

Investment Decision in the Nepalese Stock Market with Reference to Capital Assets Pricing Model

Submitted By

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RECOMMENDATION

This is to certified that the thesis

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"Investment Decision in the Nepalese
Stock Market with Reference to
Capital Assets Pricing Model"

has been prepared as approved by this Department in the prescribed format of
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DECLARATION

I here declare that the thesis entitled "**Investment Decision in the Nepalese Stock Market with Reference to Capital Assets Pricing Model**" submitted to the faculty of Management, Hari Khetan Multiple College, Tri bhuvan University is my original work done in the format of T.U. for the partial fulfillment of the Master's Degree in Business Studies (MBS) under the supervision and guidance of Dr. Alok Dutta, Lecturer of Hari Khetan Multiple College, Birgunj, Parsa.

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1. Background

The investors support investment sectors by investing their funds and savings. It is implied that Investors or every body wants to maximize his/her wealth in a proper and safe way, investors always endeavor to invest in such a sector which provide adequate return on their hard earn money. Whatever may be the type of investment; the major motto is to maximize the return with minimizing the risks involved there on.

Nowadays people are becoming more aware to select and invest in proper means of investment. Among them banker's fixed deposit is one of them but the people are not satisfied with the fixed deposit return due to low interest rate. As the real interest rates provided by banks are negative i.e. they are less than the inflation rate prevailing in the country. So, people started to invest in productive sector like industrial, trading, service, banking sector etc for better return. The form of investment may be different such as a creditors, equity holders, stock holders etc.

Investment is defined simply to be the sacrifice of current consumption for future consumption whose objective is to increase future wealth. The sacrifice of current consumption takes place at present with certainty and the investor expects desire level of wealth at the end of his investment horizon. The decision to investment now is a most crucial decision as the future level of wealth is not certain. Time and risk are the two conflicting attributes involved in the investment decision.

Some investment alternatives are preferred over others since the risk and return characteristics on such underlying investment alternatives satisfy the individual investor's expectations. Return expected on share investment can be partitioned into dividend and capital gain components. Both these two components of the total return on share investment are not certain with investors having to make decisions in an uncertain environment. Investments in shares are risky in relation to the investments in other fixed income securities like treasury bills, saving certificates, etc. Despite the risk element inherent to investment in shares, most investors desire to invest in

shares in anticipation that the future price of the stock will increase. The intrinsic, or theoretical, price of the stock today can be ascertained by analyzing publicly disclosed financial statements. Investors, in most cases, do not analyze published financial statements before they make the investment in shares of a given company. The actual market price of the stock striving towards equilibrium must reflect the theoretical value of the stock determined by using some valuation models. Determining the intrinsic value of stock today and comparing it with the actual market price however, are rare in practice.

Over the past decade, the investment in any business has become very risky due to highly volatile conditions in the Nepalese economy, inflation, government instability, and the major factor affecting this is Maoist insurgency & political instability. The Nepalese stock market shows a high level of fluctuation when we look at the overall picture of the stock market. People think twice before they invest in any stock market. This makes the investors more vulnerable towards possible risk, and encourages them to divert their investments to other safer alternatives such as gold, saving deposits, etc, or to spend on current consumption. Looking at it in that way, this study is expected to provide at least some insight to the investors in making rational investment decisions with the use of concepts embodied in the Capital Asset Pricing Model (CAPM).

2. History of stock market in Nepal

The history of the securities market began with the floatation of shares by Biratnagar Jute Mills Ltd. and Nepal Bank Ltd. in 1937. Introduction of the Company Act in 1964, the first issuance of Government Bonds in 1964 and the establishment of Securities Exchange Center Ltd. in 1976 were other significant developments relating to capital markets.

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

3. Significance of the study

The study will provide absolute knowledge into the efficiency of Nepalese stock market and different calendar anomalies in the stock returns. The findings of this study will have important implications for financial managers, analysts, investors and further researchers. This study will also help them to capitalize on seasonal anomalies in their portfolio diversification.

4. Objectives of the Study

The major purpose of this study is to develop a framework for investing in stocks available in the Nepalese security market (Nepal Stock Exchange) with the use of the CAPM. The specific objectives could be listed as below:

- i) To estimate the risk, expected return, risk adjusted rate of return (required rate of return) of the selected companies listed in Nepal Stock Exchange.
- ii) To compare expected rates of return with the risk adjusted rates of return (required rates of return) of individual stocks.
- iii) To identify the aggressive, average and defensive areas of the Nepalese Stock Market and highly aggressive, aggressive, average and defensive stocks among the selected securities.
- iv) To identify the overpriced and under-priced stocks among the selected stocks and overvalued and under-valued sectors among different sectors of the Nepalese Stock Market.
- v) To partition the total risk of individual stock into diversifiable and undiversifiable risk and to determine the sector-wise expected rate of return and risk adjusted rate of return (required rate of return) for the different sectors of the Nepalese Stock Market.
- vi) To compare sector-wise expected rates of return with the sector-wise risk adjusted rates of return.

5. Statement of the Problem

Making investment is sometimes profitable & less risky and sometimes less profitable and high risky job. Choosing the best alternative, when there are a number of similar investment alternatives, is even more difficult job. Every investment is not

safe. All the investment has certain level of risk. The fundamental issue is how to select the best combination of risk and return to maximize the wealth of shareholders. The tough part of the decision-making under uncertainty is deciding how much extra return should be required to accept a measurable risk. Every investment decision is based on past experiences for the future expectations. It is always not possible to predict perfect forecast of the future incident. All investment decisions carry a degree of risk along with return. So in this case a proper analysis of past trends of the market and future expectations are only the base of rational investment decision.

In Nepal, the listing of shares in NEPSE and their trading in the stock market is a recent phenomenon. A low trading volume, absence of professional brokers, early stage of growth, limited movement of share prices, and limited information available to investors characterize the Nepalese stock market. A number of researches are available on government owned public enterprises but researches on enterprises whose stocks are listed in NEPSE and traded in stock market are yet to come up in Nepal. Viewed in this way this study is expected to provide at least some inside into application of CAPM in Nepal.

The present study, therefore, attempts to address the following issues relevant to investment decisions in the Nepalese Stock Market:

- How much returns can be expected from the selected stocks of the Nepalese Stock Market? Do the stocks with higher expected returns have higher risks?
- What is the nature of risk across the stocks of different business sectors?
- What is the nature of expected returns across the stocks of different business sectors?
- What is degree of risk, that can be diversified away and that cannot be diversified away associated with the selected stocks?
- Which stocks in the Nepalese Security Market are aggressive? Which are defensive and which are average?
- What is the nature of risk across the stocks of different business sectors?
- Which are the stocks that can be used as hedging tools?

- What are the required rates to invest in the selected areas of Nepalese Stock Market?
- Which stocks in the Nepalese Security Market are overpriced? And which are under-priced?
- Which are the business sectors that are overvalued (undervalued) by the investors of Nepalese Security Market?

6. Limitation of the study

There are certain limitation observed in this study

- This study is based on only published data
- This study is being done in a limited time and resources.
- It covers the investment decision in the Nepalese stock market only.
- The entire study is based on secondary data which has already been collected and processed by the NEPSE, so it's reliability is questionable.
- The analysis in this study has been conducted on the data available as of end of the fiscal year ie July of respective years. A change in this date may affect the conclusion of study.

7. Research Questions

This study is basically focused upon the evaluation of individual stock of listed companies in NEPSE. In this study only some listed companies has been selected for the purpose of evaluation of stock for taking the decision of various purposes by using the Capital Asset Pricing Model.

The research is done using the various statistical tools for the analysis of stock and a part from that to give the flavor for this study, the primary research is done by the help of questioners which is targeted to fill by the investor of stock market.

The study focuses on the following research questions:

- It helps to find out and to compare the expected rate of return and risk adjusted rate of return (required rate of return) of the selected companies.
- It helps to find out the aggressiveness of the selected companies' stock with its valuation regarding under and over.

- It helps to identify the valuation regarding under and over among the different sectors of the Nepalese Stock Market.
- It helps to determine the sector-wise expected rate of return of the sectors of the Nepalese Stock Market.
- It also helps to partition the total risk of individual stock into diversifiable and undiversifiable risk.

8. Organization of the Study

This study has been organized into five chapters. Each chapter covers some facets pertaining to the investment decisions in Nepalese Security Market. The following are the titles of the chapters:

Chapter One	: Introduction
Chapter Two	: Review of Literature
Chapter Three	: Research Methodology
Chapter Four	: Data Presentation and Analysis
Chapter Five	: Summary and Conclusions

The report is organized in this fashion to make this study in line with simple research methodology approach.

Chapter One contains the introductory part of the study. This chapter gives an account of the objectives and scope of the study, and also looks over the major issues to be investigated and explained.

Chapter Two is devoted to theoretical framework that bounds the study, and brief review of relevant literatures. It includes the review of previous writings and studies relevant to the problem being explored, and within the framework of the theory structure.

Chapter Three covers the research methodology employed in the study. This chapter further attempts to explain the nature and sources of data, list of the selected companies, the method of data analysis and utilization of statistical tools.

Chapter Four elaborates the data presentation and analysis of data. Basically various analyses are done for this research work.

Finally, summary and conclusions of the study are presented in chapter five. It also focuses on the major findings along with other empirical evidences. Recommendations for further research are also offered in this section.

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Abbreviations

AFCL	Ace Finance Co. Ltd.
AFCL	Annapurna Finance Co. Ltd.
AVUL	Arun Vanaspati Udyog Ltd.
BBCL	Bishal Bazaar Co. Ltd.
BNL	Bottlers Nepal Ltd.
BOK	Bank Of Kathmandu
CAPM	Capital Asset Pricing Model
EIC	Everest Insurance Com. Ltd.
GFICL	Goodwill Finance & Investment Co. (Nepal) Ltd
GRUL	Gorakhkali Rubber Udyog Ltd.
HBL	Himalayan Bank Ltd.
HBTFI	Harisiddhi Bricks & Tile Factory Ltd.
HGI	Himalayan General Insurance
HISEFFL	HISEF Finance Ltd.
JSML	Jyoti Spinning Mills Ltd.
KFL	Kathmandu Finance Ltd.
LFCL	Lalitpur Finance Com. Ltd.
MFCL	Mahalaxmi Finance Com. Ltd.
NABBCL	Nepal Aawash Bikash Bitta Co. Ltd.
NBL	Nabil Bank Ltd.
NEPSE	Nepal Stock Exchange Ltd.
NFCL	Nepal Finance Co. Ltd.
NFDCL	Nepal Film Development Co. Ltd.
NHMFL	Nepal Housing & Merchant Finance Ltd.
NIB	Nepal Investment Bank Ltd.
NIDCCM	NIDC Capital Markets Ltd.
NLGI	National Life and General Insurance
NRB	Nepal Rastra Bank.
NSBI	Nepal SBI Bank Ltd.

NSFCL	Nepal Saving and Finance Co. Ltd.
NSMFL	Nepal Share Markets & Finance Ltd
NWCL	Nepal Welfare Co. Ltd.
PFL	People's Finance Ltd.
PICL	Primer Insurance Com. Ltd.
SCB	Standard Chartered Bank Ltd.
SHL	Soaltee Hotel Ltd.
STC	Salt Trading Corporation
TRHL	Taragon Regency Hotel Ltd.
UFL	Universal Finance Ltd.
UIC	United Insurance Com. (Nepal) Ltd.
ULL	Uni Lever Ltd.
YFL	Yeti Finance Ltd.

CHAPTER 1 (Page no. 2 - 7)

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 Background

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1.2 History of stock market in Nepal

The history of the securities market began with the floatation of shares by Biratnagar Jute Mills Ltd. and Nepal Bank Ltd. in 1937. Introduction of the Company Act in 1964, the first issuance of Government Bonds in 1964 and the establishment of Securities Exchange Center Ltd. in 1976 were other significant developments relating to capital markets.

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1.4 Objectives of the Study

The major purpose of this study is to develop a framework for investing in stocks available in the Nepalese security market (Nepal Stock Exchange) with the use of the CAPM. The specific objectives could be listed as below:

- i) To estimate the risk, expected return, risk adjusted rate of return (required rate of return) of the selected companies listed in Nepal Stock Exchange.
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Chapter Four elaborates the data presentation and analysis of data. Basically various analyses are done for this research work.

Finally, summary and conclusions of the study are presented in chapter five. It also focuses on the major findings along with other empirical evidences. Recommendations for further research are also offered in this section.

CHAPTER 2 (Page no. 9 - 40)
REVIEW OF LITERATURE

Chapter 2

REVIEW OF LITERATURE

2.1 Introduction

Review of literature means reviewing research studies of other relevant proposition in the related area of the study so that all past studies, their conclusions and deficiencies may be known and further research can be conducted.

The basic framework for the present study on "Investment decision in the Nepalese stock market with reference to Capital Asset Pricing Model (CAPM)" has been drawn from the past research study, books, articles, journals, policy documents etc. In this chapter attempts have been made to review the literatures pertinent to the study. It includes theoretical framework and research review. Theoretical framework attempts to review the theoretical aspects of the study especially the financial market, security analysis, theories of Efficient Market Hypothesis and Capital Asset Pricing Model (CAPM).

The increasing competition in the market gives rise to a strange form of market popularly known as credit market. Each buyer may not be able to pay for goods in cash and further each businessman may also not be succeeded without providing credit facilities in today's world. As a result, credit market has emerged. Credit facility to the customers is one of the most important factors in marketing environment. Similarly, debt facility to a manufacturer or financing to an individual business is also equally important. The large corporations require financing through financial instruments. This resulted not only physical but also financial market. Therefore, Markets are sub-divided into two broad categories - real sector and financial markets. The markets relevant to this study are only financial. (Kotler & Armstrong. 1992: 8)

2.2 Conceptual Review

2.2.1 Financial Market

A financial system is a set of institutional arrangements through which financial surpluses in an economy are mobilized from surplus units to deficit unit (spenders).

Financial assets, financial markets, and financial institutions are the basic ingredients of any financial system. Financial market refers to the place where the transactions of mobilizing funds are performed. It is especially the market for paper or documents. Analytically, financial markets are very much similar to the goods and service market. Instead of goods and services, it deals with financial assets and instruments of various kinds such as currency, deposits, cheques, bills, bonds, debentures, etc. Financial markets are the centers where people with surplus funds interact with the business firms, which can utilize such funds efficiently. Speaking broadly, the purpose of financial markets in an economy is to allocate saving efficiently during a period of time to parties who use funds for investment in real assets or for consumption. With financial intermediaries in an economy, the flow of savings from savers to user of the funds can be indirect. Financial intermediaries include institutions like commercial banks, life insurance companies, credit unions, and pension and profit sharing funds. These intermediaries come between ultimate borrowers and lenders by transforming direct claims into indirect ones. They purchase primary securities and, in turn, issue their own securities to the investors. Thus, efficient financial markets are essential to ensure adequate capital formation and economic growth in an economy.

In sum, financial markets refer to the institutional arrangements for dealings in financial assets and credit instruments of different types such as currency, cheques, bank deposits, bills, bonds, debentures etc. Thus, financial markets facilitate a systematic transfer of funds to productive business companies and projects (Luckett, 1984:146-147)

Financial instruments facilitate the transfer of funds from surplus spending units to deficit-spending units on the basis of credit required for short run and long run. Short run credit is required for the purpose of working capital of the companies whereas long run credit is required to purchase fixed assets. Short run credit is provided by money market and long run by capital market. In this way, the open market further can be classified into money market and capital market. Moreover capital market is relevant to the present study. So this section primarily deals with the theoretical aspects of the capital market.

2.2.2 The Capital Market

The capital market (CM) refers to the market where long-term funds are borrowed and lent. In other words, it refers to the links between lenders and borrowers of funds arranging a funds transfer process to seek each other's benefit. It is just the market for capital funds. The word "capital" used in this context implies a long-term commitment on the part of the lender and a long-term need for the funds on the part of the borrower. Both lenders and borrowers coming together in capital market play effective financial intermediary role in primary and secondary market through the use of various long-term capital market instruments like common stocks, bonds, preferred stocks, convertible issues, etc. Thus strictly speaking, the market encompasses any transaction involving long-term debt or equity obligations.

In literary sense, the term "capital market" is used to describe the institutional arrangements for facilitating the borrowing and lending of long-term funds. Businesses, in the form of public limited companies require long-term or permanent capital in order to finance their activities, or to undertake expansion schemes. Similarly, government needs large quantities of funds in order to be able to provide and expand services such as education, health-care, and defense. In order to meet their money demands to fulfill their objectives, both companies and government raise money by issuing different securities.

Stock exchange plays a significant role in mobilizing funds in capital market. Investment institutions, unit trusts, industrial banks, insurance companies, etc, also raise funds from public and sometimes from government too through various securities and use them in long-run investments. Securities dealt in capital market are long-term securities. Some securities are of perpetual nature and others are for a longer period. Debentures may be either redeemable or irredeemable, the proceeds of life insurance policies may be repayable at death or at maturity so stock exchange, investment trusts and insurance companies are the major segments of capital market.

In many developing countries, the unorganized capital market is still a prevailing characteristic of the economy. But it has crucial role to play in channeling funds from savers to users as they hold huge amounts of the financial assets.

The capital market can be usefully sub-divided into the primary market and the secondary market. The primary market deals with the selling of new securities whereas the secondary market deals the securities previously issued in the market. (Luckett,1984: 147)

2.2.3 Primary Market

Securities available for the first time are offered through the primary markets. The issuer may be the brand new company or one that has been in business for many years. Primary market is used to denote the market for the original sale of securities by an issuer to the public. The volume of new issues in the primary market, particularly of common stock, is directly related to market conditions. When the market is high or rising, the number of new issues being offered to the public rises and when the market is low or falling, the number declines.(Weston & Brigham, 1981:375)

The institution that dominates the primary market is the investment -banking house. It is a traditional middleman in the primary market. When a company decides to acquire new funds from the outside, it will frequently do so through the intermediation of an investment banker in the developed countries. The investment banker's principal activity is to bring sellers and buyers together in the market. They are specialists in the marketing of new securities. They advise companies in the design of the security. Although there are a number of possible arrangements, the investment-banking house underwrites a new issue of securities. In underwriting agreement, an investment banker agrees to buy the securities from the issuing company and sells them to the public. In addition, placing new securities through the intermediation of investment bankers, many companies engage in the private placement of securities. In private placement, the issuer of the securities sells securities directly to investors without the underwriting services of an investment banker. This method is cheaper, and it avoids the underwriting costs. (Luckett, 1984: 147)

2.2.4 Secondary Market

Securities that have been previously issued are traded in the secondary market. The majority of all capital market transactions occur in the secondary market. The

majority of all capital market transactions occur in the secondary market. The proceeds from sale of securities in the secondary market do not go to the original issuer but to the owners of the securities. In other words, securities are traded among the individual as well as institutional investors.

The function of the secondary market is to provide liquidity for securities purchased in the primary markets. Once investors have purchased securities in the primary market, they need to place them in the secondary market in order to sell. Secondary markets are further divided into the over-the-counter market and the registered stock exchanges.

2.2.4.1 The Over-the-Counter Market

The over-counter-market (OTC) is the market for the securities not listed on the stock exchanges. When the company first sells its securities to the public, the securities are traded in the OTC. It includes all transactions in securities other than those taking place on registered stock exchanges. In practice, however, the term is usually limited to the activities of dealers and brokers may range in size from very large houses doing an international business to one person firms that trade only in local markets (Brigham & Houston, 2001:174-186).

2.2.4.2 The Stock Exchanges

Stock exchanges are voluntary associations of members who come together for the purpose of buying and selling, for the general public, the securities of the great companies. Only listed securities are traded in the exchanges and are bought and sold through "auction". The members of these exchanges are truly a national market in which virtually anyone may participate. (Lockett, 1984: 144)

The stock exchanges play an indispensable role in mobilizing funds in capital market. The essential function of a stock exchange is to provide active market for already issued securities. The essential function of a stock exchange is to provide active market place for corporate share and other listed securities. The various virtues governing stock exchange include enhanced marketability of securities, rational allocation of investible funds, enhanced economic growth and wealth generation and proper maturity, liquidity, marketability and diversification of

investment. The growth of capital market through the vehicle of stock exchange has brought a flow of the information about various securities in addition to the sound listing criteria that prove worthwhile to the investors.

2.2.5 Capital Market in Nepal

The history of capital market in Nepal starts with the establishment of Biratnagar Jute Mill in 1936 A.D. Thereafter, various mills of rice, cotton, sugar, and others were established. In 1937, Tejarath was set up to facilitate loans to government employees. In the same year, the first industrial Act was promulgated, which was also a favorable step to promote capital market in Nepal. But, the participation of public in the ownership structure of industries was not available and all the shares of companies were gone to Rana families' portfolio. In 1950, democracy was established in the country by throwing Rana regime and the interim government was much busy in devising measures to revive the sick industries and only very little attention could be given to initiate the development of capital market. Important actions were taken during these periods for this sake and various institutions and industries were established. Then, in 1960, Nepal entered into Panchayat System by sacking democracy. HMG/Nepal started to issue bonds in 1964. Government bonds still occupy a major chunk of trading in the securities market.

After an extensive study of the working of public limited company HMG/Nepal announced Industrial Policy in 1974. This policy made a provision for the establishment of an institution named Securities Marketing Centre to deal with securities. It was established with the joint effort of Nepal Rastra Bank (NRB) and Nepal Industrial Development Corporation (NIDC) to mobilize the capital among the various industries and companies. After a passage of few years, this center was changed into Securities Exchange Centre (SEC) in 1976. Securities Exchange Act came into force on 13 April 1984. Since then, SEC started to operate under this act. Before this, it was operating under the Company Act. The main purpose of Securities Exchange Act was to provide systematic and regular environment of market of securities ensuring and protecting the interest of individual and institutional investors as to increase public participation in various firms and companies.

The interim government initiated financial reform program and established a Citizen's Investment Fund as pioneering capital market institution. The established of NIDC Capital Markets Limited is also another milestone in this regard. Now, Nepal has entered into market-oriented economic system. Thus, necessity was felt to change the whole operation of Stock Exchange Centre to make it compatible with the changing economic system. As a result, HMG/Nepal brought about changes in the existing structure of SEC by separation SEC into two distinct entities -Securities Exchange Board of Nepal (SEBO/N) and Nepal Stock Exchange Ltd. (NEPSE) at the policy level in 1993 (Shrestha, 1992: 15).

2.2.5.1 Constituents of Capital Market in Nepal

The constituents of capital market in Nepal include the following institutions and parties:

Securities Exchange Board of Nepal
Nepal Stock Exchange Limited

2.2.5.1.1 Securities Exchange Board of Nepal

HMG/Nepal established the Securities Exchange Board on May 26, 1993. The thrust of the board is to promote and protect the interest of investors by regulating the securities market. Besides the regulatory role, it is also responsible for the development of securities market in the country. The objectives of the Board are:

To ensure a regulated and orderly market for the primary issues and secondary trading of securities and to foster the development of securities market by protecting the interest of inventors.

The Board performs the following functions:

- To advise Government on the issues related to development of capital market and the protection of the interest of investors;
- To approve the stock exchanges and oversee them for healthy trading of securities;
- To register and regulate the members involved in the primary issues and secondary trading of securities;

- To regulate public issues of securities including the mutual and trust fund; and
- To conduct studies, provide training; organize educational programs on the regulatory and development aspects of capital market.

The Governing board of SEBON comprises of seven members representing various government & private sectors. The seven member board includes a full time chairman appointed by Government of Nepal for the tenure of four years, other members of the Board are joint secretary from Ministry of Law, Justice & Parliamentary Affairs, a representative from NRB (The Central Bank), a representative from Institute of Chartered Accountants of Nepal, a representative from Federation of Nepalese Chamber of Commerce and Industries, and a member appointed by the Government of Nepal amongst market expert. (Securities Board of Nepal, Annual Report, FY 2005/2006)

2.2.5.1.2 Stock Exchange Limited

Securities Marketing Centre was established to deal with especially the government bonds in 1974. But this center was converted into Securities Exchange Centre (SEC) in 1976. It involved in the management of public issues made by corporate bodies. After eighteen years of incorporation, the Securities Exchange Centre was converted into Nepal Stock Exchange Ltd. (NEPSE) in 1993.

NEPSE is a non-profit organization, operating under Securities Exchange Act. The basic objective of NEPSE is to impart free marketability and liquidity to the government bonds and corporate securities by facilitating transactions in its trading floor through market intermediaries, such as brokers, market maker, etc. Before the conversion into stock Exchange, SEC was only the capital market institution undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial services. (Nepal Stock Exchange Ltd., 1994: 1)

NEPSE opened its trading floor on 13 Jan. 1994 for its newly appointed brokers and market makers.

Government Of Nepal, Nepal Rastra Bank and Nepal Industrial Development Corporation are the principal shareholders of the NEPSE. The ownership structure of the NEPSE is as follow:

Table - 2.1
NEPSE Ownership Structure

NEPSE equity	Number of share	Percentage (%)
Government OfNepal	204840	58.66
Nepal Rastra Bank	120805	34.60
NIDC	21375	6.12
Members	2150	0.62
Total	349170	100.00

The Board of Directors of NEPSE consists 9 (Nine) directors 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 NEPSE is the Ex-Officio Director of the Board.

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 broker and 2 market makers, who operate on the trading floor as per the Securities Exchange Act, 1983, rules and by 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 works as individual portfolio manager.

At present, there are 11 sales and issue manager and 2 dealers (Secondary Market).

Trading on the floor of the NEPSE is restricted to listed corporate securities and government bonds. At present, 273 companies have listed their securities to make them eligible for trading. Besides this, NCM Mutual Fund enlisted its units to make them eligible to trade in the floor.

NEPSE has adopted an "Open Out-Cry" system. It means transactions of securities are conducted on the open auction principal on the trading floor. The buying broker with the highest bid will posts the price and his number code on the buying column, while the selling broker with the lowest offer posts the price and his number code on the selling column on the quotation board. The market makers quote their bid and offer price on their own board before the floor starts. Once the bid and offer price match each other, contracts between the buying selling brokers or between the brokers and market makers are concluded on the floor. (Nepal Stock Exchange Ltd., 1998: 2)

2.2.6 Efficient Market Hypothesis

One of most profound but controversial theories of stock market behavior and its implications for investment decision-making is Efficient Market Hypothesis (EMH). This theory deals with the degree of capital market efficiency. Market efficiency in this context refers to the market's ability to price securities correctly and instantaneously change security price to reflect new information. In an efficient market, a security's price would correctly reflect the important variables for that security and would represent an unbiased estimate of its investment value. Market efficiency also implies that as new information becomes available, the market quickly analyzes it, and any necessary price adjustments occur rapidly.

Security prices are rationally and efficiently determined by such fundamental considerations as earning, interest rates, dividend policy and the economic environment. Changes in these variables are quickly reflected in a security's price. All known information is embodied in the current price, and only new information will alter that price. New information has to be unpredictable; if it is predictable, the information would be known and stock prices would have already adjusted for the information. Hence, new information must be random and security prices should change randomly in response to that information. If changes in security prices were not random and could not be predictable, then investors consistently outperform the market and security markets would not be efficient. (Cheney & Moses, 1992: 746)

The EMH also asserts that the price of any under-or-over valued stock is unstable and will change. The security's equilibrium price is a true valuation of what the

investors believe the asset is worth. If the markets were not so efficient and prices did not adjust, some investors would be able to adjust their holding and take advantage of differences in investor's knowledge.

The degree of market efficiency has important implications for the economy and for investment decision-makers. In an economic sense, it is important that security prices provide accurate signal that can be used to allocate capital resources correctly. Mispriced securities would result in incorrect allocations of capital. Although efficient-market may be important and desirable from an economic perspective, it presents a dilemma to investors in terms of an appropriate investment strategy.

However, the apparent randomness of stock prices lies in understanding the market - making mechanism. In an efficient market, liquid capital will channel quickly and accurately where it will do the community the most good. Efficient market will provide ready financing for worthwhile business ventures and drain capital away from inefficient corporations that are poorly managed or producing obsolete products. It is essential that a country have efficient capital markets if that country is to enjoy highest possible level of wealth, welfare and education for population. One of the main reasons that some underdeveloped countries do not advance is that they have inefficient capital markets. In inefficient capital markets, prices may be fixed or manipulated rather than determined by supply and demand. Capital may be controlled by a few wealthy people and not be fluid and flow where it is needed. Graft and public distrust can cause money to be hoarded rather than invested in the capital market, or investors may be ignorant and unable to distinguish between worthwhile business ventures and bad investment. (Bhalla, 1997: 383)

In an efficient market, all prices are correctly stated and there are no bargains in the stock market. Thus, James H. Lorie defined the efficient security market as: "Efficiency in this context means the ability of the capital markets to function so that prices of securities react rapidly to information. Such efficiency will produce prices that are appropriate in terms of current knowledge, and investors will be less likely to make unwise investments. A corollary is that investors will also be less likely to discover great bargains and thereby earn extraordinary high rates of return. There are

three forms of EMH theory- (i) Weak form (price information), (ii) Semi-strong form (other public information), and (iii) Strong form (inside information) tests.

The weak form or the random walk hypothesis hold that past prices do not provide information that can be used to outperform the market. The price of a security fully reflects whatever information is implied or contained in the price sequence preceding it. Thus, studying past price behavior and other technical indicators of the market will not produce superior investment results. It is asserted that the past data cannot be used to predict future stock prices. The stock prices approximate a random walk, as the information available. Prices walk more or less randomly across the charts. Since the walk is random, a knowledge of past price changes do nothing to inform the investor about whatever the price tomorrow, next week, or next year will be higher or lower than today's price.

The semi-strong form of EMH asserts that the current price of a stock reflects all of the publicly available information concerning the company. Thus any significant new public information should immediately be reflected in the stock market. Furthermore, there is no lag between the time that the information becomes available and the adjustment of the stock price. This knowledge includes both the firm's past history and the information learned through studying a firm's financial statements, its industry, and the general economic environment. Analysis of the information cannot be expected to produce superior investment results. Instead, if the investor has access to inside information that individual may consistently achieve superior results. Such an inside information are stock splits, earning announcements, new discoveries, acquisitions and divestitures, and financial distress. Of course, most investors do not have such an access to inside information and further the use of such information for personal gain is illegal.

The strong form of the EMH asserts that the current price of a stock reflects all known information concerning the firm. Information includes both public and private. Private information implies the certain individuals or organizations such as corporate insiders. In effect, an idealistic economic situation results in perfectly efficient market where prices and values are always equal as they fluctuate randomly together in response to the arrival of new information. Thus, the strong form of the

EMH is equivalent to perfect markets in which the market correctly prices securities at all times. Prices adjust quickly to new information public and private (Cheney & Moses, 1992: 753).

2.2.7 The Concept of Stock Valuation

The concept of value is at the heart of financial management. The value of any tradable item is whatever the bidder is prepared to pay. With a well-established asset market, valuation is relatively simple. So long as the market can be accepted as being reasonably efficient, then the market price can be trusted as a fair assessment of value. Several analytical techniques are available to assist the financial manager for valuing common stock. The investor expects regular earnings in the form dividends and capital gains from the upward movement of the stock price. Therefore, the valuation model should account for all these factors. Some of the basic valuation models used to determine the intrinsic value of the stocks are: Net Asset Value (NAV); the Dividend Discount Model (DDM); and Price-Earnings (P/E) model. These different models are discussed below:

2.2.7.1 The NAV Model

The NAV is the value of total assets less current liabilities and long term debt, which is financed by shareholders' net-worth. The shareholders' net-worth comprises of paid-up capital, share premium, accumulated profit and other free reserves, which belong to shareholders. The NAV per share or the book value per share is determined dividing the total NAV by number of outstanding shares (Alexander, et. al. 2003: 574).

NAV (Book Value) per share = Net Asset Value/Number of shares outstanding.

2.2.7.2 The DDM Model

The DDM states that the value of a share now is the sum of stream of future discounted dividends, plus the value of the share as and when sold in some future year. Therefore, the value of a share today is a function of the cash inflows expected by the investors and the risk associated with the cash inflows.

$$V_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} + \frac{D_3}{(1+K)^3} + \dots + \frac{D_t}{(1+K)^n}$$

or

$$V_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+K)^t}$$

In the model, V_0 represents the intrinsic or the theoretical value of the stock today, D_t is the dividend expected in t th year and the K is the firm's cost of equity capital. The equation stated above assumes that dividend will grow at a given rate and the amount of dividend will be different in different years. A zero growth stock is a stock from which the investor expects a constant amount of dividend each year and where the dividend is not expected to grow. In such case the price of the stock now, V_0 , is calculated by dividing the amount of dividend by the cost of equity.

$$v_0 = D / K$$

Generally, dividend is expected to grow at a given rate (g). Myron J. Gordon developed an equation to value the stock price for a growing firm. It is often called the Gordon Model.

$$v_0 = D_1 / (K - g)$$

D_1 is the next expected dividend and g is the growth rates in dividends.

2.2.7.3 The P/E Model

This model requires only an estimate of price-earnings ratio. It uses earnings rather than dividends in determining the intrinsic value of the stock. Under this model, the intrinsic value of the stock today is calculated as follows:

$$v_0 = M * E$$

M is the estimate of earnings multiplier or P/E ratio and E is the estimates of earnings. The theoretical multiplier (M) for a company that distributes all earnings as dividends and has no earnings growth is equals to:

$$M = [D/E] / K = 1/K$$

If the company retains parts of its earnings, and that results in earnings growth, the theoretical multiplier (M) can be calculated as:

$$M = [D/E(1+g)] / [K-g]$$

The growth rate (g), being the product of retention ratio (b) and return on incremental capital (r), will be zero if the company does retain earnings and

distributes all its earnings as dividends ($b = 0$) or the if the company produces no additional earnings on retention ($r = 0$) (Alexander, et. al. 2003: 329-353).

2.2.8 Return

Investors are risk-averter and they select the securities that maximize expected rate of return for any given level of risk or minimize risk level of expected returns. The mean and the standard deviation measure the return and the risk of an individual security respectively.

The mean is the average of the total return of a firm's security. The total return is calculated by adding capital gain and the dividend yield of a security. It is normally denoted by (R_j). Here, capital gain is calculated by dividing the difference between the NEPSE index of current year and the previous year by the previous year's NEPSE index as below:

$$\text{Capital Gain} = \frac{t_n - t_{n-1}}{t_{n-1}}$$

Where, t_n = Nypse index of current year;

t_{n-1} = Nypse index of previous year

Dividend yield is the ratio between dividend paid and market price. Hence,

Total Return (R_j) = Capital gain + Dividend yield

2.2.8.1 The Expected Rate of Returns

The expected rate of return is the expected after-tax increase in the value of the initial investment over the over the holding period. The overall rate of return can be decomposed into capital appreciation and dividend components. Capital appreciation is the difference between investor's end-of-the period and beginning-of-the period.

Expected return is the most likely return on an asset (in our case the stock), which has been calculated here by dividing the total sum of individual stock's annual return over the study period by the number of years in the study period.

$$\text{Expected Return } [E(R_i)] = \frac{\sum_{i=1}^n R_i}{n}$$

Single-Period Return

For a one-year holding period, the benefits associated with ownership include the cash dividend paid during the year together with an appreciation in market price, or capital gain, realized at the end of the year. Thus, the Expected or realized or ex-post rate of return is:

$$= (\text{Ending price} - \text{Beginning price} + \text{Dividends}) / \text{Beginning price}$$

Ex-ante rate of return on an investment is also the mean value of the probability distribution of its possible returns. The expected rate of return, in such case, can be calculated as:

$$HPR = \sum_{i=1}^n P_i R_i$$

In this equation, HPR_i is the i th possible outcome, P_i is the probability of the i th outcome and n is the number of possible outcome.

Return over Several Periods

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

$$HPR = \frac{\sum_{t=1}^n HPR_t}{n}$$

The geometric mean rate of return:

$$HPR_g = \left(\prod_{t=1}^n (1 + HPR_t) \right)^{1/n} - 1$$

2.2.9 Measuring Risk of Investment Alternatives

Investors are risk-averse and they select the securities that maximize expected rate of return for any given level of risk or minimize risk for any given level of expected returns.

Chenny and Moses define risk as the variability of possible returns around the expected return of an investment. For some investments, this variability can be quite small. Similarly, Weston and Brigham define risk as the chance that some unfavorable event will occur. Each investor has his own attitude toward risk and how much he can tolerate. The real rate of return will provide a rate of return that compensates the investors for deferred consumption. An additional rate of return should be added to the risk-free rate of return that provides premium for additional risk bearing.

$$E(R_j) = R_f + RP_j$$

Where,

$E(R_i)$ = Required rate of return for asset i.

R_f = Risk-Free- rate of return.

RP_i = Risk premium for stock i.

A number of factors may contribute to investment uncertainty. The factors usually mentioned with respect to marketable securities are business risk, financial risk, liquidity risk, default risk, interest rate risk, management risk and purchasing power risk. Risk is a difficult concept to grasp. Some of the statistical methods that can be used to measure risk of an underlying financial asset are discussed below.

The Range

The range is one of the traditional methods of measuring risk, which simply communicates the difference between the best possible return and the worst possible return; it does not provide any information about the distribution of the rates of return between the extremes.

The range = Best possible rate of returns - Worst possible rate of returns.

The degree of risk of an underlying security is reflected in the magnitude of the difference. The smaller difference the lower will be the degree of risk.

The Standard Deviation

The standard deviation (σ) is the other measure of investment risk. The smaller the standard deviation the lower will be the degree of risk of the stock. The formula for calculating the standard deviation is:

$$\text{Standard deviation } (\sigma) = \text{SD}(i) = \sqrt{\frac{\sum (Y - Y')^2}{N - 1}}$$

In the equation, Y is the possible rates of returns, and Y' is the average mean return and N is the number of observations. The variance can also be used to measure risk, which is the square of the standard deviation.

$$\text{Variance} = \text{Var} (R_i) = [\text{SD}(z)]^2$$

Total risk (σ) can also be defined as the sum of systematic risk plus unsystematic risk. Systematic risk has its source factors that affect all marketable assets and thus cannot be diversified away. The sources of systematic risk are market-pervasive.

Systematic risk reflects market-wide factors such as the country's rate of economic growth, corporate tax of economic growth, corporate tax rates, interest rates etc. Since these market-wide factors generally cause returns to move in the same direction they cannot cancel out. Therefore, systematic risk remains present in all portfolios. Some investments will be more sensitive to market factors than others and will therefore have a higher systematic risk. The measure of systematic risk permits an investor to evaluate an asset's required rate of return relative to the systematic risk of the stock.

Unsystematic (company-specific or unique) can be reduced through diversification. Investors who hold well-diversified portfolio is wholly systematic, unsystematic risk have been diversified away. These investors may want to measure the systematic risk of each individual investment within their portfolio, or of a potential new investment to be added to the portfolio. A single investment is affected by both systematic and unsystematic risk but if an investor owns a well-diversified portfolio

then only the systematic risk of that investment would be relevant. If a single investment becomes a part, unsystematic risk can be ignored.

The systematic risk of an investment is measured by the covariance of an investment's return with the returns of the market. Once the systematic risk of an investment is calculated, it is then divided by the market risk, to calculate a relative measure of systematic risk. This relative measure of risk is called the 'beta'.

The relationships among total risk, systematic risk and unsystematic risk are shown below.

$$\text{Total Risk } (\sigma^2_i) = \text{Systematic risk} + \text{Unsystematic risk};$$

Where,

$$\text{Systematic risk} = b^2 \text{Var}(R_m) \quad \text{and} \quad \text{Unsystematic risk} = \text{Var}(e)$$

Another term for systematic risk is "*undiversifiable risk*" while for unsystematic risk is "*diversifiable risk*". Throughout the following sections, the term "*diversifiable*" and "*undiversifiable*" will be used instead of "*systematic*" and "*unsystematic*."

The Coefficient of Variation

The coefficient variation (CV) is the other useful measure of risk. It is the standard deviation divided by the expected return, which measures risk per unit of return. It provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same. If investors believe that the rate of return should increase as the risk increase, then the coefficient of variation provides a quick summary of the relative trade-off between expected return and risk.

$$\text{Coefficient of Variation (CV)} = \sigma/Y$$

In general the CAPM indicates that an asset's required return should be related to the risk free rate of return plus a risk-free return based on the beta of the asset.

The Beta Coefficient

The beta coefficient (P), a measure of systematic risk, can be calculated by using the following formula:

$$\text{Beta coefficient (P)} = \frac{\overline{XY} - n\bar{X}\bar{Y}}{\overline{X^2} - n\bar{X}^2}$$

Cov_M is the covariance between the return of an individual asset and the returns of the market and σ_M^2 is the variance of the market returns.

The CAPM contends that shares co-move with the market. If the market moves by 1% and a share has a beta of two, then the return on the share would move by 2%. The beta indicates the sensitivity of the return on shares with the return on the market. Some companies activities are more sensitive to changes in the market- eg luxury car manufacturers- have high betas, while those relating to goods and services likely to be in demand irrespective of the economic cycle- eg food manufacturers-have lower betas. The beta value of 1.0 is the benchmark against which all securities' betas are measured.

Stocks can be classified as aggressive or defensive or average depending on the value of beta coefficients.

Table - 2.2
Beta and Stocks classification

Beta coefficient (P)	Stocks classification & degree of risk
Beta coefficient exactly equals to 1	Average stock; equally risky as the market
Beta coefficient greater than 1	Aggressive stock; more risky than the market
Beta coefficient less than 1	Defensive stock; less risky than the market

Beta coefficient (Brigham & Houston, 2001:227-287) can also be related with the CAPM equation to determine the required rate of return of a given stock. The required rate of return (K_i) is the risk free rate of return (K_{RF}) plus a risk premium ($RP_j = K_M - K_{RF}$) based on the beta of the stock (P).

$$K_i = K_{RF} + P \cdot (K_M - K_{RF}) \text{ or } K_j = K_{RF} + RP_j P$$

2.2.10 Capital Asset Pricing Model (CAPM)

The capital asset pricing model or CAPM is a model that relates the required rate of return for a security to its risk as measure by beta. CAPM predicts the relationship between the risk and equilibrium expected returns on risky assets. The Capital Asset Pricing Model almost always referred to as CAPM, is centerpiece of modern

financial economics. It was first proposed by William F. Shape, who was awarded the 1990 Nobel Prize for economics.

Assumptions of the CAPM

A number of simplifying assumptions lead to the basic version of CAPM. The fundamental idea is that individuals are as alike as possible, with the notable exceptions of initial wealth and risk aversion. "As in all financial theories a number of assumptions were made in the development of the Capital Asset Pricing Model (CAPM); they are summarized in the following list (Brigham, et al, 1999:212):

- All investors focus on a single holding period, and they seek to maximize the expected utility of their terminal wealth by choosing among alternative portfolios on the basis of each portfolio's expected return and standard deviation.
- All investors can borrow or lend an unlimited amount at a given risk-free rate of interest, K_{RF} , and there are no restrictions on short sales of any asset.
- All investors have identical estimates of the expected returns, variances, and covariance among all assets; that is, investors have homogeneous expectations.
- All assets are perfectly divisible and perfectly liquid (that is, marketable at the going price).
- There are no transactions costs.
- There are no taxes.
- All investors are price takers (that is, all investors assume that their own buying and selling actively will not affect stock prices).
- The quantities of all assets are given and fixed."

Capital Asset Pricing Model (CAPM), an important tool used to analyze the relationship between risk and rates of return. The primary conclusion of the CAPM is this: The relevant riskiness' of an individual stock is its contribution to the riskiness of a well-diversified portfolio.

The risk that remains after diversifying is market risk, or the risk that is in the market, and it can be measured by the degree to which a given stock tends to move up or down with the market (Brigham, et al, 1999:78-80).

Validity and Role of Capital Asset Pricing Model

Investor primarily concerned with the systematic risk that cannot be eliminated by diversification. They expect extra return as a premium for bearing the systematic risk. If this were not so, the stock price should increase whenever two companies merge to spread their risk, and an investment companies which invest in shares of other firms should be highly valued than the shares they hold. In real world mergers undertaken just to spread risk do not increase stock price and investment companies are no more highly valued than the stock held. In recent years there is explosion of research into the opportunities and risk of investing in emerging equity markets stimulated in part by the growing exposure of US and European investor to these markets, but also following the rapid rise and fall of returns on the assets class.

Rouwenhorst (1997) in his article namely "Local Returns Factors and Turnover in Emerging stock Markets" conclude that " The return factors in emerging markets are qualitatively similarly to these in developed markets: Small stocks out perform growth stocks and emerging markets stocks exhibit momentum. There is no evidence that local market betas are associated with average returns. The low correlation between the country return factors suggests that the premiums have a strong local character. Furthermore, global exposures can not explain the average factor returns of emerging markets. There is little evidence that the correlation between the local factors portfolios have increase, which suggests that the factors responsible for the increase of emerging market country correlation are separate these markets. A Bayesian analysis of premiums in developed and emerging markets shows that, unless one has strong prior beliefs to the contrary, the empirical evidence favors the hypotheses that size, momentum and value strategies are compensated the relationship between expected returns and share turnover, and examines the turnover characteristics of the local returns factors portfolios. There is no evidence of a relation between expected return and turnover, in emerging markets. However, beta, size momentum, and value are positively cross sectionals correlated with turnover in

emerging markets. This suggests that the return premiums do not simply reflect a compensation for liquidity".

The study by Rouwenhorst does not consider the analysis of single security. It has been analyzed the return factors in worldwide stock markets. However, it concentrates in the various emerging stock markets. Hence this article contributes in the area of risk and return analysis in common stock investment (Rouwenhoust, 1999: 1439-1462).

The book edited by Michael Papaionnov and George Tsetkos namely "Emerging markets portfolio; Diversification and Hedging strategy" analyzed investment risk and opportunities in emerging markets, structure feature and the role of government in markets, structure feature and the role of government in market development and use of derivative market in emerging economics by governments and investors. It conclude that "Diversification benefits of investing in emerging market are present but have been reduced in recent years as a result of growing foreign institutional investors involved and are less effective during periods of large market movements" (Michael & Tsetsekor, 1997 IRWIN).

2.2.11. The Security Market Line (SML)

According to the CAPM, the differences in risk premium across assets are due to difference in the systematic risk of assets. This risk I called beta and measures the sensitivity of the return of an assets relative to movements in the market return, given this risk free rate, the CAPM predicts that the expected return of an asset is an upward-sloping linear function of its beta. According to CAPM, the equilibrium expected return for stock I is

$$E(R_i) = R_f + [E(R_m) - R_f] P_j$$

Where,

R_f = Risk free rate

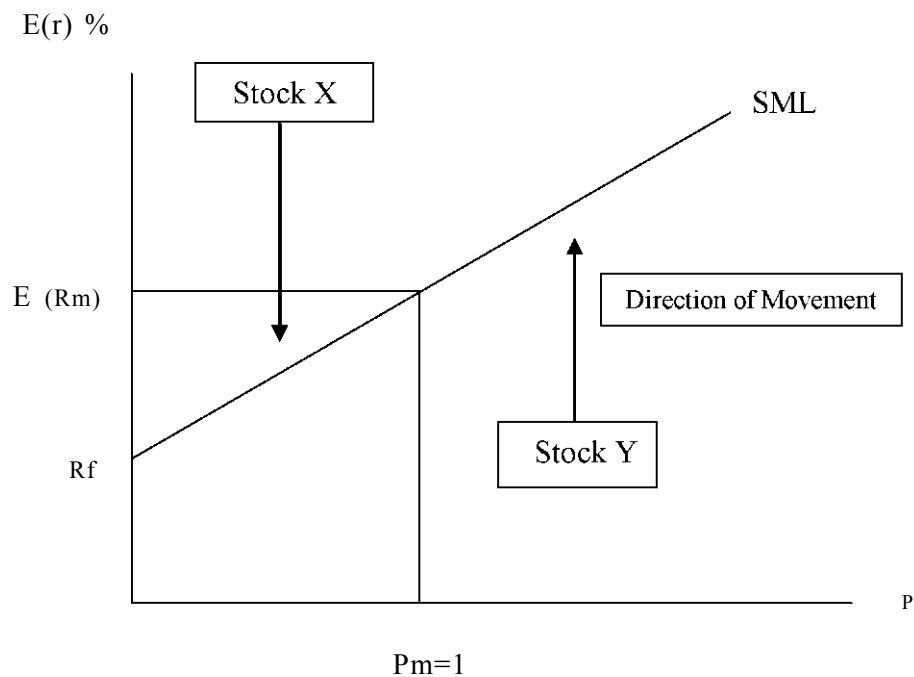
$E(R_m)$ = Expected overall return of market portfolio

P_j = Beta coefficient of security 'I'

As per CAPM, a security expected return should relate to its degree of systematic risk, and not to its degree of total risk. Systematic risk is the thing that matters to an investors holding a well-diversified portfolio. The greater the systematic risk i.e. its beta, the greater the risk and greater the expected returns required.

The expected return-beta relationship can be graphed as the security market line (SML)

Figure No. - 2.1
Security Market Line



The slope of SML is the risk premium of the market portfolio. At the point where $P=1$ (which is the beta of the market portfolio) on the horizontal axis, it can read off the vertical axis, it can off the vertical axis the expected return of the market portfolio.

The security market provides a benchmark for evaluation of investment performance. Given the risk of an investment as measured by its beta, the SML

provides the required rate of return that will compensate investors for the risk of that investment as well as for the time value of money. Since the SML is the graphical representation of expected return beta relationship, "Fairly priced" assets plot exactly on the SML.

If an individual security (Stock Y of graph has an expected return-risk combination that places it below the SML; it will be overvalued in the market. That is, it provides and expected return less than that required by the market for the systematic risk involved.

Investors seeing the opportunity for the superior returns by investing in stock X (under priced selling) should rush to buy it. This action (increases in demand) would drive the price up and the expected return, until the expected return was on the SML. In case of stock Y, investor holding this stock would sell it, recognizing that they could obtain a higher return for the same amount of systematic risk with other stocks. This selling pressure would drive Y's market price down and its expected return up until the expected return was on the SML, when the expected returns for these two stocks to the SML, market equilibrium will again prevail. (Van Horne 1998: 74-75)

2.3 Review of Related Studies

2.3.1 Thesis Review

Bhandari's Study

Bhandari (2003) conducted a study on "Application of CAPM in Nepal" taking annual data of market prices and dividend yield from 1995 to 2002 of 15 companies listed in Nepal Stock Exchange. The fifteen companies were taken from the sectors: banks, finance companies, insurance companies, trading companies, hotel, airlines and manufacturing. Major findings of his study are:

Among the 15 selected companies, Uni Lever Limited has the highest expected rate of return; In term of the risk measured by standard deviation, common stock of NIDC Capital Market is most risky and Salt Trading Corporation is least risky security; however, some companies are providing higher return at relatively lower

risk as revealed by coefficient of variation; Nepse Index, which is used to measure of return of market, indicates that there is negative movement till 1997/98 but is improving thereafter and increasing till 1999-2001 and fails thereafter. The index of Banking and Manufacturing are moving in the same direction. The index of the both is increasing till 1999 to 2001 but is decreasing thereafter. The index of trading is regularly decreasing throughout the review period while that of Hotel, Trading & other is fluctuating each year and is decreasing continuously from 1992 to 2001.

The required future returns on stock of the companies have a linear relationship with market index. Among the 15 companies analyzed NIDC has the highest future required return, which is followed by NABIL Bank. Only the eight companies under the study have future required return greater than the market return.

The beta coefficient, which measures the systematic risk of the company, reveals that systematic risk of a selected companies range between 3.5373 to 0.0892 times. NIDC Capital Market and NABIL Bank contains the most beta risk followed by Annapurna Finance Company, Himalayan General Insurance, Nepal Investment Bank, etc. and the lower risk companies are Salt Trading Corporation and Bishal Bazar Company Limited. Bhandari's study further remarks that there are differences in expected return, required return and risk situation in the selected enterprises and it shows the real performance of the selected enterprises.

Bhatta's Study

Another Study, conducted by Bhatta (1995) entitled "Assessment of the performance of listed companies in Nepal". Bhatta's study in performance of listed companies is based on 10 listed companies' data from 1990 to 1995. One of the major objective that concern with the research topic is "to analyze the performance of listed companies in terms of risk and return i.e. expected rate of return and company specific risk, required rate of return and internal rate of return systematic risk and diversification of risk through portfolio context.

Bhatta addressed the following findings in risk return behavior from the analysis of different stocks. "A highly significant positive correlation has been addressed

between risk and return character of the company. Investors expect higher returns from those stocks that associate higher risk. Nepalese capital market is not efficient one. So the stock price does not contain all the information relating to market and company itself. Neither investors analyze the overall relevant information of the stocks nor the member of stock exchange tries to disseminate the information. So the market return and risk both may not represent reality. However, the analysis based in the available information shows high priced stocks such as BBC, NIB, NIC, has beta risk than others. These companies this requires higher returns to satisfy the investors for their risk premium.

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

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

Lastly Bhatta, (1995) recommended that following points to improve the market efficiently:

- Developed institutions to consult investors for risk minimization.
- Establish an information channel in Nepal stock exchange and
- Market proper amendment on Trading Rules.

To some extent Bhatta focused in the analysis of risk and return in common stock investment. But due to so many other aspects of analysis investor cannot easily assess the results. In deed, study did not focus the viewpoint of investors rather it

concentrates the companies and stock market. However, this study also explores some dimensions for further research in this subject.

Paudel's Study

Poudel (2002) analyzed risk-return characteristics of commercial banks' shares and tried to determine the degree of correctness in pricing the shares and further endeavored to trace the future price movement when striving towards equilibrium. Poudel conducted the study citing eight commercial banks and taking quarterly data from the secondary sources, particularly from the publications of Nepal Stock Exchange Limited (NEPSE). The banks included in his study are Nepal Arab Bank Limited (NABIL), Nepal Indosuez Bank Limited (NIBL), Standard Charter Bank Nepal Limited (SCBNL), Himalayan Bank Limited (HBL), Nepal SBI Bank Limited (NSBL), Nepal Bangladesh Bank Limited (NBBL), Everest Bank Limited (EBL) and Bank of Kathmandu Limited (BOKL). The sample period in his study commenced on mid-July 1996 and ends in mid-July 2001. Quarterly percentage changes in the NEPSE index were used as the returns on market portfolio (return on average stock). Average return on the 91-day Treasury bill was taken as a proxy of the risk-free rate of return.

Poudel concluded that the average mean return on market portfolio, as measured by percent changes in the NEPSE index, was 5.51 percent over the sample period. All the shares produced higher rates of return than the return on market portfolio. However, the risk-return characteristics did not seem to be the same for all the shares he reviewed. The shares with larger standard deviations appeared to be able to produce higher rates of return. The portion of unsystematic risk was very high with the shares having negative beta coefficient. The risk per unit of return, as measured by the coefficient of variation, was less than that of the market as a whole for all the individual shares. Poudel found most of the shares to have fallen under the category of defensive stocks, (having beta coefficients less than 1), except the shares of Bank of Kathmandu Limited. He observed the return on the shares of Nepal Arab Bank Limited to be negatively correlated with the return on market portfolio with negative beta coefficient.

His study showed that none of the shares are correctly priced. Shares of Nepal Arab Bank Limited, Nepal Indosuez Bank Limited and Himalayan Bank Limited which were found to be overpriced relative to equilibrium thus market forces, was expected to fall in price. The remaining shares appeared to be under-priced indicating a possible positive long-term price trend.

2.3.2 Article Review

An article by Bhattarai (2005) on the topic, "Define your objective before buying stocks" has given way to invest in securities according to investors' objective. "Stock market is perhaps poorly understood among Nepalese investors. Its development remains almost impossible unless the people accept it as a way of their life. For this, first of all they have to know what stock market is, and how it functions. If it is not understood, it cannot attract the interests of investors. Thus investors' awareness about stock market and their rights are also essential.

People invest in the share market for different purposes. If someone is not clear about his/her purpose, the strategy followed can be wrong and the benefits not satisfactory, or there s/he may even incur a loss. So, it is necessary to define our objectives first and then start playing with the market. Some possible objectives would be to maximize dividend income, to maximize capital gain in short run, to maximize total gain and to minimize risk. A proper setting of objectives helps in identify the category of shares that help to accomplish the set objectives. If we observe stocks market regularly, we find various patterns of movement in different stocks. Thus setting clearly defined objectives will help to gain from such movement

Investors who want to maximize their dividend income would do better by investing in the shares in which more shares at a less amount of commission can be purchased. But those investors who want to maximize their return by capital gain in the short run, it is better to avoid investing in shares of finance and insurance companies because their share price is found to fluctuate less as compared to the banks. In case of stocks that do not fluctuate much, it will be difficult of cover the transaction costs.

Capturing a capital gain in a short run requires a selection of highly fluctuating companies or newly listed companies such as Bank Of Kathmandu (BOK), Lumbini Bank Ltd (LBL), Macchapuchhre Bank Ltd. (MBL), Nepal Bangladesh Bank Ltd. (NBBL), and Nepal Credit and Commerce Bank Limited. (NCCBL). These price changes can provide a handsome capital gain to the investors but it further requires a regular collection of information and regular contact with brokers. Similarly, the shares of newly listed banks are found to fluctuate more compared to old banks, for example, Nepal Credit and Commercial Bank (NCC).

The next fundamental objective of buying securities is for the purpose of borrowing. Investors can borrow money by using the shares as collateral. Banks and finance companies provide loans up to 50% of the market price of the shares. To borrow in this way, one should have those securities that promise more certain return as well as growth. Such stocks are those of Standard Chartered Bank Nepal Ltd., NABIL Bank Ltd., Bishal Bazaar Company Ltd., Uni Liver Nepal Ltd and Nepal Investment Bank Ltd. Therefore, it is better to buy these high priced stocks if investor intends to borrow by pledging them. Such borrowing can be used to buy more stocks and the selection of such stock will again depend on the purpose for which you want to buy them.

If the objective is to minimize the risk, investors require selecting stocks that remain less fluctuating in the market. For example, Bishal Bazaar Company Ltd, Himalayan Bank Ltd., Bottlers Nepal Ltd., Rastriya Beema Sansthan and Uni Liver Nepal Ltd., are found to be such stocks." (New Business Age, May 2005:65)

"NEPSE is the only secondary market in the south Asian countries that does not have automation. Shares have been traded through tedious open and cry out system on the NEPSE floor. Ishwori Rimal, President of Association of Nepalese Securities Brokers, said that the secondary market would replace the current trading system that is done through "open and cry out method". This will attract new investors in the secondary market, there by increasing volume of transaction by over four folds. "He also said that the automation would bring down the shares transaction cost by around 10 times. He also further said that the project would also adopt management information system (MIS) at the SEBO to disseminate necessary information to

investors and market practitioners in order to keep the secondary market abreast."
(The Kathmandu Post, 21 Jan 2005)

As from above we know that trading system is not systematic in NEPSE. The trading technique/method in NEPSE is also not appropriate and it cheats investors.

An article in the "New Business Age", on the topic "Matching and cheating" technique of selling and buying of share in NEPSE is explained. Many investors in the Nepali stock market don't know that brokers who use a relatively unknown technique called "Matching" are cheating them. The investors cheated by this method are normally those who occasionally buy or sell shares, not the regular ones who are active almost every day in the market.

Matching and splitting are the most prevalent mode of securities transaction in Nepal. According to the Securities Board Nepal (SEBO/N), the regulator of the Country's stock market, about 65% of the total transactions in the NEPSE are executed through matching.

Matching is helping market manipulators to increase the price of their selected stock by matching small quantities of shares at a higher price and thus misleading the naive investors who would be tempted to buy large quantity of shares at the artificially increased price from the same manipulators.

If matching is totally banned, the government may lose some revenue as the total transaction in stocks may be reduced and its impact will not only be on capital gain tax but also on the tax earning from the commission earned by the brokers. But the question is whether the cheating of the general investors should be allowed to continue. Thus it calls for a proper regulatory framework so that the investors are not cheated while the brokers also get a fair commission for their service even by pursuing their profession honestly." (New Business Age, April 2005:58.)

"Though the market capitalization and the list of companies at the secondary market are on the continuous rise, NEPSE so far hasn't introduced a policy to recruit new brokers.

On the topic " NEPSE: Increasing capitalization, decreasing brokers", an article was published in the New Business Age. This reveals that there should also be some policy regarding brokers at NEPSE also necessary to update the investors with timely information. The NEPSE officials said that there should be the policy to let the brokers freely enter and exit the market to match the growing market capitalization. Shambhu Prasad Pant, assistant manager at the Research, Library and Listing Division at the NEPSE, said that it is natural and necessary to increase the number of brokers with the rising capitalization. He also said that recruitment of new brokers is also necessary to update the investors with timely information and provide them with necessary advices. Reacting to absence of share trading outside the capital, pant said that recruitment of new brokers is profoundly important to start the share transactions outside Kathmandu as all brokers are currently based in the capital." (The Kathmandu Post, 29 December 2004).

CHAPTER 3 (Page no. 42 - 45)
RESEARCH METHODOLOGY

CHAPTER 3

RESEARCH METHODOLOGY

Research methodology is the process of aiming at the solution of the problem through planned & systematic dealing with the collection, analysis and interpretation of the facts and figures. Research is a systematic method of finding right solution for the problem whereas methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view. (Kothari, C R, "Research Methodology, Methods & Techniques" New Delhi, Willey Eastern Ltd 1989)

Research is a knowledge building process. It generates new knowledge, which can be used for different purpose. Research is undertaken not only to solve a problem existing in the work setting, but also to add or contribute to the general body of knowledge in a particular area of interest to the researcher. Thus research is an organized, systematic, data based, critical, scientific inquiry or investigation into a specific problem, undertaken with the objective of finding answers or solutions to it. (Wolff and pant, 2005:5). Methodology is the research method used for investigation. Research Methodology is the way of doing and completing research work. It is the way to solve the research problem systematically. Thus sets of method used in this research are as follows:

3.1 Research Design

A research design is a plan for the collection and analysis of data. It is a blue print for the study that presents a series of guide posts to enable the researcher to progress in the right direction in order to achieve the goal. It is a strategy for conducting research. It is the main part of any research work. The research design is a plan of study or in this study; the analytical cum descriptive research design has been adopted. The research attempts to explore the information about the behavior of individual stock.

3.2 The Population

The study is mainly based on secondary data. The data is about the year end closing price of common stocks and dividend of that year. Though there are about 273

companies listed in Nepal Stock Exchange Ltd., all of them do not provide scope for their study. On the one hand, many of them are new and have just begun their operation, on the other hand, many of the old listed companies do not submit their financial statement to Nepal Stock Exchange Ltd. leading to the absence of data.

3.3 The Sampling Procedure

For the purpose of the study, the collection of secondary data is done through various related books, magazine, journals, newspapers, websites, and the dissertation made in this field have been referred. As far as primary data is concerned, it has been collected through questionnaires, distributed to shareholders present at the NEPSE.

The study focus upon the study of some listed companies from different seven sectors like, Banking, Insurance, Finance, Manufacturing and Processing, Hotels, Trading and Others.

3.4 Data Collection Procedure

The collection of data is done through the various reports published by Security Exchange Board. The types of data collected through these reports are Market Price Per Share, Dividend Distribution, Market Capitalization, Risk free rate etc. As far as primary data is concerned, it is collected through questionnaires distributed to shareholders presented at NEPSE.

3.5 Statistical Analysis

The various financial and statistical tools have been used to analyze and interpret the data. Following are the tools that are used for the analysis of this research:

Expected Rate of Return

The expected rate of return is simply the weighted average of all expected return on the individual assets in the portfolio. It is the summation of market capital gain and average market dividend yield. It shows the rate of return which we get by investing in the investment alternative in the particular year.

$$\text{Expected Return } [E(R_i)] = \frac{\sum_{i=1}^n R_i}{n}$$

Standard Deviation

Standard deviation is the relative measure of risk associated with any investment alternative. It is a weighted average of the deviations from the expected value and it provides an idea of how far above or below the expected value and the actual value is likely to be.

$$\text{Standard deviation (a)} = \text{SD}(i) = \frac{\sum (Y - Y_f)^2}{N - 1}$$

Coefficient of Variation

The coefficient of variation shows the risk per unit of return, and it provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same.

$$\text{Coefficient of Variation (CV)} = a/Y$$

Beta Coefficient (bi)

Beta coefficient is measure of systematic risk which undiversifiable. This measurement of risk shows about the aggressiveness of stock with respect to market return.

$$\text{Beta coefficient (b)} = \frac{\sum XY - nX'Y'}{\sum X^2 - nX'^2}$$

Required Rate of return, [E(Rj)]

This is the rate of return that the investor required to have by investing in any security. Required rate of return calculated using CAPM relationship gives the level of return required to justify the level of risk inherent in the investment alternative. The

required rate of return differs according to the riskiness of the investment alternatives. It is derived with the adjustment among risk free rate, expected rate, and beta coefficient.

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

3.6 Data Processing Procedure

The processing of data is done by the utilization of various statistical tools for the purpose of the analysis of stock. In this regards first the raw data of market price per share, dividend yield, market capitalization of listed companies are collected through the trading report of Security Exchange Board, and the risk free rate of return also collected from the quarterly economic bulletin published by NRB. The data are collected from the year 2002/03 to 2008/09. Then by the utilization of different statistical tools the major findings are found and on the basis of that result the analysis of CAPM is done.

CHAPTER 4 (Page no. 47 - 77)
DATA PRESENTATION AND
ANALYSIS

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

This chapter is the main focus of the study. This report is the analysis of investment risk and returns of stock using CAPM issued by different listed companies of commercial banks, finance companies, insurance companies, manufacturing and processing, hotels, trading houses, and others in Nepal, considering the market price of stock, dividend yield, and risk free rate of each year.

This chapter has tried to analyze and diagnose the deviation of return in stock, its systematic risk associated with market and unsystematic risk inherent in itself. In this regard two types of analysis are done here.

- A. Analysis of Securities
- B. Opinion Survey

4.1 Analysis of Securities

Secondary data are the data, which are already analyzed, concerned to the subject. In this regard the data related to the analysis like year end price of stock, dividend yield, risk free rate, market capitalization of different stock are taken to consideration and found the result from using different statistical tool related to CAPM.

4.1.1 Risk Free Rate

Risk free rate is the real rate of return by which an investment grows annually after adjusting for inflation if there is no risk associated with the investment. The average realized return of 91-day Treasury bill for the period 2003/04 through 2008/09 has been taken as the proxy for the risk free rate of return (Rf). Thus, risk free rate of return used in our study is 3.45 %, which is evident from the Table 4.1.

Table - 4.1
Risk free rate of return

Fiscal Year	91-Day Treasury Bill Rate
2003/04	2.93
2004/05	2.46
2005/06	2.84
2006/07	2.42
2007/08	4.22
2008/09	5.83
Total	20.7
Av. Return on 91-day T-bill (Rf)	3.45

Source: Quarterly Economic Bulletin, Nepal Rastra Bank, Security Board Nepal, Vol. 4

4.1.2 Expected Market Rate of Return

Theoretically, a portfolio consisting of all securities in the capital market is called market portfolio. The market return is simply the weighted average of all expected return on the individual assets in the portfolio. Market return is the summation of market capital gain and average market dividend yield. The risk of a portfolio can be divided into two parts. The part of the risk that can be reduced through diversification are defined as unsystematic risk, while the part that cannot be eliminated is defined as systematic or market risk. Market portfolio is considered to be a well-diversified portfolio where diversifiable risk (firm specific risk) is completely eliminated and the only risk inherent in the portfolio is the market risk (undiversifiable or systematic risk).

Expected market rate of return is the rate of return one would realize holding a market portfolio. For this study, the portfolio consisting of stocks of all listed companies in proportion of their market capitalization is considered to be the market portfolio. Thus, the return on this portfolio is the market rate of return used in the study.

The expected market rate of return, used in this study, is the combination of capital appreciation (capital gain) and dividend yield of the portfolio. Percentage change in Npse Index (mid July) per year has been taken as the market capital gain. Average dividend yield of stock of some listed companies included in the sample has been taken as the market dividend yield.

Thus, expected market rate of return has been calculated as 14.60%. This means, on an average, the capital market generates the return of 14.60% annually. Expressing it differently, holding any portfolio with beta equal to 1 and unsystematic risk equal to zero would result in the annual return of 14.60%.

4.1.3 Expected Rate of Return

Expected rate of return measures the likely return one would realize in the forthcoming period. Theoretically, it is the summation of all likely rates of returns multiplied by their probabilities of occurrence. Here, expected rate of return of individual stock is calculated from their historic realized rates of returns. The relationship used to calculate the expected rate of return is:

$$E(R_i) = \frac{\sum R_i}{n}$$

Table - 4.2

Expected Rate of Return, Standard Deviation & Coefficient of Variation

Sector	Name of the Company	E(Ri)	SD	CV (Ri)
Banking	NABIL Bank Ltd.	29.45	50.64	1.72
	Nepal Investment Bank Ltd.	8.32	35.98	4.32
	Standard Chartered Bank Nepal Ltd.	28.45	32.42	1.14
	Himalayan Bank Ltd.	12.07	37.92	3.14
	Nepal SBI Bank Ltd.	10.94	60.48	5.53
	Bank of Kathmandu Ltd.	41.27	112.92	2.74
Finance Co.	Nepal Finance & Saving Co. Ltd.	33.39	99.12	2.97
	NIDC Capital Markets Ltd	22.37	90.41	4.04
	National Finance Co. Ltd.	14.52	26.13	1.80
	Nepal Share Market & Finance Ltd.	14.62	59.26	4.05
	Annapura Finance Co. Ltd.	37.78	62.49	1.65
	Kathmandu Finance Ltd.	36.95	85.64	2.32
	Peoples Finance Ltd.	15.87	74.45	4.69
	Nepal Aawas Bikas Beetta Co. Ltd	39.07	50.74	1.30
	HISEF Finance Co. Ltd.	30.15	91.31	3.03
	Ace Finance Company Ltd.	20.10	47.72	2.37
	Yeti Finance Ltd.	22.16	32.02	1.44
	Universal Finance Ltd.	33.42	85.28	2.55
	Nepal Housing & Merchant Fin. Ltd.	33.11	66.06	1.99
	Mahalaxmi Finance Co. Ltd.	44.66	57.52	1.29
Lalitpur Finance Co. Ltd.	29.88	88.61	2.97	
Insurance	Goodwill Finance Co. Ltd.	42.95	99.91	2.33
	National Life & General Insurance	7.73	39.00	5.04
	Himalayan General Insurance Co.	21.75	60.60	2.79
	United Insurance Co. Ltd.	9.12	46.50	5.10
	Everest Insurance Company Ltd.	52.92	75.35	1.42

	Premier Insurance Company Ltd.	17.27	43.81	2.54
	Neco Insurance Company Ltd.	6.82	46.19	6.77
Manufacturing & Processing	Bottlers Nepal Ltd. (Balaju)	13.62	30.02	2.20
	Nepal Lube Oil Ltd.	7.93	26.76	3.38
	Gorakhhkali Rubber Udyog Ltd.	8.94	47.91	5.36
	Jyoti Spinning Mills Ltd. (Ord)	(3.85)	12.85	(3.34)
	Arun Vanaspati Udyog Ltd.	(0.40)	6.21	(15.37)
	Harisiddhi Bricks & Tile Factory Ltd.	(5.83)	22.98	(3.94)
	Uni Lever Ltd.	45.61	102.58	2.25
	Shree Ram Sugar Mills Ltd.	18.83	41.92	2.23
	Hotel	Soaltee Hotel Ltd.	(3.70)	38.20
Taragaon Regency Hotel Ltd.		(16.91)	22.66	(1.34)
Trading	Salt Trading Corporation	1.66	7.84	4.71
	Bishal Bazaar Co. Ltd.	6.19	18.35	2.97
	Nepal Welfare Co. Ltd.	8.57	17.18	2.00
Other	Necon Air Ltd.	(30.85)	32.29	(1.05)
	Nepal Film Development Co. Ltd.	(3.43)	18.32	(5.34)

(According to annexure no. 1 to 7)

Table - 4.2 presents the expected rate of return, $E(R_i)$, standard deviation, SD, and coefficient of variation, CV, of some listed companies from seven different sectors.

The top five stocks with highest expected rate of return are Everest Insurance Company, Uni Lever Ltd, Mahalaxmi Finance Com. Ltd, Goodwill Finance Co Ltd., and Bank of Kathmandu. The expected rate of returns of Everest Insurance Co Ltd is 52.92%, Uni Lever Ltd. is 45.61%, Mahalaxmi Finance Com. Ltd., 44.99%, Goodwill Finance Co Ltd. is 42.95% and Bank of Kathmandu, 41.27%.

Out of the some listed firms, the five firms with the lowest expected rate of return are Necon Air Ltd, Taragon Regency Hotel Ltd., Harisiddhi Bricks & Tile Factory Ltd., Jyoti Spinning Mills Ltd., and Soaltee Hotel Ltd. The lowest among these five firms is Necon Air Ltd. with expected rate of minus 30.85%, followed by Taragon Regency Hotel Ltd., minus 16.91%, Harisiddhi Bricks & Tile Factory Ltd., minus 5.83%, Jyoti Spinning Mills Ltd., minus 3.85%, and Soaltee Hotel Ltd., minus 3.70% respectively.

In banking sector, the banks with the highest expected rate of return are Bank of Kathmandu, 41.27 % and NABIL Bank Ltd, 29.45%. The lowest in this sector are Nepal Investment Bank Ltd, 8.32 % and Nepal SBI Bank Ltd., 10.94%. However, the expected returns of all the banks have been found to be above 8 %.

Among the finance companies, Mahalaxmi Finance Ltd. 44.66 %, Goodwill Finance 42.95%, and Nepal Aawas Bikas Bittiya Co Ltd, 39.07%, rank in the top three positions in term of expected rate of return respectively. The lowest among the group are National Finance Ltd 14.52%, Nepal Share Market and Finance Ltd.14.62% and Peoples Finance Co. Ltd, 15.87%. Expected rate of return of all the finance companies in the sample have been found to be above 14 %.

Out of the six insurance companies under study, Everest Insurance Co. Ltd ranks the highest in the insurance group with expected rate of return of 52.92% and Neco Insurance Co Ltd., the lowest with expected rate of return of 6.82%. The expected rate of returns of the other insurance companies ranges from 6% to 52 %.

In manufacturing & processing sector, the top three firms in term of expected rate of return are Uni Lever Ltd, 45.61%, Shree Ram Sugar Mills Ltd., 18.83 %, and Bottlers Nepal Ltd, 13.62%. Half of the manufacturing firms in the study have negative expected rate of return, the lowest among them being Harisiddi Bricks & Tile Factory Ltd, minus 5.83%%, and Jyoti Spinning Mills Ltd, minus 3.85%.

In the sample from hotel & trading sector, both Soaltee Hotel Ltd and Taragaon Regency Hotel Ltd. have negative expected rate of return of minus 3.70% and minus 16.91%. Similarly, out of the three firms from trading sector in the sample, Nepal Welfare Co. Ltd. has positive expected rate of return of 8.57%.

In the sector "Other", Nepal Film Development Co. Ltd and Necon Air Ltd have expected rate of return of minus 3.43% and minus 30.85% respectively.

On the basis of expected rate of return, Insurance sector is the best with highest expected return of 52.92% of Everest Insurance Company Ltd.

4.1.4 Standard Deviation

Standard deviation is the relative measure of risk associated with any investment alternative. It is a weighted average of the deviations from the expected value and it provides an idea of how far above or below the expected value and the actual value is likely to be. The higher the variability of actual return from the expected value,

the higher will be the standard deviation. Standard deviation (SD) in this study is calculated using the following relationship:

$$SD = \sqrt{\frac{\sum (R_i - ER)^2}{n - 1}}$$

Table - 4.2 also presents the standard deviation of stocks of individual firms under the study.

In term of total risk as measured by the standard deviation (SD), Bank of Kathmandu has appeared to be the most risky investment with SD of 112.92 % out of the all some listed companies. Similarly, other four firms with the highest SD after Bank of Kathmandu are Uni Lever with SD of 102.58%, Goodwill Finance Co. Ltd. with SD of 99.91%, Nepal Finance & saving Co. Ltd with SD of 99.12% and HISEF Finance Co. Ltd with SD of 91.31%.

The three firms with the lowest SD out of the some listed companies in term of SD are Arun Vanaspati Udyog, 6.21%, Salt Trading Corporation, 7.84%, and Jyoti Spinning Mills Ltd., 12.85 %.

In the banking sector, Bank of Kathmandu followed by Nepal SBI Bank Ltd. has the highest risk than the other banks in the sample. Both of these two banks have SD of 112.92% and 60.48% respectively. The bank with the lowest risk in term of SD is Standard Chartered Bank Ltd., 32.42 %.

In the finance company sector, Goodwill Finance Co. Ltd., and Nepal Finance & saving Co Ltd, are the firms whose stocks have the highest risk as measured by SD. SD of Goodwill Finance Co. Ltd. is 99.91% and Nepal Finance & saving Co Ltd is 99.12%. The two finance companies with the lowest SD risk are National Finance Co. Ltd, 26.13% and Yeti Finance Ltd., 32.02%.

In the insurance sector, the most risky company is the Everest Insurance Company Ltd with SD of 75.35% and the least risky company is National Life and General

Insurance Co. Ltd, with SD of 39.00%. The other insurance companies under the study fall between 39% and 76% in term of their SD.

In the manufacturing sector, the only company with high risk and high expected return is Uni Lever Limited. It is the most risky company in its category with SD of 102.58%. All other manufacturing companies have SD risk below 50%. Arun Vanaspati Udyog Limited has been the manufacturing company with the lowest risk in its category with SD of 6.21%.

Out of the companies from Hotel, Trading and Other sectors, Necon Air Limited and Soaltee Hotel Ltd. seemed to be more risky with SD above 32%. Necon has SD of 32.29% while Soaltee Hotel has SD of 38.20%.

In term of total risk, Bank of Kathmandu has appeared to be the most risky investment with SD of 112.92 % out of the all some listed companies.

4.1.5 Coefficient of Variation

If a choice must be made between two investments, which have the same expected rate of return but different standard deviations, most people would choose the one with the lower standard deviation and, therefore, the lower risk. Similarly, given a choice between two investments with the same risk (standard deviation) but different expected rates of return, investors would generally prefer the investment with the higher expected return. To most people, this is common sense - return is "good", risk is "bad", and, consequently, investors want as much return and as little risk as possible. But how do we choose between two investments when one has the higher expected rate of return but the other has the lower standard deviation? To help answer this question, another measure of risk, the coefficient of variation (CV), is used.

The coefficient of variation shows the risk per unit of return, and it provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same. CV can be estimated by using the following formula:

$$CV = \frac{SD}{E(R_i)}$$

In term of risk per unit of return as measured by CV, Neco Insurance Co Ltd, Nepal SBI Bank Ltd, Gorakhkali Rubber Udyog Ltd, United Insurance Co Ltd., National Life and General Insurance Co and Salt Trading Corporation are the six companies with the highest risk associated with per every unit of return out of the some listed companies. The CVs of these six companies are 6.77, 5.53, 5.36, 5.10, 5.04 and 4.71 respectively.

The following Table - 4.3 presents the companies with highest risk per unit of return and lowest risk per unit of return as measured by CV in each sector considered in the study.

Table - 4.3
Sector-wise Highest and Lowest Coefficient of Variation

Sector	Highest Risk Per unit Expected Return		Lowest Risk Per Unit Expected Return	
	Company	CV	Company	CV
Banking	Nepal SBI Bank Ltd	5.53	Standard Chartered Bank Nepal Ltd.	1.14
Finance Co.	Peoples Finance Co Ltd	4.69	Mahalaxmi Finance Ltd	1.29
Insurance Co.	Neco Insurance Co Ltd	6.77	Everest Insurance Company Ltd	1.42
Manufacturing & Processing	Gorakhkali Rubber Udyog Ltd.	5.36	Arun Vanaspati Udyog Ltd.	(15.37)
Hotel	Taragaou regency Hotel Ltd.	(1.34)	Soaltee Hotel Ltd.	(10.33)
Trading	Salt Trading Corporation	4.71	Nepal Welfare Co. Ltd	2.00
Others	Necon Air Ltd.	(1.05)	Nepal Film Development Co. Ltd	(5.34)

(According to annexure no. 1 to 7)

While simultaneously looking at the SD and expected rate of return of some listed companies, the general notion of investment that higher risk should be compensated by higher return holds true. The stocks with higher SD also have higher expected rates of return. And the stocks with lower SD have lower expected rates of return. For instance, Bank of Kathmandu and Uni Lever are the two companies with highest SD in the entire sample. Consequently, they have the highest expected returns of 41.27 % and 45.61% respectively.

4.1.6 Beta Coefficient

The risk associated with any investment alternative can be classified into diversifiable (unsystematic) and undiversifiable (systematic) risk. Diversifiable risk is firm specific risk that results from the inefficiencies inherent within a firm while undiversifiable risk results from the macro economic factors like business cycle, inflation, war, epidemic, earthquake, etc, which affect all business units in an economy, hence, can not be eliminated at all. While diversifiable risk can be eliminated to a large extent by increasing the number of securities in a portfolio. The relevant risk for an investor is only the undiversifiable risk. The market compensates only for the undiversifiable risk. The correct measure of undiversifiable risk is beta coefficient, b .

The tendency of a stock to move up and down with the market is reflected in its beta coefficient, b . Beta is a key element of CAPM. An average-risk stock is defined as the one that tends to move up and down in step with the general market as measured by some index such as the Dow Jones Industrials, the S & P 500, or the New York Stock Exchange Index. Such a stock will, by definition, have a beta, b , of 1.0, which indicates that, in general, if the market falls by 10 percent, the stock will likewise fall by 10 percent. A portfolio of such $b = 1.0$ stocks will move up and down the broad market averages, and it will be just as risky as the market.

Hence, beta measures a stock's volatility relative to average stock, which by definition has $b = 1.0$.

Beta Coefficient of a stock is defined as its contribution to the riskiness of a portfolio. Stock's beta coefficient shows how the stock would affect the riskiness of a diversified portfolio.

Since Beta measures the variability of a stock's return with respect to the market return, the slope of a regression line of the stock's historic return against market return can be used as the estimate of beta. For the purpose of this study, the following statistical relationship to calculate the slope of the regression line has been used as the measure of the stock's beta:

$$b = \frac{XY - nX'Y'}{X^2 - nX'^2}$$

Where, X = Market Return
 Y = Stock's Return
 X' = Expected Market Return
 Y' = Stock's Expected Rate of Return
 n = Number of Observations

Table - 4.4
Beta Analysis

Sector	Name of the Company	Beta	Comparison with Market	Remarks
Banking	NABIL Bank Ltd.	1.42	>1	Aggressive
	Nepal Investment Bank Ltd.	0.78	< 1	Defensive
	Standard Chartered Bank Nepal Ltd.	0.85	<1	Defensive
	Himalayan Bank Ltd.	1.05	>1	Aggressive
	Nepal SBI Bank Ltd.	1.53	>1	Aggressive
	Bank of Kathmandu Ltd.	3.03	>1	Aggressive
Finance Co.	Nepal Finance & Saving Co. Ltd.	2.39	>1	Aggressive
	NIDC Capital Markets Ltd	1.91	>1	Aggressive
	National Finance Co. Ltd.	0.44	<1	Defensive
	Nepal Share Market & Finance Ltd.	1.45	>1	Aggressive
	Annapurna Finance Co. Ltd.	1.70	>1	Aggressive
	Kathmandu Finance Ltd.	1.66	>1	Aggressive
	Peoples Finance Ltd.	1.91	>1	Aggressive
	Nepal Aawas Bikas Beetta Co. Ltd	0.98	<1	Defensive
	HISEF Finance Co. Ltd.	2.12	>1	Aggressive

	Ace Finance Company Ltd.	1.22	>1	Aggressive
	Yeti Finance Ltd.	0.13	<1	Defensive
	Universal Finance Ltd.	1.84	>1	Aggressive
	Nepal Housing & Merchant Fin. Ltd.	1.39	>1	Aggressive
	Mahalaxmi Finance Co. Ltd.	0.23	<1	Defensive
	Lalitpur Finance Co. Ltd.	2.23	>1	Aggressive
	Goodwill Finance Co. Ltd.	1.42	>1	Aggressive
Insurance	National Life & General Insurance	0.82	<1	Defensive
	Himalayan General Insurance Co.	1.50	>1	Aggressive
	United Insurance Co. Ltd.	1.14	>1	Aggressive
	Everest Insurance Company Ltd.	1.14	>1	Aggressive
	Premier Insurance Company Ltd.	1.04	>1	Aggressive
	Neco Insurance Company Ltd.	0.98	<1	Defensive
Manufacturing & Processing	Bottlers Nepal Ltd. (Balaju)	0.55	<1	Defensive
	Nepal Lube Oil Ltd.	0.46	<1	Defensive
	Gorakhkali Rubber Udyog Ltd.	0.94	<1	Defensive
	Jyoti Spinning Mills Ltd.	0.11	<1	Defensive
	Arun Vanaspati Udyog Ltd.	0.11	<1	Defensive
	Harisiddhi Bricks & Tile Factory Ltd.	0.63	<1	Defensive
	Uni Lever Ltd.	0.52	<1	Defensive
	Shree Ram Sugar Mills Ltd.	(0.77)	<1	Defensive
Hotel	Soaltee Hotel Ltd.	0.84	<1	Defensive
	Taragaon Regency Hotel Ltd.	0.54	<1	Defensive
Trading	Salt Trading Corporation	0.04	<1	Defensive
	Bishal Bazaar Co. Ltd.	0.25	<1	Defensive

	Nepal Welfare Co. Ltd.	0.15	<1	Defensive
Other	Necon Air Ltd.	0.31	<1	Defensive
	Nepal Film Development Co. Ltd.	0.46	<1	Defensive

(According to Annexure no. 1 to 7)

The realized return of stock with beta equals to 1.0 fluctuates with the market equally in the same direction. The return of the stock having beta greater than 1.0 fluctuates more than the return of the market portfolio and those of the ones with beta less than 1.0 fluctuates less than the return of the market.

Therefore, the stock with beta equals to 1.0 is considered to be equally risky as the market and, hence, categorized as the average stock; the stock with beta coefficient greater than 1.0 is classified as the aggressive stock and the one with beta less than 1.0 is categorized as defensive stock.

Table - 4.5
Degree of risk according to beta

Beta Coefficient	Stock Classification	Degree of Risk
Greater than 1	Aggressive	More risky than the market
Equals to 1	Average	Equally risky
Less than 1	Defensive	Less risky than the market

From the Table - 4.5, it is obvious that Bank of Kathmandu has the highest beta coefficient of 3.03 in the entire sample. Similarly, Nepal Finance & Saving Co. Ltd. follows Bank of Kathmandu with beta equals to 2.39. Both of these companies' higher beta risk is justified by their expected rates of return of 41.27% and 33.39%, the highest among the sample, respectively. The other three companies in the entire sample with the highest beta after Bank of Kathmandu and Nepal Finance & Saving Co. are Lalitpur Finance Co Ltd 2.21, HISEF Finance Co. Ltd, 2.12 and both Peoples Finance Ltd & NIDC Capital Market Ltd has 1.91.

The five companies with the lowest betas out of the some listed companies are Shree Ram Sugar Mills, $b = \text{minus } 0.77$, Salt Trading Corporation, $b=0.04$, Jyoti Spinning

Mills Ltd., $b = 0.11$, Arun Vanaspati Udyog Ltd., $b = 0.11$ and Yeti Finance Co Ltd, $b = 0.13$.

Shree Ram Sugar Mills is the only companies with negative betas in the sample. Their negative betas depict that their returns fluctuate in the opposite direction of the return of the market. When returns of average securities of the market are swinging up, their returns fall down and vice-versa.

While giving a sector-wise look at the individual stocks' betas, in banking sector, Bank of Kathmandu has the highest beta ($b = 3.03$) and Nepal Investment Bank, the lowest ($b = 0.78$). In the sector "finance company", companies with highest and lowest beta are Nepal Finance and Saving Co. Ltd ($b = 2.39$) and Yeti Finance Co Ltd ($b = 0.13$) respectively. Himalayan General Insurance ($b = 1.50$) and National Life & General Insurance ($b = 0.82$) are the companies with the highest and lowest betas in insurance sector respectively. In the manufacturing sector, Gorakhkali Rubber Udyog Ltd has the highest beta of 0.94 and Shree Ram Sugar Mills, the lowest beta of minus 0.77. In hotels, Soaltee have beta = 0.84 and Taragaon Regency have beta of less than 1 i.e. 0.54. In the trading sector, Bishal Bazar's beta is the highest with $b = 0.25$. Similarly, Nepal Film Development Co.'s beta is greatest in "other" sector with $b = 0.46$.

Table - 4.6 below classifies stocks of the some NEPSE companies as aggressive, average and defensive together with their expected returns.

Table - 4.6
Classification of Stock

Aggressive Stock

Company	Beta	Expected Rate of Return
Bank of Kathmandu Ltd.	3.03	41.27
Nepal Finance & Saving Co. Ltd.	2.39	33.39
Lalitpur Finance Co. Ltd.	2.21	29.88
HISEF Finance Co. Ltd.	2.12	30.15
NIDC Capital Markets Ltd	1.91	22.37
Peoples Finance Ltd	1.91	15.87
Universal Finance Ltd	1.84	33.42
Kathmandu Finance Ltd	1.66	36.95

Nepal SBI Bank Ltd	1.53	10.94
Himalayan General Insurance Co Ltd	1.50	21.75
Nepal Share Market& Finance Co Ltd	1.45	14.62
NABIL Bank Ltd	1.42	29.45
Annapurna Finance Ltd	1.42	37.78
Goodwill Finance Ltd	1.42	42.95
Nepal Housing & Merchant Fin. Ltd	1.39	33.11
Ace Finance Ltd	1.22	20.10
United Finance Ltd	1.14	9.12
Everest Finance Ltd	1.14	52.92
Himalayan Bank Ltd	1.05	12.07
Premier Insurance Company Ltd.	1.04	17.27

Defensive Stock

Company	Beta	Expected Rate of Return
Neco Insurance Co Ltd	0.98	6.82
Nepal Awas Bikas Bitta Co Ltd	0.98	39.07
Gorakhkali Rubber Udyog Ltd.	0.94	8.94
Standard Chartered Bank Nepal Ltd.	0.85	28.45
Soaltee Hotel Ltd.	0.84	(3.70)
National Life & General Insurance Ltd	0.82	7.73
Nepal Investment Bank Ltd.	0.78	8.32
Harisiddhi Bricks & Tile Factory Ltd.	0.63	(5.83)
Bottlers Nepal Ltd. (Balaju)	0.55	13.62
Taragaon Regency Hotel Ltd.	0.54	(16.91)
Uni Lever Ltd.	0.52	45.61
Nepal Film Development Co. Ltd.	0.46	(3.43)
Nepal Lube Oil Ltd.	0.46	7.93
National Finance Co. Ltd.	0.44	14.52
Necon Air Ltd.	0.31	(30.85)
Bishal Bazaar Co. Ltd.	0.25	6.19
Mahalaxmi Finance Co. Ltd.	0.23	44.66
Nepal Welfare Co. Ltd.	0.15	8.57
Yeti Finance Ltd.	0.13	22.16
Arun Vanaspati Udyog Ltd.	0.11	(0.40)
Jyoti Spinning Mills Ltd.	0.11	(3.85)
Salt Trading Corporation	0.04	1.66
Shree Ram Sugar Mills Ltd.	(0.77)	18.83

(According to annexure no 1 to 7)

From the Table - 4.6, particularly in the highly aggressive stock category, it can be seen clearly that the expected returns for the stocks with higher beta values are also higher while expected return goes on decreasing with the decrease in beta values. This indicates that the market compensates with higher return for the stocks with higher betas.

In the defensive stock category, the association of higher expected returns with the higher beta values is less apparent. Premier Insurance Co Ltd with beta 1.04, has expected return of 17.27% while Standard Chartered Bank with beta, 0.85, has expected return of 28.45 %. Mahalaxmi Finance Co. with beta equals to 0.23 has highest expected return as high as 44.66%. In contrast Harisiddhi Bricks & Tile Factory Ltd. with beta 0.63 has lowest expected rate of return of minus 5.83%.

In sum, the higher expected returns are more closely associated with higher beta values in highly aggressive stock category than in aggressive, average and defensive categories. In the categories other than highly aggressive the relation holds true less closely.

Depending upon the degree of risk-aversion, investors may choose stocks from the highly aggressive, aggressive, average and defensive categories. For the aggressive investors with low risk-aversion, the preferable investment alternatives could be the stocks from highly aggressive and aggressive stock categories. Stocks from the average category are appropriate for moderately risk-aversion investors. While the stocks from defensive category are appropriate for the investors who want to assume less risk and be satisfied with comparatively low return. The shares of the companies with negative beta could be included in a portfolio as hedging tools as they help to smoothen portfolio return.

The above classification of stocks would help to match the stocks with the degree of risk-aversion of investors and accordingly choose appropriate investment options available in Nepalese Capital Market.

4.1.7 Required Rate of Return

The significance of CAPM lies in using beta measure of risk in estimating the required rate of return for any investment alternative. Required rate of return calculated using CAPM relationship gives the level of return required to justify the level of risk inherent in the investment alternative. Here, in our study too, required rate of return for the stock of some listed companies are calculated using the same

relationship. This is also the relationship for security market line (SML). SML states that each stock's required return is equal to the risk-free rate plus the product of the market risk premium times the stock's beta coefficient.

$$R_i = R_f + [E(R_m) - R_f] b_i$$

Where, R_f = Risk-free rate

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

b_i = Beta coefficient of the stock i.

The required rate of return is the benchmark for investment decision. In the analysis of stocks, it is the basis for determining over-pricing and under-pricing of stocks in the capital market.

The stocks whose expected rates of return are greater than their required rates of return are termed as under-priced, and the stocks whose expected returns are less than their required rate of return are classified as overpriced. Theoretically, the market price of an over-priced (under-priced) share will fall (rise) in order to increase the expected return such that the expected return equals the required return.

Table - 4.7
Comparison of Expected Rate of Return against Required Rate of Return

Sector	Name of the Company	Expected Rate of Return $E(R_i)$	Required Rate of Return R_i	Excess Return over Required Rate $E(R_i) - R_i$	Remarks
Banking	NABIL Bank Ltd.	29.45	19.13	10.32	Under-Priced
	Nepal Investment Bank Ltd.	8.32	12.23	-3.91	Over-priced
	Standard Chartered Bank Nepal Ltd.	28.45	13.04	41.49	Under-Priced
	Himalayan Bank Ltd.	12.07	15.15	-3.08	Over-priced
	Nepal SBI Bank Ltd.	10.94	20.30	-9.36	Over-priced
	Bank of Kathmandu Ltd.	41.27	36.33	4.94	Under-Priced

Finance Co.	Nepal Finance & Saving Co. Ltd.	33.39	29.47	3.92	Under-Priced
	NIDC Capital Markets Ltd	22.37	24.35	-1.98	Over-Priced
	National Finance Co. Ltd.	14.52	8.58	5.94	Under-Priced
	Nepal Share Market & Finance Ltd.	14.62	19.47	-4.85	Over-Priced
	Annapurna Finance Co. Ltd.	37.78	19.13	18.65	Under-Priced
	Kathmandu Finance Ltd.	36.95	21.64	15.31	Under-Priced
	Peoples Finance Ltd.	15.87	24.39	-8.52	Over-Priced
	Nepal Aawas Bikas Beetta Co. Ltd	39.07	14.40	24.67	Under-Priced
	HISEF Finance Co. Ltd.	30.15	26.64	3.51	Under-Priced
	Ace Finance Company Ltd.	20.10	16.97	3.13	Under-Priced
	Yeti Finance Ltd.	22.16	5.22	16.94	Under-Priced
	Universal Finance Ltd.	33.42	23.63	9.79	Under-Priced
	Nepal Housing & Merchant Fin. Ltd.	33.11	18.83	14.28	Under-Priced
	Mahalaxmi Finance Co. Ltd.	44.66	6.37	38.29	Under-Priced
	Lalitpur Finance Co. Ltd.	29.88	27.58	2.30	Under-Priced
Goodwill Finance Co. Ltd.	42.95	19.13	23.82	Under-Priced	
Insurance	National Life & General Insurance	7.73	12.70	-4.97	Over-Priced
	Himalayan General Insurance Co.	21.75	19.96	1.79	Under-Priced
	United Insurance Co. Ltd.	9.12	16.06	-6.94	Over-Priced
	Everest Insurance Company Ltd.	52.92	16.09	36.83	Under-Priced
	Premier Insurance Company Ltd.	17.27	15.06	2.21	Under-Priced
	Neco Insurance Company Ltd.	6.82	14.41	-7.59	Over-Priced
Manufacturing & Processing	Bottlers Nepal Ltd. (Balaju)	13.62	9.76	3.86	Under-Priced
	Nepal Lube Oil Ltd.	7.93	8.84	-0.91	Over-Priced

	Gorakhkali Rubber Udyog Ltd.	8.94	13.93	-4.99	Over-Priced
	Jyoti Spinning Mills Ltd. (Ord)	-3.85	5.06	-8.91	Over-Priced
	Arun Vanaspati Udyog Ltd.	-0.40	5.10	-5.50	Over-Priced
	Harisiddhi Bricks & Tile Factory Ltd.	-5.83	10.65	-16.48	Over-Priced
	Uni Lever Ltd.	45.61	9.43	36.18	Under-Priced
	Shree Ram Sugar Mills Ltd.	18.83	-4.43	23.26	Under-Priced
Hotel	Soaltee Hotel Ltd.	-3.70	12.87	-16.57	Over-Priced
	Taragaon Regency Hotel Ltd.	-16.91	9.65	-26.56	Over-Priced
Trading	Salt Trading Corporation	1.66	4.26	-2.60	Over-Priced
	Bishal Bazaar Co. Ltd.	6.19	6.53	-0.34	Over-Priced
	Nepal Welfare Co. Ltd.	8.57	5.51	3.06	Under-Priced
Other	Necon Air Ltd.	-30.85	7.23	-38.08	Over-Priced
	Nepal Film Development Co. Ltd.	-3.43	8.81	-12.24	Over-Priced

(According to annexure no. 1 to 7)

Presented in the Table - 4.7 are the expected rates of return, required rate of return, comparison of the two rates and the classification of stocks.

Many of the stocks of banking sector are generating excess return over their required rates of return; therefore, many of the shares of banks in the study are under-priced. This is the indication of the potential rise in the market prices of these shares in future. Among the banking group, the share of Standard Chartered Bank Ltd provides the highest excess return of 41.49% over what is required to be invested in it. Next to Standard Chartered Bank is NABIL Bank with excess return of 10.32 %.

In finance company sector shares of all the companies under the study are under-priced, except three finance companies which are NIDC Capital Markets Ltd., Nepal Share Market & Finance Ltd and Peoples Finance Ltd. whose the share are overpriced. The market price of these three companies could be expected to go down

in the days to come. In the group of finance company, excess return over the required rate of return can be expected as high as 38.29 %, which is the expected excess return of Mahalaxmi Finance Co. Ltd. Among the under-priced shares, only the share of Lalitpur Finance Co. Ltd. provides the excess return of 2.30% over the required rate.

In the insurance sector, only the share of Everest Insurance Company Ltd. performs well with under priced having large volume of 36.83%. So the price of Everest Insurance Company can grow in future. Shares of others of the insurance companies in the sample are overpriced of National life and General Insurance, United Insurance, Neco Insurance Company Ltd., etc. therefore, market prices of these could be expected to go down in future.

Shares of half of the manufacturing companies in the sample are over-priced, under-priced shares being only those of Bottlers Nepal Ltd (Balaju), Uni Liver Ltd & Shree Ram Sugar Mills. Among the under-priced shares, share of Uni Liver Ltd provides attractive excess return of 36.18%, which is the highest excess return in the entire sample.

Shares of the both companies Soaltee Hotel and Taragaon Regency Hotel from the group "Hotel" are over-priced.

Only the share of Nepal Welfare Co. Ltd. is under-priced providing excess return of 3.06% over the required rate of return. Shares of rest of the trading companies are over-priced.

The shares of both Necon Air and Nepal Film Development Co. Ltd. from the group "Other" seem to have over-priced.

Out of the entire some listed companies, Standard Chartered Bank Nepal Ltd. has the expected rate of return well above the required rate of return by 41.49%. This indicates substantial price rise in future.

Investment decision based on the comparison made in the Table - 4.7 would be to hold the under-priced shares and sell the overpriced shares.

The ten most attractive companies, out of the some NEPSE companies, to invest in common shares are as below:

Table - 4.8
List of 10 Attractive NEPSE Companies

Name of the Company	Excess Return E(Ri) - Ri
Standard Chartered Bank Nepal Ltd.	41.49
Mahalaxmi Finance Co. Ltd.	38.29
Everest Insurance Company Ltd.	36.83
Uni Lever Ltd.	36.18
Nepal Aawas Bikas Beetta Co. Ltd	24.67
Goodwill Finance Co. Ltd.	23.82
Shree Ram Sugar Mills Ltd.	23.26
Annapurna Finance Co. Ltd.	18.65
Yeti Finance Ltd.	16.94
Kathmandu Finance Ltd.	15.31

(According to annexure no 1 to 7)

The ten companies out of the some NEPSE companies whose shares are least attractive for investment are as below:

Table -4.9
List of 10 Least Attractive NEPSE Companies

Name of the Company	E(Ri) - Ri
Necon Air Ltd.	-38.08
Taragaon Regency Hotel Ltd.	-26.56
Soaltee Hotel Ltd.	-16.57
Harisiddhi Bricks & Tile Factory Ltd.	-16.48
Nepal Film Development Co. Ltd.	-12.24
Nepal SBI Bank Ltd.	-9.36
Jyoti Spinning Mills Ltd. (Ord)	-8.91
Peoples Finance Ltd.	-8.52
Neco Insurance Company Ltd.	-7.59
United Insurance Co. Ltd.	-6.94

(According to annexure no 1 to 7)

4.1.8 Analysis of the Sectors

The seven different sectors, from which some NEPSE firms are taken for the study, have also been analyzed in the light of CAPM. In this connection, sector-wise expected rates of return, sector-wise betas and sector-wise required rates have been estimated. In addition, the comparison of sector-wise expected rates of return against sector-wise required rates return has been made to determine the overvalued and undervalued sector.

In order to calculate the sector-wise expected rate of return, average market capitalization of each individual stock of some Nepse companies have been calculated based on the actual market capitalization of each firm over the period of 2002/03 to 2008/09. Then, the average sector-wise market capitalization for each of the seven different sectors cited for this study is calculated. Each company's average market capitalization is divided by the average sector-wise market capitalization to derive the weight to be used in the calculation of sector-wise expected rate of return. The summation of the individual company's expected rates of return multiplied their respective weights gives the sector-wise expected rate of return. The formula used is as below:

$$E(R_s) = \sum_{i=1}^n E(R_i) \cdot \frac{\text{indv. mkt. cap.}(i)}{\text{sect. mkt. cap.}(j)}$$

Where, $E(R_s)$ = Sector-wise expected rate of return

$E(R_i)$ = Expected rate of return of the individual stock i

indv. mkt. cap. = Average market capitalization of the individual stock i

sect. mkt. cap. = Average market capitalization of the sector j .

Similarly, sector-wise beta has been estimated as the summation of individual stocks' betas multiplied by the weights as used in estimating sector-wise expected rate of return. The relationship used is as below:

$$B_s = \frac{\sum_i b_i \cdot \text{indv.mktcap}(i)}{\text{sect.mkt.cap}(j)}$$

- Where, B_s = Sector-wise beta coefficient
 b_i = Beta coefficient of the individual stock i
 indv. mkt. cap. = Average market capitalization of the individual stock i
 sect. mkt. cap. = Average market capitalization of the sector j.

The sector-wise betas estimated in this way have been used to determine the required rate of return for each sector considered in the study. Thus determined required rates of return are compared against the sector-wise expected rates of return to determine the overvalued and undervalued sectors. The sectors with expected rate of return greater than their required rates of return are undervalued sectors, and the sectors with their expected rates of return below required rates of return are overvalued sectors.

The result of the analysis made as mentioned above is presented in the Table - 4.10 below.

Table - 4.10
Sector-wise Analysis

Sector	Risk Free Rate (Rf)	Sectoral Beta (B)	Expected Market Return (Rm)	Expected Rate of Return E(Ri)	Required Rate of Return (Rj)	Excess Return over Required Rate of Return E(Ri) - Rj	Remarks
Banking	3.87	1.21	14.60	23.08	16.85	6.23	Undervalued
Finance Co.	3.87	1.31	14.60	27.04	17.93	9.11	Undervalued
Insurance	3.87	1.07	14.60	20.97	15.35	5.62	Undervalued
Manufacturing & Processing	3.87	0.42	14.60	26.74	8.38	18.36	Undervalued
Hotel	3.87	0.71	14.60	(9.50)	11.49	(20.99)	Overvalued
Trading	3.87	0.22	14.60	5.59	6.23	(0.64)	Overvalued
Other	3.87	0.34	14.60	(26.59)	7.52	(34.11)	Overvalued

(According to annexure no 8)

The sector "Finance Co" stands top in the rank with its sector-wise expected rate of return of 27.04%; next to it is Manufacturing & Processing sector with 26.74%, followed by the banking group with its expected rate of return of 23.08%. The least among the seven sectors is 'Other' sector with negative expected rate of return of 26.59%.

Among the seven sectors, the required rate of return for "finance company" is the highest with 17.93%. Banking sectors falls second to finance company with the required rate of return of 16.85%. The comparatively higher required rates of return of these sectors are due to the higher volatility of its sector-wise return than that of the market on average, which is justified by the higher beta coefficients these sectors. The betas of "finance company" sector and "banking" sector are 1.31 and 1.21 respectively. Their beta coefficient imply that when market rate of return fluctuate by 10 %, finance companies' returns on average fluctuate by 13.10%, and the banks' returns on average fluctuate by 12.10 %.

The sector "Trading" has the least required rate of return out of the seven sectors considered, which is justified by its lowest beta coefficient among the sectors. This sector has the beta of 0.22. This indicates that when the market return goes up by 10 %, returns of the companies in this sector on average go down by 0.22 %.

Table - 4.11
Sector-wise Beta Analysis

Sector	Sectoral Beta	Comparison with the Market	Remarks
Banking	1.21	> 1	Aggressive
Finance Co.	1.31	> 1	Aggressive
Insurance	1.07	> 1	Aggressive
Manufacturing & Processing	0.42	< 1	Defensive
Hotel	0.71	< 1	Defensive
Trading	0.22	< 1	Defensive
Other	0.34	< 1	Defensive

(According to Annexure No. 9)

Presented in the Table - 4.11 are beta coefficients of the different sectors classification of those sectors on the basis of the betas.

As in individual stock classification, sectors with the beta coefficient greater than 1 are classified as aggressive sectors; the sectors with beta coefficient less than 1 are classified as defensive sector. As obvious from the Table -4.11, aggressive sectors include banking, finance company and insurance company. Manufacturing & processing, hotel, trading and other are defensive sectors.

This classification shows that the returns on the shares of the companies in aggressive sector are expected to be more volatile than the return of the market portfolio, and those of the firms in the defensive sector are less volatile than the return on the average market.

It can be also concluded that the stocks of the firms in aggressive sectors are more risky to invest in, but provide comparatively higher returns. The opposite could be concluded for the stocks of the firms in defensive sectors.

4.2 Opinion Survey

As regarding the opinion survey, for this research a questionnaire is distributed to the investor of stock market player in the stock market. Population of this research is investors but only 30 questionnaires were distributed to the investors who were present at NEPSE trading floor for share transaction. So investors present at NEPSE are sample of this research.

4.2.1 Area of investment

For the area of investment, the investors were asked in which area they would like to invest and it found that 60 percentages of investors were attracted towards the investment in shares which is clear from the table 4.12 given below

Table - 4.12
Area of investment

S. N.	Research Variable	No. of investors	% of investors
A	Real Estate	12	40
B	Shares	18	60
C	Others	0	0
Total		30	100

4.2.2 Share of investment of saving

In context of percentage of saving for investment the investors were asked how much of their saving they would like to invest in shares, and it was found that some percentages of investors invest 25% -50% of their saving in shares which is clear from the table 4.13 given below.

Table - 4.13
Share of investment of saving

S. N.	Research Variable	No. of investors	% of investors
A	Less than 10	5	17
B	10 to 25	5	17
C	25 to 50	13	43
D	50 to 75	7	23
E	75 to 100	0	0
Total		30	100

4.2.3 Sector wise preference for investment

Regarding the sector of investment, the investors were asked in which sector they are interested to invest and it was found that about 63 percentages of investors were attracted towards banking sector which is clear from the Table - 4.14 given below

Table - 4.14
Sector wise preference for investment

S. N.	Research Variable	No. of investors	% of investors
A	Banking	19	63
B	Finance Company	5	17
C	Insurance Company	0	0
D	Manufacturing and Processing	5	17
E	Hotels	0	0
F	Trading	0	0
G	Others	1	3
Total		30	100

4.2.4 Decision making analysis

In the context of investors' decision-making regarding basis for investment in shares, 50% respondents said that they invest on share from their own analysis. Some 27% invest on share on the basis of NEPSE index. This shows how investors are getting more potential regarding investing their assets in to secondary market by their own analysis and NEPSE index but they don't go through family advice and rumors.

Table - 4.15
Decision Making Analysis

S. N.	Research Variable	No. of investors	% of investors
A	Market price fluctuation	7	23
B	Own analysis	15	50
C	Family advice and rumors	0	0
D	Only on new established company	0	0
E	NEPSE index	8	27
Total		30	100

4.2.5 Motivation for holding share

Correspondents were asked for their motive on investment. 50% of the respondents were interested in dividend and 50% were for price appreciation to get capital gain in investment.

Table - 4.16
Motive for holding share

S. N.	Research Variable	No. of investors	% of investors
A	Price appreciation	15	50
B	Dividend	15	50
C	Liquidity	0	0
D	Social status	0	0
Total		30	100

4.2.6 Investment satisfaction

Regarding satisfaction on the investment made by investor, correspondent of 60% said that they are satisfied with the decision and investment they made. Because a shareholder who has analyzed market and done market analysis has get satisfactory return from their investment. But 40% of them are unsatisfied because company didn't perform well due to unfavorable situation of country.

Table - 4.17
Investment satisfaction

S. N.	Research Variable	No. of investors	% of investors
A	Yes	18	60
B	No	12	40
Total		30	100

4.2.7 Analysis of right issue

This analysis is done to identify that will the satisfied shareholders purchase the further share issued by the company. This will also analyze the market position and investors confidence toward organization.

Table - 4.18
Analysis of right issue

S. N.	Research Variable	No. of investors	% of investors
A	Yes	27	90
B	No	3	10
Total		30	100

4.2.8 Consideration of NEPSE Index

This analysis is done to identify that whether the investors consider the NEPSE index or not for trading the stocks. The 83% of the investors said that they consider NEPSE index for investment.

Table - 4.19
Consideration of NEPSE index

S. N.	Research Variable	No. of investors	% of investors
A	Yes	25	83
B	No	5	17
Total		30	100

4.2.9 Analysis of Organization Performance

Regarding the analysis of organization performance, 40% of the respondent said that they evaluate the performance through the dividend and bonus they get by the company and 30 of them through financial status and technical analysis.

Table -4.20
Analysis of organization performance

S. N.	Research Variable	No. of investors	% of investors
A	Dividend & Bonus	12	40
B	Market price	0	0
C	Financial status	9	30
D	Technical Analysis	9	30
Total		30	100

4.2.10 Frequently trading the stocks

This analysis is done to find out about how frequently the investor trades their stock for investment. In this regard it is found that mainly investor does trade on the weekly basis.

Table - 4.21
Frequently trading the stocks

S. N.	Research Variable	No. of investors	% of investors
A	Daily	0	0
B	Weekly	12	40
C	Once in two week	5	17
D	Monthly	8	28
E	Once in two months	5	17
F	Never	0	0
Total		30	100

4.2.11 External Affect in Stock Market

This analysis is done to find out whether the external environments like political environment, national and international events affect the Nepalese stock market or not. In this all the respondent agreed that it does..

Table - 4.22
External affect in stock market

S. N.	Research Variable	No. of investors	% of investors
A	Yes	30	100
B	No	0	0
C	I don't know	0	0
Total		30	100

4.2.12 Major Factor for Stock Price

With regard to the stock price change the major factor found out by the investors of 43% are due to Company's management. As management of any organization plays vital role for the better performance in all aspects. So the price of the stock is also highly affected by it.

Table - 4.23
Major factor for stock price

S. N.	Research Variable	No. of investors	% of investors
A	Signaling factor	0	0
B	Company's management	13	43
C	Company's performance	7	23
D	NEPSE Index	10	33
E	Above all	0	0
Total		30	100

4.3 Major Findings

The major findings, which emerge from this study, are as follows:

1. Among the some selected companies the expected return of Everest Insurance Co Ltd is the highest this followed by Uni Liver Co Ltd, Mahalaxmi Finance Ltd., Goodwill Finance Ltd., & Bank of Kathmandu Ltd. in the top level.

2. The standard deviation which measures the risk of an asset shows that most of the companies are quite risky. The ranking of the company from most risky is BOK followed by Uni Liver Ltd., Goodwill Finance Co. Ltd, Nepal Finance Saving Co Ltd & HISEF Finance Co. Ltd.
3. The Coefficient of Variation shows that the variation is the measurement of risk. For our purpose low variation is good for us. In term of risk per unit of return as measured by CV, Neco Insurance Company Ltd, Nepal SBI Bank Ltd, Gorakhkali Rubber Udyog Ltd, United Insurance Co Ltd, National Life and General Insurance Co & Salt Trading Company Ltd are the six companies with the highest risk associated with per every unit of return out of the some listed companies.
4. The beta coefficient which measures the systematic risk of the company and it also helps to identify that the stock is highly aggressive, aggressive, average, or defensive. In this regard BOK has the highest beta followed by Nepal finance & Saving Co. Ltd., HISEF Finance Co. Ltd., Goodwill Finance Co. Ltd., Lalitpur Finance Ltd. etc. In this way in average NIDC Capital Markets Ltd., People Finance Ltd., Kathmandu Finance Ltd., in average category, Soaltee Hotel Ltd., Everest Insurance Company Ltd., and finally in Defensive category, Standard Chartered Bank Nepal Ltd., Gorakhhali Rubber Udyog Ltd., and National Life & General Insurance Co.
5. The required rate of return calculated using CAPM relationship gives the level of return required to justify the level of risk inherent in the investment alternative. It is the benchmark for investment decision. In the analysis of stocks, it is the basis for determining over-pricing and under-pricing of stocks in the capital market. Here in the analysis Uni Lever has highest underpriced security followed by Mahalaxmi Finance Co. Ltd., Everest Insurance Com. Ltd., Nepal Awas Bikas Beetta Co. Ltd., Shree Ram Sugar Mills Ltd. etc. In the same way the least attractive company are Necon Air Ltd. followed by Taragaon Regency Hotel Ltd., Hirisiddhi Bricks & Tile Factory Ltd. etc.

6. On the basis of sector wise analysis of CAPM. We found that Banking, Finance Co., Insurance, and Manufacturing & Processing sectors have undervalued security considering the required and expected rate of return and Hotel, Trading and other sector has overvalued securities. Considering the sector wise beta analysis Finance Co. beta shows aggressive behavior than other sectors and the most defensive is trading sector.

CHAPTER 5 (Page no. 79 - 82)
SUMMARY CONCLUSION AND
RECOMMENDATIONS

CHAPTER 5

SUMMARY CONCLUSION AND RECOMMENDATIONS

This chapter basically involves with the summary conclusion derived from the study of risk return analysis of the common stock of listed Nepalese Companies. This chapter makes an attempt to draw the summary conclusion of the study and the final section gives recommendation to solve the problem on the basis of the findings

5.1 Summary

Among the some selected companies the expected return of Everest Insurance Co Ltd is the highest followed by Uni Liver Co Ltd, Mahalaxmi Finance Ltd., Goodwill Finance Ltd., & Bank of Kathmandu Ltd. in the top level.

The standard deviation which measures the risk of an asset shows that most of the companies are quite risky. The ranking of the company from most risky is BOK followed by Uni Liver Ltd., Goodwill Finance Co. Ltd, Nepal Finance Saving Co Ltd & HISEF Finance Co. Ltd.

The Coefficient of Variation shows that the variation is the measurement of risk and low variation is good. In term of risk per unit of return as measured by CV, Neco Insurance Company Ltd, Nepal SBI Bank Ltd, Gorakhkali Rubber Udyog Ltd, United Insurance Co Ltd, National Life and General Insurance Co & Salt Trading Company Ltd are the six companies with the highest risk associated with per every unit of return out of the 43 listed companies.

The beta coefficient which measures the systematic risk of the company and it also helps to identify that the stock is highly aggressive, aggressive, average, or defensive. In this regard BOK has the highest beta followed by Nepal finance & Saving Co. Ltd., HISEF Finance Co. Ltd., Goodwill Finance Co. Ltd., Lalitpur Finance Ltd. etc. In this way in average NIDC Capital Markets Ltd., People Finance Ltd., Kathmandu

Finance Ltd., in average category, Soaltee Hotel Ltd., Everest Insurance Company Ltd., and finally in Defensive category, Standard Chartered Bank Nepal Ltd., Gorakhhali Rubber Udyog Ltd., and National Life & General Insurance Co.

The required rate of return calculated using CAPM relationship gives the level of return required to justify the level of risk inherent in the investment alternative. It is the benchmark for investment decision. In the analysis of stocks, it is the basis for determining over-pricing and under-pricing of stocks in the capital market. Here in the analysis Uni Lever has highest underpriced security followed by Mahalaxmi Finance Co. Ltd., Everest Insurance Com. Ltd., Nepal Awas Bikas Beetta Co. Ltd., Shree Ram Sugar Mills Ltd. etc. In the same way the least attractive company are Necon Air Ltd. followed by Taragaon Regency Hotel Ltd., Hirisiddhi Bricks & Tile Factory Ltd. etc.

On the basis of sector wise analysis of CAPM. We found that Banking, Finance Co., Insurance, and Manufacturing & Processing sectors have undervalued security considering the required and expected rate of return and Hotel, Trading and other sector has overvalued securities.

Considering the sector wise beta analysis Finance Co. beta shows aggressive behavior than other sectors and the most defensive is trading sector.

5.2 Conclusion

Investment in stock market was the major portion of this study which involves trade off between risk and return. The study is focused upon the application of CAPM in stock evaluation based on primary as well as secondary data from the fiscal year 2003/04 to fiscal year 2008/09

5.3 Recommendations

The following are the recommendations based on the above findings, conclusions and analysis of data as well as information collected through primary data with private investors NEPSE.

- Investors have to focus their mind also on risk not only the return. Before thinking about higher return they also have to think about risk associated with return. If there is higher return there will be higher risk definitely. So risk adverse investor can invest on moderate types of stock having average risk and return.
- Investors need to diversify fund to reduce risk. Besides investing the funds in a single stock, it is better to invest making portfolio of more than a single assets. Portfolio investment gives maximum return at very minimum risk or increases the return keeping the risk in a constant way. For higher portfolio effect stock returns with negative correlation and higher expected return should be best.
- Investment in capital market is a new phenomenon in Nepal. Most of the investors are purchasing shares in primary market only and there are not considering the risk involves in the initial public offering.
- Investor should purchase or sell securities on the basis of past trend earning dividend, market value of shares. Stock trading in secondary market is less risky than the initial public offering.
- Investor should purchase or sell securities on the basis of past trend earning dividend, price earning ratio, market value of shares. Stock trading secondary market is less risky than the initial public offering.
- The companies themselves are responsible for increasing or decreasing the unsystematic risk which badly hits the business and profit. So proper and efficient management is essential for the progress of any organization.
- Stock investment is very risky job so investor should know his need, desire, risk taking capabilities, tacking with ever changing market to win the stock market. Self knowledge, superior forecasting ability and sound understanding on the information of stock market can give winning chance in investment of stock.

- Investors should analyze the similar companies' i. e. industry before investing in a common stock of a particular company because the industry factors have a significant influence in the performance of an individual company.
- Traditionally, the purchase of land, construction of building and saving on the bank had been the major area of investment for the people but their attitudes changing towards shares, debenture, and other new securities. But the government policies and programmes are not directed toward the development of domestic stock market (over the counter market) for mobilizing saving and providing equitable investment opportunities for the people of all regions.
- People of older time were interested on long-term investment. But now a day most people needs return immediately & want to invest for short period only. The attitude of people towards investment has change due to many situations and circumstances. Because of risk factor nobody wants to invest in long period. Due to the increasing violence and unstable political situation there is decrease in investment. Most of the liaison office and breach office and industry are closed and those who are survived one facing heavy recession. So government has to play a vital role to improve conditions of investing environment as well as to promote investments.
- NEPSE need to modernize the trading system and effective information channel. Different program should be developed to increase rationally as well as market efficiency supported to be summarized in the risk-return statistics describing the investment candidates".

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SECTORAL MARKET CAPITALIZATION PERCENTAGE

Sector	Name of the Company	2057/58	2058/59	2059/60	2060/61	2061/62	2062/63	2063/64	Total	Av. Mkt.	Sectoral Mkt. Capitalization (in	Sectoral Mkt.
		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07		Capitalization (in		
Banking	Nabil Bank Ltd.	3,613.63	3,613.63	3,608.81	3,608.81	4,909.95	7,389.47	7,389.47	34,133.77	4,876.25	20,000.05	72.82
	Nepal Investment Bank Ltd.	1,291.85	2,347.56	1,285.78	1,881.33	2,775.75	2,362.34	2,362.34	14,306.95	2,043.85		
	Standard Chartered Bank Nepal Ltd.	5,263.03	5,568.62	5,263.01	5,568.60	6,537.47	8,785.32	8,785.32	45,771.37	6,538.77		
	Himalayan Bank Ltd.	3,900.00	3,586.44	3,000.00	3,586.44	4,410.00	4,830.00	4,830.00	28,142.88	4,020.41		
	Nepal SBI Bank Ltd.	1,703.81	1,084.16	577.44	1,100.72	1,325.18	1,446.04	1,446.04	8,683.39	1,240.48		
	Bank of Kathmandu Ltd.	1,177.49	917.89	594.36	917.89	1,367.56	1,993.40	1,993.40	8,961.99	1,280.28		
Finance Co.	Nepal Finance & Saving Co. Ltd.	37.50	29.00	60.00	35.20	33.00	29.40	29.40	253.50	36.21	1,544.36	5.62
	NIDC Capital Markets Ltd	83.00	120.00	35.00	75.00	64.20	87.00	87.00	551.20	78.74		
	National Finance Co. Ltd.	141.00	168.00	163.50	136.50	151.20	123.90	123.90	1,008.00	144.00		
	Nepal Share Market & Finance Ltd.	117.21	104.29	95.40	75.00	123.60	144.00	144.00	803.50	114.79		
	Annapurna Finance Co. Ltd.	45.00	116.00	82.00	84.00	90.00	86.20	86.20	589.40	84.20		
	Kathmandu Finance Ltd.	59.00	64.20	61.00	47.00	61.50	41.40	41.40	375.50	53.64		
	Peoples Finance Ltd.	60.00	46.00	26.00	18.00	43.48	42.63	42.63	278.74	39.82		
	Nepal Aawas Bikas Beetta Co. Ltd	51.34	49.36	63.64	68.00	60.00	67.28	67.28	426.90	60.99		
	HISEF Finance Co. Ltd.	132.00	156.00	96.00	76.80	66.60	66.60	66.60	660.60	94.37		
	Ace Finance Company Ltd.	184.95	225.00	103.50	216.00	1,555.70	225.90	225.90	2,736.95	390.99		
	Yeti Finance Ltd.	34.00	35.20	45.00	38.00	38.20	42.00	42.00	274.40	39.20		
	Universal Finance Ltd.	69.38	67.88	65.63	56.25	48.75	48.75	48.75	405.39	57.91		
	Nepal Housing & Merchant Fin. Ltd	70.38	84.00	93.00	108.00	103.50	96.30	96.30	651.48	93.07		
	Mahalaxmi Finance Co. Ltd.	41.25	52.50	103.75	212.35	133.74	130.76	130.76	805.11	115.02		
Lalitpur Finance Co. Ltd.	101.25	101.25	90.00	59.63	52.87	54.00	54.00	513.00	73.29			
Goodwill Finance Co. Ltd.	81.25	81.25	70.00	58.75	60.75	62.44	62.44	476.88	68.13			
Insurance	National Life & General Insurance	171.00	180.00	138.00	138.00	81.00	129.30	129.30	966.60	138.09	576.58	2.10
	Himalayan General Insurance Co.	82.50	85.50	67.50	57.00	52.50	61.50	61.50	468.00	66.86		
	United Insurance Co. Ltd.	138.72	129.09	114.00	82.80	63.00	76.80	76.80	681.21	97.32		
	Everest Insurance Company Ltd.	136.50	132.00	183.00	183.00	105.00	97.50	97.50	934.50	133.50		
	Premier Insurance Company Ltd.	75.00	66.00	51.00	57.60	63.00	63.00	63.00	438.60	62.66		
	Neco Insurance Company Ltd.	134.65	90.50	91.00	65.00	56.00	55.00	55.00	547.15	78.16		
Manufacturing & Processing	Bottlers Nepal Ltd. (Balaju)	655.03	1,169.34	1,364.22	1,364.22	1,079.68	1,237.54	1,237.54	8,107.57	1,158.22	3,427.14	12.48
	Nepal Lube Oil Ltd.	85.22	118.49	97.89	81.57	71.38	71.38	71.38	597.31	85.33		
	Gorakhkali Rubber Udyog Ltd.	157.78	88.17	122.67	80.50	107.34	191.67	191.67	939.80	134.26		
	Jyoti Spinning Mills Ltd. (Ord)	58.98	-	-	39.38	39.38	41.92	41.92	221.58	31.65		
	Arun Vanaspati Udyog Ltd.	36.32	33.02	1,242.95	33.20	31.92	31.92	31.92	1,441.25	205.89		
	Harisiddhi Bricks & Tile Factory Ltd.	63.41	59.68	35.44	27.98	27.97	2.98	2.98	220.44	31.49		
	Nepal Lever Ltd.	2,053.16	2,025.54	322.25	1,040.39	1,288.98	1,973.51	1,973.51	10,677.34	1,525.33		
	Shree Ram Sugar Mills Ltd.	137.07	149.25	280.00	304.60	304.60	304.60	304.60	1,784.72	254.96		
Hotel	Soaltee Hotel Ltd.	1,011.07	847.99	652.29	652.29	565.32	434.86	434.86	4,598.68	656.95	1,170.98	4.26
	Taragaon Regency Hotel Ltd.	1,191.88	819.49	372.49	327.79	290.54	298.00	298.00	3,598.19	514.03		
Trading	Salt Trading Corporation	99.12	81.77	74.33	74.33	78.05	78.05	78.05	563.70	80.53	596.04	2.17
	Bishal Bazaar Co. Ltd.	491.40	464.10	423.15	383.57	382.20	719.89	719.89	3,584.20	512.03		
	Nepal Welfare Co. Ltd.	2.79	3.69	3.16	3.28	3.28	4.10	4.10	24.40	3.49		
Other	Necon Air Ltd.	465.92	165.29	77.06	39.42	46.59	46.59	46.59	887.46	126.78	150.07	0.55
	Nepal Film Development Co. Ltd.	31.26	33.05	22.33	20.10	18.76	18.76	18.76	163.02	23.29		
Total										27,465.23	27,465.23	100.00

Appendix

Questionnaire

A research project undertaken in partial fulfillment of the requirements for the Master's degree in Business Studies.

Dear Sir/Madam

I am conducting a study titled "Investment Decision in Nepalese Stock Market with reference to CAPM". I'll be very grateful if you could kindly respond to this questionnaire. It will be helpful for my thesis writing. Your kind co-operation in this regard will be highly appreciable.

Thank you.

1. If you have surplus money to invest, in which area would you like to invest?
 - a. Real Estate
 - b. Financial assets
 - c. Shares
 - d. Others

2. What percentage of your saving would you like to invest in Shares?
 - a. Less than 10
 - b. 10 to 25
 - c. 25 to 50
 - d. 50 to 75
 - e. 75 to 100

3. In which sector or sectors would you like to invest your saving?
 - a. Banking
 - b. Finance Company
 - c. Insurance Company
 - d. Manufacturing and Processing
 - e. Hotels
 - f. Trading
 - g. Others

4. On which basis do you take the decision to invest in shares?
 - a. Market price fluctuation
 - b. Own analysis
 - c. Family advice and rumors
 - d. Only on new established company
 - e. NEPSE Index

5. For what main propose do you want to invest in shares of a company?
 - a. Price appreciation
 - b. Dividend
 - c. Liquidity
 - d. Social status

6. Are you satisfied with the profit earned from your previous investments in shares?
 - a. Yes
 - b. No

7. As a shareholder would you be willing to purchase right shares?
 - a. Yes
 - b. No

8. Would you consider the trend of NEPSE index for trading the stock?
 - a. Yes
 - b. No

9. On what basis would you analyze the performance of your organization?
 - a. Dividend & Bonus
 - b. Market price
 - c. Financial status
 - d. Technical Analysis*

10. How frequently do you trade your investment in stocks?
 - a. Daily
 - b. Weekly
 - c. Once in two week
 - d. Monthly

