio sets but no one can be satisfied with those sets because in this manner investor can construct dozen of such sets. That’s why researcher pays his attention to the single index model. Desirability of any stock in portfolio directly related excess return to beta ratio. If stocks ranked by excess return to beta for highest to lowest, the ranking represents the desirability of any stock's inclusion in a portfolio. The no of stocks selected depends

on a unique cutoff rate such that all stocks with higher ratios will be included and all stocks with lower ratios excluded.

Calculation of Beta Ratio to Return

Table 4.17

Beta Ratio

Security	Beta	Return	Risk free Return	$\frac{(R_j - R_f)}{\beta_j}$
NABIL	0.5915	0.6215	0.0398	0.9834
HBL	0.2985	0.5038	0.0398	1.5544
SBI	0.2087	0.5763	0.0398	2.5707
EBL	0.2287	0.4738	0.0398	1.8977
BOK	0.0601	0.5707	0.0398	8.8336
NIDC	0.0034	1.6633	0.0398	477.5000
NCM	**-0.2964**	1.2814	0.0398	-4.1889
CIT	0.1836	0.6477	0.0398	3.3110
KFL	**-0.1400**	0.5641	0.0398	-3.7450
NFC	0.0274	0.782	0.0398	27.0876
UIC	0.3534	0.3522	0.0398	0.8840
EIC	**-0.1473**	0.1079	0.0398	-0.4623
PIC	**-0.2418**	0.4244	0.0398	-1.5906
AIC	0.3294	0.2052	0.0398	0.5021
SIC	0.1443	0.2344	0.0398	1.3486
UNL	**-0.0452**	0.4594	0.0398	-9.2832
NUBL	0.0331	0.3153	0.0398	8.3233

Source: Appendix

In table 4.17, the betas of the stock NCM, KFL, EIC, PIC & UNL are negative which indicate that these securities are not linear to market. So these securities cannot be the element of portfolio of single index portfolio optimization. So investor should eliminate such type of securities having negative beta from the portfolio alternative. To find our which stocks are to be included first, ranking of securities from top to bottom position having highest excess return to beta ratio. Second, cut off rate should

be calculated. The value of cut off (C*) rate computed from risk and return characteristics of securities determines the security of optimum portfolio. Third we have to determine Cj by using formula. After getting Cj of the all securities, investors select highest Cj value that is C* among all the securities, then C*compared with each value of beta ratio of each security. Only those securities having higher value then C* were selected.

Table 4.18
Cut Off Rate (C*)

Security	**USR(ei)**	$\frac{(R_i-R_f)}{\beta_i}$	$\frac{(R_i-R_f)\beta_i}{ei^2}$	$\frac{\beta_i^2}{ei^2}$	$\sum\frac{(R_i-R_f)\beta_i}{ei^2}$	$\sum\frac{\beta_i^2}{ei^2}$	**Cj**
NABIL	0.1325	0.9834	19.5985	0.3499	19.5985	0.3487	5.8064
HBL	0.0322	1.5544	133.5828	0.0891	153.1813	0.439	44.2001
SBI	0.1997	2.5707	2.8076	0.0436	155.9889	0.4825	44.4522
EBL	0.1924	1.8977	2.6813	0.0523	158.6702	0.5348	44.5523
BOK	0.1414	8.8336	1.5958	0.0036	160.2660	0.5384	44.9550
NIDC	2.9908	**477.5000**	0.0006	0.0000	160.2666	0.5385	44.9539
CIT	0.1130	3.3110	8.7407	0.0337	169.0072	0.5722	46.9616
NFC	1.4615	27.0876	0.0095	0.0008	169.0169	0.5729	46.9552
UIC	0.0689	0.8840	24.2562	0.1249	192.2731	0.6978	51.6248
AIC	0.0550	0.5021	18.0108	0.1085	210.2839	0.8063	54.8624
SIC	0.0067	1.3486	625.5464	0.0208	835.8304	0.8271	216.8884
NUBL	0.0999	8.3233	0.9137	0.0011	836.7441	0.8282	**217.0636**

Source: Appendix

The selected only one security is the best security for the investment. NIDC is only one security which is the best according to single Sharpe's model which has shown in table 4.18, is given 166.33% of expected rate of return having 299.08% of total risk i.e. Var., 17.30% S.D, and 0.10 of CV.

4.2 Primary Data Analysis

4.2.1 Determinant of Investment Portfolio

Every investment entails some degree of risk. So it is called a rational process. That is why an investor should go through the analysis of investment determinants while making investment. The determinants of investment may vary according to individual perception. Regarding the determinants of investment in portfolio, respondent was asked about these key determinants. Response of investment determinant is:

Table 4.19

Determinant of Investment Portfolio

S.N	Determinants	Marked	Percentage
1	Risk and Return	50	100%
2	Demand and supply	50	100%
3	Market Trend	48	96%
4	Investment objectives	45	90%
5	Time horizon	37	74%
6	Investment strategies	35	70%
7	Confidence	28	56%
8	Income	19	38%
9	Liquidity	12	24%
10	Taxes and Total Wealth	6	12%

Source: Appendix

The response in table 4.19 clearly shows that risk & return and demand & supply are the measure determinants agreed by 100% respondents. Market trend, investment objectives, time horizon and investment strategies are the other key determinants. Majority of investor take these determinants in consideration while making investment portfolio and rest are general determinants of investment portfolio.

4.2.2 Investment Strategy

To know the investors' strategy on their investment, following questions were surveyed. The responses of respondents are as below:

Table 4.20

Investment Strategy

Investment Strategy	Marked	Percentage
Passive	3	**6%**
Active	47	**94%**
Sample Size	**50**	**100%**

Source: Appendix

Table 4.20 shows that out of 50 respondents, only 3 respondents are supported to passive strategy and the majority of people attracted in active strategy. Among 94% represents are maintaining active strategy in their investment portfolio.

4.2.3 Systematic Management of Portfolio Investment

Investment is a scientific as well as systematic way of value maximizing. So, in this research, Researcher tried to find out the investor rationalities in scientific management in their portfolio investment. Regarding the systematic management of portfolio following response obtained from the respondents. Responses were tabulated as below:

Table 4.21
Systematic Management of Portfolio Investment

Response	Marked	Percentage
Yes	43	86%
No	3	6%
Do not know	4	8%
Sample Size	50	100%

Source: Appendix

The figure of table 4.21 clearly shows that, most of the respondents are systematically managing their portfolio and they believe their investment is systematic and they are

serious on their portfolio investment. Out of 50 respondents, 3 & 4 respondents answered 'No' & 'do not know' respectively. Some of them replied that they don’t manage their portfolio systematically and some of them don’t know about what is mean by systematic management.

4.2.4 Diversification Strategy

Diversification of portfolio helps to minimize the risk from the investment. In this survey, researcher tried to find out what type of diversification there is used by the investors. Answer of respondent tabulated below:

Table 4.22
Strategy of Diversification

S.No.	Diversification Strategy	Marked	Percentage
1	No diversification	4	**8%**
2	Simple diversification	30	**60%**
3	Superfluous diversification	8	**16%**
4	Diversification across industries	6	**12%**
5	Superfluous diversification across Quality rating	-	**-**
6	Markowitz diversification	2	**4%**
	Sample Size	50	100%

Source: Appendix

Table 4.22 clearly shows that most of investors or majority of the investors are more attracted in simple diversification rather than other method of diversification. Out of 50 respondents, 30 i.e.60% respondents are supported for this diversification. And 4 respondents i.e. 8% are not diversifying their investment, 8 i.e. 16% prefer superfluous diversification, 6 i.e. 12% believe diversification across industry and 2 i.e. 4% are using Markowitz diversification.

4.2.5 Approaches of Security Analysis

To make investment on portfolio, an investor should know their base to select the securities? Regarding this research, following questions are asked and Response is summarized below:

Table 4.23

Approaches of security analysis

S.No.	Diversification Strategy	Marked	Percentage
1	Fundamental Analysis	28	56%
2	Technical Analysis	10	20%
3	According to market whim	8	16%
4	According to suggestion of broker	4	8%
	Sample Size	50	100%

Source: Appendix

According to the table 4.23, It clearly shows that most of the investors are selecting their portfolio by using fundamental analysis. It mean out of 50 respondents, 28 i.e. 56% use fundamental analysis, 10 i.e. 20% prefer technical analysis, 8 i.e. 16% believe in market whim and rest 4 i.e. 8% analyzing their investment according to the suggestion of brokers. It represents that fundamental knowledge is the major factor of investment in Nepal.

4.2.6 Primary Objective

Regarding the research variable, primary objectives of portfolio investment respondents are requested to answer. The responses of this research variable are below:

Table 4.24

Primary Objective for Portfolio Investment

S.No.	Primary Objective	Marked	Percentage
1	Portfolio rate of return	44	88%
2	Portfolio risk	6	12%
	Sample Size	50	100%

Source: Appendix

This report shown in table 4.24 shows that investors are highly returned oriented and risk averter. 88% of them are preferred portfolio rate of return while investing on the securities and only 12% of them give priority to risk of portfolio. It shows that they can bear risk but they expect compensation for bearing risk.

4.2.7 Security Preference

Among the sample securities selected in this research, respondents are given to make preference for sample. The ranking of the securities were obtained, which has been shown below:

Table 4.25

Security Preference

S.No.	Security	Marked	Rank
1	EBL	34	1
2	BOK	34	1
3	NABIL	32	2
4	UNL	30	3
5	NIDC	7	4
6	CIT	6	5
7	KFL	4	6
8	NCF	3	7

Source: Appendix

According to the table 4.25, it has been found that investors are highly interested in banking sectors and second priority goes to UNL and third to finance companies but no one is interested in insurance companies although they are providing good return to the investors. It clearly shows that investors are greatly infatuated by the banking, manufacturing as well as finance companies' securities rather than securities of insurance companies because of proving good return.

4.2.8 Required Rate of Return

Required rate of return an investor in his portfolio investment is the major factor which highly influences the investment. Investment is the sacrifice of current benefit for the sake of future uncertainty i.e. uncertain profit. How much return they require from their portfolio investment is the main thing. Question asked regarding the survey research variable expected rate of return. Following result or expectations are found:

Table 4.26

Require Rate of Return

S.N	Range of Return (%)	Marked	Percentage
1	5 to 10	-	-
2	10 to 20	4	8%
3	20 to 30	25	50%
4	30 to 40	9	18%
5	40 to 50	9	18%
6	Above 50	3	6%
	Sample Size	50	100%

Source: Appendix

This survey of table 4.26 shows half of the investors require moderate rate of return from their investment portfolio. It means 25 respondents i.e. 50% demanded in the range of 20 to 30%. And only 3 i.e. 6% investors demanded high i.e. above 50% return from their investment because they may be the risk lover investors and they may bear high risk to get such high return. 5 to 10% rate of return is demanded by no one. 10 to 20% is demanded by 4 respondents, 30 to 40% & 40 to 50% is demanded by 9 respondents. These all required rate of returns are not good returns where as market return is 43.14%.

4.2.9 Expected Risk

Risk of any investment of an investor is the key determinant. In this survey, investors have expected the following range of risk which is tabulated below:

Table 4.27

Expected Risk

S.N	Range of Risk (%)	Marked	Percentage
1	5 to 10	12	24%
2	10 to 20	6	12%
3	20 to 30	14	28%
4	30 to 40	10	20%
5	40 to 50	8	16%
6	Above 50		0%
	Sample Size	38	100%

Source: Appendix

This report shows that most of the investors are risk averter. 12 respondents i.e.24% wants to bear only 5 to 10% risk from their investment. Majority of the investors, 14 respondents i.e. 28% investors are ready to bear 20 to 30% risk in their investment portfolio. Only 12% want to bear 10 to 20% , 20% are ready to take 30 to 50%, 16% are ready to bear 40 to 50% risk in their portfolio investment and no one is ready to bear above 50% risk from their investment.

4.2.10 Investment Revision

The time of revision of portfolio investment is the research variable of this survey. The responses of this question tabulated as below:

Table 4.28

Investment Revision

Investment Horizon (Month)	0 to 6	6 to 12	12 to 18	Above 24	Number	Percentage
Yes	6	32	8		46	92%
No					4	8%
Total Sample					50	100%

Source: Appendix

According to table 4.28, among 50 respondents, 46 i.e. 92% are revising their portfolio. 6 of them revising their portfolio within 6 month, 32 of them are revising their portfolio within 12 months i.e. 1 Year, 8 of them revising their portfolio within one and half year. And rest only 4 i.e. 8% don't revise their portfolio investment. It means they just make investment and sell the securities and they prefer passive strategy.

4.2.11 Portfolio Evaluation

Regarding the of portfolio investment, respondents are asked about systematic management method of portfolio performance evaluation which are followed by the investors. The responses of them are tabulated below:

Table 4.29

Portfolio Evaluation

S.N	Range of Risk (%)	Marked	Percentage
1	Sharpe Index	30	60%
2	Treynor Index	4	8%
3	Jenson Index	-	0%
4	Other	16	32%
	Sample Size	50	100%

Source: Appendix

The table 4.29 shows that most of the investors, 30 i.e. 60% are evaluating their investment by using Sharpe Index, 4 i.e. 8% are using Treynor Index and the rest 16

i.e. 32 % are evaluating their investment portfolio by using others method of evaluation.

4.3 Major Findings of the Study

Risk & Return

- The average rate of return of the banking industry is 54.92%. The share of NABIL bank is providing highest return i.e. 62.15%. The range of return of sample securities is 47.38% to 62.15%. NABIL is also the highest risk assets in comparison to others. HBL is the best security on the base of its CV. NABIL is the best security for the risk lover investor and HBL is best security for the risk averter investor to invest.
- The average rate of return of sample finance companies is 98.77% which is the higher return to the investors. The share of NIDC is providing highest return i.e. 166.33% to the investors and KFL is providing least i.e. 56.41% return in comparison to other sample companies. NIDC is the highest risky assets and CIT is the lowest risky asset on the basis of S.D. and Variance. CIT is the best security on the basis of per unit risk i.e. CV. CIT is the best security for the risk averter investors and NIDC is the best for those who are seeking risk in their investment.
- The average rate of return of sample insurance companies is 26.48%. The share of PIC is providing highest return i.e.42.44% to the investors and Everest insurance is providing least return i.e. 10.79% only and PIC also is the highest risk assets in comparison to other sample securities. On the basis of CV, SIC is the best security to the investment. According to risk lover investors, PIC is the best and for the risk averter investor, SIC is the best security to the investment.

- The average rate of return of sample other companies is 38.74%. The share of UNL is providing higher return i.e. 45.94%in comparison to NUBL i.e. 31.53%. Based on risk factor, NUBL is riskier then UNL which variance is 10.03 which is higher than the variance of UNL i.e. 5.35%. On the basis of CV, UNL is the best security. It means UNL is the best for every investor whether they are risk lover or risk averter.
- The NEPSE index ranged from Rs 222.04 to Rs758.08 during the research period. The expected market return, Market Standard Deviation, Market Variance, Market CV are 43.14%, 5.75%, 43.14% & 0.13 respectively.

Beta Coefficient

- The correlation of banking industry with its market is Positive in all securities. The correlation of NABIL, HBL, SBI, and EBL & BOK are 0.9100, 0.9212, 0.3457, 0.3828 & 0.1220 respectively. The beta of NABIL, HBL, SBI, EBL & BOK are .5915, 0.2985, 0.2087, 0.2287 & .0601 respectively. The betas of all securities are lower than the beta of market. It shows that all securities are defensive stocks.
- The correlation of some sample finance companies with its market is positive i.e. NIDC, CIT & NFC and the others are i.e. NCM & KFL are negative correlation of 0.0015, -0.1423, 0.7040, -0.1090 & 0.0174 respectively. The beta of NIDC, NCM, CIT, KFL & NFC are 0.0034, -0.2964, 0.1836, -0.1400&0.0274 respectively. It shows that these all securities are defensive stocks.
- The correlation of UIC, EIC, PIC, AIC & SIC are 0.8159, -0.5774, -0.1613, -0.2412 & -0.9472 respectively. It shows that all securities are negatively

correlated with market except security of UIC. The beta of UIC, EIC, PIC, AIC & SIC are 0.3534, -0.1473, -0.2418, 0.3294 & -0.1443 respectively. It found that all securities are defensive.

- The correlation of UNL & NUBL is -0.1498 & 0.0802 respectively. It shows that security of UNL is negatively correlated and the security of NUBL is positively correlated with the market. The betas of UNL & NUBL are -0.0149 & 0.0109 respectively which are lower than the market beta so they are defensive stocks.

Systematic & Unsystematic Risk

- The systematic risk of NABIL, HBL, SBI, EBL & BOK are 0.1156, 0.0294, 0.0144, 0.0173 and 0.0012 and portion of systematic risk are 46.59%, 47.80%, 6.72%, 8.24% & 0.84% respectively. It shows that NABIL has the highest systematic risk and The HBL has highest portion of systematic risk by 47.80% which we can't eliminated.

  Unsystematic risk and Portion of Unsystematic risk of NABIL, HBL, SBI, and EBL & BOK are 0.1325, 0.0322, 0.1997, 0.1924 & 0.1414 and are 54.41%, 52.20%, 94.28%, 91.76% and 99.16% respectively. SBI has highest unsystematic risk and The risk of BOK can be eliminated by 99.16%.

- Systematic risk and portion of systematic risk of NIDC, NSM, CIT, and KFL & NFC are 0, 0.029, 0.0111, 0.0065 & 0.0002 and 0%, 114%, 8.98%, .67% and .02% respectively. It shows that its shows that the portions of systematic risk of these sample companies are comparatively lower than other companies.

  Unsystematic risks and the Portion of unsystematic risks are 2.9908, 2.52, 0.113, 0.962 & 1.4615 and 100%, 98.86%, 91.02%, 99.33% and 99.98%

respectively. It means in some extent investors can eliminate these type of risks.

- Systematic risk and the portion of systematic risk of UIC, EIC, PIC, AIC & SIC are 0.0413, 0.0072, 0.0193, 0.0359 & .0069 and 37.44%, 18.76%, 3.97%, 39.45% & 50.62% respectively. It shows that UIC has the highest systematic risk and SIC has highest portion of that unavoidable risk which is out of the control of an organization.

  Unsystematic risks and the portion of unsystematic risks are 0.0689, 0.0310, 0.4676, 0.055 & 0.0067 and 62.56%, 81.24%, 96.03%, 60.55% & 49.38% respectively. It shows that PIC has the highest unsystematic risk and portion of unsystematic risk too which the investor can eliminated.

- Systematic risks and the portion of systematic risks of UNL & NUBL are 0.0007 & 0.0004 and 1.26% & .36% respectively. Its shows that both have very low systematic risk and the portion of unsystematic risk of UNL is higher than NUBL.

  Unsystematic risks and the portion of unsystematic risks of UNL & NUBL are 0.0528 & 0.0999 and 98.74% & 99.64% respectively. It shows that NUBL has higher unsystematic risk as well as the higher portion of unsystematic risk.

Price Situation

- The required rate of return and expected rate of return of NABIL, HBL, SBI, EBL & BOK are (27.14%, 62.15%), (15.67%, 50.38%), (12.15%, 57.63%), (12.94%, 47.38%) & (6.33%, 57.07%) respectively. It shows that they all are under- priced securities in such case investor should apply purchasing strategy.

- The required rate of return and expected rate of return of NIDC, NCM, CIT, KFL & NFC are (4.11%, 166.33%), (-7.63%, 128.14%), (-11.17%, 64.77%), (-1.5%, 56.41%) & (5.05%, 78.20%) respectively. It seems that all securities are under- priced. In this situation, investors purchase the security and hold it for a long time.
- The required rate of return and expected rate of return of UIC, EIC, PIC, AIC & SIC are (17.82%, 35.22%), (-1.79%, 10.79%), (-5.49%, 42.44%), (16.88%, 20.52%) & (9.53%, 24.44%) respectively. It denotes that the prices of insurance companies are under priced, so investor should apply the purchase and hold strategy.
- The required rate of return and expected rate of return of UNL & NUBL are (2.21%, 45.94%) & (5.28%, 31.53%) respectively and which indicates that the price of both securities are underpriced. So, it will be better to purchase such type of security and hold for a long time.

Portfolio Decision

Simple Single Assets

For the single assets investment, HBL is the best security to invest which is providing 50.38% rate of return on the 2.48 % (Standard Deviation). The CV of CIT is only 0.0492, which indicates that per unit change in the level of risk, will change 0.0492 unit change in the return that is lowest CV among the sample securities.

Two Assets Portfolio (Markowitz's Model)

Researcher has selected only 22 sets of portfolio having highly negatively correlation to find out the best portfolio. The entire portfolio are not suitable for investment, in

the risk management, researcher has emphasized on risk diversification. Researcher has used minimum variance technique to diversify the risk factor.

On the basis of return, this set A i.e. the combination of is best for the investment. But the decision only on the basis of return may not wise always because the risk associated with the return. Portfolio selection depends on the individual aptitude. If investors are ready to bear high risk the portfolio A is attractive for him because this portfolio is paying high return. On the basis of risk i.e. standard deviation, the portfolio set E and U i.e. the combination of HBL & SIC and UIC & SIC respectively has the same standard deviation i.e. 1.33% which contradicts to the portfolio set A. because of the unequal expected return, the risk is also not the factor upon which the decision should made. So the CV, the ratio of risk per unit to return is the best measure for the investment decision. According to the above table, portfolio E has the lowest CV i.e. 0.0469. So the portfolio set i.e. E is the optimal portfolio set for those investor who prefer minimum risk which is paying low return comparatively with set A, which is the combination of HBL & SIC having 18 % and 82% weight respectively. If an investor invests in this set, he will get the return up to 28.36% and risk of return can be reduced up to 1.33%. In this situation, investors can eliminate risk by portfolio.

Single Sharpe's Performance Model

NIDC is only one security which is the best according to single Sharpe's model which has 166.33% of expected rate of return having 299.08% of total risk i.e. Var., 17.30% S.D, and 0.10 of CV.

Findings the Survey Results

- Risk & Return, Demand & Supply, Market trend and investment objectives are the major determinants and rest are the general determinants in chronological order.
- 94% investors are supported active strategy and rests i.e. 6% are maintaining passive strategy. It means the majority of people attracted in active strategy.
- 86% investors are managing their portfolio systematically, 6% investors are managing their portfolio and rests 8% investors answered that they do not know about the systematic management of portfolio.
- Majority of the investors i.e. 60% are more attracted in simple diversification. And 8% are not diversifying their investment, 16% prefer superfluous diversification, 12% believe diversification across industry and 4% are using Markowitz diversification.
- According to survey report, more than half of the investors are selecting their securities on the basis of fundamental analysis and remaining are using other methods of analysis. It represents that fundamental knowledge is the key factor of investment in Nepal.
- Survey report shows that most of Nepalese are highly return oriented. According to survey, 88 % investors interested in return and only 12% give the priority to risk while making investment.
- Investor are giving high priority to banking securities, second priority to UNL, third priority to finance companies and no one interested to invest in securities of insurance companies although the these companies are providing good return.
- Half of the investors expected moderate i.e. on the range of 20% to 30% rate of return from their investment portfolio. And only 6% investors demanded

high i.e. above 50% return from their investment. 5 to 10% rate of return is demanded by no one. 10 to 20% is demanded by 18% respondents, 30 to 40% & 40 to 50% is demanded by 18% respondents whereas the market return is 43.14% which is very high than their expectation.

- The report of sample survey shows that most of the investors i.e. are taking same level of risk which they are expecting return from their investment i.e. 20 to 30% risk.
- According to sample survey, most of the investors i.e. 92% are revising their portfolio and the rests are not revising their portfolio.
- More than half of the investors i.e. 60% are evaluating their investment by using Sharpe Index; it means the most of the investors are evaluating their investment by using Sharpe Index and rest are using other evaluation method.

Causes of down falling NEPSE Index are as follows:

- Due to the lack of proper policies and strategies of Govt. regarding to the investment.
- Due to the lack of political stability
- Global economic crisis
- Increment of capital gain tax
- Self tax announcement system
- Load shading
- Excess right & bonus shares
- Transfer of promoter's share into ordinary
- Loose of investors' confidence
- Market whim

- Unfair competition
- Lack of investors' rationalities
- Lack of limited brokers

Remedies to take Improvement Rationalities are as follows:

- Creating safe, favorable business and industrial environment to investors for making investment
- Effective governance of NRB, NEPSE & SEBO\N
- Decrease of capital gain tax
- Development of investment fund
- Increase the awareness program to the investors to make rational
- Government should reform its policies and strategies properly
- Trend analysis should be used when analyzing the securities
- Self awareness and practical analysis of the investors
- Increase of no of brokers

CHAPTER – V

SUMMARY, CONCLUSION & RECOMMENDATIONS

This chapter has three sub chapters of Summary, Conclusion and Recommendation. Research is summarized in summary part, finding and interpretation in conclusion part and necessary remedies are provided for the betterment about the optimal portfolio management in recommendation part.

5.1 Summary

The economic development demands the regular flow of funds and it is possible by only proper financial system. The financial market plays crucial role in accessibility and efficient uses of fund. Financial market and capital market are the backbone for the development of the nation's economy. Its boosts up the economic activities by mobilizing especially domestic financial resources. It provides best opportunities by transferring the funds from surplus saving to need based sectors through the transaction of financial instruments which are traded in the secondary market; Nepal Stock Exchange, only one secondary market in Nepal.

Investment is the sacrifice of current rupee or benefit or dollar or resource for the sake of future uncertain benefit or resource. It is an assurance of money that expects to produce additional money. Investment is a systematic and scientific way of using saving bearing lower level of risk. Saving and increment in the wealth position is the motivating factors of investment. Investor seeks to minimize inefficient deviation from this expected rate of return. Each portfolio maximizes possible expected rate of return for a given level of risk on the efficient frontier offers. Investor should hold

optimal portfolios on the efficient frontier and adjust their total market risk. The theory quantifies the benefits of diversification. Diversification is essential to the creation of an efficient investment as it can reduce the variability of returns around the expected return.

This study is focused on the individual risk and return, beta coefficient, systematic and unsystematic risk, pricing status of individual securities, portfolio risk and return, covariance and correlation, portfolio beta, two assets portfolio model, single Sharpe's index model and market risk and return. This study is also based on 17 ' Grade A' companies of four industries which is categorized by commercial banks, financial institutions, insurance companies and others. It is also based on secondary data available from annual reports of sample companies, publication of SEBO/N, NRB, NEPSE etc and primary data collected by small survey of 50 investors. Data used in this study of last 4 years i.e. 2004/05 to 2007/08. This study is to find out some certain clues about the theoretical aspects and their practical implication of portfolio theory developed with some limitations and assumptions.

Investment rationalities are the pre-considerations and post-considerations to select of investment alternatives. Investor does not invest in the entire investment alternatives which are available in the market. Investment rationalities are investment objectives, time horizon, and risk and return analysis, demand and supply in the market, price situation of a security, tax, income, liquidity, investment strategy, bull and bear market analysis and others.

The objective of portfolio management is to analyze different financial assets and mark out efficient portfolio and safety through precaution, risk minimization,

generating income, marketability, liquidity etc. The key objectives of this research are to make the normal understanding about the portfolio investment, explore the risk and return and find out the optimal portfolio among the sample companies which are traded in NEPSE under Group A.

Investor should be aware of risk and return. This study helps them to find out risk and return of stocks. Risk and return of sample companies are analyzed with the help of expected rate of return, standard deviation, variance and CV, market sensitivity were analyzed with the help of covariance with market, beta of the stock and correlation with the market. Systematic and unsystematic risk differentiated and pricing the stock at stock market evaluated. The expected portfolio return is simply the weighted average of the expected returns from the investments represented by a portfolio and risk of portfolio is weighted average individual risk and combined risk of individual securities involved in portfolio. The combined risk is denoted by either covariance or correlation. If covariance or correlation are smaller or negative, the risk of portfolio can be minimized and vice versa. Risk of portfolio is also calculated through portfolio variance, standard deviation and CV but the best measure is CV because it denotes the per unit risk of a portfolio.

Different portfolios are formed having negative correlation to each other with different proportion. Investment alternatives were selected among those all portfolio sets using Markowitz portfolio i.e. Two assets portfolio) selection model with the help of minimum variance portfolio method. To find out the optimal or best portfolio among them, researcher has calculated portfolio return, risk and CV for selective portfolio by using the different tools. And Sharpe's optimum portfolio or single model

is used to find out the optimal portfolio among the sample companies. Sample survey were organized to explore the investors' preference developing the research variable scientific management, determinant of portfolio investment, investment strategy, diversification of risk, analysis tools, primary objectives, time horizon and many more.

5.2 Conclusion

The following conclusions are drawn by the researcher on the basis of analysis of different sample securities of Banking sector, Finance companies, Insurance companies and other companies listed under the Group- A in NEPSE in overall.

Considering the overall rate of return and risk factor analysis, all of them are paying good return to their investors. No one should retain due to the negative return. NIDC & NCM are the best alternatives among them on the basis of return and SIC is the best for risk averters.

Most of securities are moving in a same direction. It means they are positively correlated and some are negatively correlated. Due to the betas of all securities are lower than the beta of market, it shows that all securities of sample companies are defensive. NABIL has the highest systematic risk that is under the beyond of companies' capacity and NIDC has no systematic risk in overall. The portion of systematic risk of SIC has highest and NIDC is not any portion of systematic risk. The unsystematic risk and portion of unsystematic risk of NIDC is highest. In addition, SIC has lowest systematic and portion of systematic risk.

According to research report, all securities have low required rate of return in comparison to expected rate of return, it shows that that they all are under- priced securities in such case investor should apply purchasing strategy. Risk & Return, Demand & Supply, Market trend and investment objectives are the major determinants for the investment. Almost all investor apply the active strategy and managing his or her portfolio investment. More than half of the investors are applying simple diversification and the rest are using superfluous diversification, across industry and Markowitz diversification in chronological order. Most of the investor applying fundamental analysis for the selection of the securities and almost all investors are return oriented. Only the few investors are giving priority to the risk factor.

Investors are giving high priority to banking securities, second priority to UNL, third priority to finance companies. More than half of the investors expect moderate i.e. 20 to 30% returns in their portfolio investment and same level of risk. Almost all investors are revising their portfolio within one year and evaluating their portfolio by using Sharpe's Index.

5.3 Recommendations

- The security market and its practices are not developed properly. Investment alternatives are not sufficient to invest. Meaning that Nepalese market is mainly dominated by the ordinary shares. Bonds and preference shares are in limited number.
- The sufficient information that is really needed to the investor is not sufficient and reliable. Most of the investors are investing according to the market whim

and suggestion of stockbroker without diversifying the investment and without analysis of financial statement of related securities. Individual investors recommended making their investment systematically, rationally and scientifically.

- There are only limited stock brokers who are not sufficient for the market. So NEPSE should undertake to add more stock broker.
- There is only one secondary market i.e. NEPSE in Nepal, it doesn't seem good, so other should be opened in other major cities.
- Responsible sources i.e. Govt., NRB, SEBON and NEPSE should make the suitable or favorable business environment to the investors. And they have to bring some other alternatives for the investment.
- In this report, it is shown that most of the investors are using fundamental analysis for the investment. Investors recommended making technical analysis rather than that fundamental analysis only.
- Investors are mostly infatuated by the banking securities although there are better securities of finance as well as insurance and manufacturing companies.
- All securities are under priced although they are providing good expected rate of return. So it suggests that purchase and hold for long time strategy.

- Institutional support for the investors' interest and other investment awareness program should take place to eliminated deficiencies and increase investors' rationalities.

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